FLIGHT EFFECTS ON THE AERODYNAMIC AND ACOUSTIC CHARACTERISTICS OF INVERTED PROFILE COANNULAR NOZZLES

COMPREHENSIVE DATA REPORT

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16 Abstract

This report documents the work performed during the flight effects phase of Contract NAS3-17866 Due to the large amount of information generated under this program, the report has been prepared in three volumes Volume I contains a graphical presentation of data generated under this program Volume II contains the acoustic data from the acoustic tests of the convergent reference nozzle and the 0 75 area ratio coannular nozzle This volume also contains the data processing routines used to scale the acoustic data and to correct the data for atmospheric attenuation Volume III contains the acoustic data from tests of the 0 75 area ratio coannular nozzle with ejector and the 1 2 area ratio coannular as well as the aerodynamic data acquired for the four test configurations. The companion final report, NASA CR-3018, includes a description of the facilities used, the test hardware, the significant test results, conclusions and technology recommendations

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FOREWORD

This report documents the work performed during the flight effects phase of Contract NAS3-17866 Due to the large amount of information generated under this program, the report has been prepared in three volumes

Volume III contains the acoustic data from tests of the 0 75 area ratio coannular nozzle with ejector and the 1 2 area ratio coannular as well as the aerodynamic data acquired for the four test configurations

Volume I contains graphical presentations of the data generated under this program

Volume II contains the acoustic data from the acoustic tests of the convergent reference nozzle and the 0 75 area ratio coannular nozzle This volume also contains the data processing routines used to scale the acoustic data and to correct the data for atmospheric attenuation

The companion final report, NASA CR-3018, includes a description of the facilities used, the test hardware, the significant test results, the conclusions and technology recommendations

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1. INTRODUCTION

The data presented in this volume was acquired during acoustic and aerodynamic tests of scale model nozzles under wind tunnel simulation of forward flight condition

The acoustic data presented in Section A contains the model data which has been corrected to the "Theoretical Day " During simulated flight conditions, the wind tunnel shear layer refraction and moving medium corrections are included For selected test conditions, the model data has been scaled to full size The model data include 1/3 octave band sound pressure levels, 1/3 octave band sound power levels, overall sound pressure levels and overall sound power levels The scaled engine data include 1/3 octave band sound pressure levels, 1/3 octave band power levels, overall sound pressure levels, overall sound power levels and sideline perceived noise levels at various distances The procedures used to scale the model size data up to full size is presented in detail in Appendix I of Volume II The detailed procedure used to adjust the data for atmospheric attenuation is presented in Appendix II of Volume II

An index is included in section 2 which defines the nozzle operating conditions run on each configuration as well as the test point numbers for all data points in order to facilitate locating the data for any specific set of test conditions and configuration A data identification guide explaining in detail the information contained on each type of data sheet is presented in Section 3 The acoustic data sheets for all the test cases appear in section A The aerodynamic data sheets appear in section B

The "theoretical day" used for presentation of the model data is defined as a hypothetical day with atmospheric conditions producing zero atmospheric absorption of noise

2. INDEX TO TABULATED DATA

The acoustic data as well as the aerodynamic data are presented by configuration The configurations to which the data apply are identified by the configuration numbers listed below

Configuration Number	Configuration Description
1	Convergent Reference Nozzle
2	0 75 area ratio coannular nozzle
3	0 75 area ratio coannular nozzle with ejector
4	1 2 area ratio coannular nozzle

Acoustic Data

The acoustic data are arranged in the following manner according to the method of data processing The model scale ' Theoretical Day" data for each configuration in the static condition (i e , tunnel flow off) are presented first, followed by the data in the simulated flight condition (i e , tunnel flow on) Then, for selected test points, the model data were scaled 22 5 times to represent the noise of a full size engine. Within each type, the data are presented in test point number sequence

To aid in locating tabulated data for any set of nozzle operating conditions, matrices have been prepared, and included in this index to identify the test point numbers for the various test conditions The following is an example of how to use the matrix To find the test point number for data on the 1 2 area ratio coannular nozzle tested at P_{tf}/P_a = 2 5, T_{tf} = 600°F, P_{tp}/P_a = 1 53 and T_{tp} = 250°F, at tunnel speed (V_∞) of 340 fps locate the matrix for the desired configuration (in this case, in Page) The matrix shows the test point number is 3415 for the operating conditions specified The test point number can then be used to locate the tabulated acoustic data listed for the configuration of interest The selected test points for which scaled data are presented appear underlined in the index

Aerodynamic Data

The aerodynamic data section includes the nozzle thrust coefficients, flow coefficients and surface static pressures Since this data was obtained in a separate test facility it requires a different test matrix to identify the test runs A test matrix is presented for each nozzle configuration Within each matrix the run number/point number(s) is identified for each combination of pressure ratio and tunnel velocity that was tested The data are presented in test point number sequence within each configuration

In addition, this section includes related aerodynamic data obtained during the acoustic tests, namely the exhaust plume velocity and temperature surveys and ejector configuration Ejector inlet total and surface static pressures These data are identified by the corresponding acoustic test run number

ACOUSTIC TEST MATRIX

CONFIGURATION 3 – 0 75 AREA RATIO COANNULAR NOZZLE WITH EJECTOR

NOMINAL FLOW CONDITIONS						TEST POINT NUMBERS TUNNEL SPEED V_∞ (fps)					
Primary			Fan								
P_{tp}/P_{amb}	T_{tp} (°F)	V_j (fps)	P_{tf}/P_{amb}	T_{tf} (°F)	V_j (fps)	Static	100	200	340	425	Comments
1 53	250	990	1 3	250	785	3514	3515	3516	3521		
1 53	250	990	1 53	250	990	3513	3511	3510	3520		
1 53	250	990	1 8	250	1150	3507	3508	3509	3519		
1 53	250	990	2 5	250	1405	3506	3505	3504	3518		
1 53	250	990	3 2	250	1555	3501	3502	3503	3517		
1 53	250	990	1 3	600	960	3531	3532	3533	3555		
1 53	250	990	1 8	600	1405	3530	3529	3528	3554		
1 53	250	990	2 5	600	1720	3525	3526	3527	3553		
1 53	250	990	3 2	600	1905	3524	3523	3522	3552		
1 53	250	990	1 3	800	1050	⊙3545	3544	⊙3543	⊙3551	⊙3556[1]	⊙ Nozzle Exit &
1 53	250	990	1 8	800	1535	⊙3540	3541	⊙3542	⊙3550	⊙3557[1]	Ejector Inlet
1 53	250	990	2 5	800	1875	⊙3539	3538	⊙3537	⊙3549	⊙3548	Velocity Survey
1 53	250	990	2 5 3 2	800	2080	⊙3534	3535	⊙3536	⊙3546	⊙3547	[1] Survey Only Acoustic Data Not Taken
Tunnel Background Noise							3559	3558	3556	3557	

Underlined Test Points Indicate Conditions for which Scaled Data are presented

ACOUSTIC TEST MATRIX

CONFIGURATION 4 – 1 2 AREA RATIO COANNULAR NOZZLE

NOMINAL FLOW CONDITIONS						TEST POINT NUMBERS TUNNEL SPEED V_∞ (fps)					
Primary			Fan								
P_{tp}/P_{amb}	T_{tp} (°F)	V_J (fps)	P_{tf}/P_{amb}	T_{tf} (°F)	V_J (fps)	Static	100	200	340	425	Comments
1 53	250	990	1 3	250	785	3450	3449	3448	3451		
1 53	250	990	1 53	250	990	3445	3446	3447	3452		
1 53	250	990	1 8	250	1150	3444	3443	3442	3453		
1 53	250	990	2 5	250	1405	3439	3440	3441	3454		
1 53	250	990	3 2	250	1555	3438	3437	3436	3455		
1 53	250	990	1 3	600	960	3433	3434	3435	3417		
1 53	250	990	1 8	600	1405	3432	3431	3430	3416		
1 53	250	990	2 5	600	1720	3427	3428	3429	3415		
1 53	250	990	3 2	600	1905	3426	3425	3424	3414		
1 53	250	990	1 3	800	1050	3413	3412	3411	3423		
1 53	250	990	1 8	800	1535	3408	3409	3410	3422		
1 53	250	990	2 5	800	1875	[1]3407	3406	[1]3404	[1]3420	[1]3421	[1] Velocity Survey
1 53	250	990	3 2	800	2080	3401	3402	3403	3419	3418	

Underlined Test Points Indicate Conditions
for Which Scaled Data are Presented

AERODYNAMIC TEST MATRIX

CONFIGURATION 1 – CONVERGENT NOZZLE

	RUN #/P_t# Tunnel Speed (V_∞) ft/sec			
P_t/P_{amb}	0	200	340	425
1 3	20/02, 03	22/04, 05		24/04, 05, 24
1 4			23/06, 07	
1 5	20/04, 05	22/06, 07, 20, 21		24/06, 07, 21, 22, 23
1 6			23/08, 09	
1 7		22/08, 09	23/02, 03, 04	
1 8	20/06, 07		23/10, 11	24/08, 09
2 0		22/10, 11		24/02
2 1	20/08, 09		23/12, 13	24/10, 11
2 4		22/12, 13		
2 5	20/10, 11		23/14, 15	24/12, 13
2 7		22/03		
2 8	20/12, 13	22/14, 15	23/16, 17	24/15, 16
3 2	20/14, 15		23/18, 19	24/17, 18
3 3		22/16, 17		
3 5	20/16, 17	22/18, 19	23/05, 20, 21	24/19, 20
3 7				24/03

AERODYNAMIC TEST MATRIX

CONFIGURATION 2 – 0 75 AR COANNULAR NOZZLE, P_{tp}/P_{amb} = 1 53

	RUN #/P_t# Tunnel Speed (V_∞) ft/sec			
P_{tf}/P_{amb}	0	200	340	425
1 5	39/02	39/03	39/04	39/05
1 5	46/02	46/03	46/04	46/05
1 7	40/02	40/03	40/04	40/05
2 1	40/09	40/08	40/07	40/06
2 4	41/02	41/03	41/04	41/05
2 8				41/06
2 8				41/07
2 9	42/02			
2 7		42/03	42/04	42/05
3 5				42/06
3 2	42/10			42/07
3 3	42/11	42/09	42/08	
2 5	43/03			
2 6	43/03	43/04	43/05	43/06
3 0			43/08	43/07
3 1	43/10	43/09	64/04	64/05
1 7				39/06
1 3	47/02	47/03	47/04	47/05
3 2	64/02	64/03		
2 9	65/02	65/03	65/04	
2 8				64/06

AERODYNAMIC TEST MATRIX

CONFIGURATION 2-0 75 AR COANNULAR NOZZLE

Primary Flow Only V_∞ = Static		Fan Flow Only V_∞ = Static	
P_{tp}/P_{amb}	Run #/P_T #	P_{tf}/P_{amb}	Run #/P_T #
1 35	67/02	1 12	68/02
1 92	67/03	1 53	68/04
2 49	67/04	2 13	68/05
3 06	67/05	2 81	68/06
3 63	67/06	3 50	68/07
3 36	67/07	3 17	68/08
2 79	67/08	2 46	68/09
2 20	67/09	1 80	68/10
1 63	67/10	2 46	68/11
1 45	67/11	2 64	68/12
		2 99	68/13

AERODYNAMIC TEST MATRIX

CONFIGURATION 3 – 0 75 AR COANNULAR NOZZLE WITH EJECTOR, P_{tp}/P_{amb} = 1 53

	RUN #/P_t # Tunnel Speed (V_∞) ft/sec			
P_{tf}/P_{amb}	0	200	340	425
1 3	49/02	49/03	49/04	49/05
1 5	50/02	50/03	50/04	49/06
1 5	58/10			50/05
1 8	51/02	51/03	51/04	50/06
				51/05
2 3	53/02			
2 2	53/03	53/04	53/07	53/06
2 1			53/05	
2 5	54/02	54/03	53/08	
			54/04	54/05
2 8	55/02	55/03	55/04	54/06
				55/05
3 2	56/02	56/03	56/04	55/06
				56/05
2 9				56/06
3 0	56/02	57/03	57/04	56/07
				57/05
2 6	58/02	58/03	58/04	57/06
				58/05
2 2	58/09	58/08	58/07	58/06
1 5	60/02	60/03	60/04	60/05
1 5	61/02			61/03
				61/04
2 2	61/07	61/06	61/05	
2 6	62/02	62/03	62/04	62/05
3 1				62/06
3 2	62/09	62/08	62/07	

AERODYNAMIC TEST MATRIX

CONFIGURATION 4, 1 2 AR COANNULAR NOZZLE, P_{tp}/P_{amb} = 1 53

	Tunnel Speed (V_∞) ft/sec			
P_{tf}/P_{amb}	0	200	340	425
1 3	27/02	27/03	27/04	27/05
	29/02	29/03	29/04	29/05
	29/09	29/07	29/06	29/08
1 0	29/01			
1 3	30/02	30/03	30/04	30/05
1 5	31/02	31/03	31/04	31/05
1 8	33/02	33/03	33/04	33/05
2 6	34/02	34/03	34/04	34/05
3 2	35/02	35/03	35/04	35/05
2 3	35/09	35/08	35/07	35/06
2 3	36/02	36/03	36/04	36/05
3 0				36/06
2.8	36/10	36/09	36/08	36/07
1 3	36/11		36/12	
1 5			36/13	

3 DATA IDENTIFICATION GUIDE

Acoustic Data

The acoustic data is organized in section A according to the acoustic test matrix index in the preceding section For each configuration, all the model scale "Theoretical Day" data in the static condition and the tunnel background noise data are presented first, with each page of acoustic data corresponding to one operating condition Following the static data are the data in the simulated flight condition with four pages of data corresponding to one operating condition The four pages represent different degrees of data processing Lastly, for selected test conditions, the model data has been scaled to full size in which each page of data corresponds to one operating condition

- Static and Background Noise Data

  Each static and background noise operating condition is presented in a separate page We will use data run 3501 listed on page A3-1 as an example to describe the information presented

  At the top of the page is listed the identifying information for the test point The significant information for the user is the configuration number appearing on the first line and the run number [appearing next to both (run number) and (condition)] at extreme left of second line

  Directly below the identification section are listed the pertinent ambient and nozzle operating parameters in both U S customary units as well as the International System of Units (S I)

  The left-hand columns list the full scale primary and fan stream exhaust nozzle areas (AREA) as equal to zero to indicate that the noise data are in model scale form In the same columns are found the stream total to ambient pressure ratio (P R.), stream temperature (TEMP), and stream density (RHO), and the ideally expanded velocity (VEL).

  The right hand columns list the full scale mass flow (MASS FLOW) as equal to zero to indicate that the noise data are in scale model form Also listed in this column are the model size ideal thrusts (THRUST, IDL), exhaust nozzle areas (AREA MOD), and mass flows (W MODEL).

  Below the parameter listing are the tabulated, model scale one-third octave band sound pressure levels at a 10 ft polar distance under free-field measurement conditions during a "Theoretical Day " The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80K Hz are listed in the left hand column The one-third octave band sound pressure levels for each microphone measuring angle (70° to 150°) at 10 degree increments, at each one-third octave band are listed in the appropriate columns

The one-third octave band power levels (referenced to 10^{-12} watts) are listed at the extreme right hand side of the page

Below the one-third octave band sound pressure and sound power levels are listed the 10 ft radius overall sound pressure level (OSPL) for each angle and the overall sound power level (OAPWL).

The actual tunnel ambient conditions existing during the test are handwritten between the SPL and PWL data (V_∞) is the tunnel stream velocity (0 for static runs), (Ta) is the chamber air temperature, (RHa) is the relative humidity and (Pa) is the chamber pressure

- Flight Data

The flight model data is presented in four consecutive pages for each run Data run 3502 (pages A3-18 through A3-21) is used as an illustration to describe the information presented in each page

The first page (similar to A3-18) is the model data on a "theoretical day" with the tunnel background noise removed, but without any corrections for shear layer or moving media effects This can be considered to be "as measured" data At the top of the page is listed the title for data base identification The title lists the computer program (DECK) where the data was stored, the length of data (LD), the test date (DATE) and the test stand (STND) The test run number is listed under (OBS) and (CORR) followed by the configuration description and number The actual values of tunnel velocity (V_∞), chamber temperature (Ta), relative humidity (RHa) and pressure (Pa) are handwritten to the right of the spectral data Below the title are the tabulated, model scale one-third octave band sound pressure levels at a 10 ft. polar distance under free-field measurement conditions during a "Theoretical Day" with the tunnel background noise removed The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80K Hz are listed in the left hand column The one-third octave band sound pressure level for each microphone measuring angle from 70° to 150° at 10 degree increments are listed in the appropriate columns Below the one-third octave band sound pressure levels are listed the 10 ft radius overall sound pressure level where the total sound pressure level (TSPL) is the integration from 100 Hz to 80K and the sum of sound pressure level (SSPL) is the integration from 500 Hz to 80K Hz.

The second page (similar to A3-29) is the model data (SSPL) and (TSPL) on a "theoretical day" with the shear layer and moving medium corrections applied At the top of the page is listed the title for data base identification Below the title are listed the corrected angles and overall sound pressure levels (TSPL) and (SSPL) at a 10 ft radius after the shear layer refraction correction Below the shear layer refraction correction data are listed the corrected angles (i e , noise emission angles) and overall sound pressure levels (TSPL) and (SSPL) at a 10 ft radius after the moving medium correction At the bottom appear the original microphone angles to which the corrections were applied Environmental conditions are repeated on the right side of the page

The third page (similar to A3-20) is the spectral model data on a "theoretical day" with shear layer and moving medium corrections after the data were interpolated to the original angles (i e , 70° to 150° at 10 degree increments) At the top of the page is listed the title for data base identification Below the title are the interpolated, model scale one-third octave band sound pressure levels at a 10 ft radius on a "theoretical day" The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80 KHz are listed in the left hand column The one-third octave band sound pressure levels for each microphone measuring angle 70° to 150° at each 10 degree increments are listed in the appropriate the 10 ft radius overall sound pressure level TSPL and SSPL for each angle Environmental conditions are repeated to the right of the page

The fourth and last page (similar to A3-21) is the model spectral data on a "theoretical day" with shear layer and moving medium corrections and is the same data as on the previous page, but includes final heading information and noise power levels This data sheet is identical in format to the data sheet presenting the static data (see page A1-1) The spectral data presented in this fourth page represents the "simulated flight" data referred to the emission angle but without accounting for the frequency shift due to the doppler effect

The user should be aware that the OSPL values presented in the fourth data sheet (similar to A3-21) are the sum of all the SPL's presented above them in the page As such, it will be affected in some cases by spurrious noises occurring at frequencies below 500 Hz When making data comparisons involving overall sound pressure levels, the values listed under (SSTP) in the third page (similar to A3-20) should be used

- Scaled Data

The selected scale data are presented in one page (similar to A3-182) At the top of each page are listed the pertinent ambient and nozzle operating parameters in U S customery units as well as the International System of Units (S I)

The left hand column lists the ambient temperature (TEMP), pressure (PRES), wind direction (WIND D), wind velocity (WIND V) and relative humidity (REL H) These are the conditions corresponding to an FAA standard day in all cases (77°F and 70% relative humidity)

The center columns list the full scale primary and fan stream exhaust nozzle areas (AREA) as well as stream total to ambient pressure ratio (P R.), stream temperature (TEMP), and stream density (RHO) The ideally expanded velocity (VEL) is also presented.

The right hand columns list the full scale mass flow (MASS FLOW) and the full scale ideal thrusts (THRUST, IDL), model size exhaust nozzle areas (AREA MOD), and mass flow (W MODEL) of the scale models used in the test

Below the parameter listing are the tabulated, full scale one-third octave band sound pressure levels at a 150 ft polar distance under free-field measurement conditions during a standard FAA day The center frequencies of the measured one-third octave bands from 50 Hz to 3150 Hz are listed in the left hand column. The one-third octave band sound pressure levels for each microphone measuring angle, 70° to 150° for each 10 degree increments, at each one-third octave band are listed in the appropriate columns

The one-third octave band power levels (referenced to 10^{-12} watts) are listed at the extreme right hand side of the page.

Below the sound pressure level and sound power level spectra are listed the 150 ft. radius overall sound pressure level (OSPL) for each angle and the overall sound power level (OAPWL) Perceived noise levels (PNL s) are listed for each measuring angle at 150 ft. radius, and at 200 ft., 370 ft , 800 ft , and 2128 ft sideline distances at the bottom of the data sheet

Aerodynamic Data

The nozzle thrust and flow coefficients, and the static pressure data acquired in the Large Subsonic Wind Tunnel at UTRC are tabulated in this section. The data are tabulated by ascending run point number.

- Thrust and Flow Coefficients

  At the top of each data page the model configuration number (Config No), run/point number (RUN/PT), primary pressure ratio (PTP/PA), fan pressure ratio (PTF/PA), thrust coefficient (CF), primary discharge coefficient (CDP), fan discharge coefficient (CDF) and tunnel speed (VO) in fps are identified with the value of the parameter listed underneath

- Static Pressures

  For each configuration the surface static pressure data (P/Pa) is tabulated by the run/point number (RUN/PT) as a function of tap number and tap location (X/L) Locations of taps are defined in Figures 3 3-1 to 3 3-4 of the final report.

- Related Aerodynamic Data

  The nozzle velocity and temperature survey data and pressure top data acquired in conjunction with the acoustic data are presented in section B3 The information is identified by the run numbers shown in the acoustic matrix

1. Exhaust Plume Velocity and Temperature Surveys

Each configuration is identified at the top of the page For each run number the local flow temperature (T_t exit) and velocity (V exit) are tabulated as a function of probe location relative to the exit radius of the ejector (R/R exit).

2 Ejector Inlet Total and Surface Static Pressure

The type of pressure data, total or static, is identified at the top of each page The total pressure data (Pt/Pto) is tabulated for each run number as a function of probe number and location relative to the leading edge radius of the ejector (R/R L E.) and similarly, the static top data (P/Pamb) is tabulated as a function of tap number and location relative to the length of the ejector (X/L)

ACOUSTIC DATA

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Configuration 3
0.75 Area Ratio Coannular Nozzle with Ejector

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 0.0/1 RUN NUMBER 3501 CONDITION 3501

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.21		1.52	3.21	THRUST,IDL	LB	28.1	74.1	N	125.0	329.5
TEMP	(R)	674.5	722.3	(K)	374.7	401.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.077	KG/M3	1.067	1.227	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	952.8	1569.0	M/S	290.4	478.2	W (MODEL)	LB/S	0.9	1.5	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.9	71.6	74.2	76.4	76.4	75.5	77.2	80.9	90.1	97.4
.125	74.7	75.3	77.9	78.4	79.1	80.2	80.5	83.4	91.0	99.5
.160	76.0	78.3	79.7	81.5	82.2	82.0	81.4	85.7	92.4	101.4
.200	78.9	80.6	81.6	84.3	83.5	84.2	86.3	87.1	92.3	103.1
.250	81.6	83.6	84.4	84.7	87.0	87.4	86.9	92.4	93.5	105.8
.315	85.4	88.0	88.1	87.6	88.4	88.5	89.1	93.8	100.5	109.2
.400	89.5	89.1	88.6	89.5	88.7	88.5	91.5	94.8	102.5	110.7
.500	89.9	90.6	89.9	89.6	91.1	92.5	94.3	100.4	102.5	112.9
.630	87.1	89.1	89.9	90.9	92.8	93.7	95.3	100.9	106.8	114.7
.800	91.9	90.5	90.4	91.5	93.2	95.2	97.6	103.3	107.2	116.1
1.00	91.1	91.0	91.9	93.3	94.9	95.6	98.3	103.9	107.8	116.8
1.25	90.4	91.0	91.9	93.6	95.4	96.6	99.8	104.6	107.0	117.1
1.60	91.1	92.5	92.9	94.6	96.8	97.9	100.5	104.3	106.0	117.2
2.00	94.1	94.5	95.0	96.5	99.0	100.3	101.9	105.2	105.3	118.4
2.50	95.4	95.2	95.3	97.1	99.0	100.0	102.1	105.1	104.2	118.4
3.15	95.3	96.0	96.5	97.8	99.0	100.4	102.9	104.8	104.0	118.5
4.00	96.7	96.8	97.2	98.4	100.0	101.6	103.7	105.3	104.0	119.3
5.00	97.5	98.0	97.6	99.4	100.9	102.3	104.2	105.2	104.5	119.8
6.30	97.4	97.5	98.0	99.4	101.0	102.3	104.3	105.2	105.6	120.0
8.00	98.2	97.5	98.0	99.4	101.4	102.8	104.2	105.7	105.4	120.2
10.0	99.4	98.5	98.3	99.5	101.3	102.4	103.9	105.1	104.6	120.0
12.5	103.8	101.8	99.6	100.4	101.3	102.3	102.7	103.6	103.5	120.2
16.0	107.4	105.6	102.9	101.6	102.3	103.1	101.7	102.0	101.1	121.8
20.0	109.0	107.5	104.6	102.1	102.0	102.9	100.4	99.6	97.8	122.6
25.0	107.5	107.9	106.9	105.6	104.4	103.5	100.4	98.8	96.0	123.6
31.5	106.3	106.4	106.6	107.4	107.6	104.7	101.3	98.3	94.7	124.0
40.0	107.3	106.9	106.5	107.3	108.7	107.6	102.9	99.3	95.2	124.9
50.0	107.3	107.4	107.5	108.1	108.8	109.0	104.9	101.3	96.3	125.6
63.0	107.4	108.1	108.2	108.7	108.7	108.4	105.2	102.4	97.2	125.9
80.0	108.4	108.7	109.0	109.5	109.5	108.7	105.6	102.6	98.0	126.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	117.3	117.0	116.5	116.9	117.4	117.2	116.1	117.2	117.9	OAPWL = 135.3

V_∞ =	30	fps
T_a =	85	°F
RH_a =	27	%
P_a =	14.80	psia

ORIGINAL PAGE IS OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3506 CONDITION 3506

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	28.2	51.6	N	125.6	229.4
TEMP	(R)	674.3	715.0	(K)	374.6	397.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.072	KG/M3	1.069	1.156	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	957.2	1407.0	M/S	291.8	428.9	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.0	67.2	70.8	73.3	73.2	72.5	74.6	81.6	94.5	99.7
.125	70.6	72.6	75.6	75.8	76.6	77.8	78.1	83.5	93.9	100.1
.160	72.7	75.6	77.0	78.9	79.5	79.2	78.8	84.6	93.2	100.4
.200	76.6	78.3	79.0	81.6	81.0	81.6	83.6	85.6	92.2	101.4
.250	79.0	81.4	82.2	82.1	84.1	85.0	84.5	89.9	92.8	103.6
.315	82.6	85.2	85.7	85.0	86.0	86.0	86.3	90.6	97.8	106.4
.400	87.0	87.1	86.5	87.4	87.0	86.3	88.7	91.9	100.0	108.2
.500	88.4	89.2	88.2	88.2	89.6	90.5	91.7	97.6	99.8	110.6
.630	86.5	88.1	89.2	89.8	91.3	91.4	92.6	97.8	104.0	112.2
.800	89.9	89.0	89.0	90.3	91.9	93.1	94.8	99.8	103.7	113.1
1.00	89.6	89.2	89.9	91.4	93.0	93.4	95.4	100.3	104.2	113.7
1.25	89.5	90.0	93.1	94.4	96.8	96.2	97.4	101.3	104.6	115.3
1.60	90.2	93.2	92.2	94.1	95.2	95.6	97.6	101.2	103.4	114.9
2.00	92.3	93.3	93.0	94.4	96.1	96.9	98.2	101.6	102.5	115.3
2.50	94.1	94.2	94.4	95.6	96.9	97.6	98.9	101.8	101.5	115.9
3.15	94.1	94.2	94.9	96.2	96.9	97.8	99.6	101.5	101.0	115.9
4.00	95.2	95.3	95.5	96.7	97.9	98.6	100.0	102.0	100.8	116.5
5.00	95.8	96.3	95.8	97.3	98.4	98.8	100.2	101.5	100.7	116.7
6.30	95.2	95.3	95.7	96.7	98.2	98.5	99.7	100.6	100.6	116.3
8.00	95.0	94.8	95.3	96.4	98.2	99.2	99.3	100.5	99.6	116.1
10.0	94.7	94.4	94.5	96.1	98.0	98.9	98.7	99.4	97.8	115.5
12.5	94.9	94.9	94.8	96.2	98.2	99.4	98.3	97.7	96.0	115.4
16.0	95.8	95.3	95.0	96.3	98.1	99.5	98.2	96.6	94.0	115.3
20.0	100.7	98.1	95.7	96.0	97.6	98.5	97.6	95.6	92.0	115.7
25.0	103.8	102.7	99.6	97.7	98.3	97.8	96.8	95.3	91.2	117.9
31.5	103.7	103.6	102.7	100.6	99.3	98.3	96.1	94.1	90.1	119.0
40.0	103.1	103.4	103.6	103.1	101.4	99.3	96.2	93.5	89.5	119.9
50.0	102.5	102.7	103.7	105.0	104.3	101.9	98.1	94.4	90.1	121.0
63.0	102.6	103.4	103.9	104.6	105.5	103.9	100.1	96.9	91.6	121.6
80.0	103.6	104.3	105.0	105.6	105.7	104.8	102.1	99.2	94.1	122.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	112.4	112.4	112.4	112.8	113.2	112.7	112.0	113.2	114.4	OAPWL = 131.0

V_∞ =	30	fps
T_a =	81	°F
RH_a =	37	%
P_a =	14.80	psia

ORIGINAL PAGE IS OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3507 CONDITION 3507

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	28.3	29.6	N	126.0	131.9
-- TEMP	(R)	675.3	726.0	(K)	375.2	403.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.065	KG/M3	1.068	1.040	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	960.4	1164.0	M/S	292.7	354.8	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	64.5	66.2	67.4	69.9	70.0	68.9	70.6	75.2	83.3	90.8
.125	67.1	70.0	72.1	72.4	73.3	74.1	74.5	77.9	84.3	93.3
.160	68.9	72.4	73.4	75.0	75.8	75.7	75.4	79.8	86.2	95.2
.200	72.6	75.1	75.3	77.9	77.3	77.9	79.7	80.9	85.9	96.8
.250	75.0	77.6	78.3	78.1	80.0	80.7	80.7	85.9	86.9	99.3
.315	78.3	80.5	81.0	80.6	81.4	81.8	82.6	86.6	93.4	102.1
.400	82.3	82.6	82.1	82.9	82.5	82.1	84.9	88.1	95.9	104.1
.500	84.0	84.8	83.5	84.0	85.0	86.1	87.6	93.0	95.2	106.1
.630	83.0	84.4	85.6	86.0	87.6	87.8	88.9	94.0	100.2	108.5
.800	86.2	85.5	85.1	86.6	88.1	89.4	90.7	95.4	99.6	109.1
1.00	87.8	87.1	86.7	87.8	89.4	89.8	91.4	95.8	100.5	109.9
1.25	94.8	96.8	92.0	93.2	96.1	93.6	95.0	98.1	103.4	114.4
1.60	86.2	87.7	88.8	90.6	92.0	92.0	93.2	96.5	100.5	111.1
2.00	90.5	91.3	93.3	94.6	94.5	93.4	94.2	97.4	100.5	112.9
2.50	95.0	93.0	93.6	94.7	94.7	95.1	96.7	99.5	101.7	114.3
3.15	92.3	92.3	92.1	93.6	94.1	93.6	95.1	97.4	100.3	112.8
4.00	92.3	92.2	92.7	93.5	94.7	94.5	94.7	96.9	99.9	112.8
5.00	92.2	93.1	92.1	93.8	94.1	94.0	94.7	95.6	99.2	112.5
6.30	90.9	90.9	91.4	92.4	93.2	93.0	93.5	94.3	98.2	111.3
8.00	89.7	89.5	90.0	91.4	93.0	93.2	92.5	93.2	96.3	110.4
10.0	88.5	88.6	88.9	90.3	92.3	92.8	91.8	91.4	94.1	109.4
12.5	87.6	88.2	88.6	89.9	91.9	92.7	91.1	89.7	92.4	108.7
16.0	86.8	87.7	88.4	90.0	91.9	92.5	90.9	88.6	90.7	108.5
20.0	85.7	86.3	86.8	88.6	90.8	91.1	90.0	87.2	89.0	107.2
25.0	85.7	86.7	87.4	88.4	90.8	90.5	89.1	86.8	88.2	107.0
31.5	85.1	86.3	86.7	88.3	90.1	89.7	87.4	84.9	86.6	106.1
40.0	85.6	86.3	87.3	88.4	89.6	89.4	86.8	83.8	85.6	106.0
50.0	85.7	86.3	87.6	89.3	89.7	89.3	87.0	83.5	85.0	106.2
63.0	86.1	87.2	88.6	89.6	90.6	89.7	87.0	84.4	85.6	106.8
80.0	87.0	87.8	89.2	90.5	91.1	90.3	88.1	85.3	86.6	107.4
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	103.3	103.7	103.5	104.8	105.9	105.7	105.9	108.0	111.8	OAPWL = 124.1

V_∞ =	30	fps
T_a =	81	°F
RH_a =	33	%
P_a =	14.80	psia

ORIGINAL PAGE IS OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=28 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3513 CONDITION 3513

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.53		1.52	1.53	THRUST,IDL	LB	28.1	20.4	N	125.0	90.9
TEMP	(R)	680.2	707.0	(K)	377.9	392.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.064	KG/M3	1.060	1.020	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	962.9	982.6	M/S	293.5	299.5	W (MODEL)	LB/S	0.9	0.7	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.8	62.2	65.5	68.0	67.5	66.5	68.3	72.8	80.1	88.1
.125	65.8	67.1	70.3	70.7	70.9	71.7	72.1	75.5	81.4	90.9
.160	67.4	70.2	71.7	73.4	73.7	73.9	73.5	77.6	83.0	92.9
.200	70.3	72.3	72.8	75.5	75.0	76.0	77.8	79.1	83.0	94.6
.250	72.0	74.3	75.1	75.6	77.5	78.8	78.8	83.5	84.3	96.8
.315	75.5	78.0	78.8	78.6	80.2	80.4	81.0	83.8	90.8	99.9
.400	79.7	81.2	80.5	81.9	82.1	81.4	83.8	86.5	93.7	102.5
.500	82.6	83.0	82.5	82.2	82.5	83.9	86.1	90.0	92.3	103.7
.630	82.7	83.5	84.2	84.2	85.2	86.1	87.5	91.9	97.7	106.4
.800	86.0	85.2	84.2	85.6	87.0	87.6	89.0	93.5	96.7	107.2
1.00	94.6	96.7	91.5	92.3	90.1	88.5	90.8	94.8	98.8	111.8
1.25	106.2	109.2	102.6	103.6	98.3	90.4	97.9	101.8	106.7	122.4
1.60	86.2	87.9	87.9	89.9	91.1	91.1	91.7	94.8	97.4	109.6
2.00	88.2	89.0	91.1	92.9	93.3	92.5	92.2	95.7	97.2	111.0
2.50	95.4	94.2	91.4	91.2	92.4	94.3	92.8	95.8	96.0	111.9
3.15	90.0	90.1	90.2	91.3	92.0	91.3	92.2	94.5	94.2	110.0
4.00	90.4	90.0	90.1	91.4	92.2	91.8	91.8	94.0	92.6	109.9
5.00	88.8	89.2	88.7	90.2	90.8	90.7	91.2	92.4	90.8	108.7
6.30	86.7	87.1	87.6	88.7	89.7	89.5	89.6	90.4	88.8	107.1
8.00	85.7	85.4	86.2	87.6	89.1	89.6	88.6	88.8	86.1	106.2
10.0	84.9	84.5	84.8	86.4	88.3	88.6	87.8	87.0	83.7	105.0
12.5	83.8	84.2	84.6	85.9	87.4	88.3	87.2	85.4	82.3	104.4
16.0	83.6	84.5	85.4	87.1	87.9	88.0	87.1	84.8	81.4	104.6
20.0	82.8	83.3	83.6	85.2	87.1	86.4	85.3	83.2	79.9	103.2
25.0	83.0	83.9	84.5	85.1	86.8	86.1	83.9	82.2	78.7	103.0
31.5	83.0	84.1	84.4	85.2	86.7	85.4	83.0	80.7	77.4	102.7
40.0	83.6	84.0	84.6	85.6	86.2	85.6	83.1	80.4	77.4	102.8
50.0	83.1	83.8	84.8	86.5	86.7	85.8	83.5	80.6	77.2	103.1
63.0	82.8	83.7	84.8	86.0	86.9	86.1	83.4	81.2	77.7	103.1
80.0	83.1	83.4	84.7	86.3	87.0	86.5	84.1	81.9	78.9	103.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	107.5	110.0	104.9	105.9	104.1	103.0	103.8	106.6	109.7	

OAPHL = 124.8

V_∞ =	28	fps
T_a =	20	°F
RH_a =	31	%
P_a =	14 80	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3514 CONDITION 3514

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	28.3	12.5	N	125.9	55.5
TEMP	(R)	680.8	714.7	(K)	378.2	397.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.060	KG/M3	1.058	0.965	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	959.5	788.0	M/S	292.5	240.2	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	60.6	0.0	63.1	65.6	65.1	64.4	66.2	69.9	77.3	85.4
.125	63.5	64.6	68.1	68.2	68.5	69.6	69.7	72.8	79.0	88.5
.160	65.2	67.8	69.7	70.9	71.5	72.0	71.5	75.4	80.9	90.8
.200	67.7	69.6	70.5	73.5	72.8	74.3	76.1	77.3	81.0	92.6
.250	69.6	72.0	72.7	73.2	75.4	76.7	77.0	81.8	82.1	94.8
.315	73.3	75.6	76.8	76.6	78.3	78.3	79.1	81.6	88.8	97.8
.400	77.4	78.9	78.5	79.6	79.6	79.0	81.4	84.4	90.7	100.0
.500	80.3	80.6	80.2	79.7	80.1	81.5	83.7	87.8	90.0	101.4
.630	80.1	80.9	81.8	81.4	82.7	83.4	84.5	89.5	95.6	104.0
.800	83.6	82.1	81.5	82.6	84.0	84.8	86.1	91.3	94.7	104.8
1.00	92.1	91.4	90.4	88.1	88.3	86.2	86.8	91.9	96.0	108.5
1.25	91.1	92.0	90.2	88.3	88.6	87.1	88.0	92.9	95.3	108.8
1.60	83.6	84.2	84.6	86.4	88.3	88.3	89.0	92.2	94.9	106.7
2.00	83.8	84.9	86.9	88.7	89.8	89.4	89.5	92.9	94.2	107.7
2.50	86.8	87.2	87.2	88.1	88.6	89.1	89.5	92.8	93.0	107.5
3.15	85.4	86.1	86.9	87.6	88.7	88.5	89.2	91.8	91.4	106.8
4.00	86.0	85.2	85.5	87.0	88.1	88.3	88.9	91.3	89.6	106.2
5.00	84.3	84.6	84.6	86.0	87.3	87.4	88.0	89.4	87.7	105.0
6.30	82.6	82.9	83.9	84.7	86.3	85.9	86.7	87.4	85.4	103.6
8.00	82.2	81.7	83.0	84.4	86.1	86.3	85.8	86.2	82.8	103.1
10.0	81.1	81.3	81.7	83.1	85.2	85.6	85.2	84.7	80.4	102.1
12.5	81.0	81.4	82.5	83.3	84.3	85.0	84.0	82.8	79.2	101.5
16.0	81.2	82.1	83.5	85.1	85.8	84.3	82.8	81.5	78.1	102.0
20.0	81.2	81.7	81.9	83.4	85.7	83.8	81.0	79.7	76.9	101.0
25.0	82.6	83.6	84.4	84.3	85.5	84.3	81.1	79.5	76.0	101.9
31.5	83.1	83.9	84.2	84.3	86.2	83.4	80.5	78.4	75.6	101.9
40.0	82.9	83.5	84.7	84.8	85.7	84.0	80.7	78.5	75.8	102.0
50.0	82.2	82.8	84.4	85.3	85.4	83.8	81.1	78.3	75.0	101.8
63.0	80.9	81.7	83.3	84.3	85.0	83.5	80.5	78.3	74.7	101.1
80.0	80.2	80.5	82.3	83.7	84.2	83.5	80.8	78.6	75.2	100.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 118.5
OSPL	98.6	98.9	98.9	99.3	100.3	99.8	99.9	102.7	104.7	

V_∞ = 30 fps
T_a = 77 °F
RH_a = 29 %
P_a = 14 80 psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3524 CONDITION 3524

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	28.1	71.8	N	125.0	319.4
TEMP	(R)	711.7	1050.3	(K)	395.4	583.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.052	KG/M3	1.012	0.834	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	983.5	1895.0	M/S	299.8	577.6	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.0	71.8	74.7	76.9	76.7	75.7	77.4	81.3	91.0	98.0
.125	75.7	75.9	79.2	79.4	79.3	80.4	81.1	84.8	92.5	100.6
.160	77.3	79.4	80.9	82.1	82.5	82.8	82.7	87.3	93.7	102.6
.200	79.1	80.7	81.6	84.5	83.9	85.4	87.4	88.6	93.9	104.1
.250	81.6	83.3	83.8	85.5	87.6	88.3	89.5	94.3	94.8	107.1
.315	85.4	88.3	88.7	88.6	90.2	90.5	91.3	95.1	101.5	110.4
.400	89.9	91.1	90.6	91.7	91.2	90.9	94.2	97.6	104.9	113.1
.500	92.0	92.3	91.9	91.0	90.9	92.9	96.0	102.0	104.0	114.4
.630	89.3	90.0	90.0	90.8	92.5	94.9	97.8	102.8	108.4	116.3
.800	94.4	92.1	91.3	93.2	95.0	96.7	99.9	105.8	109.5	118.3
1.00	92.4	92.7	94.1	95.5	96.7	97.6	100.7	106.3	109.7	118.9
1.25	91.6	92.0	93.4	95.7	97.6	98.9	102.2	107.2	108.7	119.3
1.60	92.0	93.3	94.2	97.2	99.2	100.7	103.4	107.0	107.9	119.7
2.00	94.5	95.2	96.5	98.3	100.2	102.0	104.4	107.4	107.2	120.3
2.50	96.5	96.7	97.1	99.8	101.3	103.0	105.5	107.7	106.8	121.0
3.15	96.6	97.1	98.4	99.9	101.5	103.5	106.2	107.6	106.7	121.2
4.00	98.4	98.6	99.5	101.5	103.1	105.5	107.2	108.6	107.3	122.5
5.00	99.5	99.9	100.1	102.3	104.0	106.4	107.9	108.6	108.1	123.2
6.30	99.3	99.9	100.6	102.2	104.6	106.8	107.9	109.1	109.3	123.6
8.00	100.1	100.0	100.9	102.6	105.5	107.7	108.3	110.0	109.9	124.3
10.0	100.7	100.4	101.1	103.0	105.6	107.5	108.3	109.7	109.3	124.2
12.5	102.8	101.8	101.5	103.3	105.8	107.2	107.4	108.6	108.1	123.8
16.0	106.5	105.0	103.2	103.9	106.2	107.0	106.1	106.8	105.8	123.9
20.0	107.9	106.2	104.6	103.9	106.2	106.5	104.3	104.2	102.3	123.7
25.0	107.6	107.3	106.0	105.0	106.9	106.7	103.5	102.8	100.2	124.2
31.5	105.8	106.6	106.9	106.8	107.2	106.6	103.3	101.3	98.1	124.2
40.0	106.0	105.8	106.6	107.1	108.0	106.7	103.3	100.7	97.0	124.4
50.0	105.4	105.5	106.4	107.4	108.2	107.0	103.7	100.5	96.1	124.4
63.0	104.6	105.2	106.0	106.4	107.6	106.8	103.7	100.9	96.1	123.9
80.0	104.4	104.6	105.4	105.7	106.5	106.0	103.2	100.5	95.9	123.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 136.2
OSPL	116.3	116.0	116.0	116.7	118.2	118.8	118.7	120.2	120.6	

V_∞ =	31	fps
T_a =	106	°F
RH_a =	4	%
P_a =	14 80	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3525 CONDITION 3525

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	28.6	56.0	N	127.3	249.1
TEMP	(R)	706.0	1061.3	(K)	392.2	589.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.048	KG/M3	1.020	0.771	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	980.3	1717.0	M/S	298.8	523.3	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.9	67.6	70.8	73.6	73.6	73.0	75.1	79.9	90.9	96.9
.125	71.3	72.5	75.8	76.5	76.4	77.7	78.6	82.6	91.2	98.5
.160	73.9	76.6	78.2	79.2	79.4	79.8	80.0	84.4	91.5	99.9
.200	76.0	77.9	78.7	81.5	81.1	82.6	84.4	85.6	92.0	101.5
.250	78.5	80.4	81.2	82.3	84.7	85.4	86.6	91.2	92.5	104.2
.315	82.3	85.1	85.6	85.9	87.4	87.7	88.2	91.6	98.2	107.2
.400	86.5	87.9	87.6	88.9	88.5	88.5	91.1	94.0	101.6	109.9
.500	89.3	89.8	89.2	88.8	88.6	90.2	93.1	98.7	100.6	111.3
.630	87.5	88.2	88.8	89.3	90.7	92.4	94.6	99.4	105.1	113.3
.800	92.0	90.2	89.2	91.0	92.5	94.2	96.7	102.0	105.6	114.9
1.00	91.1	90.4	91.7	93.0	94.3	94.9	97.5	102.4	105.9	115.5
1.25	90.2	90.8	92.1	93.8	95.8	96.3	99.0	103.8	105.8	116.4
1.60	89.9	91.4	92.6	95.0	96.9	98.0	100.3	103.7	105.1	116.8
2.00	93.1	94.0	94.7	96.2	97.8	99.3	101.2	104.2	104.5	117.6
2.50	95.3	95.4	95.5	97.7	99.2	100.4	102.0	104.7	103.9	118.4
3.15	95.4	95.4	96.7	97.9	99.3	100.8	102.9	104.6	103.6	118.5
4.00	96.6	97.1	97.8	99.4	100.6	102.6	104.1	105.6	104.2	119.8
5.00	97.3	98.0	98.1	100.1	101.4	103.1	104.6	105.2	104.9	120.2
6.30	97.1	97.5	98.3	99.7	101.7	103.4	104.3	105.4	105.1	120.3
8.00	97.5	97.4	98.3	100.0	102.5	104.3	104.1	105.5	105.0	120.6
10.0	97.7	97.4	98.1	100.2	102.7	104.5	103.8	104.5	103.7	120.3
12.5	96.7	97.0	98.1	100.4	103.0	104.8	102.8	103.0	102.0	119.9
16.0	96.8	97.1	98.2	100.6	103.3	105.5	102.3	101.4	99.6	119.9
20.0	97.3	96.9	97.5	99.7	102.8	105.3	102.0	99.6	96.7	119.4
25.0	100.4	99.2	98.1	99.7	102.8	104.6	102.0	99.7	95.7	119.5
31.5	101.5	101.1	99.8	99.9	102.1	103.0	101.4	98.5	94.5	119.2
40.0	102.2	102.1	101.7	101.0	101.6	102.0	99.8	97.1	93.2	119.4
50.0	101.3	101.9	102.7	103.2	102.3	101.7	98.7	95.5	91.3	119.8
63.0	100.3	101.5	102.4	103.2	103.1	102.0	98.5	95.2	90.6	119.8
80.0	99.8	100.6	101.4	102.5	102.8	101.9	98.9	95.4	90.8	119.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	111.2	111.4	111.8	113.0	114.5	115.8	115.2	116.3	116.8	

OAPWL = 132.4

V_∞ =	31	fps
T_a =	108	°F
RH_a =	4	%
P_a =	14.80	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3530 CONDITION 3530

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	28.3	28.2	N	126.1	125.5
TEMP	(R)	695.8	1053.2	(K)	386.6	585.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.044	KG/M3	1.035	0.712	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	970.9	1398.0	M/S	295.9	426.1	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	65.2	65.9	68.1	70.6	70.9	69.1	71.0	75.3	84.5	91.6
.125	68.7	70.4	73.2	73.7	73.7	74.6	75.0	78.6	85.6	94.3
.160	70.4	73.3	74.7	75.9	76.2	76.3	76.5	80.9	86.7	96.0
.200	72.7	74.7	75.1	78.1	77.7	78.9	81.0	82.3	87.2	97.7
.250	74.6	77.0	77.7	78.4	80.5	81.5	82.3	87.3	88.0	100.2
.315	78.1	80.6	81.8	81.7	83.2	83.6	84.4	87.6	94.1	103.1
.400	82.4	83.8	83.6	84.6	84.6	84.5	87.1	90.2	96.9	105.6
.500	85.3	85.9	85.3	84.9	84.8	86.4	89.2	94.1	95.9	107.0
.630	84.2	85.1	86.1	86.1	87.3	88.6	90.6	95.2	100.7	109.2
.800	87.9	86.6	85.8	87.5	89.1	90.5	92.4	97.1	100.4	110.3
1.00	88.2	87.1	88.0	89.2	90.5	91.0	92.9	97.2	100.4	110.8
1.25	93.5	91.1	93.9	94.0	94.2	93.4	94.6	99.2	102.2	113.7
1.60	87.2	88.0	89.4	91.4	93.2	93.7	95.2	97.9	99.4	111.9
2.00	89.6	91.9	93.9	94.6	95.3	95.1	96.4	99.0	98.9	113.7
2.50	93.2	92.7	93.5	95.3	95.7	97.4	98.9	100.6	99.3	115.0
3.15	92.8	93.1	93.2	94.5	95.6	95.9	97.5	99.2	98.0	114.0
4.00	93.7	93.6	94.6	95.6	96.6	97.1	97.9	99.4	97.7	114.7
5.00	93.6	94.5	94.1	96.0	96.9	97.4	97.9	98.5	97.3	114.7
6.30	92.6	93.0	93.6	94.8	96.2	96.9	97.0	97.4	96.5	113.9
8.00	92.1	92.0	93.0	94.6	96.5	97.4	96.4	96.9	95.1	113.6
10.0	91.5	91.5	92.2	93.9	96.4	97.3	95.5	95.1	92.8	113.0
12.5	90.5	91.1	92.0	94.0	96.6	97.7	94.6	93.4	91.1	112.7
16.0	90.2	91.0	92.1	94.2	96.7	98.4	94.7	92.5	89.3	112.9
20.0	89.1	89.7	90.9	93.3	95.9	97.6	94.1	91.0	87.5	112.0
25.0	88.5	89.4	90.6	92.9	95.8	96.5	93.7	90.6	86.5	111.5
31.5	87.7	89.0	90.2	92.4	94.8	95.1	92.3	88.9	84.7	110.4
40.0	87.9	88.8	90.4	92.3	94.2	94.6	90.8	87.5	83.4	110.0
50.0	87.6	88.5	90.2	92.6	93.9	93.8	90.0	86.4	82.9	109.6
63.0	87.3	88.9	90.5	92.2	93.8	93.1	89.5	86.1	82.6	109.3
80.0	87.5	88.5	90.2	92.2	93.2	92.6	89.3	86.1	82.7	109.0
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	104.1	104.4	105.4	107.0	108.5	109.2	108.6	110.0	110.8	

V_∞ =	30	fps
T_a =	91	°F
RH_a =	15	%
P_a =	14.80	psia

OAPWL = 126.1

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3531 CONDITION 3531

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	28.8	11.6	N	127.9	51.8
TEMP	(R)	689.7	1057.3	(K)	383.2	587.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.041	KG/M3	1.044	0.650	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	964.5	961.3	M/S	294.0	293.0	W (MODEL)	LB/S	1.0	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.3	60.3	63.9	66.5	66.2	65.3	66.7	70.4	77.5	86.0
.125	64.4	65.8	69.3	69.5	69.6	70.4	70.8	74.0	80.0	89.6
.160	66.1	69.2	70.8	72.0	72.3	72.7	72.6	76.5	81.8	91.7
.200	68.6	70.5	71.1	74.2	73.6	75.1	76.9	78.2	82.2	93.5
.250	70.6	72.8	73.7	74.3	76.6	77.7	78.3	82.8	83.1	95.9
.315	74.1	76.7	77.8	77.7	79.1	79.5	80.3	82.9	89.4	98.8
.400	78.5	80.3	80.0	80.9	80.8	80.5	82.6	85.5	92.1	101.3
.500	81.4	82.3	81.7	81.2	81.2	82.3	84.5	89.4	91.1	102.7
.630	81.1	82.5	83.3	82.9	83.9	84.6	86.0	90.6	96.2	105.1
.800	84.6	83.9	83.0	84.0	85.3	86.3	87.9	92.4	95.6	106.0
1.00	94.1	97.2	95.1	93.2	89.8	87.6	89.2	95.1	97.2	112.3
1.25	103.8	108.0	105.6	103.4	97.6	91.9	95.0	103.3	103.1	122.0
1.60	85.6	86.8	86.5	87.9	89.3	89.6	90.3	93.3	95.4	108.0
2.00	86.7	86.3	88.0	90.2	91.6	91.0	91.0	94.3	95.1	109.1
2.50	87.5	89.2	89.4	90.7	90.8	90.7	91.3	94.3	94.1	109.3
3.15	87.3	87.7	88.6	89.3	90.4	90.4	90.9	93.0	92.6	108.4
4.00	88.1	88.1	87.6	89.0	89.9	90.2	90.8	92.7	91.1	108.1
5.00	86.0	86.8	86.5	88.2	89.1	89.2	89.8	90.6	89.3	106.8
6.30	84.2	84.7	85.5	86.6	88.0	88.3	88.3	88.5	86.9	105.3
8.00	84.2	83.9	84.8	86.3	87.9	88.4	87.2	87.2	84.0	104.8
10.0	83.6	83.5	83.8	85.5	87.5	87.9	86.4	85.2	82.0	104.0
12.5	82.7	83.1	83.5	84.7	86.7	87.6	85.5	83.6	80.8	103.3
16.0	82.0	83.0	83.8	85.0	86.5	87.1	84.5	82.3	79.5	103.0
20.0	81.5	82.4	83.2	84.7	86.4	85.7	82.9	80.7	78.4	102.2
25.0	82.3	83.2	83.5	84.1	86.3	85.5	82.2	80.2	78.0	102.2
31.5	82.1	82.8	83.2	84.5	85.7	85.3	81.1	78.8	76.5	101.8
40.0	82.1	82.7	83.8	84.5	85.4	84.8	81.2	78.4	76.4	101.7
50.0	81.7	82.3	83.5	84.8	85.0	84.3	80.9	77.9	75.7	101.5
63.0	80.9	81.7	83.0	84.0	84.8	83.8	80.5	77.9	75.8	101.0
80.0	80.6	80.9	82.1	83.6	84.3	83.9	80.8	78.2	76.7	100.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	105.1	108.8	106.7	105.3	102.9	101.7	102.1	106.5	107.2	OAPWL = 124.0

V_∞ =	30	fps
T_a =	88	°F
RH_a =	16	%
P_a =	14 80	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3534 CONDITION 3534

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	27.5	70.2	N	122.5	312.1
TEMP	(R)	723.2	1253.7	(K)	401.8	696.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.043	KG/M3	0.997	0.692	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	996.4	2073.0	M/S	303.7	631.9	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.1	72.9	74.9	77.6	77.9	77.4	78.5	82.2	90.2	98.1
.125	74.7	77.0	79.6	80.0	79.9	81.2	82.2	85.8	91.4	100.7
.160	77.1	80.3	81.8	82.7	82.1	82.6	83.2	88.5	93.4	102.9
.200	79.6	81.1	82.0	84.8	84.0	86.0	87.0	88.8	94.0	104.3
.250	82.8	84.2	84.8	86.3	89.0	87.6	90.0	95.1	95.0	107.7
.315	86.2	89.3	88.9	88.9	88.9	90.4	91.0	96.9	102.2	111.0
.400	90.7	90.4	89.5	90.2	89.8	90.2	94.6	97.4	104.9	112.8
.500	91.7	92.3	90.8	90.6	92.1	93.9	97.1	103.2	105.0	115.2
.630	88.1	90.0	91.2	92.2	93.6	96.0	98.1	103.8	108.9	117.0
.800	93.1	92.0	91.4	92.9	94.7	96.8	100.3	106.5	110.3	118.9
1.00	92.2	92.2	93.3	95.4	96.0	98.0	101.2	107.0	110.2	119.3
1.25	92.2	92.4	93.1	95.3	97.3	99.9	102.7	107.7	109.5	119.8
1.60	92.5	93.7	94.6	96.6	98.6	100.6	103.8	107.9	108.3	120.1
2.00	95.1	96.1	96.9	98.8	100.3	102.6	105.3	108.3	107.6	121.0
2.50	96.5	96.8	97.2	99.3	101.3	103.5	106.2	108.3	107.3	121.5
3.15	96.8	97.8	98.2	100.2	101.9	104.5	106.8	108.2	107.2	121.8
4.00	98.4	99.0	99.5	101.3	103.4	106.4	107.8	109.2	107.9	123.0
5.00	99.3	100.0	100.3	102.8	104.4	107.2	108.3	109.3	109.0	123.7
6.30	99.2	99.9	100.9	103.0	104.9	107.7	108.3	110.0	109.9	124.2
8.00	100.3	100.3	101.3	103.4	106.2	108.7	108.7	110.9	110.6	125.0
10.0	100.8	100.8	101.6	103.8	106.3	108.8	108.8	110.5	110.1	124.9
12.5	101.4	101.3	101.7	104.0	106.2	107.9	107.8	109.4	108.5	124.2
16.0	104.6	103.7	102.8	104.8	106.8	107.6	106.5	107.7	106.2	124.1
20.0	105.4	104.5	103.6	104.6	106.9	107.0	104.7	104.8	102.7	123.5
25.0	105.9	105.5	104.3	104.8	107.8	107.2	103.8	103.6	100.7	123.9
31.5	104.4	105.2	105.2	105.6	106.9	107.1	103.5	102.1	98.7	123.6
40.0	104.2	104.3	104.9	105.9	106.5	106.4	102.7	100.9	97.5	123.2
50.0	103.9	103.9	104.5	106.3	106.6	106.0	102.6	100.2	96.1	123.0
63.0	103.0	103.9	104.4	105.5	106.6	106.0	102.4	100.3	95.8	122.8
80.0	103.3	103.5	104.1	105.2	106.5	105.8	102.8	100.5	96.0	122.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	114.9	114.9	115.0	116.5	118.2	119.3	119.1	120.9	121.2	OAPWL = 136.3

V_∞ =	31	fps
T_a =	114	°F
RH_a =	31	%
P_a =	14.73	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3539 CONDITION 3539

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.53		1.52	2.53	THRUST,IDL	LB	28.0	49.5	N	124.8	220.3
TEMP	(R)	721.8	1245.0	(K)	401.0	691.7	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.041	KG/M3	0.998	0.656	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	992.4	1876.0	M/S	302.5	571.8	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	69.4	68.8	71.9	74.6	74.9	74.5	75.8	80.3	91.9	97.8
.125	71.8	74.6	77.4	77.5	77.4	78.8	79.6	83.6	91.3	99.2
.160	74.6	77.9	79.5	80.2	79.8	80.3	81.0	86.1	92.3	100.9
.200	77.2	78.6	79.4	82.1	81.3	83.6	84.4	86.2	92.5	102.0
.250	80.0	81.8	82.7	83.7	86.2	85.3	87.6	92.6	93.5	105.4
.315	83.6	86.6	86.4	86.5	86.1	87.8	88.5	94.3	99.5	108.4
.400	88.0	87.9	86.9	87.8	87.7	88.1	92.1	94.8	101.8	110.1
.500	89.2	89.9	88.4	88.5	90.1	91.6	94.6	100.3	101.9	112.5
.630	86.9	88.4	89.6	90.6	91.8	93.5	95.4	100.6	105.8	114.1
.800	90.9	90.4	89.6	91.1	92.7	94.8	97.7	103.1	106.7	115.8
1.00	90.7	90.5	91.3	93.2	94.1	95.8	98.6	103.8	106.7	116.4
1.25	90.7	91.1	91.8	93.3	95.5	97.5	100.0	104.7	106.4	117.1
1.60	90.5	92.1	92.9	95.0	97.0	98.4	101.1	104.8	105.6	117.5
2.00	93.4	94.5	94.8	96.6	98.3	100.2	102.6	105.4	105.0	118.5
2.50	95.1	95.3	95.4	97.1	99.4	101.2	103.3	105.5	104.5	119.0
3.15	95.3	96.0	96.4	98.2	99.9	101.8	103.9	105.5	104.4	119.3
4.00	96.5	97.4	97.7	99.2	101.2	103.6	105.0	106.2	104.8	120.4
5.00	97.3	98.3	98.3	100.6	102.0	104.3	105.6	106.1	105.6	121.0
6.30	97.2	97.9	98.6	100.3	102.4	104.6	105.3	106.3	106.0	121.1
8.00	97.7	98.0	98.7	100.8	103.5	105.5	105.1	106.6	105.8	121.5
10.0	98.0	98.2	98.8	101.1	103.8	105.8	104.9	106.0	104.9	121.4
12.5	97.1	97.9	98.7	101.2	103.9	105.6	104.0	104.4	103.0	120.9
16.0	97.2	98.0	98.9	101.8	104.3	106.4	103.5	102.6	100.4	120.9
20.0	97.1	97.5	98.6	101.3	104.3	106.7	103.3	100.6	97.4	120.7
25.0	97.8	98.1	98.6	101.1	104.6	106.2	103.8	100.5	96.2	120.7
31.5	98.0	98.2	98.5	100.4	103.0	104.6	103.5	99.5	94.8	119.6
40.0	98.3	98.5	98.8	100.0	101.8	102.8	102.1	97.8	93.4	118.7
50.0	97.9	98.3	98.8	100.4	101.3	101.7	101.3	95.9	91.1	118.2
63.0	97.3	98.4	98.9	100.1	101.0	101.3	100.8	95.1	89.8	117.8
80.0	97.6	98.2	99.0	100.1	100.9	101.0	101.5	94.6	89.7	117.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 132.9
OSPL	109.8	110.3	110.9	112.8	115.0	116.8	116.5	117.4	117.6	

V_∞ =	31	fps
T_a =	108	°F
RH_a =	37	%
P_a =	14.73	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3540 CONDITION 3540

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	28.8	27.4	N	128.1	121.9
TEMP	(R)	711.5	1237.3	(K)	395.3	687.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.038	KG/M3	1.013	0.604	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	986.7	1522.0	M/S	300.7	463.9	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	65.6	66.7	68.2	70.6	71.0	70.9	71.9	75.7	82.7	91.1
.125	67.8	71.0	73.5	73.9	74.0	75.4	75.9	79.6	84.6	94.4
.160	70.3	74.0	75.3	76.3	76.2	76.9	77.4	82.1	86.7	96.5
.200	73.2	75.0	75.6	78.1	77.7	79.7	80.6	82.1	86.8	97.7
.250	75.9	78.0	78.6	79.6	81.9	81.4	83.4	88.3	88.1	101.0
.315	78.9	81.7	82.0	82.3	82.0	83.5	84.3	89.4	95.1	103.9
.400	83.2	83.4	82.6	83.6	83.5	84.1	87.5	90.1	97.1	105.5
.500	84.7	85.8	84.4	84.7	86.3	87.7	90.3	95.3	96.7	107.9
.630	83.8	85.4	86.8	87.6	88.6	89.6	91.1	96.0	101.2	109.9
.800	87.2	86.9	86.2	87.6	89.2	90.9	93.1	98.0	101.1	110.9
1.00	88.0	87.3	88.0	89.4	90.4	91.7	93.9	98.4	101.2	111.5
1.25	93.2	91.5	94.2	93.3	94.2	94.5	95.3	100.1	102.9	114.1
1.60	88.2	89.0	89.7	91.5	93.2	94.2	95.8	99.0	100.2	112.6
2.00	89.9	92.5	93.9	95.0	95.3	95.9	97.5	100.0	99.7	114.3
2.50	92.9	93.0	93.0	94.9	95.7	98.1	99.5	101.2	100.0	115.4
3.15	92.8	93.8	93.3	94.9	96.0	97.1	98.6	100.1	98.9	114.7
4.00	94.1	94.0	94.7	96.0	97.1	98.3	99.1	100.3	98.7	115.5
5.00	94.0	95.1	94.7	96.7	97.5	98.6	99.1	99.6	98.9	115.6
6.30	93.1	93.6	94.2	95.6	97.0	98.3	98.2	98.9	97.8	114.9
8.00	92.6	93.1	94.0	95.4	97.5	99.0	97.7	98.5	96.8	114.9
10.0	92.2	92.6	92.9	95.1	97.4	99.1	96.9	96.7	94.5	114.3
12.5	91.0	92.0	92.7	94.9	97.2	99.0	95.6	94.7	92.3	113.7
16.0	90.8	91.8	92.6	95.1	97.4	99.7	95.4	93.4	90.4	113.8
20.0	89.6	90.5	91.6	94.0	96.4	98.9	94.7	91.7	88.0	112.8
25.0	88.4	89.8	90.9	93.1	96.2	97.5	94.1	91.2	86.6	112.0
31.5	87.2	88.8	90.1	92.4	94.7	95.3	92.5	89.4	84.7	110.4
40.0	87.2	88.4	89.8	91.8	93.8	94.4	90.7	87.5	83.1	109.6
50.0	86.5	87.9	89.4	91.9	93.2	93.5	89.6	86.1	81.8	109.0
63.0	86.0	87.9	89.4	91.2	92.7	92.5	88.8	85.5	81.1	108.4
80.0	86.6	87.8	89.5	91.3	92.7	92.4	89.1	85.8	82.3	108.4
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	104.3	104.9	105.6	107.3	108.9	110.2	109.5	111.0	111.6	

OAPWL = 126.7

V_∞ =	31	fps
T_a =	103	°F
RH_a =	30	%
P_a =	14.73	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3545 CONDITION 3545

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	28.3	11.2	N	125.9	49.9
TEMP	(R)	678.3	1158.3	(K)	376.8	643.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.037	KG/M3	1.062	0.593	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	959.4	1004.0	M/S	292.4	306.0	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.3	69.6	64.5	66.9	74.6	66.3	67.8	71.4	77.3	88.7
.125	64.1	71.0	69.9	69.8	74.7	70.9	71.6	74.9	79.6	90.9
.160	65.9	72.2	71.1	72.2	75.1	72.5	72.7	77.4	81.7	92.5
.200	68.8	73.1	71.4	74.0	75.8	75.0	75.9	77.3	81.7	93.5
.250	71.3	75.4	74.8	74.9	78.3	76.8	78.1	82.9	83.2	96.3
.315	74.2	78.1	77.6	77.7	78.6	78.7	79.5	83.8	89.5	98.9
.400	78.6	79.8	78.2	79.3	80.1	79.3	81.9	85.2	91.1	100.4
.500	80.1	81.8	80.3	80.6	82.4	83.0	84.9	89.5	90.9	102.7
.630	80.1	82.5	83.2	84.0	85.2	84.8	85.6	90.4	95.4	104.9
.800	83.1	83.8	82.5	83.7	85.4	85.8	87.3	91.9	94.8	105.5
1.00	93.4	96.2	94.4	93.5	87.8	87.8	89.5	94.0	96.7	111.6
1.25	103.5	107.2	105.3	104.2	93.0	94.0	96.6	101.4	103.4	121.5
1.60	85.7	87.2	86.4	87.8	89.0	89.2	89.7	93.0	94.4	107.7
2.00	86.7	87.1	87.6	90.2	91.4	90.8	90.9	94.2	94.5	109.0
2.50	87.2	89.5	89.3	90.6	90.6	90.5	91.2	94.0	93.3	109.2
3.15	87.3	88.5	88.4	89.7	90.5	90.8	90.6	92.8	92.0	108.4
4.00	88.1	88.8	87.7	88.8	90.2	90.4	90.7	92.3	90.4	108.1
5.00	86.2	87.4	86.8	88.6	89.4	89.4	89.6	90.6	88.8	107.0
6.30	84.5	85.5	85.5	86.9	88.1	88.7	88.1	88.3	86.2	105.5
8.00	84.2	84.5	84.9	86.6	88.3	88.7	86.9	87.0	83.8	105.0
10.0	83.6	84.1	84.0	85.9	87.9	88.4	86.0	84.9	81.5	104.2
12.5	82.6	83.3	83.5	84.9	86.9	87.8	84.8	83.1	79.9	103.3
16.0	82.2	83.3	83.6	85.1	86.6	87.7	84.3	81.8	78.9	103.1
20.0	81.1	82.5	83.0	84.6	86.3	86.2	82.6	79.9	77.4	102.2
25.0	81.0	82.5	82.3	83.4	85.9	84.8	81.3	79.1	76.4	101.4
31.5	80.3	81.3	81.9	83.0	84.3	84.5	79.9	77.5	75.1	100.5
40.0	79.8	81.0	81.8	82.7	83.9	83.4	79.1	76.3	74.2	100.0
50.0	78.8	80.0	80.6	82.3	82.6	82.0	78.4	75.3	73.0	99.0
63.0	77.6	79.0	79.9	81.2	82.2	81.1	77.4	74.8	72.7	98.1
80.0	77.5	78.0	79.0	80.6	82.0	81.0	77.8	75.1	74.2	97.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 123.6
OSPL	104.8	108.1	106.4	105.8	101.7	101.9	102.2	105.4	107.0	

V_∞ =	30	fps
T_a =	85	°F
RH_a =	66	%
P_a =	14.73	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3556 CONDITION 3556

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TLMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	340.0	340.0	M/S	103.6	103.6	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
	MICROPHONE ANGLES IN DEGREES									
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.7	91.5	90.3	93.1	95.4	91.0	94.6	95.8	98.6	111.9
.125	86.2	90.5	89.1	90.3	94.2	89.7	94.1	94.9	96.5	110.5
.160	84.5	89.3	86.1	88.4	93.1	89.2	93.3	93.5	94.6	109.2
.200	85.6	89.1	85.2	87.7	91.8	87.3	91.3	91.3	92.4	107.8
.250	84.8	87.8	83.8	86.1	90.8	85.2	89.9	89.7	90.5	106.4
.315	82.3	86.5	82.2	83.7	89.3	83.7	88.9	88.9	89.4	105.0
.400	79.9	84.5	79.5	82.4	88.5	82.6	88.0	87.5	88.2	103.8
.500	78.5	83.2	78.5	80.9	86.9	81.3	86.5	86.1	86.9	102.3
.630	77.4	81.8	77.5	79.5	85.7	79.4	84.8	84.6	84.9	100.9
.800	77.3	80.0	77.1	78.4	84.0	78.3	83.5	82.6	83.4	99.4
1.00	77.9	78.7	76.9	78.0	82.7	77.7	82.3	80.7	81.7	98.3
1.25	77.5	77.8	76.5	77.3	82.8	77.4	81.5	79.4	80.3	97.7
1.60	77.4	77.6	76.7	77.2	81.8	77.3	81.3	78.2	79.1	97.2
2.00	77.1	77.4	76.7	77.4	80.8	77.8	81.5	77.7	77.9	97.0
2.50	76.0	77.1	76.1	76.7	79.8	77.1	81.2	76.6	76.5	96.3
3.15	76.1	76.9	76.2	76.9	78.9	77.2	81.5	76.4	75.6	96.1
4.00	77.3	78.0	76.2	77.7	79.6	77.8	82.0	76.5	74.8	96.7
5.00	77.7	78.1	76.1	78.2	79.4	77.6	82.0	76.0	74.6	96.7
6.30	75.0	75.4	74.7	75.5	76.7	75.8	80.0	74.3	73.6	94.5
8.00	75.4	75.0	74.5	75.5	76.5	75.8	79.3	74.2	74.6	94.3
10.0	74.7	74.6	73.8	75.0	75.8	75.2	78.9	74.8	75.2	93.9
12.5	73.9	73.7	73.0	74.0	74.7	74.1	78.1	74.5	75.7	93.0
16.0	72.8	72.6	72.0	73.0	73.7	73.2	77.4	73.7	75.0	92.1
20.0	71.2	71.0	70.5	71.4	72.3	71.4	75.7	71.8	72.9	90.5
25.0	71.0	70.2	69.7	70.0	72.5	70.2	74.3	71.6	71.8	89.7
31.5	1.9	1.3	1.3	68.4	71.7	68.6	72.8	69.8	1.8	86.6
40.0	71.6	1.9	1.9	67.9	72.6	67.6	71.3	69.3	2.3	87.0
50.0	74.3	3.3	2.8	69.7	74.9	68.1	71.6	70.3	3.3	88.6
63.0	78.0	74.6	73.4	71.8	78.0	70.7	73.3	73.6	4.6	92.8
80.0	82.3	77.9	76.9	75.3	80.8	74.3	77.2	76.8	77.3	96.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	95.3	98.3	95.9	97.9	101.8	97.2	101.5	101.6	103.2	OAPWL = 117.9

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3557 CONDITION 3557

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	425.0	425.0	M/S	129.5	129.5	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	94.9	96.0	96.1	99.1	99.9	96.9	97.7	100.7	103.6	116.8
.125	92.1	95.0	95.5	97.1	97.7	96.8	98.2	100.1	102.4	115.7
.160	90.4	93.5	91.5	94.7	96.6	95.4	97.2	98.5	100.3	114.0
.200	91.1	92.9	90.5	93.4	95.2	93.5	94.6	95.9	97.4	112.2
.250	90.4	92.0	88.9	92.1	93.6	91.4	92.7	94.2	96.0	110.7
.315	88.1	90.4	87.6	89.8	92.2	90.1	91.7	93.3	94.6	109.3
.400	86.0	88.4	85.0	88.9	91.3	89.2	91.3	92.3	93.5	108.1
.500	85.2	87.6	84.1	87.2	90.1	88.0	90.3	91.2	92.3	107.0
.630	84.1	86.3	83.2	86.1	88.7	86.5	89.1	89.9	90.5	105.7
.800	83.6	85.2	82.8	85.1	87.4	85.5	88.1	88.4	89.0	104.6
1.00	83.6	84.0	82.7	84.5	86.3	84.7	87.5	86.6	87.6	103.6
1.25	83.3	83.4	82.3	83.6	85.7	84.1	86.6	85.4	85.9	102.9
1.60	83.0	83.0	82.3	83.7	85.0	83.8	86.4	83.9	84.7	102.4
2.00	82.9	83.5	82.8	83.9	84.7	84.2	86.7	83.1	83.5	102.5
2.50	82.5	83.2	82.2	83.2	84.3	83.6	86.4	82.3	82.0	102.0
3.15	82.7	83.3	82.6	83.7	84.0	83.9	86.6	81.2	80.8	102.0
4.00	82.8	82.7	82.0	83.1	84.1	83.8	86.6	80.8	80.0	101.7
5.00	83.5	83.4	82.2	84.2	84.4	84.3	87.3	80.9	79.6	102.3
6.30	81.6	81.9	81.3	82.5	82.9	82.5	85.5	79.2	78.4	100.7
8.00	81.9	81.4	80.6	82.0	82.6	82.1	84.9	78.8	78.5	100.4
10.0	81.0	80.9	80.1	81.3	81.9	81.4	84.1	78.7	78.7	99.7
12.5	79.8	79.8	79.5	80.7	81.1	80.4	83.5	78.8	79.8	98.9
16.0	78.9	79.0	78.4	79.7	79.9	79.8	83.1	78.7	80.3	98.2
20.0	77.5	77.8	77.1	78.4	78.8	78.3	81.9	77.7	79.1	97.0
25.0	76.6	76.8	76.1	77.0	78.5	77.0	80.6	77.0	77.6	96.0
31.5	75.4	75.1	74.8	75.4	77.0	75.7	79.4	75.6	75.8	94.5
40.0	75.1	74.5	74.0	74.4	76.9	74.2	77.8	74.3	74.8	93.6
50.0	76.1	74.1	73.5	74.5	78.3	73.7	77.1	74.9	74.7	93.8
63.0	78.9	76.0	75.2	74.7	80.6	74.7	77.4	77.2	77.3	95.5
80.0	82.8	78.6	77.7	76.8	83.0	77.1	80.0	80.5	81.3	98.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	101.1	102.7	101.7	104.1	105.4	103.6	105.3	106.5	108.6	DAPWL = 122.7

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20036F UBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3558 CONDITION 3558

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	200.0	200.0	M/S	61.0	61.0	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.7	78.5	77.7	80.6	82.8	79.1	80.4	83.6	86.2	99.2
.125	74.5	77.8	76.9	78.1	81.3	77.2	79.6	82.4	83.9	97.7
.160	73.0	76.4	73.9	75.7	80.2	76.6	78.0	80.9	82.4	96.2
.200	72.9	76.0	73.1	75.2	78.9	75.2	76.0	78.9	80.6	94.9
.250	71.3	74.5	71.4	73.7	77.4	72.0	73.9	77.1	78.9	93.1
.315	0.0	72.1	69.4	70.6	75.5	70.0	71.8	75.6	77.2	90.9
.400	0.0	0.0	66.5	68.8	73.6	68.0	70.0	73.3	74.9	88.3
.500	0.0	0.0	65.4	66.5	71.8	66.0	67.7	70.9	73.1	86.3
.630	0.0	0.0	63.8	65.1	70.4	64.2	66.3	68.1	70.4	84.5
.800	0.0	0.1	64.2	64.9	69.0	63.9	65.6	66.4	68.4	83.5
1.00	0.1	0.1	65.7	65.7	69.6	64.4	65.6	64.9	67.5	83.8
1.25	0.1	0.1	65.0	65.4	68.7	64.2	66.2	64.3	65.7	83.3
1.60	0.1	0.1	63.8	64.2	67.7	63.8	66.8	63.3	64.4	82.6
2.00	0.0	0.0	63.3	63.9	67.4	64.3	68.1	63.6	63.8	82.7
2.50	0.0	0.0	62.2	62.7	65.9	63.3	69.7	63.4	62.6	82.5
3.15	0.1	0.1	63.6	64.4	66.3	63.8	72.9	64.4	63.2	84.4
4.00	0.1	0.1	62.0	62.4	65.9	63.0	75.0	63.7	62.9	85.3
5.00	0.1	0.1	61.6	62.9	65.3	63.1	70.6	63.4	63.6	82.7
6.30	0.1	0.1	61.6	62.1	64.3	62.7	70.6	63.3	64.4	82.5
8.00	0.1	0.1	61.6	62.0	64.3	62.4	68.4	63.7	64.5	81.6
10.0	0.3	0.2	61.1	60.6	62.8	61.2	66.3	62.8	64.2	80.2
12.5	0.5	0.3	61.0	60.1	61.7	59.8	64.7	61.6	63.2	79.0
16.0	0.9	0.4	60.9	0.9	1.6	0.6	63.5	60.0	61.2	75.8
20.0	0.8	0.9	60.5	1.2	2.6	0.6	61.7	59.4	1.4	74.4
25.0	1.6	1.0	61.8	1.2	3.0	0.8	61.5	60.9	2.2	75.2
31.5	2.0	1.3	62.1	1.3	61.5	1.3	62.0	60.3	1.9	76.7
40.0	2.3	2.0	62.5	2.0	63.6	1.9	61.8	60.7	2.4	77.6
50.0	3.6	3.5	64.9	63.5	67.0	2.6	65.3	63.9	63.2	81.6
63.0	75.9	5.1	69.1	67.3	70.4	64.1	69.1	68.4	67.0	87.4
80.0	80.5	75.9	72.9	71.5	73.5	68.4	74.1	72.4	71.4	92.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.0
OSPL	84.4	84.7	84.0	85.5	88.8	84.6	87.2	89.0	90.8	

OAPWL = 105.0

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARH RIG ID VT=100 TEST DATE 05/17/76 SCALE RATIO 0.0/1 RUN NUMBER 3559 CONDITION 3559

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	100.0	100.0	M/S	30.5	30.5	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
	MICROPHONE ANGLES IN DEGREES									
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	0.0	61.8	61.2	63.7	86.6	61.8	62.7	67.0	69.3	96.4
.125	0.0	0.0	0.0	60.4	87.0	0.0	61.3	64.6	66.0	96.7
.160	0.0	0.0	0.0	0.0	85.7	63.4	61.8	62.4	63.8	95.4
.200	0.0	0.0	0.0	0.0	84.2	65.4	62.5	0.0	60.6	93.9
.250	0.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	0.0	92.9
.315	0.0	0.0	0.0	0.0	82.4	60.9	0.0	0.0	0.0	92.1
.400	0.0	0.0	0.0	0.0	81.4	0.0	0.0	0.0	0.0	91.0
.500	0.0	0.0	0.0	0.0	80.1	0.0	0.0	0.0	0.0	89.7
.630	0.0	0.0	0.0	0.0	79.0	0.0	60.3	0.0	0.0	88.7
.800	0.0	0.1	0.0	0.0	77.8	0.0	59.6	0.1	0.1	87.5
1.00	62.9	61.9	61.4	61.1	76.7	0.0	64.0	0.1	0.1	87.0
1.25	0.1	0.1	0.1	0.0	75.8	0.0	63.4	0.1	0.1	85.6
1.60	0.1	0.1	0.1	0.1	74.8	0.0	64.7	0.1	0.2	84.8
2.00	0.0	0.0	0.0	0.0	72.8	0.0	66.2	0.0	0.0	83.2
2.50	0.0	0.0	0.0	0.0	70.5	0.0	68.5	0.0	0.0	82.0
3.15	0.1	0.1	0.1	0.1	69.2	0.1	72.3	0.1	0.1	83.0
4.00	0.1	0.1	0.1	0.1	66.7	0.1	74.9	0.1	0.1	84.4
5.00	0.1	0.1	0.1	0.1	64.6	0.1	69.9	0.1	0.1	80.0
6.30	0.1	0.1	0.1	0.1	62.1	0.1	69.1	0.1	0.2	76.8
8.00	0.1	0.1	0.1	0.1	60.1	0.1	64.6	0.1	0.4	75.0
10.0	0.3	0.2	0.2	0.2	57.4	0.2	59.6	0.2	0.6	70.7
12.5	0.5	0.3	0.3	0.5	55.4	0.3	0.3	0.3	1.0	65.0
16.0	0.9	0.4	0.4	0.9	55.2	0.6	0.6	0.4	1.5	64.8
20.0	0.7	0.8	0.6	1.1	56.0	0.6	0.6	0.6	1.3	65.6
25.0	1.6	1.0	0.9	1.2	59.4	0.8	0.9	1.3	2.2	68.1
31.5	1.9	1.3	1.3	1.3	59.9	1.3	1.3	1.3	1.8	69.5
40.0	2.2	1.9	1.9	1.9	61.1	1.9	1.9	1.9	2.3	70.7
50.0	3.6	3.3	2.8	3.7	62.6	2.8	2.8	2.8	3.3	72.2
63.0	63.6	4.9	4.6	4.9	65.0	63.7	64.4	63.8	4.8	79.8
80.0	68.2	65.7	66.9	67.1	68.5	67.9	70.1	67.9	66.7	86.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 103.9
OSPL	70.3	68.3	68.8	69.9	94.1	72.3	80.4	72.6	73.2	

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3502 3502

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.1	73.6	77.3	79.4	79.1	77.3	78.3	82.8	86.5
125	73.8	75.4	78.3	78.5	78.0	78.7	79.7	83.3	87.6
160	73.6	76.7	78.3	80.2	80.7	80.3	80.0	84.9	89.7
200	77.0	79.1	80.1	83.0	82.2	83.3	85.6	86.7	89.4
250	79.8	82.6	83.2	83.4	81.7	86.2	85.9	91.5	91.9
315	84.2	86.9	86.6	85.9	84.8	86.9	87.5	92.2	98.8
400	87.9	87.3	86.5	87.9	85.7	86.7	90.0	93.4	100.8
500	86.7	87.9	87.0	87.1	88.5	90.4	92.1	98.2	100.3
630	85.5	86.9	87.8	88.9	90.4	91.6	93.4	98.9	104.8
800	89.5	88.4	88.5	89.7	91.2	92.9	95.2	101.2	104.7
1000	88.9	89.1	90.0	91.6	92.8	93.7	96.4	101.8	105.0
1250	88.4	89.4	90.3	92.1	93.7	94.9	97.9	102.5	104.1
1600	89.8	91.0	91.6	93.1	95.1	96.0	98.5	102.3	103.2
2000	92.4	92.8	93.4	94.9	97.0	98.2	99.9	102.9	102.0
2500	93.7	93.6	94.0	95.7	97.5	98.3	100.3	102.9	100.9
3150	94.3	94.9	95.4	96.7	98.0	99.0	101.2	102.6	100.5
4000	95.3	95.7	95.9	97.4	99.0	100.4	102.0	103.3	100.4
5000	96.7	97.0	96.6	98.4	99.8	101.1	102.9	103.4	100.7
6300	96.4	96.5	97.0	98.6	100.2	101.2	103.0	103.2	101.4
8000	97.6	96.8	97.3	98.8	100.8	101.9	103.0	104.2	101.5
10000	98.9	98.2	97.6	98.9	100.6	101.5	102.9	103.7	101.2
12500	104.0	101.9	99.2	100.1	101.1	102.0	102.2	102.8	101.1
16000	107.8	106.0	103.2	101.3	102.2	102.9	101.4	101.2	99.1
20000	109.2	108.1	105.1	102.2	102.0	102.7	100.1	98.8	95.4
25000	107.6	108.3	107.8	106.4	104.7	103.4	100.2	98.3	94.2
31500	106.2	106.4	106.8	108.1	108.0	104.8	101.1	97.5	92.8
40000	107.0	106.7	106.4	107.2	108.9	107.7	102.4	98.1	92.9
50000	106.4	106.8	106.9	107.5	108.4	108.7	104.2	99.6	93.6
63000	106.2	106.8	107.2	107.5	107.6	107.3	103.9	100.1	93.9
80000	106.1	106.5	107.0	107.5	107.6	106.7	103.2	99.3	93.4
TSPL	116.8	116.6	116.1	116.3	116.8	116.5	114.9	115.3	115.0
SSPL	116.8	116.6	116.0	116.3	116.8	116.4	114.9	115.3	114.6

V_∞ =	101	fps
T_a =	69	°F
RH_a =	29	%
P_a =	14.73	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	117.2	116.8	116.1	116.2	116.5	115.9	114.2	114.5	114.2
SSPL	117.2	116.8	116.1	116.1	116.5	115.9	114.2	114.4	113.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	117.5	116.9	116.1	116.0	116.2	115.6	113.7	114.0	113.6
SSPL	117.5	116.9	116.1	116.0	116.2	115.5	113.7	113.9	113.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3502	3502

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	75.8	74.0	77.4	79.1	78.4	76.4	76.8	80.3	83.8
125	74.5	75.8	78.4	78.2	77.4	77.8	78.3	81.0	84.5
160	74.3	77.2	78.4	80.0	80.1	79.4	78.6	82.2	86.5
200	77.7	79.5	80.2	82.8	81.6	82.4	84.2	84.9	86.8
250	80.5	83.0	83.2	83.1	81.2	85.2	84.5	89.0	90.9
315	84.9	87.3	86.6	85.6	84.3	85.9	86.0	89.4	94.8
400	88.6	87.6	86.5	87.6	85.1	85.7	88.4	90.8	96.2
500	87.4	88.2	87.0	86.9	88.0	89.4	90.5	95.5	98.6
630	86.2	87.3	87.9	88.7	89.9	90.7	91.8	96.0	101.2
800	90.2	88.7	88.6	89.5	90.7	91.9	93.5	98.4	102.3
1000	89.6	89.5	90.1	91.4	92.3	92.7	94.7	99.2	102.7
1250	89.1	89.8	90.4	91.9	93.1	93.9	96.3	100.2	102.4
1600	90.5	91.4	91.7	92.9	94.6	95.1	97.0	100.2	101.8
2000	93.1	93.2	93.5	94.7	96.5	97.3	98.5	101.1	101.4
2500	94.4	94.0	94.1	95.5	97.0	97.4	98.9	101.3	100.8
3150	94.9	95.2	95.4	96.4	97.4	98.0	99.7	101.2	100.2
4000	95.9	96.0	95.9	97.2	98.4	99.4	100.6	102.0	100.5
5000	97.3	97.3	96.6	98.2	99.2	100.1	101.5	102.2	100.6
6300	97.1	96.9	97.1	98.4	99.7	100.3	101.7	102.0	100.9
8000	98.3	97.2	97.4	98.6	100.3	101.0	101.7	102.9	101.5
10000	99.6	98.5	97.6	98.7	100.1	100.6	101.6	102.4	101.1
12500	104.6	102.1	99.1	99.8	100.5	101.0	101.0	101.5	100.5
16000	108.5	106.2	103.1	101.0	101.6	102.0	100.4	100.1	98.7
20000	109.8	108.3	105.0	101.8	101.4	101.8	99.2	97.9	95.5
25000	108.2	108.6	107.7	106.0	104.0	102.6	99.4	97.6	94.5
31500	106.8	106.7	106.8	107.8	107.3	104.1	100.4	97.2	93.2
40000	107.7	107.0	106.5	107.0	108.3	107.0	101.9	98.0	93.5
50000	107.1	107.2	106.9	107.3	107.8	107.9	103.7	99.6	94.6
63000	106.8	107.1	107.2	107.2	106.9	106.4	103.2	99.9	95.0
80000	106.8	106.9	107.0	107.2	107.0	105.9	102.5	99.2	94.4
TSPL	117.5	116.9	116.1	116.0	116.2	115.6	113.8	113.9	113.7
SSPL	117.5	116.9	116.0	116.0	116.2	115.6	113.8	113.9	113.5

V_∞ =	101	fps
T_a =	69	°F
RH_a =	29	%
P_a =	14.73	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/14/76 SCALE RATIO 0.0/1 RUN NUMBER 3502 CONDITION 3502

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	27.6	72.7	N	122.8	323.3
TEMP	(R)	675.7	716.7	(K)	375.4	398.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.077	KG/M3	1.066	1.235	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	956.2	1560.0	M/S	291.4	475.5	W (MODEL)	LB/S	0.9	1.5	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.8	74.0	77.4	79.1	78.4	76.4	76.8	80.3	83.8	96.4
.125	74.5	75.8	78.4	78.2	77.4	77.8	78.3	81.0	84.5	96.9
.160	74.3	77.2	78.4	80.0	80.1	79.4	78.6	82.2	86.5	98.3
.200	77.7	79.5	80.2	82.8	81.6	82.4	84.2	84.9	86.8	100.8
.250	80.5	83.0	83.2	83.1	81.2	85.2	84.5	89.0	90.9	103.2
.315	84.9	87.3	86.6	85.6	84.3	85.9	86.0	89.4	94.8	105.6
.400	88.6	87.6	86.5	87.6	85.1	85.7	88.4	90.8	96.2	106.9
.500	87.4	88.2	87.0	86.9	88.0	89.4	90.5	95.5	98.6	109.1
.630	86.2	87.3	87.9	88.7	89.9	90.7	91.8	96.0	101.2	110.4
.800	90.2	88.7	88.6	89.5	90.7	91.9	93.5	98.4	102.3	111.9
1.00	89.6	89.5	90.1	91.4	92.3	92.7	94.7	99.2	102.7	112.8
1.25	89.1	89.8	90.4	91.9	93.1	93.9	96.3	100.2	102.4	113.4
1.60	90.5	91.4	91.7	92.9	94.6	95.1	97.0	100.2	101.8	113.9
2.00	93.1	93.2	93.5	94.7	96.5	97.3	98.5	101.1	101.4	115.3
2.50	94.4	94.0	94.1	95.5	97.0	97.4	98.9	101.3	100.8	115.6
3.15	94.9	95.2	95.4	96.4	97.4	98.0	99.7	101.2	100.2	116.1
4.00	95.9	96.0	95.9	97.2	98.4	99.4	100.6	102.0	100.5	117.0
5.00	97.3	97.3	96.6	98.2	99.2	100.1	101.5	102.2	100.6	117.7
6.30	97.1	96.9	97.1	98.4	99.7	100.3	101.7	102.0	100.9	117.8
8.00	98.3	97.2	97.4	98.6	100.3	101.0	101.7	102.9	101.5	118.3
10.0	99.6	98.5	97.6	98.7	100.1	100.6	101.6	102.4	101.1	118.3
12.5	104.6	102.1	99.1	99.8	100.5	101.0	101.0	101.5	100.5	119.5
16.0	108.5	106.2	103.1	101.0	101.6	102.0	100.4	100.1	98.7	121.7
20.0	109.8	108.3	105.0	101.8	101.4	101.8	99.2	97.9	95.5	122.8
25.0	108.2	108.6	107.7	106.0	104.0	102.6	99.4	97.6	94.5	123.9
31.5	106.8	106.7	106.8	107.8	107.3	104.1	100.4	97.2	93.2	124.1
40.0	107.7	107.0	106.5	107.0	108.3	107.0	101.9	98.0	93.5	124.6
50.0	107.1	107.2	106.9	107.3	107.8	107.9	103.7	99.6	94.6	124.8
63.0	106.8	107.1	107.2	107.2	106.9	106.4	103.2	99.9	95.0	124.4
80.0	106.8	106.9	107.0	107.2	107.0	105.9	102.5	99.2	94.4	124.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										DAPHL = 134.1
OSPL	117.5	116.9	116.1	116.0	116.2	115.6	113.8	113.9	113.7	

V_∞ =	101	fps
T_a =	69	°F
RH_a =	29	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/14/76		-00 000000	XARF 0	3503	3503

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.6	78.1	79.0	80.0	82.7	75.6	78.3	85.4	96.0
125	73.2	67.6	79.3	78.8	80.3	77.2	79.6	85.2	96.5
160	61.5	66.2	75.0	76.8	68.7	78.9	78.6	85.4	96.2
200	72.7	73.9	77.6	80.3	76.0	81.1	83.7	85.6	96.0
250	78.0	80.4	81.2	81.4	82.7	83.6	83.7	89.8	96.8
315	82.6	84.7	84.6	83.3	83.6	84.2	84.8	90.6	103.6
400	84.5	83.9	83.3	84.9	84.1	84.2	88.0	91.0	105.9
500	82.8	84.2	83.6	84.1	85.8	87.1	89.0	95.8	104.1
630	83.0	83.9	85.0	86.0	87.3	88.6	90.8	95.9	106.9
800	86.7	85.5	85.4	87.5	89.2	90.4	92.4	98.1	107.4
1000	86.3	86.3	87.3	88.9	90.3	91.4	93.7	98.9	106.8
1250	86.5	87.4	88.1	90.2	91.3	92.6	95.1	99.5	105.8
1600	88.2	89.0	89.7	91.3	93.0	93.6	96.0	99.6	105.3
2000	90.7	90.9	91.5	92.9	94.7	95.5	97.4	100.2	104.4
2500	91.8	91.8	92.3	93.8	95.5	96.0	98.0	100.4	103.3
3150	92.6	93.4	93.8	95.0	96.1	97.0	98.8	100.3	103.0
4000	94.1	94.3	94.4	95.8	97.5	98.5	100.1	101.2	102.7
5000	95.6	95.6	95.2	97.0	98.3	99.6	101.4	101.2	103.2
6300	95.2	95.5	95.7	97.4	98.9	99.6	101.5	101.2	103.7
8000	96.7	95.9	95.9	97.6	99.6	100.6	101.8	102.1	103.9
10000	98.4	97.7	96.7	98.0	99.8	100.4	101.6	102.0	104.0
12500	104.5	102.0	99.2	99.6	100.6	101.2	101.3	101.8	105.1
16000	108.9	106.9	103.5	101.5	101.8	102.1	100.7	100.3	103.8
20000	109.9	109.1	105.8	102.7	101.7	101.9	99.4	97.9	100.0
25000	107.2	108.7	108.5	107.2	104.6	102.6	99.8	97.6	99.1
31500	106.3	106.4	106.8	108.5	108.0	104.6	100.7	97.0	98.3
40000	107.1	106.9	106.0	106.9	108.6	107.4	102.2	97.7	98.4
50000	106.2	106.7	106.8	107.1	108.2	108.4	104.2	99.3	99.1
63000	105.9	106.8	106.8	107.2	107.5	106.9	103.7	99.8	99.4
80000	105.5	106.1	106.4	107.0	107.1	106.0	102.5	98.7	98.7
TSPL	116.9	116.8	116.0	116.1	116.4	115.7	113.8	113.5	118.0
SSPL	116.9	116.8	115.9	116.1	116.4	115.7	113.8	113.4	117.4

V_∞ =	200	fps
T_a =	64	°F
RH_a =	32	%
P_a =	14.48	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/14/76 -00 000000 XARF 0 3503 3503

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	117.9	117.3	116.1	115.9	115.8	114.8	112.5	112.0	117.3
SSPL	117.9	117.3	116.1	115.9	115.8	114.8	112.5	111.9	116.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	118.3	117.5	116.0	115.5	115.2	113.9	111.5	110.9	115.8
SSPL	118.2	117.5	116.0	115.5	115.2	113.9	111.5	110.8	115.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3503 3503

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.9	78.9	79.1	79.5	81.4	74.1	75.0	79.1	86.9
125	74.5	68.7	80.1	78.3	79.1	75.5	76.4	79.4	86.8
160	62.9	67.6	75.8	75.8	67.6	76.6	76.0	79.0	87.0
200	74.0	74.9	78.1	79.6	74.8	79.0	81.0	81.4	86.6
250	79.3	81.2	81.2	80.9	81.5	81.8	81.0	84.1	90.1
315	83.9	85.4	84.4	82.6	82.4	82.4	82.0	84.5	92.8
400	85.8	84.5	83.4	84.3	82.9	82.3	84.9	86.1	93.6
500	84.1	84.9	83.6	83.6	84.7	85.2	85.9	89.8	96.6
630	84.3	84.7	85.1	85.5	86.2	86.7	87.8	90.4	97.4
800	88.0	86.1	85.5	87.1	88.0	88.5	89.4	92.5	99.1
1000	87.6	87.0	87.5	88.4	89.1	89.5	90.7	93.6	99.4
1250	87.8	88.1	88.3	89.7	90.1	90.7	92.1	94.7	99.5
1600	89.5	89.8	89.9	90.9	91.9	91.7	93.1	95.2	99.3
2000	92.0	91.6	91.7	92.5	93.6	93.7	94.7	96.3	99.4
2500	93.2	92.5	92.5	93.4	94.4	94.2	95.3	96.8	99.1
3150	93.9	94.1	93.9	94.5	94.9	95.1	96.2	97.0	98.8
4000	95.4	94.9	94.5	95.3	96.3	96.6	97.5	98.1	99.3
5000	96.9	96.2	95.3	96.5	97.1	97.7	98.9	98.6	99.3
6300	96.5	96.2	95.9	96.9	97.8	97.7	99.0	98.7	99.5
8000	98.1	96.5	96.1	97.2	98.5	98.8	99.4	99.4	100.3
10000	99.7	98.3	96.7	97.5	98.7	98.6	99.1	99.2	100.2
12500	105.8	102.3	99.0	99.0	99.4	99.4	99.0	98.7	100.4
16000	110.2	107.2	103.1	100.8	100.6	100.4	98.8	97.5	98.9
20000	111.2	109.5	105.3	101.9	100.5	100.2	97.7	95.6	95.9
25000	108.5	109.4	108.3	106.4	103.3	101.0	98.2	95.7	95.4
31500	107.6	107.1	107.0	107.9	106.7	103.1	99.4	95.7	94.6
40000	108.4	107.5	106.0	106.5	107.4	105.9	101.3	96.7	95.1
50000	107.5	107.4	106.8	106.6	107.0	106.8	103.1	98.6	96.3
63000	107.2	107.4	106.8	106.6	106.2	105.2	102.3	98.7	96.8
80000	106.8	106.8	106.5	106.4	105.9	104.4	101.2	97.6	95.9
TSPL	118.2	117.4	115.9	115.5	115.2	114.1	112.0	110.6	112.3
SSPL	118.2	117.3	115.9	115.5	115.2	114.1	111.9	110.6	112.1

V_∞ =	200	fps
T_a =	64	°F
RH_a =	32	%
P_a =	14.48	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3503 CONDITION 3503

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	27.6	72.1	N	122.7	320.6
TEMP	(R)	676.5	722.7	(K)	375.8	401.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.077	KG/M3	1.064	1.226	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	955.4	1568.0	M/S	291.2	477.9	W (MODEL)	LB/S	0.9	1.5	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.9	78.9	79.1	79.5	81.4	74.1	75.0	79.1	86.9	97.9
.125	74.5	68.7	80.1	78.3	79.1	75.5	76.4	79.4	86.8	97.0
.160	62.9	67.6	75.8	75.8	67.6	76.6	76.0	79.0	87.0	95.2
.200	74.0	74.9	78.1	79.6	74.8	79.0	81.0	81.4	86.6	97.7
.250	79.3	81.2	81.2	80.9	81.5	81.8	81.0	84.1	90.1	100.8
.315	83.9	85.4	84.4	82.6	82.4	82.4	82.0	84.5	92.8	103.0
.400	85.8	84.5	83.4	84.3	82.9	82.3	84.9	86.1	93.6	103.7
.500	84.1	84.9	83.6	83.6	84.7	85.2	85.9	89.8	96.6	105.4
.630	84.3	84.7	85.1	85.5	86.2	86.7	87.8	90.4	97.4	106.5
.800	88.0	86.1	85.5	87.1	88.0	88.5	89.4	92.5	99.1	108.2
1.00	87.6	87.0	87.5	88.4	89.1	89.5	90.7	93.6	99.4	109.1
1.25	87.8	88.1	88.3	89.7	90.1	90.7	92.1	94.7	99.5	109.9
1.60	89.5	89.8	89.9	90.9	91.9	91.7	93.1	95.2	99.3	110.8
2.00	92.0	91.6	91.7	92.5	93.6	93.7	94.7	96.3	99.4	112.2
2.50	93.2	92.5	92.5	93.4	94.4	94.2	95.3	96.8	99.1	112.8
3.15	93.9	94.1	93.9	94.5	94.9	95.1	96.2	97.0	98.8	113.5
4.00	95.4	94.9	94.5	95.3	96.3	96.6	97.5	98.1	99.3	114.6
5.00	96.9	96.2	95.3	96.5	97.1	97.7	98.9	98.6	99.3	115.6
6.30	96.5	96.2	95.9	96.9	97.8	97.7	99.0	98.7	99.5	115.8
8.00	98.1	96.5	96.1	97.2	98.5	98.8	99.4	99.4	100.3	116.4
10.0	99.7	98.3	96.7	97.5	98.7	98.6	99.1	99.2	100.2	116.8
12.5	105.8	102.3	99.0	99.0	99.4	99.4	99.0	98.7	100.4	118.9
16.0	110.2	107.2	103.1	100.8	100.6	100.4	98.8	97.5	98.9	122.1
20.0	111.2	109.5	105.3	101.9	100.5	100.2	97.7	95.6	95.9	123.5
25.0	108.5	109.4	108.3	106.4	103.3	101.0	98.2	95.7	95.4	124.2
31.5	107.6	107.1	107.0	107.9	106.7	103.1	99.4	95.7	94.6	124.0
40.0	108.4	107.5	106.0	106.5	107.4	105.9	101.3	96.7	95.1	124.2
50.0	107.5	107.4	106.8	106.6	107.0	106.8	103.1	98.6	96.3	124.4
63.0	107.2	107.4	106.8	106.6	106.2	105.2	102.3	98.7	96.8	124.0
80.0	106.8	106.8	106.5	106.4	105.9	104.4	101.2	97.6	95.9	123.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.2	117.4	115.9	115.5	115.2	114.1	112.0	110.6	112.3	OAPWL = 133.6

V_∞ =	200	fps
T_a =	64	°F
RH_a =	32	%
P_a =	14.48	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/14/76 -00 000000 XARF 0 3504 3504

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.6	75.9	67.5	80.3	80.7	79.0	79.7	82.3	94.7
125	73.5	76.2	73.1	67.9	78.4	72.6	69.4	82.6	95.1
160	71.3	75.2	70.1	71.1	78.3	73.7	71.1	82.7	94.4
200	66.5	59.7	73.7	76.8	78.7	77.2	79.8	83.2	94.8
250	73.9	76.8	77.8	77.8	78.5	80.6	80.2	86.6	95.5
315	79.3	81.0	81.1	80.1	79.7	80.9	81.5	87.1	102.7
400	81.2	81.2	80.3	81.8	81.1	81.2	84.2	87.5	106.0
500	81.3	82.5	82.0	82.3	83.6	84.1	85.5	91.8	100.5
630	81.8	82.7	84.1	84.5	85.1	85.6	87.4	92.0	102.9
800	84.5	83.4	83.5	85.1	86.4	87.3	88.6	93.7	103.2
1000	85.9	84.7	85.2	86.4	87.4	88.2	89.7	94.4	102.8
1250	85.1	85.5	86.8	88.5	89.6	90.2	91.5	95.6	102.6
1600	88.2	90.2	89.5	90.1	91.0	91.1	92.4	95.4	102.0
2000	89.5	89.8	89.9	90.9	92.3	92.7	93.6	96.3	101.4
2500	91.0	91.0	91.6	92.9	94.1	94.2	94.8	97.1	100.6
3150	91.7	92.3	92.7	93.6	94.2	94.4	95.4	96.9	100.3
4000	93.0	93.3	93.2	94.4	95.4	95.9	96.4	97.6	100.1
5000	94.3	94.5	94.1	95.2	96.3	96.4	97.2	97.6	99.9
6300	93.4	93.8	94.1	95.3	96.3	96.7	97.0	96.9	99.9
8000	93.9	93.2	93.7	95.2	96.8	97.6	97.0	97.0	99.1
10000	93.4	93.3	93.2	95.1	96.8	97.5	96.7	96.3	98.1
12500	93.8	93.7	93.5	95.4	97.1	98.2	96.6	95.1	97.3
16000	95.4	95.0	94.2	95.6	97.5	98.8	97.0	94.7	96.5
20000	104.3	102.1	97.6	96.9	98.6	99.0	97.1	94.7	96.9
25000	106.0	105.4	102.2	99.5	99.3	98.6	96.8	95.1	96.8
31500	104.4	105.7	105.8	103.6	100.7	98.6	96.0	93.8	95.5
40000	103.0	104.2	105.6	106.1	104.2	100.5	96.6	93.2	94.9
50000	102.6	103.1	104.4	106.2	106.1	103.6	99.2	94.5	95.1
63000	102.2	103.7	104.4	105.1	106.0	104.8	100.9	96.8	96.7
80000	102.1	103.1	104.2	105.2	105.1	104.5	101.5	97.8	98.0
TSPL	112.8	113.1	113.0	113.4	113.2	112.2	110.1	109.4	114.8
SSPL	112.7	113.0	113.0	113.3	113.2	112.2	110.1	109.3	113.5

V_∞ =	0	fps
T_a =	63	°F
RH_a =	37	%
P_a =	14.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3504 3504

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	113.7	113.6	113.2	113.2	112.7	111.2	108.8	108.0	114.1
SSPL	113.7	113.6	113.2	113.1	112.6	111.2	108.8	107.9	112.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	114.1	113.8	113.1	112.8	112.0	110.4	107.8	106.9	112.6
SSPL	114.1	113.8	113.1	112.8	112.0	110.4	107.7	106.8	111.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120 130. 140. 150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF 0	3504	3504

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.9	76.0	68.1	80.2	79.5	77.3	77.1	77.6	84.0
125	74.8	76.8	72.4	67.7	77.3	71.3	66.7	73.3	85.3
160	72.6	75.7	69.8	71.0	77.2	72.3	68.4	74.1	85.0
200	67.8	60.8	74.9	76.5	77.5	75.4	76.8	78.3	84.8
250	75.2	77.6	77.9	77.2	77.4	78.8	77.6	80.6	87.6
315	80.6	81.7	81.0	79.5	78.5	79.0	78.7	80.8	90.1
400	82.5	81.8	80.4	81.2	79.9	79.3	81.2	82.1	91.2
500	82.6	83.2	82.0	81.8	82.5	82.3	82.6	85.9	92.7
630	83.1	83.5	84.2	83.9	83.9	83.7	84.5	86.6	93.4
800	85.8	84.0	83.6	84.6	85.3	85.4	85.8	88.2	94.7
1000	87.2	85.3	85.3	85.9	86.3	86.3	86.9	89.2	95.0
1250	86.4	86.3	87.0	88.0	88.4	88.4	88.7	90.8	95.8
1600	89.5	90.9	89.5	89.6	89.8	89.3	89.7	91.1	95.3
2000	90.8	90.5	90.0	90.4	91.2	90.9	91.0	92.3	95.7
2500	92.4	91.7	91.8	92.4	93.0	92.5	92.3	93.4	96.0
3150	93.0	93.0	92.7	93.0	93.0	92.5	92.9	93.5	95.6
4000	94.3	93.9	93.3	93.9	94.2	94.1	94.0	94.4	96.0
5000	95.6	95.1	94.1	94.7	95.1	94.6	94.8	94.7	95.9
6300	94.7	94.5	94.2	94.8	95.1	94.9	94.7	94.2	95.4
8000	95.3	93.9	93.9	94.8	95.7	95.9	94.9	94.3	95.2
10000	94.7	93.9	93.3	94.7	95.7	95.7	94.7	93.7	94.4
12500	95.1	94.3	93.6	94.9	95.9	96.4	94.8	92.9	93.2
16000	96.7	95.6	94.3	95.2	96.4	97.0	95.3	92.9	92.6
20000	105.6	102.4	97.2	96.3	97.4	97.3	95.4	92.8	92.7
25000	107.3	105.8	101.7	98.7	98.0	96.9	95.0	93.0	93.0
31500	105.7	106.4	105.6	102.7	99.4	97.0	94.4	91.9	91.6
40000	104.3	105.0	105.8	105.4	102.9	99.1	95.3	91.7	91.0
50000	103.9	103.9	104.7	105.7	104.9	102.1	98.1	93.6	91.8
63000	103.6	104.4	104.5	104.5	104.7	103.2	99.6	95.7	93.9
80000	103.4	103.9	104.4	104.6	103.9	102.9	100.1	96.6	95.0
TSPL	114.1	113.7	113.1	112.7	112.0	110.5	108.3	106.7	108.3
SSPL	114.1	113.7	113.1	112.7	112.0	110.5	108.3	106.6	108.0

V_∞ =	0	fps
T_a =	63	°F
RH_a =	37	%
P_a =	14.81	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=0 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3504 CONDITION 3504

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.50	2.44		1.50	2.44	THRUST,IDL	LB	27.2	49.2	N	120.9	219.0
TEMP	(R)	676.8	728.0	(K)	376.0	404.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.070	KG/M3	1.060	1.128	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	940.7	1403.0	M/S	286.7	427.6	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.9	76.0	68.1	80.2	79.5	77.3	77.1	77.6	84.0	96.4
.125	74.8	76.8	72.4	67.7	77.3	71.3	66.7	73.3	85.3	94.0
.160	72.6	75.7	69.8	71.0	77.2	72.3	68.4	74.1	85.0	93.7
.200	67.8	60.8	74.9	76.5	77.5	75.4	76.8	78.3	84.8	95.0
.250	75.2	77.6	77.9	77.2	77.4	78.8	77.6	80.6	87.6	97.5
.315	80.6	81.7	81.0	79.5	78.5	79.0	78.7	80.8	90.1	99.7
.400	82.5	81.8	80.4	81.2	79.9	79.3	81.2	82.1	91.2	100.7
.500	82.6	83.2	82.0	81.8	82.5	82.3	82.6	85.9	92.7	102.5
.630	83.1	83.5	84.2	83.9	83.9	83.7	84.5	86.6	93.4	103.6
.800	85.8	84.0	83.6	84.6	85.3	85.4	85.8	88.2	94.7	104.8
1.00	87.2	85.3	85.3	85.9	86.3	86.3	86.9	89.2	95.0	105.7
1.25	86.4	86.3	87.0	88.0	88.4	88.4	88.7	90.8	95.8	107.2
1.60	89.5	90.9	89.5	89.6	89.8	89.3	89.7	91.1	95.3	108.7
2.00	90.8	90.5	90.0	90.4	91.2	90.9	91.0	92.3	95.7	109.5
2.50	92.4	91.7	91.8	92.4	93.0	92.5	92.3	93.4	96.0	110.9
3.15	93.0	93.0	92.7	93.0	93.0	92.5	92.9	93.5	95.6	111.4
4.00	94.3	93.9	93.3	93.9	94.2	94.1	94.0	94.4	96.0	112.4
5.00	95.6	95.1	94.1	94.7	95.1	94.6	94.8	94.7	95.9	113.2
6.30	94.7	94.5	94.2	94.8	95.1	94.9	94.7	94.2	95.4	113.0
8.00	95.3	93.9	93.9	94.8	95.7	95.9	94.9	94.3	95.2	113.2
10.0	94.7	93.9	93.3	94.7	95.7	95.7	94.7	93.7	94.4	112.9
12.5	95.1	94.3	93.6	94.9	95.9	96.4	94.8	92.9	93.2	113.1
16.0	96.7	95.6	94.3	95.2	96.4	97.0	95.3	92.9	92.6	113.8
20.0	105.6	102.4	97.2	96.3	97.4	97.3	95.4	92.8	92.7	117.5
25.0	107.3	105.8	101.7	98.7	98.0	96.9	95.0	93.0	93.0	119.9
31.5	105.7	106.4	105.6	102.7	99.4	97.0	94.4	91.9	91.6	121.1
40.0	104.3	105.0	105.8	105.4	102.9	99.1	95.3	91.7	91.0	121.5
50.0	103.9	103.9	104.7	105.7	104.9	102.1	98.1	93.6	91.8	121.7
63.0	103.6	104.4	104.5	104.5	104.7	103.2	99.6	95.7	93.9	121.6
80.0	103.4	103.9	104.4	104.6	103.9	102.9	100.1	96.6	95.0	121.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	114.1	113.7	113.1	112.7	112.0	110.5	108.3	106.7	108.3	OAPWL = 130.3

V_∞ =	0	fps
T_a =	63	°F
RH_a =	37	%
P_a =	14.81	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/14/76 -00 000000 XARF 0 3505 3505

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	68.8	66.7	71.2	73.7	73.9	72.2	74.4	78.4	87.0
125	69.9	72.3	75.2	75.1	75.4	76.3	76.5	80.0	90.3
160	71.4	74.3	75.7	77.7	78.2	77.5	77.3	82.1	92.1
200	74.8	76.8	77.8	80.4	79.8	80.1	82.2	83.2	91.7
250	77.1	80.1	81.0	80.8	82.7	83.5	83.0	88.2	94.0
315	81.4	83.9	84.1	83.3	79.5	84.1	84.7	88.7	101.2
400	85.1	85.0	84.2	85.6	82.7	84.2	86.8	90.3	103.3
500	85.2	86.3	85.4	85.6	86.4	88.0	89.2	95.1	102.8
630	84.4	85.5	86.9	87.3	88.1	89.0	90.2	95.4	106.9
800	87.4	86.8	86.7	88.1	89.1	90.5	92.1	97.3	106.5
1000	87.6	87.3	88.0	89.3	90.5	91.3	93.0	98.0	107.2
1250	87.7	88.3	90.8	91.2	94.0	93.3	94.9	99.2	107.1
1600	88.9	91.4	90.7	92.0	93.1	93.7	95.4	98.7	105.9
2000	91.2	91.6	91.9	92.8	94.4	95.1	96.4	99.3	105.1
2500	92.9	93.0	93.5	94.8	96.2	96.5	97.4	100.0	104.1
3150	93.4	93.5	94.1	95.2	95.7	96.3	97.7	99.6	103.7
4000	94.1	94.4	94.6	95.6	96.8	97.4	98.3	100.0	103.3
5000	95.3	95.7	95.2	96.5	97.5	97.9	98.9	99.7	103.2
6300	94.7	94.8	95.4	96.3	97.5	98.1	98.6	99.1	103.0
8000	94.8	94.2	94.7	96.0	97.8	98.8	98.3	99.1	102.2
10000	94.4	94.2	94.2	95.7	97.6	98.5	98.0	98.2	100.8
12500	97.4	98.3	96.7	96.5	98.2	99.5	98.1	97.1	100.1
16000	96.1	95.6	95.1	96.2	98.2	99.7	98.2	96.1	98.1
20000	101.1	98.9	96.2	96.1	97.9	98.8	97.8	95.4	96.8
25000	104.9	104.5	101.3	98.7	99.0	98.4	97.3	95.5	96.5
31500	103.9	104.6	104.1	101.8	99.9	98.9	96.3	94.0	95.4
40000	103.3	103.9	104.5	104.2	102.4	100.0	96.9	93.1	94.7
50000	102.6	102.9	104.0	105.3	104.8	102.6	98.6	94.1	94.8
63000	102.4	103.6	104.2	104.7	105.6	104.3	100.4	96.2	96.0
80000	102.5	103.3	104.3	104.9	105.0	104.4	101.3	97.5	97.3
TSPL	112.5	112.7	112.7	112.8	113.0	112.5	111.1	111.5	117.1
SSPL	112.4	112.7	112.6	112.8	113.0	112.5	111.1	111.4	116.8

V_∞ =	98	fps
T_a =	65	°F
RH_a =	41	%
P_a =	14.73	psia

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3505 3505

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	112.9	113.0	112.7	112.7	112.7	112.0	110.4	110.6	116.4
SSPL	112.9	113.0	112.7	112.6	112.7	111.9	110.4	110.5	116.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	113.1	113.1	112.7	112.5	112.4	111.6	109.9	110.1	115.7
SSPL	113.1	113.1	112.7	112.5	112.4	111.6	109.9	110.0	115.3

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS OF POOR QUALITY

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	69.5	67.1	71.4	73.5	73.3	71.3	72.9	75.6	81.9
125	70.6	72.8	75.3	74.8	74.8	75.4	75.1	77.1	84.3
160	72.1	74.7	75.8	77.5	77.6	76.7	75.9	78.9	86.4
200	75.5	77.2	77.9	80.2	79.2	79.1	80.8	81.0	86.3
250	77.8	80.5	81.0	80.6	82.2	82.6	81.6	85.3	90.4
315	82.1	84.3	84.1	82.9	78.9	83.1	83.3	85.5	94.3
400	85.8	85.3	84.2	85.3	82.0	83.2	85.2	87.2	96.1
500	85.9	86.6	85.4	85.3	85.8	87.1	87.6	92.0	98.4
630	85.1	85.9	87.0	87.1	87.5	88.1	88.7	92.1	100.6
800	88.1	87.1	86.8	87.9	88.6	89.6	90.5	94.2	101.3
1000	88.3	87.6	88.1	89.1	90.0	90.4	91.4	94.9	102.0
1250	88.4	88.7	90.9	91.0	93.4	92.4	93.4	96.4	102.4
1600	89.6	91.8	90.8	91.8	92.5	92.8	93.9	96.2	101.4
2000	91.9	92.0	92.0	92.6	93.9	94.2	95.0	96.9	101.3
2500	93.6	93.4	93.6	94.6	95.7	95.6	96.1	97.9	101.1
3150	94.0	93.8	94.1	94.9	95.2	95.3	96.4	97.5	100.5
4000	94.7	94.7	94.6	95.3	96.2	96.4	96.9	98.0	100.5
5000	95.9	96.0	95.2	96.3	96.9	97.0	97.6	97.9	100.2
6300	95.4	95.2	95.5	96.1	96.9	97.2	97.4	97.3	99.8
8000	95.5	94.6	94.8	95.8	97.3	97.9	97.2	97.4	99.4
10000	95.1	94.5	94.3	95.5	97.1	97.6	96.9	96.6	98.2
12500	98.0	98.6	96.6	96.2	97.6	98.6	97.1	95.6	97.1
16000	96.8	95.9	95.1	96.0	97.7	98.8	97.3	95.0	95.5
20000	101.7	99.1	96.1	95.8	97.3	97.9	96.8	94.4	94.4
25000	105.5	104.7	101.1	98.3	98.4	97.5	96.3	94.4	94.4
31500	104.5	104.9	104.0	101.4	99.2	98.1	95.5	92.9	93.1
40000	104.0	104.3	104.5	103.9	101.7	99.3	96.2	92.3	92.1
50000	103.3	103.3	104.1	105.0	104.1	101.9	98.0	93.5	92.6
63000	103.0	103.9	104.2	104.4	104.9	103.5	99.7	95.6	94.2
80000	103.2	103.7	104.4	104.6	104.4	103.6	100.6	96.9	95.6
TSPL	113.1	113.1	112.7	112.5	112.4	111.6	110.1	109.6	113.0
SSPL	113.1	113.1	112.6	112.5	112.3	111.6	110.0	109.5	112.8

V_∞ =	98	fps
T_a =	65	°F
RH_a =	41	%
P_a =	14.73	psia

ORIGINAL PAGE IS OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=98 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3505 CONDITION 3505

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	28.3	51.4	N	125.7	228.5
TEMP	(R)	676.0	711.7	(K)	375.6	395.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.072	KG/M3	1.066	1.161	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	957.9	1402.0	M/S	292.0	427.3	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	69.5	67.1	71.4	73.5	73.3	71.3	72.9	75.6	81.9	91.8
.125	70.6	72.8	75.3	74.8	74.8	75.4	75.1	77.1	84.3	94.3
.160	72.1	74.7	75.8	77.5	77.6	76.7	75.9	78.9	86.4	96.1
.200	75.5	77.2	77.9	80.2	79.2	79.1	80.8	81.0	86.3	98.2
.250	77.8	80.5	81.0	80.6	82.2	82.6	81.6	85.3	90.4	101.1
.315	82.1	84.3	84.1	82.9	78.9	83.1	83.3	85.5	94.3	103.2
.400	85.8	85.3	84.2	85.3	82.0	83.2	85.2	87.2	96.1	104.8
.500	85.9	86.6	85.4	85.3	85.8	87.1	87.6	92.0	98.4	107.2
.630	85.1	85.9	87.0	87.1	87.5	88.1	88.7	92.1	100.6	108.5
.800	88.1	87.1	86.8	87.9	88.6	89.6	90.5	94.2	101.3	109.7
1.00	88.3	87.6	88.1	89.1	90.0	90.4	91.4	94.9	102.0	110.5
1.25	88.4	88.7	90.9	91.0	93.4	92.4	93.4	96.4	102.4	112.0
1.60	89.6	91.8	90.8	91.8	92.5	92.8	93.9	96.2	101.4	112.0
2.00	91.9	92.0	92.0	92.6	93.9	94.2	95.0	96.9	101.3	112.8
2.50	93.6	93.4	93.6	94.6	95.7	95.6	96.1	97.9	101.1	114.0
3.15	94.0	93.8	94.1	94.9	95.2	95.3	96.4	97.5	100.5	113.9
4.00	94.7	94.7	94.6	95.3	96.2	96.4	96.9	98.0	100.5	114.5
5.00	95.9	96.0	95.2	96.3	96.9	97.0	97.6	97.9	100.2	115.1
6.30	95.4	95.2	95.5	96.1	96.9	97.2	97.4	97.3	99.8	114.9
8.00	95.5	94.6	94.8	95.8	97.3	97.9	97.2	97.4	99.4	114.9
10.0	95.1	94.5	94.3	95.5	97.1	97.6	96.9	96.6	98.2	114.5
12.5	98.0	98.6	96.6	96.2	97.6	98.6	97.1	95.6	97.1	115.7
16.0	96.8	95.9	95.1	96.0	97.7	98.8	97.3	95.0	95.5	115.0
20.0	101.7	99.1	96.1	95.8	97.3	97.9	96.8	94.4	94.4	115.9
25.0	105.5	104.7	101.1	98.3	98.4	97.5	96.3	94.4	94.4	119.1
31.5	104.5	104.9	104.0	101.4	99.2	98.1	95.5	92.9	93.1	119.9
40.0	104.0	104.3	104.5	103.9	101.7	99.3	96.2	92.3	92.1	120.6
50.0	103.3	103.3	104.1	105.0	104.1	101.9	98.0	93.5	92.6	121.1
63.0	103.0	103.9	104.2	104.4	104.9	103.5	99.7	95.6	94.2	121.5
80.0	103.2	103.7	104.4	104.6	104.4	103.6	100.6	96.9	95.6	121.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.1	113.1	112.7	112.5	112.4	111.6	110.1	109.6	113.0	OAPWL = 130.4

V_∞ =	98	fps
T_a =	65	°F
RH_a =	41	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3508 3508

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	66.4	65.0	68.1	69.9	70.6	68.3	71.1	75.5	81.7
125	66.6	69.3	71.6	71.0	71.2	71.9	72.8	76.4	84.6
160	67.3	70.5	71.7	73.3	73.8	73.4	73.5	78.3	86.1
200	70.3	72.6	73.3	76.1	75.2	75.8	78.0	79.4	86.1
250	72.9	75.6	76.2	76.2	78.4	78.8	79.0	84.1	88.3
315	76.6	79.0	79.2	78.5	79.4	79.4	80.3	84.7	95.0
400	80.2	80.1	79.6	80.6	80.4	79.7	82.6	86.0	97.7
500	80.5	81.6	80.8	81.1	79.0	83.3	84.8	90.6	96.8
630	80.6	81.8	83.0	83.3	82.9	84.9	86.1	91.1	101.2
800	83.5	82.7	82.7	83.8	84.2	86.2	87.8	92.7	100.8
1000	85.9	85.0	84.6	85.4	86.3	87.0	88.6	93.0	101.0
1250	88.0	88.2	87.9	87.6	89.1	88.8	90.4	94.0	101.0
1600	84.6	85.7	87.3	89.2	90.3	90.0	90.8	93.5	100.2
2000	89.8	90.0	92.2	93.0	93.2	91.5	92.1	94.7	99.6
2500	93.1	91.0	92.2	92.2	92.9	93.4	94.1	96.4	99.9
3150	91.6	91.4	91.3	92.5	92.6	92.0	93.0	94.7	98.6
4000	91.5	91.8	91.9	92.9	93.8	93.2	93.0	94.8	98.0
5000	91.6	92.3	91.3	92.9	93.2	93.0	92.9	93.6	96.7
6300	90.0	90.0	90.5	91.5	92.2	91.7	92.0	92.1	95.7
8000	88.9	88.5	89.2	90.5	91.9	92.0	91.1	91.4	93.8
10000	87.6	87.6	87.8	89.1	91.0	91.5	90.3	89.8	91.5
12500	86.7	87.2	87.6	88.9	90.7	91.5	89.9	88.1	90.0
16000	86.1	87.1	87.7	89.3	90.9	91.6	90.0	87.1	88.5
20000	84.7	85.5	85.8	87.9	90.0	90.2	89.3	86.0	86.7
25000	85.1	86.3	86.8	87.9	90.1	89.7	88.3	85.6	86.2
31500	84.5	85.9	86.4	87.9	89.5	89.3	86.7	83.8	84.7
40000	84.7	85.6	86.7	88.1	88.9	88.9	86.1	82.7	83.9
50000	84.1	85.1	86.7	88.4	88.7	88.4	85.9	81.8	82.8
63000	83.7	85.2	86.7	88.0	88.7	88.1	85.4	82.2	82.6
80000	83.8	84.8	86.5	88.1	88.6	88.3	85.7	82.3	83.0
TSPL	101.6	101.7	102.2	103.3	104.2	104.1	103.9	105.4	111.0
SSPL	101.5	101.6	102.1	103.2	104.1	104.1	103.8	105.2	110.6

V_∞ =	103	fps
T_a =	67	°F
RH_a =	34	%
P_a =	14.72	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3508	3508

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	102.0	101.9	102.3	103.2	103.9	103.6	103.2	104.6	110.2
SSPL	102.0	101.9	102.2	103.1	103.8	103.5	103.1	104.4	109.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	102.3	102.0	102.2	103.0	103.6	103.2	102.7	104.0	109.6
SSPL	102.2	102.0	102.2	103.0	103.6	103.2	102.6	103.9	109.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3508 3508

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	67.1	65.4	68.2	69.6	70.0	67.4	69.5	72.8	77.8
125	67.3	69.8	71.6	70.7	70.6	71.0	71.4	73.7	79.7
160	68.0	70.9	71.8	73.1	73.2	72.5	72.1	75.4	81.5
200	71.0	73.0	73.4	75.9	74.6	74.9	76.6	77.2	81.6
250	73.6	76.0	76.2	76.0	77.9	77.9	77.6	81.4	85.4
315	77.3	79.4	79.2	78.2	78.8	78.5	78.8	81.6	89.2
400	80.9	80.4	79.6	80.3	79.8	78.8	81.0	83.0	91.1
500	81.2	81.9	80.8	80.8	78.5	82.3	83.2	87.6	93.1
630	81.3	82.2	83.1	83.0	82.4	83.9	84.6	87.9	95.5
800	84.2	83.0	82.8	83.6	83.7	85.2	86.3	89.7	96.1
1000	86.6	85.3	84.6	85.2	85.7	86.1	87.1	90.2	96.3
1250	88.7	88.5	87.9	87.4	88.5	87.9	88.9	91.4	96.7
1600	85.3	86.1	87.4	89.0	89.7	89.1	89.4	91.1	95.9
2000	90.5	90.4	92.3	92.8	92.6	90.7	90.8	92.5	96.2
2500	93.8	91.4	92.3	92.0	92.3	92.5	92.8	94.4	97.1
3150	92.2	91.7	91.3	92.2	92.0	91.1	91.7	92.7	95.5
4000	92.1	92.1	91.9	92.6	93.2	92.3	91.8	92.8	95.2
5000	92.2	92.6	91.3	92.6	92.6	92.1	91.7	91.8	93.9
6300	90.7	90.4	90.6	91.3	91.6	90.8	90.8	90.4	92.6
8000	89.6	88.9	89.3	90.3	91.4	91.2	90.0	89.8	91.3
10000	88.3	87.9	87.9	88.9	90.5	90.6	89.3	88.4	89.2
12500	87.3	87.5	87.6	88.7	90.1	90.6	88.9	86.9	87.5
16000	86.8	87.5	87.8	89.1	90.4	90.7	89.1	86.2	86.1
20000	85.3	85.8	85.9	87.7	89.4	89.3	88.4	85.2	84.6
25000	85.7	86.6	86.8	87.7	89.5	88.8	87.4	84.7	84.2
31500	85.1	86.3	86.4	87.7	88.9	88.5	85.9	82.9	82.5
40000	85.4	86.0	86.8	87.9	88.3	88.1	85.4	81.9	81.6
50000	84.8	85.5	86.8	88.2	88.1	87.6	85.2	81.1	80.5
63000	84.4	85.6	86.7	87.7	88.1	87.3	84.7	81.4	80.6
80000	84.5	85.2	86.6	87.8	88.0	87.4	84.9	81.5	80.9
TSPL	102.2	102.0	102.3	103.1	103.6	103.2	102.7	103.3	107.0
SSPL	102.2	102.0	102.2	103.0	103.6	103.2	102.6	103.2	106.7

V_∞ =	103	fps
T_a =	67	°F
RH_a =	34	%
P_a =	14.72	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=103 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3508 CONDITION 3508

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	28.3	29.4	N	126.0	130.6
TEMP	(R)	676.2	715.3	(K)	375.7	397.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.066	KG/M3	1.066	1.055	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	960.4	1153.0	M/S	292.7	351.4	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	67.1	65.4	68.2	69.6	70.0	67.4	69.5	72.8	77.8	88.4
.125	67.3	69.8	71.6	70.7	70.6	71.0	71.4	73.7	79.7	90.3
.160	68.0	70.9	71.8	73.1	73.2	72.5	72.1	75.4	81.5	91.9
.200	71.0	73.0	73.4	75.9	74.6	74.9	76.6	77.2	81.6	93.8
.250	73.6	76.0	76.2	76.0	77.9	77.9	77.6	81.4	85.4	96.6
.315	77.3	79.4	79.2	78.2	78.8	78.5	78.8	81.6	89.2	98.7
.400	80.9	80.4	79.6	80.3	79.8	78.8	81.0	83.0	91.1	100.3
.500	81.2	81.9	80.8	80.8	78.5	82.3	83.2	87.6	93.1	102.3
.630	81.3	82.2	83.1	83.0	82.4	83.9	84.6	87.9	95.5	104.0
.800	84.2	83.0	82.8	83.6	83.7	85.2	86.3	89.7	96.1	105.0
1.00	86.6	85.3	84.6	85.2	85.7	86.1	87.1	90.2	96.3	106.0
1.25	88.7	88.5	87.9	87.4	88.5	87.9	88.9	91.4	96.7	107.8
1.60	85.3	86.1	87.4	89.0	89.7	89.1	89.4	91.1	95.9	107.7
2.00	90.5	90.4	92.3	92.8	92.6	90.7	90.8	92.5	96.2	110.3
2.50	93.8	91.4	92.3	92.0	92.3	92.5	92.8	94.4	97.1	111.2
3.15	92.2	91.7	91.3	92.2	92.0	91.1	91.7	92.7	95.5	110.4
4.00	92.1	92.1	91.9	92.6	93.2	92.3	91.8	92.8	95.2	110.8
5.00	92.2	92.6	91.3	92.6	92.6	92.1	91.7	91.8	93.9	110.5
6.30	90.7	90.4	90.6	91.3	91.6	90.8	90.8	90.4	92.6	109.3
8.00	89.6	88.9	89.3	90.3	91.4	91.2	90.0	89.8	91.3	108.5
10.0	88.3	87.9	87.9	88.9	90.5	90.6	89.3	88.4	89.2	107.4
12.5	87.3	87.5	87.6	88.7	90.1	90.6	88.9	86.9	87.5	107.0
16.0	86.8	87.5	87.8	89.1	90.4	90.7	89.1	86.2	86.1	107.1
20.0	85.3	85.8	85.9	87.7	89.4	89.3	88.4	85.2	84.6	105.8
25.0	85.7	86.6	86.8	87.7	89.5	88.8	87.4	84.7	84.2	105.8
31.5	85.1	86.3	86.4	87.7	88.9	88.5	85.9	82.9	82.5	105.2
40.0	85.4	86.0	86.8	87.9	88.3	88.1	85.4	81.9	81.6	105.0
50.0	84.8	85.5	86.8	88.2	88.1	87.6	85.2	81.1	80.5	104.8
63.0	84.4	85.6	86.7	87.7	88.1	87.3	84.7	81.4	80.6	104.6
80.0	84.5	85.2	86.6	87.8	88.0	87.4	84.9	81.5	80.9	104.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	102.2	102.0	102.3	103.1	103.6	103.2	102.7	103.3	107.0	OAPWL = 121.4

V_∞ =	103	fps
T_a =	67	°F
RH_a =	34	%
P_a =	14.72	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/14/76		-00 000000	XARF 0	3509	3509

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.8	76.2	77.6	79.3	79.5	78.0	79.1	77.2	94.5
125	73.6	76.1	63.6	76.8	77.0	76.8	79.1	78.6	95.2
160	70.7	74.5	73.4	74.2	76.4	60.3	77.8	79.3	93.8
200	72.5	74.9	68.5	69.3	76.4	71.7	74.7	79.7	94.1
250	67.8	70.7	73.0	71.6	77.0	75.4	75.0	82.8	94.4
315	75.1	76.4	76.7	74.9	72.0	76.3	76.9	83.2	99.9
400	76.8	77.4	76.5	77.3	75.9	76.8	80.1	83.6	103.2
500	77.4	79.0	78.2	78.3	79.1	79.9	81.3	87.7	96.6
630	78.9	80.2	80.9	81.1	81.3	81.9	83.2	88.1	98.5
800	81.5	81.0	80.4	81.4	82.6	83.3	84.5	89.2	98.3
1000	84.4	83.0	82.5	83.1	83.9	84.2	85.6	89.5	97.6
1250	85.3	84.8	85.7	85.1	86.3	86.1	87.1	90.4	97.2
1600	83.9	84.5	86.0	87.9	88.8	88.1	88.2	90.4	96.5
2000	88.9	88.9	89.8	90.5	90.9	89.5	89.4	91.5	96.0
2500	90.7	89.3	89.9	90.6	91.3	91.2	91.5	92.8	95.6
3150	90.6	90.3	90.6	91.6	91.4	90.5	91.0	92.3	95.6
4000	90.8	91.0	91.0	91.7	92.9	91.6	90.9	92.2	94.9
5000	91.0	91.5	90.7	92.0	92.2	91.8	91.2	91.3	93.8
6300	89.2	89.6	89.8	90.9	91.4	90.5	90.3	90.1	92.9
8000	88.7	87.9	88.5	89.7	90.9	90.9	89.5	89.4	91.0
10000	86.5	86.7	86.7	88.1	89.8	90.1	88.6	87.6	89.1
12500	85.9	86.3	86.7	88.2	89.8	90.4	88.4	86.3	88.1
16000	85.5	86.6	87.1	88.7	90.2	90.6	88.9	85.7	87.2
20000	84.1	84.8	85.3	87.2	89.4	89.4	88.0	84.8	85.6
25000	84.6	85.7	86.3	87.3	89.4	88.7	87.0	84.5	85.1
31500	84.1	85.4	86.0	87.1	88.9	88.2	85.6	82.9	83.9
40000	83.9	85.1	86.0	87.2	88.2	87.7	84.9	81.7	83.2
50000	83.4	84.4	85.9	87.7	88.0	87.4	85.0	81.0	82.5
63000	82.1	84.4	85.8	87.1	88.0	87.3	84.4	81.3	82.4
80000	79.6	83.3	85.2	87.0	87.5	87.2	84.4	81.3	83.2
TSPL	100.5	100.7	101.0	102.2	103.1	102.7	101.9	102.7	110.1
SSPL	100.4	100.6	101.0	102.1	103.0	102.6	101.8	102.5	107.6

V_∞ =	200	fps
T_a =	63	°F
RH_a =	39	%
P_a =	14.48	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	101.4	101.2	101.2	102.0	102.5	101.7	100.6	101.2	109.4
SSPL	101.3	101.1	101.2	101.9	102.4	101.6	100.5	101.0	106.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	101.8	101.4	101.1	101.6	101.9	100.8	99.6	100.2	107.9
SSPL	101.7	101.3	101.1	101.5	101.8	100.8	99.4	99.9	105.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00	000000	XARF 0	3509 3509

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.1	76.9	77.8	78.8	78.3	76.3	76.8	73.9	80.0
125	74.9	76.1	63.9	76.8	75.8	75.0	76.5	74.8	81.3
160	72.0	75.3	73.4	73.8	74.9	58.7	71.9	75.8	81.6
200	73.8	75.3	68.1	69.1	75.3	70.1	71.5	73.9	82.2
250	69.1	71.6	73.0	71.3	75.9	73.7	72.2	75.9	84.7
315	76.4	77.2	76.5	74.1	70.8	74.3	74.2	76.6	86.6
400	78.1	78.0	76.5	76.7	74.7	74.8	77.0	78.0	87.7
500	78.7	79.7	78.1	77.8	77.9	78.1	78.4	81.8	88.7
630	80.2	81.0	81.0	80.5	80.1	80.1	80.4	82.6	89.4
800	82.8	81.6	80.4	80.9	81.5	81.4	81.7	83.9	90.1
1000	85.7	83.6	82.5	82.6	82.7	82.3	82.8	84.7	90.0
1250	86.6	85.5	85.7	84.5	85.2	84.3	84.4	85.9	90.4
1600	85.2	85.3	86.3	87.4	87.6	86.4	85.8	86.4	90.1
2000	90.2	89.6	89.9	90.0	89.7	87.8	87.0	87.7	90.7
2500	92.1	90.0	90.0	90.1	90.1	89.5	89.1	89.5	91.4
3150	91.9	90.9	90.6	91.0	90.2	88.8	88.6	88.9	90.9
4000	92.1	91.6	91.0	91.2	91.7	89.9	88.7	88.8	90.7
5000	92.3	92.1	90.7	91.4	91.0	90.1	89.1	88.5	89.6
6300	90.5	90.3	89.9	90.4	90.2	88.8	88.1	87.4	88.5
8000	90.1	88.6	88.7	89.2	89.8	89.2	87.6	86.7	87.5
10000	87.8	87.4	86.8	87.6	88.6	88.4	86.7	85.2	85.5
12500	87.2	87.0	86.8	87.7	88.6	88.6	86.8	84.4	84.1
16000	86.8	87.3	87.3	88.2	89.0	88.9	87.2	84.2	83.4
20000	85.4	85.5	85.5	86.8	88.2	87.7	86.3	83.4	82.3
25000	85.9	86.4	86.4	86.8	88.2	87.0	85.2	82.9	82.0
31500	85.4	86.1	86.1	86.6	87.7	86.6	84.0	81.2	80.5
40000	85.2	85.9	86.2	86.7	87.0	86.1	83.4	80.2	79.4
50000	84.7	85.2	86.1	87.2	86.8	85.8	83.5	79.9	78.6
63000	83.4	85.2	86.0	86.6	86.8	85.7	83.0	79.8	78.9
80000	81.0	84.2	85.4	86.5	86.3	85.5	82.9	79.7	79.1
TSPL	101.8	101.4	101.1	101.6	101.9	100.9	99.8	99.3	102.1
SSPL	101.7	101.3	101.1	101.6	101.8	100.9	99.7	99.2	101.6

V_∞ =	200	fps
T_a =	63	°F
RH_a =	39	%
P_a =	14.48	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3509 CONDITION 3509

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	27.9	28.7	N	124.0	127.9
TEMP	(R)	677.3	719.3	(K)	376.3	399.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.066	KG/M3	1.066	1.050	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	965.4	1157.0	M/S	294.3	352.7	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.1	76.9	77.8	78.8	78.3	76.3	76.8	73.9	80.0	95.8
.125	74.9	76.1	63.9	76.8	75.8	75.0	76.5	74.8	81.3	94.0
.160	72.0	75.3	73.4	73.8	74.9	58.7	71.9	75.8	81.6	92.7
.200	73.8	75.3	68.1	69.1	75.3	70.1	71.5	73.9	82.2	92.2
.250	69.1	71.6	73.0	71.3	75.9	73.7	72.2	75.9	84.7	93.4
.315	76.4	77.2	76.5	74.1	70.8	74.3	74.2	76.6	86.6	95.3
.400	78.1	78.0	76.5	76.7	74.7	74.8	77.0	78.0	87.7	96.7
.500	78.7	79.7	78.1	77.8	77.9	78.1	78.4	81.8	88.7	98.4
.630	80.2	81.0	81.0	80.5	80.1	80.1	80.4	82.6	89.4	100.0
.800	82.8	81.6	80.4	80.9	81.5	81.4	81.7	83.9	90.1	100.9
1.00	85.7	83.6	82.5	82.6	82.7	82.3	82.8	84.7	90.0	102.2
1.25	86.6	85.5	85.7	84.5	85.2	84.3	84.4	85.9	90.4	103.9
1.60	85.2	85.3	86.3	87.4	87.6	86.4	85.8	86.4	90.1	105.0
2.00	90.2	89.6	89.9	90.0	89.7	87.8	87.0	87.7	90.7	107.6
2.50	92.1	90.0	90.0	90.1	90.1	89.5	89.1	89.5	91.4	108.4
3.15	91.9	90.9	90.6	91.0	90.2	88.8	88.6	88.9	90.9	108.6
4.00	92.1	91.6	91.0	91.2	91.7	89.9	88.7	88.8	90.7	109.1
5.00	92.3	92.1	90.7	91.4	91.0	90.1	89.1	88.5	89.6	109.1
6.30	90.5	90.3	89.9	90.4	90.2	88.8	88.1	87.4	88.5	107.9
8.00	90.1	88.6	88.7	89.2	89.8	89.2	87.6	86.7	87.5	107.1
10.0	87.8	87.4	86.8	87.6	88.6	88.4	86.7	85.2	85.5	105.7
12.5	87.2	87.0	86.8	87.7	88.6	88.6	86.8	84.4	84.1	105.6
16.0	86.8	87.3	87.3	88.2	89.0	88.9	87.2	84.2	83.4	105.9
20.0	85.4	85.5	85.5	86.8	88.2	87.7	86.3	83.4	82.3	104.6
25.0	85.9	86.4	86.4	86.8	88.2	87.0	85.2	82.9	82.0	104.7
31.5	85.4	86.1	86.1	86.6	87.7	86.6	84.0	81.2	80.5	104.2
40.0	85.2	85.9	86.2	86.7	87.0	86.1	83.4	80.2	79.4	103.9
50.0	84.7	85.2	86.1	87.2	86.8	85.8	83.5	79.9	78.6	103.7
63.0	83.4	85.2	86.0	86.6	86.8	85.7	83.0	79.8	78.9	103.5
80.0	81.0	84.2	85.4	86.5	86.3	85.5	82.9	79.7	79.1	103.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.8	101.4	101.1	101.6	101.9	101.0	99.8	99.3	102.1	OAPWL = 119.5

V_∞ =	200	fps
T_a =	63	°F
RH_a =	39	%
P_a =	14.48	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORP
W631 315 05/14/76 -00 000000 XARF 0 3510 3510

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	79.6	77.6	76.8	79.2	79.6	77.2	78.6	80.1	94.6
125	77.1	74.6	74.8	76.8	76.7	76.0	78.4	79.2	95.3
160	73.6	73.5	72.1	74.2	75.9	75.9	77.1	79.3	93.6
200	74.5	74.2	72.0	61.9	75.9	65.0	72.8	78.7	93.9
250	75.2	76.0	73.8	68.3	75.8	72.9	73.3	81.6	94.4
315	76.7	77.5	76.1	73.0	75.3	74.2	74.9	82.3	99.4
400	77.8	78.6	76.4	75.5	72.5	74.7	78.1	82.3	103.1
500	77.7	79.7	78.0	76.7	77.1	77.8	79.1	85.7	95.5
630	79.5	80.0	80.0	79.8	79.4	80.0	81.3	85.9	96.7
800	81.4	80.6	79.9	80.2	81.2	81.5	82.4	87.1	96.5
1000	85.2	83.6	82.6	82.5	82.5	82.7	83.4	87.4	95.8
1250	86.2	85.4	85.2	84.9	85.0	84.6	85.3	88.2	95.3
1600	82.7	83.0	84.6	87.0	87.8	86.4	86.1	88.4	94.8
2000	85.8	86.7	88.2	89.3	89.6	88.0	87.4	89.3	94.2
2500	88.6	88.0	87.7	88.9	89.6	89.0	88.5	90.1	94.0
3150	88.8	88.9	88.7	89.5	89.5	88.2	87.7	89.4	93.8
4000	88.9	88.5	88.7	89.7	90.5	89.4	87.5	88.9	92.4
5000	87.9	87.8	87.7	89.1	89.2	88.5	87.8	88.0	90.8
6300	85.5	85.6	86.3	87.3	87.9	86.7	85.9	86.2	89.4
8000	84.4	83.8	84.9	85.9	87.3	87.0	84.8	84.7	87.0
10000	82.7	82.8	83.2	84.5	86.2	86.1	84.4	83.1	85.1
12500	82.4	82.9	83.4	84.5	85.4	86.2	84.4	82.1	84.3
16000	82.4	83.9	84.8	85.7	86.8	86.1	84.7	81.9	83.6
20000	82.4	82.8	83.0	84.7	86.7	85.1	83.0	80.4	82.6
25000	82.7	83.9	84.4	84.8	86.4	85.1	82.1	79.8	81.9
31500	82.1	83.3	84.1	84.9	86.4	84.4	81.2	78.5	80.8
40000	82.3	83.0	84.2	85.3	85.7	84.4	81.4	78.1	80.8
50000	81.0	81.9	83.7	85.3	85.2	84.0	81.3	77.7	80.0
63000	78.2	81.5	83.0	84.3	84.9	83.9	80.7	77.8	80.0
80000	79.7	78.7	81.8	83.7	84.3	83.7	80.4	77.0	80.4
TSPL	98.4	98.5	98.8	99.9	100.5	99.6	98.6	100.0	109.0
SSPL	98.2	98.3	98.7	99.8	100.4	99.5	98.4	99.6	105.6

V_∞ =	199	fps
T_a =	62	°F
RH_a =	42	%
P_a =	14.49	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3510 3510

DBTF JET NOISE TEST COANNULAR NOZ. HI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	99.3	99.0	99.0	99.7	100.0	98.7	97.3	98.5	108.3
SSPL	99.1	98.8	98.9	99.6	99.9	98.6	97.1	98.1	104.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	99.7	99.2	98.9	99.3	99.4	97.8	96.3	97.4	106.8
SSPL	99.5	99.0	98.8	99.2	99.3	97.7	96.1	97.0	103.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3510 3510

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	80.9	78.1	77.0	78.7	78.4	75.5	76.0	75.7	82.4
125	78.4	75.1	75.0	76.3	75.5	74.2	75.7	75.0	81.9
160	74.9	74.1	72.2	73.8	74.7	74.1	74.5	74.6	81.6
200	75.8	74.7	71.0	61.7	74.8	63.6	68.5	72.7	81.6
250	76.5	76.5	73.2	67.9	74.7	71.3	70.3	74.4	83.9
315	78.0	78.1	75.7	72.4	74.1	72.5	71.9	75.1	85.9
400	79.1	79.2	76.2	74.6	71.3	72.7	74.9	76.3	86.8
500	79.0	80.3	77.7	76.1	75.9	76.0	76.2	79.6	86.9
630	80.8	80.7	80.0	79.1	78.2	78.2	78.5	80.5	87.3
800	82.7	81.2	79.9	79.6	80.0	79.7	79.7	81.8	88.0
1000	86.5	84.1	82.5	81.9	81.3	80.9	80.8	82.5	88.0
1250	87.5	86.0	85.1	84.3	83.8	82.8	82.7	83.8	88.3
1600	84.0	83.8	84.9	86.5	86.6	84.7	83.7	84.3	88.2
2000	87.1	87.5	88.4	88.8	88.4	86.4	85.1	85.5	88.6
2500	90.0	88.6	87.8	88.4	88.4	87.3	86.2	86.5	89.1
3150	90.1	89.5	88.8	89.0	88.3	86.6	85.4	85.8	88.5
4000	90.2	89.1	88.8	89.1	89.2	87.7	85.5	85.4	87.6
5000	89.2	88.4	87.8	88.5	87.9	86.8	85.7	85.1	86.4
6300	86.8	86.3	86.4	86.8	86.7	85.0	83.8	83.2	84.8
8000	85.8	84.5	85.1	85.4	86.1	85.4	83.0	81.9	83.0
10000	84.0	83.5	83.3	84.0	85.0	84.4	82.6	80.8	81.1
12500	83.7	83.6	83.6	83.9	84.3	84.4	82.7	80.2	80.1
16000	83.7	84.7	84.9	85.2	85.6	84.4	82.9	80.3	79.7
20000	83.7	83.5	83.1	84.3	85.5	83.5	81.3	78.6	78.3
25000	84.0	84.6	84.5	84.3	85.2	83.5	80.6	77.9	77.8
31500	83.4	84.0	84.2	84.4	85.2	82.8	79.8	76.7	76.5
40000	83.6	83.8	84.4	84.8	84.5	82.8	80.0	76.5	76.2
50000	82.3	82.7	83.9	84.7	83.9	82.4	79.8	76.3	75.7
63000	79.6	82.3	83.2	83.7	83.7	82.3	79.2	76.0	75.8
80000	81.0	79.4	82.1	83.2	83.1	82.1	79.0	75.4	75.3
TSPL	99.7	99.1	98.9	99.3	99.3	98.0	96.5	96.2	99.9
SSPL	99.5	98.9	98.8	99.2	99.2	97.9	96.3	95.9	99.0

V_∞ =	199	fps
T_a =	62	°F
RH_a =	42	%
P_a =	14.49	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3510 CONDITION 3510

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.53		1.53	1.53	THRUST,IDL	LB	28.0	20.2	N	124.4	89.7
TEMP	(R)	678.5	721.0	(K)	376.9	400.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.062	KG/M3	1.064	1.001	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	968.6	999.4	M/S	295.2	304.6	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	80.9	78.1	77.0	78.7	78.4	75.5	76.0	75.7	82.4	96.3
.125	78.4	75.1	75.0	76.3	75.5	74.2	75.7	75.0	81.9	94.4
.160	74.9	74.1	72.2	73.8	74.7	74.1	74.5	74.6	81.6	93.1
.200	75.8	74.7	71.0	61.7	74.8	63.6	68.5	72.7	81.6	91.6
.250	76.5	76.5	73.2	67.9	74.7	71.3	70.3	74.4	83.9	93.4
.315	78.0	78.1	75.7	72.4	74.1	72.5	71.9	75.1	85.9	95.0
.400	79.1	79.2	76.2	74.6	71.3	72.7	74.9	76.3	86.8	95.9
.500	79.0	80.3	77.7	76.1	75.9	76.0	76.2	79.6	86.9	97.2
.630	80.8	80.7	80.0	79.1	78.2	78.2	78.5	80.5	87.3	98.6
.800	82.7	81.2	79.9	79.6	80.0	79.7	79.7	81.8	88.0	99.5
1.00	86.5	84.1	82.5	81.9	81.3	80.9	80.8	82.5	88.0	101.4
1.25	87.5	86.0	85.1	84.3	83.8	82.8	82.7	83.8	88.3	103.2
1.60	84.0	83.8	84.9	86.5	86.6	84.7	83.7	84.3	88.2	103.5
2.00	87.1	87.5	88.4	88.8	88.4	86.4	85.1	85.5	88.6	105.8
2.50	90.0	88.6	87.8	88.4	88.4	87.3	86.2	86.5	89.1	106.3
3.15	90.1	89.5	88.8	89.0	88.3	86.6	85.4	85.8	88.5	106.6
4.00	90.2	89.1	88.8	89.1	89.2	87.7	85.5	85.4	87.6	106.7
5.00	89.2	88.4	87.8	88.5	87.9	86.8	85.7	85.1	86.4	105.9
6.30	86.8	86.3	86.4	86.8	86.7	85.0	83.8	83.2	84.8	104.2
8.00	85.8	84.5	85.1	85.4	86.1	85.4	83.0	81.9	83.0	103.1
10.0	84.0	83.5	83.3	84.0	85.0	84.4	82.6	80.8	81.1	101.9
12.5	83.7	83.6	83.6	83.9	84.3	84.4	82.7	80.2	80.1	101.8
16.0	83.7	84.7	84.9	85.2	85.6	84.4	82.9	80.3	79.7	102.6
20.0	83.7	83.5	83.1	84.3	85.5	83.5	81.3	78.6	78.3	101.6
25.0	84.0	84.6	84.5	84.3	85.2	83.5	80.6	77.9	77.8	101.9
31.5	83.4	84.0	84.2	84.4	85.2	82.8	79.8	76.7	76.5	101.6
40.0	83.6	83.8	84.4	84.8	84.5	82.8	80.0	76.5	76.2	101.5
50.0	82.3	82.7	83.9	84.7	83.9	82.4	79.8	76.3	75.7	101.0
63.0	79.6	82.3	83.2	83.7	83.7	82.3	79.2	76.0	75.8	100.4
80.0	81.0	79.4	82.1	83.2	83.1	82.1	79.0	75.4	75.3	99.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 117.0
OSPL	99.7	99.1	98.9	99.3	99.3	98.0	96.5	96.2	99.9	

V_∞ =	199	fps
T_a =	62	°F
RH_a =	42	%
P_a =	14.49	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
N631	315	05/14/76		-00 000000	XARF 0	3511 3511

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	63.5	56.8	65.1	67.1	68.2	64.7	67.4	73.4	82.7
125	64.2	66.4	69.4	68.7	69.5	70.4	70.2	74.5	86.9
160	65.0	68.1	69.9	71.6	72.0	71.5	71.1	76.5	87.0
200	68.3	70.4	71.5	74.1	73.6	74.2	76.2	77.7	86.6
250	70.8	73.7	74.6	74.4	76.2	77.1	76.8	82.3	88.5
315	74.7	77.0	77.5	76.9	77.7	77.7	78.6	82.6	95.0
400	78.2	78.4	77.8	79.0	78.4	77.9	80.8	84.1	97.7
500	78.7	79.9	79.2	79.4	73.2	81.5	82.8	88.6	96.3
630	79.3	80.4	81.8	81.9	80.5	83.0	84.1	89.4	100.8
800	81.9	81.2	81.2	82.1	81.9	84.2	85.5	90.6	99.8
1000	86.6	85.9	84.2	84.6	84.7	85.2	86.6	90.9	100.0
1250	90.2	91.2	87.6	88.6	87.8	86.9	88.7	91.9	99.8
1600	83.4	84.1	85.8	88.5	89.4	88.6	88.8	91.6	99.0
2000	86.9	87.1	89.8	91.9	92.2	90.3	89.9	92.8	98.3
2500	89.9	88.9	88.8	89.4	90.7	90.3	90.6	92.9	97.4
3150	89.4	89.5	89.3	90.3	90.6	89.7	90.0	92.0	96.6
4000	89.4	89.5	89.3	90.3	91.2	90.4	89.4	91.5	95.1
5000	88.2	88.5	87.9	89.6	89.9	89.4	89.2	90.1	93.3
6300	86.4	86.3	87.0	88.1	88.7	88.2	87.8	88.2	91.5
8000	85.1	84.7	85.4	86.9	88.2	88.4	86.8	86.8	88.9
10000	83.7	83.6	84.0	85.5	87.3	87.6	86.2	85.1	86.7
12500	83.1	83.5	84.1	85.4	86.7	87.4	85.8	83.7	85.4
16000	83.1	84.4	85.3	86.6	87.3	87.4	86.0	83.1	84.6
20000	82.6	83.0	83.4	85.0	87.2	86.0	84.3	81.7	83.3
25000	82.9	84.1	84.7	85.0	86.6	86.0	83.0	80.7	82.0
31500	82.6	83.8	84.5	85.2	86.8	85.2	82.0	79.2	80.7
40000	82.7	83.4	84.5	85.6	86.0	85.1	81.8	78.6	80.3
50000	81.6	82.4	84.2	85.8	85.8	84.9	82.0	78.1	79.6
63000	80.5	81.9	83.8	85.0	85.5	84.6	81.5	78.1	79.7
80000	80.1	81.0	82.9	84.5	85.1	84.6	81.5	78.4	80.6
TSPL	99.3	99.6	99.7	100.9	101.6	101.1	100.6	102.6	109.6
SSPL	99.3	99.5	99.6	100.9	101.5	101.0	100.5	102.4	109.0

V_∞ =	98	fps
T_a =	64	°F
RH_a =	45	%
P_a =	14.73	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	99.7	99.8	99.7	100.8	101.3	100.6	99.9	101.7	108.8
SSPL	99.7	99.7	99.6	100.7	101.2	100.5	99.8	101.6	108.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	100.0	99.9	99.7	100.7	101.0	100.2	99.4	101.2	108.2
SSPL	99.9	99.8	99.6	100.6	100.9	100.1	99.3	101.0	107.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CCPR
W631	315	05/14/76		-00 000000	XARF 0	3511	3511

------ DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	64.2	57.2	65.4	66.8	67.5	63.8	65.7	70.1	77.5
125	64.9	66.9	69.5	68.4	68.9	69.5	68.8	71.2	80.0
160	65.7	68.6	70.0	71.4	71.4	70.6	69.7	73.2	81.2
200	69.0	70.8	71.6	73.9	73.0	73.2	74.8	75.3	81.1
250	71.5	74.1	74.6	74.2	75.7	76.2	75.4	79.3	84.7
315	75.4	77.4	77.5	76.6	77.1	76.8	77.2	79.4	88.1
400	78.9	78.7	77.8	78.7	77.8	77.0	79.2	81.0	90.2
500	79.4	80.3	79.2	79.0	72.6	80.4	81.3	85.5	91.9
630	80.0	80.8	81.9	81.6	79.9	82.0	82.6	86.1	94.5
800	82.6	81.5	81.2	81.8	81.3	83.2	84.0	87.5	94.6
1000	87.3	86.2	84.2	84.3	84.1	84.3	85.1	88.0	94.7
1250	90.9	91.5	87.6	88.3	87.1	86.0	87.2	89.3	95.0
1600	84.1	84.5	85.9	88.3	88.8	87.8	87.5	89.1	94.4
2000	87.6	87.5	90.0	91.7	91.5	89.5	88.6	90.4	94.6
2500	90.6	89.2	88.9	89.2	90.1	89.5	89.3	90.8	94.1
3150	90.0	89.8	89.3	90.0	90.0	88.8	88.7	89.8	93.2
4000	90.0	89.8	89.3	90.0	90.6	89.5	88.2	89.4	92.2
5000	88.8	88.8	87.9	89.3	89.3	88.5	88.0	88.3	90.4
6300	87.1	86.7	87.1	87.9	88.1	87.3	86.6	86.5	88.6
8000	85.8	85.1	85.5	86.7	87.7	87.6	85.8	85.3	86.5
10000	84.4	83.9	84.1	85.3	86.7	86.7	85.2	83.8	84.4
12500	83.7	83.8	84.1	85.1	86.1	86.5	84.8	82.6	82.9
16000	83.8	84.8	85.4	86.4	86.7	86.5	85.1	82.2	82.2
20000	83.2	83.3	83.4	84.8	86.6	85.2	83.4	80.7	80.8
25000	83.5	84.4	84.7	84.7	86.0	85.2	82.2	79.6	79.7
31500	83.2	84.2	84.5	85.0	86.2	84.4	81.2	78.2	78.3
40000	83.4	83.8	84.6	85.4	85.4	84.3	81.1	77.7	77.8
50000	82.3	82.8	84.3	85.6	85.2	84.1	81.3	77.4	77.1
63000	81.1	82.3	83.8	84.7	84.9	83.8	80.7	77.2	77.1
80000	80.8	81.4	83.0	84.3	84.5	83.8	80.8	77.5	77.8
TSPL	100.0	99.9	99.7	100.7	101.0	100.2	99.4	100.3	104.9
SSPL	99.9	99.8	99.6	100.6	100.9	100.1	99.2	100.1	104.6

V_∞ =	98	fps
T_a =	64	°F
RH_a =	45	%
P_a =	14.73	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=98 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3511 CONDITION 3511

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	1.53		1.51	1.53	THRUST,IDL	LB	28.1	20.6	N	125.2	91.7
TEMP	(R)	679.2	716.0	(K)	377.3	397.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.063	KG/M3	1.059	1.007	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	954.1	991.2	M/S	290.8	302.1	W (MODEL)	LB/S	0.9	0.7	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	64.2	57.2	65.4	66.8	67.5	63.8	65.7	70.1	77.5	86.1
.125	64.9	66.9	69.5	68.4	68.9	69.5	68.8	71.2	80.0	88.8
.160	65.7	68.6	70.0	71.4	71.4	70.6	69.7	73.2	81.2	90.4
.200	69.0	70.8	71.6	73.9	73.0	73.2	74.8	75.3	81.1	92.2
.250	71.5	74.1	74.6	74.2	75.7	76.2	75.4	79.3	84.7	94.9
.315	75.4	77.4	77.5	76.6	77.1	76.8	77.2	79.4	88.1	97.1
.400	78.9	78.7	77.8	78.7	77.8	77.0	79.2	81.0	90.2	98.8
.500	79.4	80.3	79.2	79.0	72.6	80.4	81.3	85.5	91.9	100.6
.630	80.0	80.8	81.9	81.6	79.9	82.0	82.6	86.1	94.5	102.6
.800	82.6	81.5	81.2	81.8	81.3	83.2	84.0	87.5	94.6	103.2
1.00	87.3	86.2	84.2	84.3	84.1	84.3	85.1	88.0	94.7	104.8
1.25	90.9	91.5	87.6	88.3	87.1	86.0	87.2	89.3	95.0	107.6
1.60	84.1	84.5	85.9	88.3	88.8	87.8	87.5	89.1	94.4	106.3
2.00	87.6	87.5	90.0	91.7	91.5	89.5	88.6	90.4	94.6	108.6
2.50	90.6	89.2	88.9	89.2	90.1	89.5	89.3	90.8	94.1	108.2
3.15	90.0	89.8	89.3	90.0	90.0	88.8	88.7	89.8	93.2	108.1
4.00	90.0	89.8	89.3	90.0	90.6	89.5	88.2	89.4	92.2	108.1
5.00	88.8	88.8	87.9	89.3	89.3	88.5	88.0	88.3	90.4	107.0
6.30	87.1	86.7	87.1	87.9	88.1	87.3	86.6	86.5	88.6	105.6
8.00	85.8	85.1	85.5	86.7	87.7	87.6	85.8	85.3	86.5	104.7
10.0	84.4	83.9	84.1	85.3	86.7	86.7	85.2	83.8	84.4	103.5
12.5	83.7	83.8	84.1	85.1	86.1	86.5	84.8	82.6	82.9	103.1
16.0	83.8	84.8	85.4	86.4	86.7	86.5	85.1	82.2	82.2	103.7
20.0	83.2	83.3	83.4	84.8	86.6	85.2	83.4	80.7	80.8	102.5
25.0	83.5	84.4	84.7	84.7	86.0	85.2	82.2	79.6	79.7	102.5
31.5	83.2	84.2	84.5	85.0	86.2	84.4	81.2	78.2	78.3	102.3
40.0	83.4	83.8	84.6	85.4	85.4	84.3	81.1	77.7	77.8	102.2
50.0	82.3	82.8	84.3	85.6	85.2	84.1	81.3	77.4	77.1	101.9
63.0	81.1	82.3	83.8	84.7	84.9	83.8	80.7	77.2	77.1	101.3
80.0	80.8	81.4	83.0	84.3	84.5	83.8	80.8	77.5	77.8	100.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 118.8
OSPL	100.0	99.9	99.7	100.7	101.0	100.2	99.4	100.3	104.9	

V_∞ =	98	fps
T_a =	64	°F
RH_a =	45	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CODE
W631	315	05/14/76		-00 000000	XARF 0	3515 3515

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.0	60.8	61.9	64.1	66.5	62.5	67.8	72.3	72.9
125	62.7	64.0	67.3	66.2	66.9	68.1	69.4	73.2	75.8
160	63.7	66.4	68.3	69.5	69.8	69.4	70.3	74.7	78.6
200	66.0	68.1	69.1	71.9	71.2	72.2	74.5	75.8	78.4
250	67.8	70.3	71.2	71.6	74.0	75.1	75.5	80.2	79.9
315	71.6	74.2	75.1	74.7	76.2	76.3	77.1	80.2	86.8
400	75.4	76.4	76.1	77.8	77.8	77.1	79.4	82.4	88.7
500	76.9	77.7	77.6	77.6	78.1	79.0	80.8	85.4	87.8
630	77.8	78.5	79.5	79.6	73.1	81.0	82.3	87.0	92.4
800	81.6	80.6	80.2	81.2	80.1	82.5	83.7	88.9	92.2
1000	87.4	86.1	85.1	84.3	84.0	83.8	84.4	89.1	92.6
1250	86.2	87.1	85.3	85.3	85.4	84.9	86.1	89.8	92.0
1600	82.4	82.7	83.1	85.0	86.5	86.6	87.0	89.7	91.7
2000	83.1	83.9	86.3	88.0	88.9	88.0	87.7	90.6	91.0
2500	85.8	86.5	86.3	87.2	87.7	87.7	87.8	90.6	89.9
3150	84.7	85.4	86.4	86.7	87.8	87.3	87.2	89.5	88.3
4000	85.0	84.7	84.7	86.1	87.1	86.9	86.7	89.2	86.6
5000	83.4	83.6	83.5	84.9	86.2	85.9	86.0	87.3	84.8
6300	81.6	81.7	82.9	83.8	85.0	84.5	84.6	85.1	82.4
8000	81.1	80.7	81.8	83.3	85.0	85.0	84.1	84.1	80.1
10000	80.3	80.4	81.1	82.5	84.5	84.8	84.0	83.2	78.6
12500	80.2	80.7	81.6	82.6	83.6	84.4	83.0	81.4	77.2
16000	80.5	81.8	83.0	84.7	85.4	83.5	81.7	80.1	75.9
20000	80.8	81.7	81.8	83.2	85.6	83.5	80.4	78.8	74.7
25000	82.7	83.7	84.4	84.5	85.6	84.4	81.0	79.2	74.5
31500	82.4	83.4	83.8	84.3	86.2	83.2	80.2	78.0	73.9
40000	81.9	82.7	83.6	84.3	85.1	83.5	79.9	77.3	73.9
50000	81.2	81.7	83.1	84.5	84.5	82.8	80.0	77.0	73.2
63000	79.0	80.1	81.9	83.2	83.6	82.2	79.0	76.5	72.4
80000	77.3	78.3	80.0	81.8	82.3	81.4	78.2	75.9	71.0
TSPL	96.4	96.8	97.2	98.1	99.0	98.5	98.0	100.3	101.7
SSPL	96.3	96.7	97.1	98.0	98.9	98.4	97.9	100.1	101.2

V_∞ =	101	fps
T_a =	67	°F
RH_a =	30	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
H631	315	05/14/76		-00	000000	XARF	0	3515	3515

DBTF JET NOISE TEST COANNULAR NOZ. HI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	96.8	97.0	97.2	98.0	98.7	97.9	97.3	99.5	100.9
SSPL	96.8	96.9	97.1	97.9	98.6	97.8	97.2	99.3	100.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	97.1	97.1	97.2	97.8	98.4	97.6	96.8	99.0	100.3
SSPL	97.0	97.0	97.1	97.7	98.3	97.5	96.7	98.8	99.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3515 3515

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	62.7	61.1	62.0	63.9	65.9	61.6	66.0	70.1	71.7
125	63.4	64.5	67.4	65.9	66.3	67.2	67.9	71.0	73.6
160	64.4	66.9	68.4	69.3	69.2	68.5	68.9	72.1	75.8
200	66.7	68.5	69.2	71.7	70.6	71.2	73.1	74.0	75.9
250	68.5	70.7	71.2	71.4	73.5	74.2	74.1	78.0	79.1
315	72.3	74.6	75.1	74.4	75.6	75.4	75.7	77.7	82.6
400	76.1	76.8	76.2	77.6	77.2	76.2	77.9	80.0	84.6
500	77.6	78.1	77.6	77.3	77.5	78.1	79.3	83.0	85.7
630	78.5	78.9	79.5	79.2	72.6	79.9	80.8	84.3	88.9
800	82.3	80.9	80.2	80.9	79.5	81.5	82.2	86.3	89.8
1000	88.1	86.4	85.1	84.0	83.3	82.9	82.9	86.6	90.0
1250	86.9	87.4	85.3	85.0	84.7	84.0	84.6	87.6	90.0
1600	83.1	83.1	83.2	84.8	86.0	85.7	85.7	87.7	89.7
2000	83.8	84.3	86.4	87.8	88.3	87.2	86.4	88.7	89.7
2500	86.5	86.9	86.4	87.0	87.1	86.9	86.5	88.8	89.2
3150	85.3	85.7	86.4	86.4	87.2	86.4	85.9	87.8	87.7
4000	85.6	85.0	84.7	85.8	86.5	86.0	85.4	87.6	86.7
5000	84.0	83.9	83.5	84.7	85.6	85.0	84.7	85.9	84.7
6300	82.3	82.1	83.0	83.6	84.4	83.6	83.4	83.9	82.3
8000	81.8	81.1	81.9	83.1	84.5	84.2	83.0	83.1	80.6
10000	81.0	80.8	81.2	82.3	83.9	83.9	82.9	82.4	79.3
12500	80.8	81.0	81.6	82.3	83.0	83.5	82.0	80.7	77.6
16000	81.2	82.2	83.1	84.5	84.8	82.7	80.8	79.4	76.3
20000	81.4	82.0	81.8	83.0	85.0	82.7	79.6	78.1	75.1
25000	83.3	84.0	84.4	84.2	84.9	83.6	80.2	78.5	75.1
31500	83.0	83.8	83.8	84.1	85.5	82.4	79.4	77.4	74.2
40000	82.6	83.1	83.7	84.1	84.5	82.8	79.2	76.7	73.9
50000	81.9	82.1	83.2	84.3	83.8	82.0	79.2	76.5	73.3
63000	79.7	80.5	81.9	82.9	83.0	81.4	78.2	76.0	72.7
80000	78.0	78.7	80.1	81.5	81.7	80.6	77.4	75.3	71.7
TSPL	97.1	97.1	97.2	97.9	98.4	97.6	96.8	98.5	99.8
SSPL	97.0	97.0	97.1	97.8	98.3	97.5	96.6	98.3	99.4

V_∞ =	101	fps
T_a =	67	°F
RH_a =	30	%
P_a =	14.73	psia

ORIGINAL PAGE IS OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3515 CONDITION 3515

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	28.5	12.3	N	126.9	54.7
TEMP	(R)	680.5	712.7	(K)	378.1	395.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.060	KG/M3	1.060	0.968	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	966.6	791.7	M/S	294.6	241.3	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.7	61.1	62.0	63.9	65.9	61.6	66.0	70.1	71.7	83.8
.125	63.4	64.5	67.4	65.9	66.3	67.2	67.9	71.0	73.6	86.0
.160	64.4	66.9	68.4	69.3	69.2	68.5	68.9	72.1	75.8	87.8
.200	66.7	68.5	69.2	71.7	70.6	71.2	73.1	74.0	75.9	89.7
.250	68.5	70.7	71.2	71.4	73.5	74.2	74.1	78.0	79.1	92.1
.315	72.3	74.6	75.1	74.4	75.6	75.4	75.7	77.7	82.6	94.3
.400	76.1	76.8	76.2	77.6	77.2	76.2	77.9	80.0	84.6	96.3
.500	77.6	78.1	77.6	77.3	77.5	78.1	79.3	83.0	85.7	97.7
.630	78.5	78.9	79.5	79.2	72.6	79.9	80.8	84.3	88.9	99.2
.800	82.3	80.9	80.2	80.9	79.5	81.5	82.2	86.3	89.8	101.0
1.00	88.1	86.4	85.1	84.0	83.3	82.9	82.9	86.6	90.0	103.7
1.25	86.9	87.4	85.3	85.0	84.7	84.0	84.6	87.6	90.0	104.3
1.60	83.1	83.1	83.2	84.8	86.0	85.7	85.7	87.7	89.7	103.7
2.00	83.8	84.3	86.4	87.8	88.3	87.2	86.4	88.7	89.7	105.4
2.50	86.5	86.9	86.4	87.0	87.1	86.9	86.5	88.8	89.2	105.4
3.15	85.3	85.7	86.4	86.4	87.2	86.4	85.9	87.8	87.7	104.8
4.00	85.6	85.0	84.7	85.8	86.5	86.0	85.4	87.6	86.7	104.2
5.00	84.0	83.9	83.5	84.7	85.6	85.0	84.7	85.9	84.7	103.0
6.30	82.3	82.1	83.0	83.6	84.4	83.6	83.4	83.9	82.3	101.6
8.00	81.8	81.1	81.9	83.1	84.5	84.2	83.0	83.1	80.6	101.2
10.0	81.0	80.8	81.2	82.3	83.9	83.9	82.9	82.4	79.3	100.7
12.5	80.8	81.0	81.6	82.3	83.0	83.5	82.0	80.7	77.6	100.3
16.0	81.2	82.2	83.1	84.5	84.8	82.7	80.8	79.4	76.3	101.1
20.0	81.4	82.0	81.8	83.0	85.0	82.7	79.6	78.1	75.1	100.5
25.0	83.3	84.0	84.4	84.2	84.9	83.6	80.2	78.5	75.1	101.7
31.5	83.0	83.8	83.8	84.1	85.5	82.4	79.4	77.4	74.2	101.4
40.0	82.6	83.1	83.7	84.1	84.5	82.8	79.2	76.7	73.9	101.1
50.0	81.9	82.1	83.2	84.3	83.8	82.0	79.2	76.5	73.3	100.6
63.0	79.7	80.5	81.9	82.9	83.0	81.4	78.2	76.0	72.7	99.4
80.0	78.0	78.7	80.1	81.5	81.7	80.6	77.4	75.3	71.7	98.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 116.0
OSPL	97.1	97.1	97.2	97.9	98.4	97.6	96.8	98.5	99.8	

V_∞ =	101	fps
T_a =	67	°F
RH_a =	30	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3516 3516

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.7	77.2	77.5	79.2	79.7	78.5	75.4	84.2	78.6
125	72.8	75.4	74.8	76.2	77.0	67.0	75.8	82.6	73.7
160	70.1	73.5	71.3	73.3	76.0	67.5	75.9	82.4	77.8
200	70.9	74.4	70.5	73.9	75.2	69.3	76.4	82.0	76.4
250	70.2	73.7	73.0	72.6	74.4	72.6	75.5	82.1	76.6
315	71.7	71.2	74.4	69.0	74.8	73.2	76.1	81.9	84.0
400	72.6	74.4	75.0	74.3	71.0	74.0	77.5	81.5	85.5
500	73.4	75.4	76.2	74.7	73.6	75.2	77.7	83.5	85.0
630	76.3	77.2	77.9	77.6	77.1	77.9	79.7	83.9	87.8
800	79.6	79.0	78.7	78.7	79.4	79.8	80.7	85.3	88.4
1000	85.1	83.5	82.8	81.8	81.8	81.2	81.7	85.5	87.8
1250	83.3	83.4	82.6	82.8	83.1	82.5	83.3	86.1	87.2
1600	81.1	81.4	81.8	83.4	84.9	84.7	84.5	86.1	87.1
2000	82.6	83.6	85.3	86.7	87.4	85.9	85.3	87.3	86.6
2500	85.0	85.5	85.0	86.1	86.2	85.8	85.5	87.3	85.8
3150	84.1	84.8	85.0	85.5	86.3	85.4	84.6	86.2	84.7
4000	84.3	83.7	83.5	85.1	85.9	85.3	84.3	86.2	83.1
5000	82.6	82.5	82.5	83.9	84.5	84.1	83.6	84.4	81.4
6300	80.6	80.9	81.9	82.7	83.6	82.6	82.3	82.4	79.4
8000	80.2	79.8	80.7	82.3	83.7	83.4	82.3	81.8	77.7
10000	79.8	80.2	80.3	81.7	83.8	83.8	82.8	81.5	77.2
12500	79.4	80.0	80.6	81.6	82.5	83.3	81.5	79.5	75.4
16000	79.9	81.5	82.6	83.9	84.5	82.1	80.1	78.2	74.0
20000	80.6	81.2	81.3	82.7	84.7	82.6	79.3	77.2	73.3
25000	81.8	83.0	83.6	84.0	84.9	83.4	80.2	77.9	73.5
31500	81.7	82.7	83.3	83.6	85.2	82.7	79.7	77.0	73.4
40000	81.3	82.0	83.2	83.8	84.2	82.7	79.5	76.8	73.4
50000	80.6	81.1	82.6	83.9	83.5	82.1	79.1	76.5	72.5
63000	75.5	79.9	81.2	82.3	82.6	81.4	78.0	75.8	71.7
80000	78.2	74.6	78.6	80.8	81.0	80.8	77.0	75.0	70.5
TSPL	95.3	95.7	96.1	97.1	97.8	96.9	96.0	98.0	97.8
SSPL	95.2	95.5	95.9	96.9	97.6	96.7	95.7	97.1	97.1

V_∞ =	200	fps
T_a =	64	°F
RH_a =	33	%
P_a =	14.48	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	96.3	96.3	96.3	96.9	97.3	95.9	94.7	96.5	97.1
SSPL	96.1	96.0	96.1	96.7	97.1	95.8	94.4	95.6	96.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	96.7	96.4	96.2	96.5	96.7	95.1	93.7	95.5	95.6
SSPL	96.5	96.2	96.0	96.3	96.4	94.9	93.4	94.5	94.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3516 3516

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.0	77.9	77.6	78.7	78.5	76.9	73.1	78.4	80.8
125	74.1	76.1	74.9	75.7	75.6	65.5	71.2	78.5	78.0
160	71.4	74.2	71.3	72.9	74.7	65.8	71.5	78.1	79.1
200	72.2	75.0	70.5	73.5	73.9	67.6	72.3	78.0	78.3
250	71.5	74.5	72.9	72.1	73.2	70.8	72.2	77.5	78.5
315	73.0	72.1	74.1	68.5	73.7	71.4	72.9	76.9	80.6
400	73.9	75.2	75.0	73.5	69.8	72.0	74.4	77.1	80.7
500	74.7	76.2	76.1	74.0	72.4	73.3	74.6	78.5	82.0
630	77.6	77.9	78.0	76.9	75.9	76.1	76.9	79.4	83.1
800	80.9	79.6	78.6	78.2	78.3	78.0	78.0	80.6	84.2
1000	86.4	84.0	82.7	81.2	80.5	79.5	79.1	81.2	84.1
1250	84.6	84.0	82.6	82.3	81.8	80.7	80.7	82.4	84.2
1600	82.4	82.1	81.9	82.9	83.8	83.0	82.1	82.8	84.1
2000	83.9	84.4	85.5	86.2	86.2	84.2	83.0	84.0	84.8
2500	86.4	86.2	85.1	85.6	85.0	84.1	83.2	84.2	84.5
3150	85.4	85.5	85.1	85.0	85.1	83.7	82.4	83.1	83.4
4000	85.6	84.3	83.7	84.6	84.7	83.6	82.1	83.1	82.9
5000	83.9	83.1	82.6	83.3	83.3	82.3	81.4	81.8	81.0
6300	81.9	81.6	82.0	82.1	82.4	80.9	80.1	80.1	78.9
8000	81.6	80.5	80.9	81.8	82.5	81.7	80.3	79.8	78.0
10000	81.1	80.9	80.4	81.2	82.6	82.1	80.9	79.9	77.6
12500	80.7	80.7	80.7	81.1	81.4	81.6	79.8	78.1	75.5
16000	81.2	82.3	82.7	83.4	83.3	80.5	78.4	76.8	74.2
20000	81.9	81.9	81.4	82.2	83.5	81.1	77.8	75.7	73.3
25000	83.1	83.7	83.7	83.4	83.6	81.8	78.7	76.6	73.8
31500	83.0	83.4	83.3	83.1	83.9	81.2	78.2	75.8	73.1
40000	82.6	82.8	83.3	83.3	83.0	81.2	78.0	75.5	73.0
50000	81.9	81.9	82.8	83.3	82.3	80.5	77.6	75.3	72.5
63000	76.8	80.8	81.4	81.8	81.4	79.8	76.6	74.4	71.8
80000	79.5	75.3	79.0	80.3	79.8	79.2	75.6	73.5	70.9
TSPL	96.6	96.4	96.2	96.5	96.6	95.2	93.8	94.6	95.5
SSPL	96.5	96.2	96.0	96.3	96.4	95.1	93.6	94.0	94.6

V_∞ =	200	fps
T_a =	64	°F
RH_a =	33	%
P_a =	14.48	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3516 CONDITION 3516

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	27.8	11.8	N	123.5	52.3
TEMP	(R)	678.2	720.0	(K)	376.8	400.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.060	KG/M3	1.063	0.957	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	961.1	789.1	M/S	292.9	240.5	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.0	77.9	77.6	78.7	78.5	76.9	73.1	78.4	80.8	96.1
.125	74.1	76.1	74.9	75.7	75.6	65.5	71.2	78.5	78.0	93.5
.160	71.4	74.2	71.3	72.9	74.7	65.8	71.5	78.1	79.1	92.2
.200	72.2	75.0	70.5	73.5	73.9	67.6	72.3	78.0	78.3	92.3
.250	71.5	74.5	72.9	72.1	73.2	70.8	72.2	77.5	78.5	92.1
.315	73.0	72.1	74.1	68.5	73.7	71.4	72.9	76.9	80.6	92.2
.400	73.9	75.2	75.0	73.5	69.8	72.0	74.4	77.1	80.7	93.0
.500	74.7	76.2	76.1	74.0	72.4	73.3	74.6	78.5	82.0	94.1
.630	77.6	77.9	78.0	76.9	75.9	76.1	76.9	79.4	83.1	96.1
.800	80.9	79.6	78.6	78.2	78.3	78.0	78.0	80.6	84.2	97.7
1.00	86.4	84.0	82.7	81.2	80.5	79.5	79.1	81.2	84.1	100.6
1.25	84.6	84.0	82.6	82.3	81.8	80.7	80.7	82.4	84.2	100.9
1.60	82.4	82.1	81.9	82.9	83.8	83.0	82.1	82.8	84.1	101.0
2.00	83.9	84.4	85.5	86.2	86.2	84.2	83.0	84.0	84.8	103.3
2.50	86.4	86.2	85.1	85.6	85.0	84.1	83.2	84.2	84.5	103.4
3.15	85.4	85.5	85.1	85.0	85.1	83.7	82.4	83.1	83.4	102.9
4.00	85.6	84.3	83.7	84.6	84.7	83.6	82.1	83.1	82.9	102.3
5.00	83.9	83.1	82.6	83.3	83.3	82.3	81.4	81.8	81.0	101.0
6.30	81.9	81.6	82.0	82.1	82.4	80.9	80.1	80.1	78.9	99.8
8.00	81.6	80.5	80.9	81.8	82.5	81.7	80.3	79.8	78.0	99.5
10.0	81.1	80.9	80.4	81.2	82.6	82.1	80.9	79.9	77.6	99.5
12.5	80.7	80.7	80.7	81.1	81.4	81.6	79.8	78.1	75.5	98.9
16.0	81.2	82.3	82.7	83.4	83.3	80.5	78.4	76.8	74.2	100.0
20.0	81.9	81.9	81.4	82.2	83.5	81.1	77.8	75.7	73.3	99.6
25.0	83.1	83.7	83.7	83.4	83.6	81.8	78.7	76.6	73.8	100.7
31.5	83.0	83.4	83.3	83.1	83.9	81.2	78.2	75.8	73.1	100.5
40.0	82.6	82.8	83.3	83.3	83.0	81.2	78.0	75.5	73.0	100.2
50.0	81.9	81.9	82.8	83.3	82.3	80.5	77.6	75.3	72.5	99.7
63.0	76.8	80.8	81.4	81.8	81.4	79.8	76.6	74.4	71.8	98.3
80.0	79.5	75.3	79.0	80.3	79.8	79.2	75.6	73.5	70.9	96.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.6	96.4	96.2	96.5	96.6	95.2	93.8	94.6	95.5	OAPWL = 114.2

V_∞ =	200	fps
T_a =	64	°F
RH_a =	33	%
P_a =	14.48	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		=00 000000	XARF 0	3517 3517

DBTF JET NOISE TEST COANNULAR NOZ, HI
TH EJECTOR AR=.75 TAPE 4227 10,2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	85.8	89.8	92.2	91.9	90.4	96.2	94.2	103.2
125	84.5	85.6	88.9	89.8	90.0	81.4	98.4	94.9	96.1
160	81.8	84.1	84.7	86.0	88.8	80.1	90.4	94.3	99.1
200	83.2	85.0	83.8	85.8	87.5	80.4	89.7	93.7	96.9
250	82.6	83.7	82.4	84.8	86.3	82.0	88.1	93.3	97.9
315	81.9	83.4	77.6	83.1	85.8	82.1	87.1	92.0	98.5
400	74.0	81.2	77.2	77.8	85.1	81.5	86.7	92.1	97.6
500	74.3	81.3	79.4	78.3	84.5	83.3	86.7	93.4	95.4
630	80.6	74.9	81.6	82.6	85.4	65.2	88.6	93.6	95.9
800	83.7	80.8	82.4	83.8	82.9	86.7	89.0	94.2	96.8
1000	82.8	82.6	84.5	86.0	86.2	87.9	89.9	94.4	95.4
1250	83.4	84.3	85.5	87.6	87.7	89.1	91.5	95.1	94.8
1600	85.5	86.0	87.3	89.5	90.7	91.0	92.4	95.0	94.4
2000	88.5	88.6	89.6	91.3	92.1	92.7	93.6	96.0	93.9
2500	89.9	89.8	90.3	92.0	93.0	93.3	94.5	96.5	93.0
3150	91.1	91.6	92.4	93.5	94.0	94.3	95.5	96.5	92.8
4000	92.7	92.5	92.9	94.2	95.1	95.9	97.0	97.2	92.7
5000	93.8	94.0	93.7	95.2	96.3	97.0	98.3	97.6	93.1
6300	93.8	93.8	94.4	95.7	97.0	97.4	98.4	97.5	93.6
8000	95.3	94.5	94.9	96.0	97.9	98.3	99.0	98.3	93.8
10000	97.0	96.0	95.6	96.5	98.1	98.2	98.9	98.5	93.8
12500	104.0	101.3	98.9	98.7	99.2	99.2	98.9	98.5	95.5
16000	108.8	106.5	103.2	100.8	100.3	99.9	98.3	97.0	94.4
20000	108.8	108.7	106.1	102.8	100.6	99.7	97.5	95.2	91.3
25000	105.5	107.1	108.1	107.0	104.5	100.9	98.2	95.9	91.3
31500	105.4	104.9	105.5	107.5	107.3	103.8	100.0	96.2	91.5
40000	106.1	106.0	105.5	106.1	107.6	106.6	102.2	97.8	92.6
50000	105.4	105.8	106.3	107.1	107.4	107.5	104.4	99.8	94.3
63000	105.3	106.2	106.8	107.2	107.3	106.9	104.2	101.0	95.7
80000	105.7	106.2	106.9	107.6	107.6	106.4	103.4	100.6	95.6
TSPL	116.2	116.0	115.6	115.7	115.7	114.7	112.9	111.4	110.7
SSPL	116.2	115.9	115.6	115.7	115.7	114.7	112.5	110.9	107.9

V_∞ =	339	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3517 3517

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	118.0	117.2	116.2	115.6	114.9	113.3	110.9	109.6	110.5
SSPL	118.0	117.1	116.1	115.6	114.9	113.3	110.5	109.1	107.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	118.5	117.3	115.9	115.0	113.9	111.9	109.1	107.7	108.3
SSPL	118.5	117.3	115.9	114.9	113.8	111.9	108.8	107.1	105.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3517 3517

DBTF JET NOISE TEST COANNULAR NOZ. HI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.2	87.2	90.6	91.4	89.9	87.5	91.2	91.4	91.7
125	86.9	87.2	89.4	89.0	87.9	78.5	90.3	94.5	91.2
160	84.2	85.5	85.0	85.6	86.7	77.5	83.6	88.6	91.4
200	85.6	86.1	84.0	85.3	85.5	77.7	83.2	88.0	90.7
250	85.0	84.8	82.7	84.2	84.3	79.3	82.5	86.5	90.6
315	84.3	84.0	78.1	83.0	83.9	79.5	81.8	85.1	89.4
400	76.4	82.4	76.8	77.9	83.2	78.8	81.3	85.0	89.5
500	76.7	82.8	79.0	78.0	82.7	80.5	81.8	85.6	90.3
630	83.0	76.3	82.3	82.0	83.5	82.3	83.8	86.8	90.5
800	86.1	81.9	82.8	82.8	81.1	83.6	84.6	87.2	91.2
1000	85.2	84.0	85.0	85.1	84.3	85.0	85.6	87.9	91.2
1250	85.8	85.7	86.0	86.8	85.8	86.2	87.1	89.3	91.6
1600	87.9	87.4	87.8	88.8	88.8	88.2	88.3	89.7	91.5
2000	90.9	89.9	90.0	90.5	90.2	89.9	89.7	90.8	92.2
2500	92.2	91.0	90.6	91.3	91.1	90.5	90.6	91.8	92.6
3150	93.5	92.9	92.6	92.6	92.1	91.5	91.6	92.4	92.5
4000	95.0	93.7	93.1	93.4	93.2	93.1	93.2	93.6	93.1
5000	96.2	95.1	93.9	94.4	94.4	94.2	94.5	94.5	93.4
6300	96.1	95.1	94.6	94.9	95.1	94.6	94.7	94.5	93.4
8000	97.7	95.6	95.1	95.3	96.0	95.5	95.4	95.2	94.1
10000	99.4	97.0	95.7	95.7	96.2	95.4	95.2	95.2	94.3
12500	106.3	102.0	98.6	97.7	97.2	96.4	95.5	95.0	94.5
16000	111.2	107.2	102.5	99.5	98.3	97.3	95.3	93.9	93.0
20000	111.2	109.6	105.3	101.1	98.6	97.1	94.7	92.7	91.0
25000	107.8	108.4	108.0	105.5	102.4	98.5	95.5	93.5	91.6
31500	107.8	106.1	105.9	106.6	105.3	101.5	97.7	94.5	91.8
40000	108.5	107.1	105.6	105.4	105.7	104.2	100.2	96.5	93.4
50000	107.8	107.0	106.5	106.2	105.5	104.9	102.1	98.8	95.3
63000	107.7	107.4	106.9	106.2	105.3	104.3	101.6	99.1	96.6
80000	108.1	107.5	107.1	106.6	105.6	103.9	100.9	98.4	96.2
TSPL	118.6	117.1	115.6	114.7	113.8	112.2	109.8	108.4	107.5
SSPL	118.5	117.0	115.6	114.7	113.7	112.2	109.7	108.0	106.8

V_∞ =	339	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.88	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=339 TFST DATE 05/14/76 SCALE RATIO 0.0/1 RUN NUMBER 3517 CONDITION 3517

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	25.9	68.2	N	115.3	303.3
TEMP	(R)	679.5	713.0	(K)	377.5	396.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.078	KG/M3	1.060	1.242	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	959.7	1557.0	M/S	292.5	474.6	W (MODEL)	LB/S	0.9	1.4	KG/S	0.4	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	87.2	90.6	91.4	89.9	87.5	91.2	91.4	91.7	108.5
.125	86.9	87.2	89.4	89.0	87.9	78.5	90.3	94.5	91.2	107.7
.160	84.2	85.5	85.0	85.6	86.7	77.5	83.6	88.6	91.4	104.1
.200	85.6	86.1	84.0	85.3	85.5	77.7	83.2	88.0	90.7	103.7
.250	85.0	84.8	82.7	84.2	84.3	79.3	82.5	86.5	90.6	102.8
.315	84.3	84.0	78.1	83.0	83.9	79.5	81.8	85.1	89.4	101.7
.400	76.4	82.4	76.8	77.9	83.2	78.8	81.3	85.0	89.5	100.3
.500	76.7	82.8	79.0	78.0	82.7	80.5	81.8	85.6	90.3	100.9
.630	83.0	76.3	82.3	82.0	83.5	82.3	83.8	86.8	90.5	102.0
.800	86.1	81.9	82.8	82.8	81.1	83.6	84.6	87.2	91.2	102.8
1.00	85.2	84.0	85.0	85.1	84.3	85.0	85.6	87.9	91.2	104.0
1.25	85.8	85.7	86.0	86.8	85.8	86.2	87.1	89.3	91.6	105.3
1.60	87.9	87.4	87.8	88.8	88.8	88.2	88.3	89.7	91.5	106.9
2.00	90.9	89.9	90.0	90.5	90.2	89.9	89.7	90.8	92.2	108.6
2.50	92.2	91.0	90.6	91.3	91.1	90.5	90.6	91.8	92.6	109.5
3.15	93.5	92.9	92.6	92.6	92.1	91.5	91.6	92.4	92.5	110.7
4.00	95.0	93.7	93.1	93.4	93.2	93.1	93.2	93.6	93.1	111.8
5.00	96.2	95.1	93.9	94.4	94.4	94.2	94.5	94.5	93.4	112.9
6.30	96.1	95.1	94.6	94.9	95.1	94.6	94.7	94.5	93.4	113.2
8.00	97.7	95.6	95.1	95.3	96.0	95.5	95.4	95.2	94.1	113.9
10.0	99.4	97.0	95.7	95.7	96.2	95.4	95.2	95.2	94.3	114.5
12.5	106.3	102.0	98.6	97.7	97.2	96.4	95.5	95.0	94.5	117.9
16.0	111.2	107.2	102.5	99.5	98.3	97.3	95.3	93.9	93.0	121.8
20.0	111.2	109.6	105.3	101.1	98.6	97.1	94.7	92.7	91.0	123.2
25.0	107.8	108.4	108.0	105.5	102.4	98.5	95.5	93.5	91.6	123.4
31.5	107.8	106.1	105.9	106.6	105.3	101.5	97.7	94.5	91.8	123.0
40.0	108.5	107.1	105.6	105.4	105.7	104.2	100.2	96.5	93.4	123.4
50.0	107.8	107.0	106.5	106.2	105.5	104.9	102.1	98.8	95.3	123.7
63.0	107.7	107.4	106.9	106.2	105.3	104.3	101.6	99.1	96.6	123.8
80.0	108.1	107.5	107.1	106.6	105.6	103.9	100.9	98.4	96.2	123.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.6	117.1	115.6	114.7	113.8	112.2	109.8	108.4	107.5	OAPWL = 132.9

V_∞ =	339	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3518 3518

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.2	85.3	89.4	92.0	91.5	90.3	96.9	95.6	102.9
125	83.6	84.9	88.1	89.1	88.9	89.5	99.0	94.7	98.1
160	81.4	83.2	83.8	85.6	87.9	88.9	90.1	94.6	99.5
200	82.6	84.3	83.1	85.1	86.8	71.0	88.7	94.4	96.9
250	81.5	82.6	81.4	83.6	85.0	77.6	86.4	93.5	97.4
315	80.2	81.7	81.5	81.3	83.9	78.3	85.4	92.1	98.0
400	79.0	79.4	68.1	82.1	83.5	78.4	84.2	91.7	98.0
500	70.2	80.3	76.9	73.3	82.9	80.0	83.6	91.4	93.4
630	78.3	81.6	79.5	79.3	83.1	82.0	84.6	90.9	92.2
800	81.1	77.1	79.2	80.4	83.7	83.3	85.3	90.8	92.5
1000	83.2	80.3	81.9	82.9	81.4	84.7	85.7	90.7	91.0
1250	81.3	81.7	83.4	85.4	84.9	86.4	87.6	91.2	90.7
1600	86.5	87.9	87.2	87.8	87.9	88.1	88.5	90.8	90.2
2000	87.7	87.4	88.0	89.5	90.0	90.0	89.6	91.9	90.0
2500	89.2	89.4	89.9	91.3	91.9	91.4	91.1	92.5	89.4
3150	90.4	90.7	91.2	92.1	92.3	92.0	91.7	92.8	89.3
4000	91.8	91.9	92.1	93.2	93.6	93.5	92.9	93.7	89.4
5000	93.1	93.3	93.0	94.3	94.7	94.2	94.0	93.6	89.5
6300	92.7	92.8	93.3	94.3	95.0	94.9	94.3	93.2	89.7
8000	93.1	92.4	92.9	94.4	95.6	95.7	94.5	93.7	89.3
10000	92.2	92.0	92.0	93.6	95.2	95.2	94.0	92.8	88.3
12500	92.5	92.3	92.3	94.0	95.1	95.8	94.1	92.0	87.9
16000	95.2	94.5	93.5	94.4	95.9	96.4	94.7	92.1	88.0
20000	100.6	98.8	95.9	95.4	96.3	95.9	94.3	92.0	88.1
25000	104.0	103.8	101.0	98.6	97.2	95.5	93.8	92.3	88.2
31500	103.4	104.5	104.5	103.0	100.1	96.6	93.9	91.4	87.3
40000	102.0	103.3	104.5	105.1	103.4	99.3	95.4	92.0	87.8
50000	101.4	101.9	103.1	105.1	104.6	102.3	98.1	94.3	89.1
63000	101.6	102.9	103.7	104.5	105.2	104.1	100.5	97.3	91.9
80000	101.9	102.9	104.0	105.0	105.2	104.6	102.1	99.2	94.2
TSPL	111.4	111.9	112.1	112.6	112.3	110.9	109.3	108.3	109.2
SSPL	111.3	111.8	112.0	112.5	112.2	110.8	108.4	107.0	103.9

V_∞ =	338	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.89	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	113.2	113.1	112.6	112.5	111.5	109.5	107.3	106.5	108.9
SSPL	113.2	113.0	112.6	112.4	111.4	109.4	106.4	105.2	103.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	113.7	113.2	112.4	111.8	110.4	108.1	105.5	104.5	106.7
SSPL	113.7	113.2	112.3	111.7	110.3	108.0	104.7	103.2	101.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3518 3518

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	89.6	86.7	90.3	91.2	89.5	87.3	91.7	92.5	92.8
125	86.0	86.5	88.6	88.1	87.0	86.3	93.2	93.9	91.3
160	83.8	84.5	84.2	85.0	86.0	86.1	86.0	87.8	91.8
200	85.0	85.4	83.3	84.6	84.6	68.6	79.6	88.4	91.3
250	83.9	83.7	81.7	83.0	82.9	75.0	79.8	85.8	90.7
315	82.6	82.9	81.4	80.7	81.9	75.7	79.3	84.4	89.6
400	81.4	79.3	69.5	82.7	81.5	75.8	78.4	83.3	89.3
500	72.6	81.8	75.9	73.3	81.1	77.3	78.5	83.0	88.4
630	80.7	82.8	79.2	78.8	81.2	79.3	79.9	83.4	87.8
800	83.5	78.2	79.6	79.9	81.8	80.5	80.9	83.7	87.7
1000	85.6	81.5	82.3	81.7	79.5	81.7	81.6	83.8	87.4
1250	83.7	83.1	83.9	84.5	83.0	83.5	83.5	85.3	87.8
1600	88.9	89.1	87.2	86.8	85.9	85.3	84.7	85.6	87.2
2000	90.0	88.6	88.3	88.6	88.1	87.3	86.0	86.7	88.1
2500	91.6	90.6	90.2	90.5	90.0	88.7	87.6	88.0	88.6
3150	92.8	91.9	91.4	91.2	90.3	89.3	88.2	88.4	88.8
4000	94.2	93.1	92.3	92.3	91.7	90.8	89.5	89.6	89.6
5000	95.4	94.4	93.2	93.4	92.7	91.5	90.6	90.2	89.5
6300	95.1	94.0	93.5	93.4	93.1	92.2	91.0	90.1	89.1
8000	95.4	93.5	93.2	93.7	93.7	93.0	91.4	90.5	89.5
10000	94.6	93.2	92.3	93.0	93.3	92.5	90.9	89.8	88.6
12500	94.9	93.4	92.6	93.3	93.2	93.2	91.2	89.4	87.8
16000	97.5	95.5	93.5	93.6	94.0	93.7	91.8	89.9	87.9
20000	103.0	99.5	95.5	94.4	94.4	93.3	91.4	89.6	87.8
25000	106.3	104.6	100.3	97.1	95.2	92.9	90.8	89.5	88.1
31500	105.8	105.7	104.2	101.4	98.0	94.3	91.1	89.0	87.1
40000	104.4	104.7	104.8	104.0	101.4	97.1	93.1	90.1	87.7
50000	103.8	103.2	103.6	104.2	102.6	100.0	95.9	92.7	89.9
63000	104.0	104.2	103.9	103.6	103.3	101.6	98.2	95.4	92.9
80000	104.2	104.2	104.3	104.1	103.3	102.1	99.4	97.1	94.8
TSPL	113.7	113.1	112.2	111.6	110.3	108.4	106.1	104.9	104.5
SSPL	113.7	113.0	112.1	111.5	110.2	108.3	105.6	103.9	102.9

V_∞ =	338	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.89	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=338 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3518 CONDITION 3518

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	26.7	47.8	N	119.0	212.8
TEMP	(R)	680.0	721.0	(K)	377.8	400.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.072	KG/M3	1.061	1.147	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	967.5	1413.0	M/S	294.9	430.7	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.6	86.7	90.3	91.2	89.5	87.3	91.7	92.5	92.8	108.6
.125	86.0	86.5	88.6	88.1	87.0	86.3	93.2	93.9	91.3	107.9
.160	83.8	84.5	84.2	85.0	86.0	86.1	86.0	87.8	91.8	104.4
.200	85.0	85.4	83.3	84.6	84.6	68.6	79.6	88.4	91.3	103.2
.250	83.9	83.7	81.7	83.0	82.9	75.0	79.8	85.8	90.7	101.8
.315	82.6	82.9	81.4	80.7	81.9	75.7	79.3	84.4	89.6	100.7
.400	81.4	79.3	69.5	82.7	81.5	75.8	78.4	83.3	89.3	99.6
.500	72.6	81.8	75.9	73.3	81.1	77.3	78.5	83.0	88.4	98.7
.630	80.7	82.8	79.2	78.8	81.2	79.3	79.9	83.4	87.8	99.8
.800	83.5	78.2	79.6	79.9	81.8	80.5	80.9	83.7	87.7	99.9
1.00	85.6	81.5	82.3	81.7	79.5	81.7	81.6	83.8	87.4	100.9
1.25	83.7	83.1	83.9	84.5	83.0	83.5	83.5	85.3	87.8	102.4
1.60	88.9	89.1	87.2	86.8	85.9	85.3	84.7	85.6	87.2	105.2
2.00	90.0	88.6	88.3	88.6	88.1	87.3	86.0	86.7	88.1	106.4
2.50	91.6	90.6	90.2	90.5	90.0	88.7	87.6	88.0	88.6	108.1
3.15	92.8	91.9	91.4	91.2	90.3	89.3	88.2	88.4	88.8	108.9
4.00	94.2	93.1	92.3	92.3	91.7	90.8	89.5	89.6	89.6	110.1
5.00	95.4	94.4	93.2	93.4	92.7	91.5	90.6	90.2	89.5	111.2
6.30	95.1	94.0	93.5	93.4	93.1	92.2	91.0	90.1	89.1	111.2
8.00	95.4	93.5	93.2	93.7	93.7	93.0	91.4	90.5	89.5	111.4
10.0	94.6	93.2	92.3	93.0	93.3	92.5	90.9	89.8	88.6	110.8
12.5	94.9	93.4	92.6	93.3	93.2	93.2	91.2	89.4	87.8	111.1
16.0	97.5	95.5	93.5	93.6	94.0	93.7	91.8	89.9	87.9	112.2
20.0	103.0	99.5	95.5	94.4	94.4	93.3	91.4	89.6	87.8	114.8
25.0	106.3	104.6	100.3	97.1	95.2	92.9	90.8	89.5	88.1	118.4
31.5	105.8	105.7	104.2	101.4	98.0	94.3	91.1	89.0	87.1	120.1
40.0	104.4	104.7	104.8	104.0	101.4	97.1	93.1	90.1	87.7	120.6
50.0	103.8	103.2	103.6	104.2	102.6	100.0	95.9	92.7	89.9	120.3
63.0	104.0	104.2	103.9	103.6	103.3	101.6	98.2	95.4	92.9	120.9
80.0	104.2	104.2	104.3	104.1	103.3	102.1	99.4	97.1	94.8	121.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.7	113.1	112.2	111.6	110.3	108.4	106.1	104.9	104.5	OAPWL = 129.1

V_∞ =	338	fps
T_a =	62	°F
RH_a =	59	%
P_a =	13.89	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/14/76 -00 000000 XARF 0 3519 3519

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.0	87.1	89.5	91.7	91.6	89.9	99.6	96.4	102.4
125	84.6	86.6	88.2	88.9	88.9	89.5	101.6	95.6	98.8
160	81.8	84.6	83.9	85.1	87.6	88.8	94.4	95.9	99.6
200	83.0	85.0	82.9	84.6	86.5	87.0	92.2	95.2	97.1
250	82.0	83.3	80.9	83.4	84.7	75.0	90.3	93.9	97.6
315	80.0	81.9	80.8	80.6	83.7	73.6	88.9	92.0	98.4
400	78.0	79.4	78.4	80.5	82.4	75.7	88.0	91.1	98.3
500	78.1	80.3	70.2	80.0	81.8	76.3	86.7	90.6	92.9
630	75.3	80.7	76.2	74.1	81.5	78.8	86.4	89.8	89.7
800	79.3	74.6	76.9	77.3	82.0	79.9	85.1	88.6	88.8
1000	82.1	78.9	80.0	79.3	82.7	80.9	84.9	87.4	86.7
1250	80.9	81.2	81.0	82.2	77.8	82.7	84.6	86.8	85.7
1600	81.2	82.5	84.6	86.0	85.2	85.2	85.3	86.4	85.2
2000	86.7	86.5	87.5	87.9	87.8	86.9	85.7	86.7	84.6
2500	88.1	87.7	87.8	88.7	89.2	88.8	87.8	88.0	84.8
3150	89.4	88.7	89.0	90.1	89.6	88.4	87.7	88.3	85.0
4000	89.8	89.6	89.6	90.5	91.2	89.7	87.9	88.4	85.0
5000	89.7	90.1	89.7	90.8	90.8	90.0	88.1	87.5	84.0
6300	88.4	88.6	89.2	89.9	90.0	89.0	87.6	86.5	83.4
8000	87.7	87.3	87.6	88.7	89.7	89.1	87.1	86.3	82.1
10000	85.6	85.7	85.8	86.9	88.4	88.2	86.0	84.3	79.8
12500	84.5	85.1	85.5	87.0	88.2	88.1	86.3	83.3	79.2
16000	84.3	85.2	85.8	87.3	88.5	88.4	86.5	83.4	78.6
20000	82.8	83.2	83.8	85.8	87.6	87.3	85.7	82.8	77.8
25000	82.9	84.0	84.7	85.9	87.5	86.7	85.1	82.7	77.4
31500	82.7	83.8	84.7	85.6	87.0	86.1	84.2	81.2	77.6
40000	82.4	83.4	84.7	85.9	86.6	86.0	83.7	80.6	77.1
50000	81.7	83.1	84.6	86.3	86.3	86.0	84.2	80.7	77.6
63000	81.6	83.3	85.0	86.2	86.7	86.4	84.2	81.7	79.6
80000	81.2	83.4	85.1	86.7	86.7	87.0	85.4	83.1	80.5
TSPL	99.7	100.1	100.5	101.7	102.4	101.7	106.0	104.9	108.2
SSPL	98.9	99.1	99.5	100.6	101.2	100.6	99.7	100.0	98.7

V_∞ =	338	fps
T_a =	61	°F
RH_a =	60	%
P_a =	13 89	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3519 3519

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	101.6	101.3	101.1	101.6	101.6	100.2	104.0	103.1	108.0
SSPL	100.8	100.3	100.1	100.5	100.4	99.2	97.8	98.2	98.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	102.1	101.4	100.8	100.9	100.5	98.8	102.3	101.1	105.7
SSPL	101.3	100.5	99.8	99.8	99.4	97.8	96.0	96.2	96.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3519 3519

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.4	88.4	90.1	90.9	89.6	86.8	93.7	94.8	93.3
125	87.0	88.1	88.5	87.9	87.0	86.1	95.3	96.1	92.1
160	84.2	85.9	84.0	84.5	85.8	85.7	89.3	91.3	92.9
200	85.4	86.1	83.0	84.0	84.6	84.0	87.1	89.8	92.0
250	84.4	84.3	81.1	82.9	82.6	72.3	82.1	88.9	90.9
315	82.4	83.1	80.6	80.1	81.6	70.9	80.7	87.1	89.3
400	80.4	80.5	78.7	80.0	80.4	72.9	80.7	85.9	88.6
500	80.5	80.5	71.0	80.2	79.8	73.5	80.0	85.1	87.5
630	77.7	81.8	75.3	73.9	79.7	75.9	80.6	84.5	86.3
800	81.6	75.7	77.1	77.0	80.1	77.1	79.9	83.1	85.2
1000	84.5	79.9	79.9	78.7	80.8	78.1	80.1	82.4	83.8
1250	83.2	82.3	81.2	80.6	75.9	79.5	80.5	81.8	83.2
1600	83.6	84.0	85.0	85.0	83.2	82.4	81.6	81.9	82.7
2000	89.1	87.8	87.6	86.9	85.9	84.3	82.4	82.3	82.9
2500	90.5	88.8	87.9	87.8	87.2	86.1	84.5	84.1	84.1
3150	91.7	89.8	89.3	89.1	87.6	85.8	84.3	84.2	84.3
4000	92.2	90.7	89.7	89.6	89.2	87.2	84.8	84.3	84.4
5000	92.1	91.3	89.8	89.8	88.8	87.5	85.2	84.0	83.4
6300	90.8	89.8	89.3	88.9	88.1	86.4	84.5	83.3	82.4
8000	90.1	88.4	87.9	87.9	87.8	86.6	84.1	82.9	82.1
10000	87.9	86.8	86.0	86.2	86.5	85.6	83.2	81.6	80.1
12500	86.9	86.3	85.8	86.2	86.3	85.5	83.4	81.3	79.1
16000	86.7	86.4	86.1	86.6	86.6	85.8	83.7	81.5	79.0
20000	85.2	84.5	84.2	85.2	85.7	84.7	82.8	80.8	78.4
25000	85.3	85.3	85.0	85.2	85.6	84.1	82.2	80.5	78.4
31500	85.1	85.1	84.9	84.8	85.0	83.6	81.4	79.1	77.0
40000	84.8	84.8	85.0	85.0	84.6	83.4	81.0	78.6	76.4
50000	84.1	84.5	85.1	85.4	84.4	83.4	81.4	78.9	76.6
63000	83.9	84.7	85.3	85.3	84.8	83.9	81.5	79.2	77.7
80000	83.6	84.9	85.5	85.8	84.8	84.3	82.5	80.6	79.1
TSPL	102.1	101.3	100.8	100.9	100.4	99.0	100.7	101.8	101.5
SSPL	101.3	100.3	99.8	99.8	99.3	98.0	96.3	96.0	96.2

V_∞ =	338	fps
T_a =	61	°F
RH_a =	60	%
P_a =	13 89	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=338 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3519 CONDITION 3519

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	26.0	27.7	N	115.5	123.2
TEMP	(R)	679.0	723.7	(K)	377.2	402.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.065	KG/M3	1.061	1.042	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	961.2	1158.0	M/S	293.0	353.0	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.4	88.4	90.1	90.9	89.6	86.8	93.7	94.8	93.3	109.4
.125	87.0	88.1	88.5	87.9	87.0	86.1	95.3	96.1	92.1	109.3
.160	84.2	85.9	84.0	84.5	85.8	85.7	89.3	91.3	92.9	105.6
.200	85.4	86.1	83.0	84.0	84.6	84.0	87.1	89.8	92.0	104.6
.250	84.4	84.3	81.1	82.9	82.6	72.3	82.1	88.9	90.9	102.6
.315	82.4	83.1	80.6	80.1	81.6	70.9	80.7	87.1	89.3	101.0
.400	80.4	80.5	78.7	80.0	80.4	72.9	80.7	85.9	88.6	99.8
.500	80.5	80.5	71.0	80.2	79.8	73.5	80.0	85.1	87.5	99.1
.630	77.7	81.8	75.3	73.9	79.7	75.9	80.6	84.5	86.3	98.6
.800	81.6	75.7	77.1	77.0	80.1	77.1	79.9	83.1	85.2	98.0
1.00	84.5	79.9	79.9	78.7	80.8	78.1	80.1	82.4	83.8	99.1
1.25	83.2	82.3	81.2	80.6	75.9	79.5	80.5	81.8	83.2	99.3
1.60	83.6	84.0	85.0	85.0	83.2	82.4	81.6	81.9	82.7	101.9
2.00	89.1	87.8	87.6	86.9	85.9	84.3	82.4	82.3	82.9	104.6
2.50	90.5	88.8	87.9	87.8	87.2	86.1	84.5	84.1	84.1	105.7
3.15	91.7	89.8	89.3	89.1	87.6	85.8	84.3	84.2	84.3	106.5
4.00	92.2	90.7	89.7	89.6	89.2	87.2	84.8	84.3	84.4	107.3
5.00	92.1	91.3	89.8	89.8	88.8	87.5	85.2	84.0	83.4	107.4
6.30	90.8	89.8	89.3	88.9	88.1	86.4	84.5	83.3	82.4	106.4
8.00	90.1	88.4	87.9	87.9	87.8	86.6	84.1	82.9	82.1	105.6
10.0	87.9	86.8	86.0	86.2	86.5	85.6	83.2	81.6	80.1	104.0
12.5	86.9	86.3	85.8	86.2	86.3	85.5	83.4	81.3	79.1	103.7
16.0	86.7	86.4	86.1	86.6	86.6	85.8	83.7	81.5	79.0	104.0
20.0	85.2	84.5	84.2	85.2	85.7	84.7	82.8	80.8	78.4	102.6
25.0	85.3	85.3	85.0	85.2	85.6	84.1	82.2	80.5	78.4	102.7
31.5	85.1	85.1	84.9	84.8	85.0	83.6	81.4	79.1	77.0	102.3
40.0	84.8	84.8	85.0	85.0	84.6	83.4	81.0	78.6	76.4	102.2
50.0	84.1	84.5	85.1	85.4	84.4	83.4	81.4	78.9	76.6	102.1
63.0	83.9	84.7	85.3	85.3	84.8	83.9	81.5	79.2	77.7	102.3
80.0	83.6	84.9	85.5	85.8	84.8	84.3	82.5	80.6	79.1	102.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	102.1	101.3	100.8	100.9	100.4	99.0	100.7	101.8	101.6	

OAPWL = 119.2

V_∞ =	338	fps
T_a =	61	°F
RH_a =	60	%
P_a =	13 89	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3520	3520

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.4	86.7	89.9	92.1	91.8	89.7	96.7	95.8	102.4
125	85.2	85.8	88.5	89.0	89.0	89.3	99.6	94.7	98.1
160	83.1	84.1	83.9	85.1	87.5	88.7	89.8	95.0	99.5
200	84.0	85.1	83.4	85.1	86.6	86.9	88.4	94.2	97.0
250	82.1	82.8	81.0	83.2	84.7	73.7	85.7	93.2	98.5
315	80.6	81.6	80.6	80.5	83.7	73.6	79.8	91.5	99.4
400	78.9	78.3	78.2	80.1	82.4	73.5	79.7	90.6	99.3
500	65.2	79.2	68.4	79.5	81.4	74.4	79.6	89.9	93.2
630	75.6	79.8	74.6	66.2	80.8	76.5	80.2	88.8	88.0
800	78.9	66.7	75.8	75.2	80.9	77.7	77.6	87.4	87.2
1000	82.9	79.8	80.0	78.8	81.8	79.0	77.7	85.7	84.0
1250	81.2	81.0	80.3	81.1	82.8	80.8	79.5	84.7	83.5
1600	80.2	80.4	82.8	84.6	83.8	83.9	80.9	83.9	82.9
2000	84.3	85.2	86.2	86.9	86.6	85.4	82.8	84.5	82.7
2500	86.4	86.5	85.8	86.8	87.1	86.7	84.3	85.6	82.7
3150	87.9	87.2	87.0	88.0	87.7	86.1	83.9	85.6	83.0
4000	87.3	87.0	87.0	88.0	88.6	87.4	83.6	85.1	81.7
5000	86.3	86.4	86.2	87.6	87.5	86.7	83.4	84.3	81.0
6300	84.4	84.5	85.0	85.9	86.1	84.8	81.8	82.4	79.5
8000	83.4	83.0	83.5	84.9	85.7	85.3	81.8	81.5	77.4
10000	81.5	81.5	81.9	83.1	84.7	84.2	81.2	80.1	75.6
12500	80.9	81.4	82.1	83.2	84.2	84.2	81.4	79.5	75.2
16000	80.9	82.0	82.9	84.1	84.8	84.1	81.7	79.1	74.8
20000	80.4	80.9	81.2	82.8	84.3	83.0	79.8	78.2	73.8
25000	80.4	81.7	82.2	82.9	84.2	82.8	79.6	78.1	73.7
31500	80.1	81.2	82.0	82.8	83.9	82.4	79.7	76.8	74.5
40000	79.9	81.2	82.1	83.2	83.5	82.7	79.6	77.3	75.0
50000	78.9	80.8	82.1	83.5	83.1	82.6	80.4	77.6	75.5
63000	78.0	80.4	81.9	83.3	82.9	83.0	80.4	78.8	78.3
80000	75.9	80.2	81.7	83.4	82.3	83.5	81.7	80.2	79.3
TSPL	97.4	98.0	98.6	99.9	100.4	99.4	102.8	103.6	108.3
SSPL	96.3	96.6	96.8	98.0	98.5	97.5	95.0	97.7	97.2

V_∞ =	339	fps
T_a =	61	°F
RH_a =	60	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3520	3520

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	99.2	99.2	99.2	99.8	99.6	98.0	100.9	101.8	108.0
SSPL	98.2	97.8	97.4	97.8	97.6	96.0	93.0	95.9	97.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	99.7	99.4	98.9	99.1	98.6	96.6	99.1	99.8	105.8
SSPL	98.7	97.9	97.1	97.2	96.6	94.6	91.2	93.9	94.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3520 3520

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	74.7	89.2	90.6	91.2	89.8	86.8	91.3	92.6	93.0
125	87.6	87.3	88.8	88.0	87.1	86.1	93.7	94.4	91.3
160	85.5	85.3	84.1	84.5	85.6	85.8	85.7	87.7	92.2
200	86.4	86.1	83.5	84.4	84.7	84.1	84.1	86.8	91.2
250	84.5	83.8	81.2	82.7	82.6	71.3	78.1	85.5	90.6
315	83.0	82.7	80.5	80.0	81.6	71.3	73.5	80.6	89.5
400	81.3	79.4	78.5	79.6	80.3	71.1	73.5	80.1	88.6
500	67.6	80.1	69.3	79.9	79.4	71.9	73.7	80.0	87.2
630	78.0	80.7	72.5	66.4	79.1	74.0	75.0	80.2	85.5
800	81.3	68.0	76.5	74.9	79.0	75.2	73.4	77.7	84.2
1000	85.3	80.8	79.7	78.1	79.9	76.6	73.9	77.1	82.3
1250	83.5	82.1	80.4	80.4	80.9	78.3	75.9	77.6	81.2
1600	82.6	81.8	83.3	83.6	81.8	81.3	78.0	78.0	80.3
2000	86.6	86.5	86.4	85.9	84.7	82.9	79.9	79.5	80.8
2500	88.7	87.5	85.9	85.9	85.2	84.1	81.3	80.9	81.7
3150	90.3	88.3	87.2	87.1	85.8	83.7	80.8	80.6	81.7
4000	89.6	88.1	87.2	87.1	86.6	85.0	81.0	80.2	81.2
5000	88.7	87.5	86.4	86.7	85.5	84.2	80.7	79.8	80.3
6300	86.8	85.7	85.2	85.0	84.2	82.3	79.0	78.1	78.5
8000	85.8	84.2	83.8	84.1	83.8	82.8	79.2	77.7	77.4
10000	83.8	82.7	82.1	82.4	82.8	81.7	78.5	76.9	75.9
12500	83.3	82.6	82.3	82.4	82.3	81.6	78.8	76.8	75.2
16000	83.2	83.3	83.1	83.3	82.8	81.5	79.0	76.9	74.8
20000	82.8	82.1	81.5	82.1	82.4	80.5	77.2	75.2	74.0
25000	82.8	83.0	82.4	82.2	82.2	80.4	77.1	75.1	73.8
31500	82.5	82.5	82.2	82.0	82.0	79.9	77.1	74.5	72.8
40000	82.3	82.6	82.4	82.3	81.6	80.2	77.1	74.7	73.3
50000	81.3	82.2	82.5	82.6	81.2	80.0	77.6	75.3	73.6
63000	80.4	81.9	82.3	82.3	81.0	80.4	77.7	75.6	75.0
80000	78.3	81.8	82.1	82.3	80.3	80.8	78.8	77.0	76.4
TSPL	99.8	99.3	98.9	99.0	98.5	96.7	97.8	98.9	100.7
SSPL	98.7	97.8	97.1	97.1	96.5	95.0	92.0	91.7	94.2

V_∞ =	339	fps
T_a =	61	°F
RH_a =	60	%
P_a =	1388	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3520 CONDITION 3520

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	1.53		1.51	1.53	THRUST,IDL	LB	26.3	18.9	N	116.9	84.1
TEMP	(R)	676.7	725.7	(K)	375.9	403.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.062	KG/M3	1.063	0.994	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	950.9	998.3	M/S	289.8	304.3	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.7	89.2	90.6	91.2	89.8	86.8	91.3	92.6	93.0	108.5
.125	87.6	87.3	88.8	88.0	87.1	86.1	93.7	94.4	91.3	108.3
.160	85.5	85.3	84.1	84.5	85.6	85.8	85.7	87.7	92.2	104.4
.200	86.4	86.1	83.5	84.4	84.7	84.1	84.1	86.8	91.2	103.8
.250	84.5	83.8	81.2	82.7	82.6	71.3	78.1	85.5	90.6	101.5
.315	83.0	82.7	80.5	80.0	81.6	71.3	73.5	80.6	89.5	99.7
.400	81.3	79.4	78.5	79.6	80.3	71.1	73.5	80.1	88.6	98.3
.500	67.6	80.1	69.3	79.9	79.4	71.9	73.7	80.0	87.2	97.1
.630	78.0	80.7	72.5	66.4	79.1	74.0	75.0	80.2	85.5	96.5
.800	81.3	68.0	76.5	74.9	79.0	75.2	73.4	77.7	84.2	95.6
1.00	85.3	80.8	79.7	78.1	79.9	76.6	73.9	77.1	82.3	98.1
1.25	83.5	82.1	80.4	80.4	80.9	78.3	75.9	77.6	81.2	98.7
1.60	82.6	81.8	83.3	83.6	81.8	81.3	78.0	78.0	80.3	100.1
2.00	86.6	86.5	86.4	85.9	84.7	82.9	79.9	79.5	80.8	103.1
2.50	88.7	87.5	85.9	85.9	85.2	84.1	81.3	80.9	81.7	103.8
3.15	90.3	88.3	87.2	87.1	85.8	83.7	80.8	80.6	81.7	104.6
4.00	89.6	88.1	87.2	87.1	86.6	85.0	81.0	80.2	81.2	104.7
5.00	88.7	87.5	86.4	86.7	85.5	84.2	80.7	79.8	80.3	104.0
6.30	86.8	85.7	85.2	85.0	84.2	82.3	79.0	78.1	78.5	102.3
8.00	85.8	84.2	83.8	84.1	83.8	82.8	79.2	77.7	77.4	101.5
10.0	83.8	82.7	82.1	82.4	82.8	81.7	78.5	76.9	75.9	100.0
12.5	83.3	82.6	82.3	82.4	82.3	81.6	78.8	76.8	75.2	99.9
16.0	83.2	83.3	83.1	83.3	82.8	81.5	79.0	76.9	74.8	100.4
20.0	82.8	82.1	81.5	82.1	82.4	80.5	77.2	75.2	74.0	99.3
25.0	82.8	83.0	82.4	82.2	82.2	80.4	77.1	75.1	73.8	99.6
31.5	82.5	82.5	82.2	82.0	82.0	79.9	77.1	74.5	72.8	99.3
40.0	82.3	82.6	82.4	82.3	81.6	80.2	77.1	74.7	73.3	99.4
50.0	81.3	82.2	82.5	82.6	81.2	80.0	77.6	75.3	73.6	99.3
63.0	80.4	81.9	82.3	82.3	81.0	80.4	77.7	75.6	75.0	99.1
80.0	78.3	81.8	82.1	82.3	80.3	80.8	78.8	77.0	76.4	99.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.8	99.3	98.9	99.0	98.5	96.7	97.8	98.9	100.7	OAPWL = 117.1

V_∞ =	339	fps
T_a =	61	°F
RH_a =	60	%
P_a =	13 88	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3521 3521

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.3	86.2	89.7	92.1	91.5	89.8	97.8	96.0	103.1
125	84.8	85.6	88.6	88.8	88.6	89.4	100.4	95.8	98.8
160	82.5	83.5	83.8	85.1	87.3	88.6	90.7	95.3	100.3
200	83.3	84.4	83.1	84.8	86.6	87.1	87.1	94.8	98.1
250	82.2	82.9	81.4	83.4	84.4	76.9	86.7	93.3	98.9
315	80.2	81.1	80.6	80.3	83.4	73.6	86.0	91.8	99.9
400	78.2	77.3	77.7	79.9	82.1	71.2	82.1	91.1	99.8
500	77.9	78.2	78.2	79.1	81.0	72.2	80.1	90.0	93.6
630	72.0	78.5	70.6	79.1	80.3	75.2	80.6	88.7	88.8
800	76.9	79.3	73.9	73.4	80.1	75.7	78.1	87.0	87.8
1000	81.7	77.6	78.7	77.6	81.2	77.3	77.3	85.5	84.5
1250	79.6	79.1	78.3	79.1	81.5	78.7	76.5	84.3	83.2
1600	79.1	77.8	79.6	81.3	79.5	81.8	78.1	82.8	82.3
2000	81.2	82.0	83.9	85.2	84.6	83.7	79.5	83.3	82.1
2500	83.9	84.4	84.2	84.5	84.0	84.2	81.2	83.4	81.8
3150	84.0	84.2	83.9	84.8	84.8	83.6	79.1	82.8	81.2
4000	83.6	82.2	82.6	84.1	84.1	83.3	76.6	82.4	79.9
5000	80.6	80.4	80.8	82.0	81.8	81.5	81.8	80.3	77.5
6300	79.1	79.2	80.1	81.3	81.6	80.1	70.9	78.8	75.9
8000	78.6	78.5	79.7	81.2	82.4	81.6	76.1	78.7	74.4
10000	78.9	79.7	80.5	82.0	83.8	83.2	80.2	80.5	75.6
12500	77.6	78.1	78.9	80.1	80.7	81.2	76.3	76.9	74.3
16000	78.5	79.9	80.9	82.1	82.2	80.1	72.8	76.0	73.4
20000	78.6	79.1	79.5	80.8	82.4	80.5	73.6	74.8	73.3
25000	79.3	80.4	81.3	81.9	82.3	80.7	76.6	76.5	73.3
31500	79.4	80.2	80.8	81.3	82.2	80.5	77.0	75.3	74.7
40000	78.8	79.9	81.0	81.9	81.7	80.8	77.6	76.2	75.0
50000	78.0	79.7	81.1	82.5	81.4	80.7	77.7	76.2	75.3
63000	76.2	78.9	80.1	81.6	80.5	81.0	78.9	79.1	78.1
80000	70.9	78.7	79.8	81.6	78.2	81.4	79.8	79.6	78.9
TSPL	95.9	96.1	97.1	98.4	98.8	97.9	103.3	103.8	108.9
SSPL	93.4	93.9	94.3	95.4	95.8	94.7	92.0	96.7	97.3

V_∞ =	339	fps
T_a =	61	°F
RH_a =	61	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF 0	3521	3521

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.8	97.3	97.6	98.3	98.0	96.4	101.3	102.0	108.6
SSPL	95.3	95.1	94.9	95.3	94.9	93.3	90.0	94.9	97.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.3	97.5	97.4	97.6	96.9	95.0	99.5	100.0	106.4
SSPL	95.8	95.2	94.6	94.6	93.9	91.9	88.2	92.9	94.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/14/76 -00 000000 XARF 0 3521 3521

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.7	87.6	90.5	91.2	89.5	86.8	92.2	93.3	93.2
125	87.2	87.1	88.9	87.7	86.7	86.1	94.3	95.4	92.4
160	84.9	84.7	84.0	84.5	85.4	85.7	86.3	88.5	92.5
200	85.7	85.5	83.3	84.2	84.7	84.3	83.1	86.1	92.0
250	84.6	83.9	81.6	82.8	82.3	74.3	79.9	85.9	90.8
315	82.6	82.3	80.5	79.8	81.3	71.0	78.5	84.9	89.5
400	80.6	78.4	78.1	79.5	80.0	68.7	74.7	82.2	89.1
500	80.3	79.4	78.3	78.5	78.9	69.7	73.5	80.7	87.4
630	74.4	79.2	71.4	79.1	78.3	72.6	74.9	80.4	85.5
800	79.3	80.1	73.3	73.3	78.2	73.2	73.2	77.9	83.9
1000	84.1	78.6	78.6	77.0	79.3	74.9	73.1	76.8	82.1
1250	82.0	80.1	78.4	78.5	79.6	76.3	73.0	75.7	80.9
1600	81.4	79.1	80.1	80.1	77.6	79.1	75.3	75.8	79.4
2000	83.6	83.4	84.3	84.2	82.7	81.3	76.8	76.8	79.7
2500	86.3	85.6	84.2	83.4	82.1	81.6	78.3	78.1	79.7
3150	86.4	85.4	84.0	83.9	82.8	81.2	76.5	76.4	79.1
4000	85.9	83.3	82.9	83.2	82.1	81.0	74.4	74.6	78.8
5000	83.0	81.5	81.1	81.0	79.9	78.8	78.3	77.5	76.3
6300	81.4	80.4	80.4	80.4	79.6	78.0	69.3	69.6	75.2
8000	81.0	79.8	80.0	80.5	80.5	79.2	73.9	73.1	74.7
10000	81.3	81.0	80.8	81.4	81.9	80.6	77.4	76.5	76.3
12500	80.0	79.4	79.2	79.3	78.8	78.7	74.0	72.4	73.0
16000	80.8	81.2	81.2	81.2	80.3	77.9	71.0	69.7	72.2
20000	80.9	80.3	79.7	80.1	80.4	78.3	71.8	69.7	71.1
25000	81.6	81.7	81.5	81.0	80.4	78.3	74.2	72.6	72.5
31500	81.8	81.5	80.9	80.4	80.3	78.1	74.5	72.1	71.6
40000	81.1	81.3	81.3	80.9	79.8	78.3	75.0	72.9	72.4
50000	80.3	81.1	81.5	81.4	79.5	78.2	75.0	73.0	72.4
63000	78.6	80.3	80.5	80.6	78.6	78.3	75.9	74.9	75.3
80000	73.2	80.5	80.3	80.2	76.3	78.5	76.8	75.7	75.9
TSPL	98.3	97.4	97.4	97.5	96.8	95.1	97.7	99.3	100.9
SSPL	95.8	95.1	94.6	94.6	93.8	92.3	88.7	89.6	93.4

V_∞ =	339	fps
T_a =	61	°F
RH_a =	61	%
P_a =	13.88	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3521 CONDITION 3521

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	26.8	11.4	N	119.4	50.8
TEMP	(R)	675.0	719.7	(K)	375.0	399.8	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.060	KG/M3	1.068	0.959	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	960.5	799.3	M/S	292.8	243.6	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.7	87.6	90.5	91.2	89.5	86.8	92.2	93.3	93.2	108.9
.125	87.2	87.1	88.9	87.7	86.7	86.1	94.3	95.4	92.4	108.7
.160	84.9	84.7	84.0	84.5	85.4	85.7	86.3	88.5	92.5	104.5
.200	85.7	85.5	83.3	84.2	84.7	84.3	83.1	86.1	92.0	103.6
.250	84.6	83.9	81.6	82.8	82.3	74.3	79.9	85.9	90.8	101.8
.315	82.6	82.3	80.5	79.8	81.3	71.0	78.5	84.9	89.5	100.3
.400	80.6	78.4	78.1	79.5	80.0	68.7	74.7	82.2	89.1	98.5
.500	80.3	79.4	78.3	78.5	78.9	69.7	73.5	80.7	87.4	97.6
.630	74.4	79.2	71.4	79.1	78.3	72.6	74.9	80.4	85.5	96.5
.800	79.3	80.1	73.3	73.3	78.2	73.2	73.2	77.9	83.9	95.8
1.00	84.1	78.6	78.6	77.0	79.3	74.9	73.1	76.8	82.1	97.0
1.25	82.0	80.1	78.4	78.5	79.6	76.3	73.0	75.7	80.9	97.0
1.60	81.4	79.1	80.1	80.1	77.6	79.1	75.3	75.8	79.4	97.3
2.00	83.6	83.4	84.3	84.2	82.7	81.3	76.8	76.8	79.7	100.8
2.50	86.3	85.6	84.2	83.4	82.1	81.6	78.3	78.1	79.7	101.5
3.15	86.4	85.4	84.0	83.9	82.8	81.2	76.5	76.4	79.1	101.4
4.00	85.9	83.3	82.9	83.2	82.1	81.0	74.4	74.6	78.8	100.4
5.00	83.0	81.5	81.1	81.0	79.9	78.8	78.3	77.5	76.3	98.6
6.30	81.4	80.4	80.4	80.4	79.6	78.0	69.3	69.6	75.2	97.3
8.00	81.0	79.8	80.0	80.5	80.5	79.2	73.9	73.1	74.7	97.5
10.0	81.3	81.0	80.8	81.4	81.9	80.6	77.4	76.5	76.3	98.8
12.5	80.0	79.4	79.2	79.3	78.8	78.7	74.0	72.4	73.0	96.6
16.0	80.8	81.2	81.2	81.2	80.3	77.9	71.0	69.7	72.2	97.8
20.0	80.9	80.3	79.7	80.1	80.4	78.3	71.8	69.7	71.1	97.2
25.0	81.6	81.7	81.5	81.0	80.4	78.3	74.2	72.6	72.5	98.2
31.5	81.8	81.5	80.9	80.4	80.3	78.1	74.5	72.1	71.6	97.9
40.0	81.1	81.3	81.3	80.9	79.8	78.3	75.0	72.9	72.4	98.0
50.0	80.3	81.1	81.5	81.4	79.5	78.2	75.0	73.0	72.4	97.9
63.0	78.6	80.3	80.5	80.6	78.6	78.3	75.9	74.9	75.3	97.3
80.0	73.2	80.5	80.3	80.2	76.3	78.5	76.8	75.7	75.9	96.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.3	97.4	97.4	97.5	96.8	95.1	97.7	99.3	100.9	OAPWL = 116.0

V_∞ =	339	fps
T_a =	61	°F
RH_a =	61	%
P_a =	13.88	psia

C2

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3522 3522

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.2	69.4	80.8	82.1	75.9	77.8	83.3	87.1	89.0
125	75.4	73.2	81.4	80.4	80.9	79.3	83.5	86.9	89.3
160	71.4	73.5	78.1	78.6	72.6	80.0	83.0	87.4	91.4
200	74.4	76.0	78.5	82.0	79.5	83.3	86.5	87.7	91.1
250	78.7	80.8	82.3	83.7	85.0	85.8	87.5	92.1	91.9
315	84.1	86.2	86.6	85.9	86.7	87.0	88.2	92.6	98.8
400	86.1	86.2	86.2	87.9	87.4	87.3	91.1	94.4	101.6
500	84.6	85.9	86.7	86.6	87.3	88.8	91.6	98.4	101.0
630	86.6	86.7	87.3	88.2	89.3	91.4	94.3	99.4	104.0
800	90.5	88.8	88.8	90.0	91.6	93.1	96.0	101.9	105.3
1000	88.9	89.6	91.1	92.2	93.1	94.2	97.1	102.4	104.6
1250	88.5	89.6	90.8	93.4	94.8	95.8	99.1	103.5	103.7
1600	89.9	90.9	92.1	94.8	96.7	97.7	100.4	103.5	102.9
2000	92.4	93.0	94.4	96.0	97.7	99.1	101.6	104.0	102.1
2500	93.7	94.0	94.7	97.5	98.9	100.2	102.5	104.3	101.2
3150	94.9	95.5	96.6	98.0	99.6	101.0	103.4	104.1	100.8
4000	96.4	96.8	97.5	99.4	101.0	103.1	104.7	105.1	100.9
5000	97.4	97.7	98.0	100.2	101.8	104.1	105.5	105.2	101.2
6300	97.0	97.7	98.5	100.5	102.6	104.5	105.4	105.2	102.2
8000	98.3	97.9	98.8	100.8	103.5	105.3	105.8	106.2	102.3
10000	99.2	98.8	99.0	101.0	103.5	105.2	105.7	106.1	102.2
12500	101.8	100.2	99.7	101.7	103.8	105.2	105.1	105.3	102.0
16000	105.8	104.5	102.2	102.4	104.5	105.3	104.1	104.1	100.6
20000	107.1	105.8	103.6	102.6	104.3	105.1	102.5	101.3	97.2
25000	106.1	106.7	105.4	104.3	105.2	105.4	101.9	100.1	95.3
31500	103.7	104.8	105.5	105.8	105.8	105.0	101.8	98.6	93.6
40000	104.1	104.1	104.6	105.9	106.6	105.3	101.6	97.9	92.7
50000	103.2	103.7	104.4	106.0	106.9	105.8	102.0	97.6	91.8
63000	102.1	103.2	104.0	104.8	106.1	105.4	101.9	98.0	91.8
80000	101.4	102.1	102.9	103.7	104.4	103.9	101.0	97.5	91.5
TSPL	114.6	114.5	114.3	115.2	116.4	116.9	116.3	116.8	115.2
SSPL	114.6	114.5	114.3	115.2	116.4	116.9	116.3	116.7	114.9

V_∞ =	203	fps
T_a =	71	°F
RH_a =	3	%
P_a =	14.48	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	115.5	115.1	114.5	115.0	115.9	115.9	115.0	115.3	114.5
SSPL	115.5	115.1	114.5	115.0	115.9	115.9	115.0	115.2	114.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	115.9	115.2	114.4	114.6	115.3	115.1	114.0	114.2	113.0
SSPL	115.9	115.2	114.4	114.6	115.2	115.1	114.0	114.1	112.6

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3522 3522

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.5	70.3	81.6	81.2	74.5	75.7	79.8	83.1	85.6
125	76.7	74.3	81.8	79.8	79.7	77.5	80.2	83.0	85.5
160	72.8	74.5	78.5	77.7	71.4	77.7	80.0	82.9	86.6
200	75.7	76.9	79.0	81.4	78.3	81.2	83.7	84.5	86.4
250	80.0	81.6	82.5	83.2	83.9	84.0	84.6	87.8	90.0
315	85.4	87.0	86.6	85.3	85.5	85.2	85.4	87.8	92.5
400	87.4	86.9	86.3	87.3	86.2	85.4	87.9	90.0	94.5
500	85.9	86.7	86.7	86.0	86.1	86.8	88.4	93.0	97.4
630	87.9	87.4	87.4	87.7	88.1	89.4	91.2	94.5	98.9
800	91.8	89.4	88.9	89.5	90.5	91.2	92.8	96.8	101.1
1000	90.2	90.4	91.3	91.7	91.9	92.3	94.0	97.6	101.1
1250	89.8	90.4	91.1	93.0	93.7	93.9	96.0	99.3	101.5
1600	91.2	91.7	92.4	94.4	95.6	95.8	97.5	99.9	101.2
2000	93.7	93.8	94.7	95.6	96.6	97.2	98.8	100.8	101.2
2500	95.1	94.7	95.0	97.1	97.8	98.3	99.8	101.5	101.1
3150	96.2	96.2	96.7	97.5	98.4	99.0	100.6	101.7	100.6
4000	97.7	97.5	97.7	98.9	99.9	101.2	102.1	102.9	101.3
5000	98.7	98.4	98.2	99.7	100.7	102.2	103.1	103.2	101.4
6300	98.3	98.4	98.7	100.1	101.5	102.6	103.1	103.1	101.8
8000	99.7	98.6	99.1	100.5	102.4	103.5	103.5	103.9	102.6
10000	100.5	99.4	99.2	100.6	102.4	103.3	103.4	103.8	102.4
12500	103.1	100.7	99.8	101.3	102.6	103.3	102.9	103.0	101.8
16000	107.1	104.9	102.1	101.9	103.4	103.5	102.1	101.8	100.5
20000	108.4	106.2	103.3	102.0	103.1	103.4	100.9	99.5	97.4
25000	107.4	107.3	105.2	103.7	104.0	103.7	100.4	98.5	95.9
31500	105.0	105.5	105.6	105.2	104.6	103.4	100.4	97.7	94.2
40000	105.4	104.8	104.8	105.4	105.4	103.8	100.4	97.2	93.5
50000	104.5	104.4	104.6	105.5	105.7	104.3	100.8	97.2	92.9
63000	103.5	103.9	104.1	104.2	104.9	103.8	100.6	97.4	93.2
80000	102.7	102.8	103.0	103.2	103.2	102.3	99.6	96.8	92.8
TSPL	115.9	115.1	114.4	114.7	115.3	115.1	114.2	114.2	113.7
SSPL	115.9	115.1	114.4	114.6	115.3	115.1	114.1	114.2	113.6

V_∞ =	203	fps
T_a =	71	°F
RH_a =	3	%
P_a =	14.48	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=203 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3522 CONDITION 3522

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.21		1.53	3.21	THRUST,IDL	LB	27.5	70.6	N	122.3	314.0
TEMP	(R)	720.8	1064.0	(K)	400.4	591.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.051	KG/M3	1.000	0.823	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	994.4	1910.0	M/S	303.1	582.2	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.5	70.3	81.6	81.2	74.5	75.7	79.8	83.1	85.6	98.3
.125	76.7	74.3	81.8	79.8	79.7	77.5	80.2	83.0	85.5	98.6
.160	72.8	74.5	78.5	77.7	71.4	77.7	80.0	82.9	86.6	97.3
.200	75.7	76.9	79.0	81.4	78.3	81.2	83.7	84.5	86.4	99.6
.250	80.0	81.6	82.5	83.2	83.9	84.0	84.6	87.8	90.0	102.7
.315	85.4	87.0	86.6	85.3	85.5	85.2	85.4	87.8	92.5	104.9
.400	87.4	86.9	86.3	87.3	86.2	85.4	87.9	90.0	94.5	106.2
.500	85.9	86.7	86.7	86.0	86.1	86.8	88.4	93.0	97.4	107.4
.630	87.9	87.4	87.4	87.7	88.1	89.4	91.2	94.5	98.9	109.0
.800	91.8	89.4	88.9	89.5	90.5	91.2	92.8	96.8	101.1	111.2
1.00	90.2	90.4	91.3	91.7	91.9	92.3	94.0	97.6	101.1	112.0
1.25	89.8	90.4	91.1	93.0	93.7	93.9	96.0	99.3	101.5	113.2
1.60	91.2	91.7	92.4	94.4	95.6	95.8	97.5	99.9	101.2	114.3
2.00	93.7	93.8	94.7	95.6	96.6	97.2	98.8	100.8	101.2	115.4
2.50	95.1	94.7	95.0	97.1	97.8	98.3	99.8	101.5	101.1	116.3
3.15	96.2	96.2	96.7	97.5	98.4	99.0	100.6	101.7	100.6	117.0
4.00	97.7	97.5	97.7	98.9	99.9	101.2	102.1	102.9	101.3	118.4
5.00	98.7	98.4	98.2	99.7	100.7	102.2	103.1	103.2	101.4	119.2
6.30	98.3	98.4	98.7	100.1	101.5	102.6	103.1	103.1	101.8	119.4
8.00	99.7	98.6	99.1	100.5	102.4	103.5	103.5	103.9	102.6	120.1
10.0	100.5	99.4	99.2	100.6	102.4	103.3	103.4	103.8	102.4	120.1
12.5	103.1	100.7	99.8	101.3	102.6	103.3	102.9	103.0	101.8	120.4
16.0	107.1	104.9	102.1	101.9	103.4	103.5	102.1	101.8	100.5	121.7
20.0	108.4	106.2	103.3	102.0	103.1	103.4	100.9	99.5	97.4	122.1
25.0	107.4	107.3	105.2	103.7	104.0	103.7	100.4	98.5	95.9	122.8
31.5	105.0	105.5	105.6	105.2	104.6	103.4	100.4	97.7	94.2	122.4
40.0	105.4	104.8	104.8	105.4	105.4	103.8	100.4	97.2	93.5	122.4
50.0	104.5	104.4	104.6	105.5	105.7	104.3	100.8	97.2	92.9	122.3
63.0	103.5	103.9	104.1	104.2	104.9	103.8	100.6	97.4	93.2	121.6
80.0	102.7	102.8	103.0	103.2	103.2	102.3	99.6	96.8	92.8	120.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.9	115.1	114.4	114.7	115.3	115.1	114.2	114.2	113.7	OAPWL = 133.1

V_∞ =	203	fps
T_a =	71	°F
RH_a =	3	%
P_a =	14.48	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS CORR
N631	315	05/14/76		-00	000000	XARF 0	3523 3523

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.8	74.3	78.2	80.2	79.8	77.3	78.7	83.1	87.1
125	75.6	76.9	80.4	80.0	79.1	79.7	80.8	84.8	89.2
160	76.1	78.9	80.4	81.6	81.6	82.1	82.3	87.1	92.1
200	77.6	80.0	80.7	84.1	83.4	85.3	87.5	88.6	92.3
250	80.1	82.8	83.8	85.2	85.3	88.0	89.0	93.8	93.8
315	85.4	88.2	88.4	88.0	88.4	89.6	90.5	94.2	100.9
400	89.2	89.5	89.2	90.4	89.5	89.8	93.2	96.8	103.8
500	89.3	90.1	89.8	89.2	89.4	91.8	94.6	100.9	102.9
630	88.3	88.7	89.2	89.9	91.0	93.6	96.6	102.0	107.4
800	93.0	91.0	90.9	92.5	93.9	95.7	98.8	104.5	107.9
1000	91.3	91.9	93.3	94.6	95.6	96.7	99.5	105.0	108.1
1250	90.2	91.2	92.6	95.2	96.5	97.8	101.2	105.8	106.8
1600	91.2	92.6	93.6	96.3	98.5	99.7	102.5	105.7	105.9
2000	93.7	94.5	96.0	97.4	99.4	101.1	103.5	106.3	105.0
2500	95.2	95.7	96.4	99.0	100.4	102.1	104.4	106.3	104.0
3150	96.1	96.5	98.0	99.2	100.9	102.7	105.1	106.1	103.9
4000	97.2	97.7	98.8	100.8	102.1	104.6	106.1	107.1	104.1
5000	98.6	98.9	99.3	101.4	103.1	105.7	106.9	107.2	104.8
6300	98.3	98.9	99.8	101.6	103.9	106.0	107.1	107.3	106.0
8000	99.3	99.0	99.9	101.8	104.6	106.8	107.4	108.4	106.4
10000	99.7	99.6	100.1	102.0	104.5	106.4	107.4	108.4	106.2
12500	102.2	101.0	100.4	102.5	104.8	106.3	106.6	107.3	105.4
16000	106.0	104.9	102.7	103.2	105.4	106.4	105.5	105.8	103.3
20000	107.1	105.7	103.9	103.1	105.2	105.8	103.6	103.0	99.6
25000	106.7	106.9	105.6	104.6	106.1	106.0	102.9	101.6	97.3
31500	104.6	105.5	106.0	106.1	106.2	105.8	102.4	99.7	94.9
40000	104.4	104.5	105.1	106.2	106.9	105.5	102.1	98.5	93.6
50000	103.6	103.9	104.6	106.3	107.2	105.8	102.0	98.0	92.4
63000	102.4	103.5	104.1	104.9	106.2	105.4	101.9	98.2	92.1
80000	101.8	102.3	103.2	104.0	104.6	104.0	101.2	97.6	91.7
TSPL	115.1	115.0	114.9	115.8	117.2	117.9	117.7	118.8	118.3
SSPL	115.1	115.0	114.9	115.8	117.2	117.8	117.7	118.7	118.0

V_∞ =	99	fps
T_a =	75	°F
RH_a =	4	%
P_a =	14.73	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3523 3523

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	115.5	115.2	115.0	115.7	116.9	117.3	117.0	118.0	117.5
SSPL	115.5	115.2	114.9	115.6	116.9	117.3	117.0	117.9	117.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	115.7	115.3	114.9	115.5	116.6	117.0	116.5	117.4	116.9
SSPL	115.7	115.3	114.9	115.5	116.6	116.9	116.5	117.4	116.6

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3523 3523

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.5	74.7	78.4	80.0	79.1	76.4	77.2	80.6	84.3
125	76.3	77.4	80.5	79.6	78.5	78.8	79.3	82.3	86.1
160	76.8	79.3	80.5	81.3	81.0	81.2	80.8	84.4	88.8
200	78.3	80.4	80.8	83.9	82.8	84.3	86.1	86.8	89.2
250	80.8	83.2	83.9	85.0	84.7	87.0	87.5	91.5	92.9
315	86.1	88.6	88.4	87.7	87.9	88.7	89.1	91.6	96.7
400	89.9	89.8	89.2	90.1	88.9	88.8	91.6	94.2	99.4
500	90.0	90.5	89.8	88.9	88.9	90.8	92.9	98.2	101.2
630	89.0	89.1	89.2	89.7	90.5	92.6	94.9	99.2	104.0
800	93.7	91.3	91.0	92.3	93.4	94.7	97.1	101.8	105.5
1000	92.0	92.3	93.4	94.4	95.0	95.7	97.8	102.4	105.8
1250	90.9	91.6	92.7	95.0	95.9	96.8	99.5	103.6	105.4
1600	91.9	93.0	93.7	96.2	98.0	98.7	101.0	103.8	104.8
2000	94.4	94.9	96.1	97.2	98.9	100.2	102.0	104.6	104.5
2500	95.9	96.1	96.5	98.9	99.9	101.2	103.0	104.9	103.9
3150	96.7	96.8	98.0	98.9	100.3	101.7	103.6	104.7	103.6
4000	97.8	98.0	98.9	100.6	101.6	103.6	104.7	105.8	104.2
5000	99.2	99.2	99.4	101.2	102.6	104.7	105.6	106.0	104.5
6300	99.0	99.3	99.9	101.4	103.4	105.0	105.8	106.1	105.2
8000	100.0	99.4	100.0	101.7	104.2	105.9	106.2	107.1	106.1
10000	100.4	99.9	100.2	101.8	104.0	105.4	106.1	107.1	105.9
12500	102.8	101.3	100.4	102.3	104.3	105.3	105.3	106.0	104.9
16000	106.7	105.1	102.7	103.0	104.9	105.5	104.4	104.6	103.1
20000	107.7	105.9	103.8	102.8	104.6	104.9	102.6	102.0	99.7
25000	107.3	107.2	105.5	104.3	105.5	105.1	102.0	100.8	97.8
31500	105.2	105.9	106.0	105.8	105.6	105.0	101.7	99.2	95.5
40000	105.1	104.9	105.2	106.0	106.3	104.7	101.4	98.3	94.2
50000	104.3	104.3	104.7	106.1	106.6	105.0	101.4	97.9	93.2
63000	103.0	103.8	104.1	104.6	105.6	104.6	101.2	98.0	93.2
80000	102.5	102.7	103.3	103.8	104.0	103.2	100.5	97.4	92.7
TSPL	115.7	115.3	114.9	115.6	116.6	117.0	116.5	117.3	117.1
SSPL	115.7	115.3	114.9	115.5	116.6	116.9	116.5	117.3	117.0

V_∞ =	99	fps
T_a =	75	°F
RH_a =	4	%
P_a =	14.73	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3523 CONDITION 3523

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	28.0	71.2	N	124.7	316.9
TEMP	(R)	715.0	1052.0	(K)	397.2	584.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.052	KG/M3	1.009	0.832	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	991.6	1896.0	M/S	302.2	577.9	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.5	74.7	78.4	80.0	79.1	76.4	77.2	80.6	84.3	97.0
.125	76.3	77.4	80.5	79.6	78.5	78.8	79.3	82.3	86.1	98.3
.160	76.8	79.3	80.5	81.3	81.0	81.2	80.8	84.4	88.8	100.1
.200	78.3	80.4	80.8	83.9	82.8	84.3	86.1	86.8	89.2	102.3
.250	80.8	83.2	83.9	85.0	84.7	87.0	87.5	91.5	92.9	105.2
.315	86.1	88.6	88.4	87.7	87.9	88.7	89.1	91.6	96.7	107.8
.400	89.9	89.8	89.2	90.1	88.9	88.8	91.6	94.2	99.4	109.8
.500	90.0	90.5	89.8	88.9	88.9	90.8	92.9	98.2	101.2	111.5
.630	89.0	89.1	89.2	89.7	90.5	92.6	94.9	99.2	104.0	112.9
.800	93.7	91.3	91.0	92.3	93.4	94.7	97.1	101.8	105.5	115.1
1.00	92.0	92.3	93.4	94.4	95.0	95.7	97.8	102.4	105.8	115.9
1.25	90.9	91.6	92.7	95.0	95.9	96.8	99.5	103.6	105.4	116.5
1.60	91.9	93.0	93.7	96.2	98.0	98.7	101.0	103.8	104.8	117.3
2.00	94.4	94.9	96.1	97.2	98.9	100.2	102.0	104.6	104.5	118.2
2.50	95.9	96.1	96.5	98.9	99.9	101.2	103.0	104.9	103.9	118.9
3.15	96.7	96.8	98.0	98.9	100.3	101.7	103.6	104.7	103.6	119.3
4.00	97.8	98.0	98.9	100.6	101.6	103.6	104.7	105.8	104.2	120.5
5.00	99.2	99.2	99.4	101.2	102.6	104.7	105.6	106.0	104.5	121.3
6.30	99.0	99.3	99.9	101.4	103.4	105.0	105.8	106.1	105.2	121.6
8.00	100.0	99.4	100.0	101.7	104.2	105.9	106.2	107.1	106.1	122.3
10.0	100.4	99.9	100.2	101.8	104.0	105.4	106.1	107.1	105.9	122.2
12.5	102.8	101.3	100.4	102.3	104.3	105.3	105.3	106.0	104.9	122.1
16.0	106.7	105.1	102.7	103.0	104.9	105.5	104.4	104.6	103.1	122.8
20.0	107.7	105.9	103.8	102.8	104.6	104.9	102.6	102.0	99.7	122.7
25.0	107.3	107.2	105.5	104.3	105.5	105.1	102.0	100.8	97.8	123.4
31.5	105.2	105.9	106.0	105.8	105.6	105.0	101.7	99.2	95.5	123.1
40.0	105.1	104.9	105.2	106.0	106.3	104.7	101.4	98.3	94.2	122.9
50.0	104.3	104.3	104.7	106.1	106.6	105.0	101.4	97.9	93.2	122.8
63.0	103.0	103.8	104.1	104.6	105.6	104.6	101.2	98.0	93.2	122.0
80.0	102.5	102.7	103.3	103.8	104.0	103.2	100.5	97.4	92.7	120.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.7	115.3	114.9	115.6	116.6	117.0	116.5	117.3	117.1	OAPWL = 134.5

V_∞ =	99	fps
T_a =	75	°F
RH_a =	4	%
P_a =	14.73	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3526 3526

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	70.0	68.1	72.5	75.1	74.8	73.3	75.1	78.9	82.5
125	71.6	73.4	76.6	76.1	75.6	76.9	77.4	81.2	85.7
160	72.8	76.0	77.5	78.5	78.7	78.8	79.0	83.7	88.4
200	74.9	76.8	77.6	81.1	80.5	81.7	84.0	85.1	88.9
250	77.1	79.8	80.6	81.9	75.7	84.8	85.5	90.3	90.1
315	81.7	84.7	85.2	85.0	83.9	86.4	87.1	90.5	97.2
400	85.5	86.4	86.0	87.5	86.0	86.8	89.7	92.8	100.1
500	85.9	87.3	86.9	86.9	86.4	88.7	91.2	97.1	99.1
630	85.8	86.6	87.4	87.9	88.3	90.8	93.0	97.9	103.3
800	89.9	88.6	88.1	89.8	91.0	92.6	95.0	100.2	103.7
1000	89.3	89.1	90.3	91.5	92.5	93.6	95.8	100.8	104.1
1250	88.7	89.5	90.7	92.7	94.2	94.9	97.5	102.2	103.8
1600	88.8	90.3	91.5	93.8	96.0	96.9	98.9	102.1	103.0
2000	92.6	92.8	93.8	95.2	96.8	98.1	99.9	102.8	102.3
2500	93.8	94.4	94.5	96.9	98.4	99.2	100.9	103.3	101.6
3150	94.8	94.7	95.8	97.1	98.4	99.8	101.7	103.1	101.3
4000	95.2	96.0	96.6	98.2	99.4	101.2	102.8	103.9	101.3
5000	96.6	97.1	97.1	99.1	100.5	102.2	103.6	104.0	101.9
6300	96.1	96.5	97.5	98.8	100.8	102.5	103.3	103.7	102.4
8000	96.5	96.5	97.3	98.9	101.5	103.2	103.1	104.1	101.9
10000	96.2	96.2	96.9	98.8	101.6	103.2	102.6	103.2	100.9
12500	95.2	95.8	96.7	99.1	101.6	103.6	101.7	101.7	99.4
16000	95.3	96.1	96.9	99.4	102.3	104.8	101.7	100.4	97.2
20000	95.8	95.8	96.4	98.6	101.6	104.3	101.4	98.7	94.3
25000	99.9	99.2	97.3	98.4	101.5	103.4	101.4	98.8	93.7
31500	101.1	101.1	99.5	98.7	100.5	101.5	100.2	97.5	92.3
40000	101.0	101.6	101.4	100.3	100.1	100.6	98.4	95.7	90.5
50000	99.4	100.6	101.7	102.3	101.2	100.0	97.0	93.4	88.3
63000	98.3	99.7	100.9	102.1	102.1	100.2	96.7	93.0	87.2
80000	97.5	98.7	99.6	100.7	101.3	100.1	96.8	93.0	87.1
TSPL	110.0	110.4	110.8	111.9	113.3	114.6	114.0	114.9	114.5
SSPL	109.9	110.4	110.7	111.8	113.3	114.6	114.0	114.8	114.2

V_∞ =	104	fps
T_a =	76	°F
RH_a =	6	%
P_a =	14.72	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	110.4	110.7	110.8	111.7	113.0	114.1	113.3	114.0	113.8
SSPL	110.4	110.6	110.8	111.7	113.0	114.0	113.3	114.0	113.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	110.6	110.8	110.8	111.6	112.7	113.7	112.8	113.5	113.1
SSPL	110.6	110.8	110.8	111.6	112.7	113.7	112.8	113.4	112.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0 3526	3526

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	70.7	68.5	72.7	74.9	74.2	72.4	73.5	76.6	79.8
125	72.3	73.9	76.7	75.8	75.0	76.0	76.0	78.7	82.5
160	73.5	76.5	77.6	78.2	78.1	77.9	77.6	81.0	85.2
200	75.6	77.2	77.7	80.9	79.9	80.7	82.6	83.3	85.8
250	77.8	80.2	80.7	81.5	75.2	83.7	84.1	88.1	89.3
315	82.4	85.1	85.2	84.7	83.3	85.4	85.7	87.9	93.0
400	86.2	86.7	86.0	87.2	85.4	85.8	88.1	90.3	95.5
500	86.6	87.7	86.9	86.6	85.8	87.7	89.5	94.5	97.4
630	86.5	87.0	87.5	87.6	87.8	89.8	91.4	95.2	99.9
800	90.6	88.9	88.2	89.6	90.5	91.6	93.4	97.6	101.2
1000	90.0	89.5	90.4	91.3	91.9	92.7	94.2	98.3	101.7
1250	89.4	89.9	90.8	92.5	93.6	94.0	95.9	99.9	102.2
1600	89.5	90.7	91.6	93.7	95.5	96.0	97.4	100.1	101.5
2000	93.3	93.2	93.9	95.0	96.3	97.2	98.5	101.0	101.5
2500	94.5	94.8	94.6	96.8	97.9	98.3	99.5	101.7	101.3
3150	95.4	95.0	95.8	96.8	97.8	98.8	100.3	101.6	100.9
4000	95.8	96.3	96.6	98.0	98.8	100.2	101.4	102.6	101.2
5000	97.2	97.4	97.1	98.9	100.0	101.2	102.3	102.8	101.5
6300	96.8	96.9	97.6	98.6	100.3	101.6	102.1	102.4	101.7
8000	97.2	96.9	97.4	98.8	101.0	102.3	101.9	102.8	101.7
10000	96.9	96.6	97.0	98.6	101.1	102.3	101.5	101.9	100.7
12500	95.8	96.1	96.8	98.9	101.1	102.7	100.7	100.5	99.1
16000	96.0	96.5	97.0	99.3	101.8	103.9	100.9	99.5	97.2
20000	96.4	96.1	96.5	98.4	101.1	103.4	100.6	98.2	94.7
25000	100.5	99.4	97.3	98.2	101.0	102.5	100.5	98.3	94.4
31500	101.7	101.4	99.4	98.4	99.9	100.6	99.3	97.1	93.1
40000	101.7	102.0	101.4	100.0	99.5	99.8	97.6	95.3	91.3
50000	100.1	101.0	101.8	102.0	100.6	99.2	96.3	93.2	88.9
63000	98.9	100.1	100.9	101.8	101.4	99.4	96.0	92.8	88.1
80000	98.2	99.1	99.7	100.5	100.7	99.3	96.1	92.8	88.1
TSPL	110.6	110.8	110.8	111.7	112.8	113.7	112.9	113.4	113.3
SSPL	110.6	110.8	110.8	111.6	112.8	113.7	112.9	113.4	113.2

V_∞ =	104	fps
T_a =	76	°F
RH_a =	6	%
P_a =	14.72	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=104 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3526 CONDITION 3526

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	27.9	49.1	N	124.2	218.2
TEMP	(R)	704.2	1059.7	(K)	391.2	588.7	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.048	KG/M3	1.023	0.773	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	977.6	1717.0	M/S	298.0	523.3	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.7	68.5	72.7	74.9	74.2	72.4	73.5	76.6	79.8	92.3
.125	72.3	73.9	76.7	75.8	75.0	76.0	76.0	78.7	82.5	94.8
.160	73.5	76.5	77.6	78.2	78.1	77.9	77.6	81.0	85.2	96.9
.200	75.6	77.2	77.7	80.9	79.9	80.7	82.6	83.3	85.8	99.0
.250	77.8	80.2	80.7	81.5	75.2	83.7	84.1	88.1	89.3	101.5
.315	82.4	85.1	85.2	84.7	83.3	85.4	85.7	87.9	93.0	104.3
.400	86.2	86.7	86.0	87.2	85.4	85.8	88.1	90.3	95.5	106.3
.500	86.6	87.7	86.9	86.6	85.8	87.7	89.5	94.5	97.4	108.1
.630	86.5	87.0	87.5	87.6	87.8	89.8	91.4	95.2	99.9	109.5
.800	90.6	88.9	88.2	89.6	90.5	91.6	93.4	97.6	101.2	111.4
1.00	90.0	89.5	90.4	91.3	91.9	92.7	94.2	98.3	101.7	112.2
1.25	89.4	89.9	90.8	92.5	93.6	94.0	95.9	99.9	102.2	113.4
1.60	89.5	90.7	91.6	93.7	95.5	96.0	97.4	100.1	101.5	114.2
2.00	93.3	93.2	93.9	95.0	96.3	97.2	98.5	101.0	101.5	115.3
2.50	94.5	94.8	94.6	96.8	97.9	98.3	99.5	101.7	101.3	116.3
3.15	95.4	95.0	95.8	96.8	97.8	98.8	100.3	101.6	100.9	116.5
4.00	95.8	96.3	96.6	98.0	98.8	100.2	101.4	102.6	101.2	117.6
5.00	97.2	97.4	97.1	98.9	100.0	101.2	102.3	102.8	101.5	118.4
6.30	96.8	96.9	97.6	98.6	100.3	101.6	102.1	102.4	101.7	118.4
8.00	97.2	96.9	97.4	98.8	101.0	102.3	101.9	102.8	101.7	118.6
10.0	96.9	96.6	97.0	98.6	101.1	102.3	101.5	101.9	100.7	118.3
12.5	95.8	96.1	96.8	98.9	101.1	102.7	100.7	100.5	99.1	118.0
16.0	96.0	96.5	97.0	99.3	101.8	103.9	100.9	99.5	97.2	118.4
20.0	96.4	96.1	96.5	98.4	101.1	103.4	100.6	98.2	94.7	117.8
25.0	100.5	99.4	97.3	98.2	101.0	102.5	100.5	98.3	94.4	118.1
31.5	101.7	101.4	99.4	98.4	99.9	100.6	99.3	97.1	93.1	118.1
40.0	101.7	102.0	101.4	100.0	99.5	99.8	97.6	95.3	91.3	118.3
50.0	100.1	101.0	101.8	102.0	100.6	99.2	96.3	93.2	88.9	118.4
63.0	98.9	100.1	100.9	101.8	101.4	99.4	96.0	92.8	88.1	118.1
80.0	98.2	99.1	99.7	100.5	100.7	99.3	96.1	92.8	88.1	117.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.6	110.8	110.8	111.7	112.8	113.7	112.9	113.4	113.3	OAPWL = 130.6

V_∞ =	104	fps
T_a =	76	°F
RH_a =	6	%
P_a =	14.72	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	DBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3527 3527

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	69.8	75.5	71.3	71.5	80.7	79.0	78.6	85.9	83.3
125	69.5	76.3	75.1	73.1	78.3	74.0	79.8	85.8	85.5
160	65.4	75.6	73.0	72.8	78.1	75.0	79.6	85.9	87.7
200	70.3	66.9	74.0	77.6	65.6	79.3	83.1	85.7	87.6
250	75.1	76.3	78.3	79.5	80.2	82.4	83.9	88.5	88.0
315	80.4	82.2	82.6	82.0	82.8	83.5	84.8	88.9	94.8
400	82.3	82.8	82.6	84.4	84.0	83.9	87.3	90.6	97.3
500	81.6	83.3	83.4	83.8	84.2	85.3	87.8	94.1	96.6
630	83.9	84.7	85.3	85.9	86.4	87.9	90.4	95.1	99.6
800	87.1	86.0	85.8	86.9	88.4	89.6	91.8	97.2	100.5
1000	86.9	86.6	87.7	88.7	89.8	90.6	92.8	97.7	100.0
1250	86.8	87.5	88.1	90.4	91.8	92.5	95.2	99.2	99.7
1600	87.7	88.8	89.9	92.0	93.9	94.4	96.3	99.2	99.1
2000	92.0	91.2	92.4	93.5	94.9	95.9	97.6	100.1	98.4
2500	92.3	92.7	92.9	95.4	96.8	97.4	98.8	100.6	97.9
3150	93.6	93.7	94.7	95.9	96.9	97.8	99.5	100.7	97.6
4000	94.2	95.0	95.3	97.0	98.1	99.5	100.9	101.5	97.6
5000	95.8	96.1	96.0	98.0	99.2	100.6	101.9	101.8	97.9
6300	95.2	96.0	96.5	98.1	100.1	101.2	102.0	101.7	98.4
8000	96.1	95.8	96.5	98.4	100.8	102.2	101.8	102.0	98.1
10000	95.6	95.7	96.2	98.4	100.7	102.2	101.3	101.5	97.1
12500	94.8	95.4	96.2	98.5	101.1	102.9	100.6	100.0	96.2
16000	95.4	96.0	96.8	99.1	101.7	104.0	100.9	98.9	94.4
20000	95.9	95.7	96.0	98.4	101.2	103.4	100.8	97.8	92.5
25000	100.4	99.7	97.3	98.3	101.0	102.4	100.7	98.0	92.4
31500	102.0	102.2	100.5	99.0	100.2	100.5	99.3	96.7	91.2
40000	101.5	102.3	102.4	101.3	100.0	99.8	97.4	94.9	89.8
50000	99.5	100.8	102.0	103.1	101.6	99.7	96.4	92.8	87.7
63000	98.2	99.8	101.0	102.3	102.4	100.4	96.3	92.5	86.9
80000	97.6	98.8	99.7	101.3	101.6	100.5	96.9	93.1	87.3
TSPL	109.9	110.4	110.6	111.7	112.8	113.6	112.6	112.8	111.0
SSPL	109.9	110.4	110.6	111.7	112.7	113.5	112.6	112.7	110.7

V_∞ =	201	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.48	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	110.9	111.0	110.8	111.5	112.2	112.6	111.3	111.3	110.3
SSPL	110.8	111.0	110.8	111.5	112.2	112.6	111.3	111.2	110.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	111.2	111.1	110.7	111.1	111.6	111.7	110.3	110.2	108.8
SSPL	111.2	111.1	110.7	111.1	111.6	111.7	110.3	110.1	108.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF 0	3527	3527

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	71.1	76.2	71.0	71.4	79.7	77.3	75.9	80.6	83.3
125	70.8	77.2	74.8	72.7	77.1	72.3	76.0	81.1	83.8
160	66.7	76.6	72.8	72.5	77.0	73.3	76.0	80.9	84.6
200	71.6	67.8	74.9	76.5	64.4	76.7	80.2	82.1	84.1
250	76.4	77.1	78.5	79.0	79.0	80.5	81.1	84.2	86.3
315	81.7	83.0	82.6	81.4	81.6	81.7	82.0	84.2	88.7
400	83.6	83.5	82.7	83.8	82.8	82.0	84.2	86.3	90.6
500	82.9	84.0	83.5	83.2	83.0	83.4	84.6	88.8	93.0
630	85.2	85.4	85.4	85.3	85.2	86.0	87.4	90.3	94.5
800	88.4	86.6	85.9	86.4	87.2	87.7	88.8	92.3	96.3
1000	88.2	87.3	87.8	88.2	88.6	88.7	89.8	93.1	96.4
1250	88.1	88.2	88.3	90.0	90.6	90.6	92.2	95.1	97.3
1600	89.0	89.6	90.2	91.6	92.8	92.6	93.5	95.6	97.0
2000	93.3	91.9	92.6	93.0	93.8	94.1	94.9	96.8	97.4
2500	93.7	93.4	93.2	95.0	95.7	95.6	96.2	97.7	97.5
3150	94.9	94.4	94.8	95.3	95.7	95.9	96.9	98.1	97.3
4000	95.5	95.7	95.4	96.5	96.9	97.6	98.4	99.1	97.8
5000	97.1	96.7	96.1	97.5	98.0	98.7	99.4	99.7	98.1
6300	96.5	96.7	96.7	97.7	99.0	99.4	99.7	99.7	98.2
8000	97.5	96.5	96.7	98.0	99.7	100.4	99.7	99.8	98.4
10000	96.9	96.4	96.4	98.0	99.6	100.4	99.3	99.3	97.7
12500	96.1	96.1	96.4	98.1	100.0	101.1	98.8	97.9	96.2
16000	96.7	96.7	97.0	98.7	100.6	102.2	99.4	97.5	94.8
20000	97.2	96.3	96.2	98.0	100.1	101.6	99.3	96.9	93.4
25000	101.7	100.1	97.2	97.8	99.9	100.6	99.0	97.0	93.5
31500	103.3	102.7	100.2	98.4	99.0	98.8	97.5	95.7	92.2
40000	102.8	103.0	102.3	100.6	98.8	98.2	95.8	93.8	90.6
50000	100.8	101.6	102.2	102.5	100.3	98.2	95.0	92.1	88.4
63000	99.5	100.5	101.1	101.7	101.1	98.8	95.1	91.9	87.9
80000	98.9	99.5	99.9	100.8	100.4	98.9	95.6	92.5	88.4
TSPL	111.2	111.1	110.7	111.2	111.6	111.8	110.6	110.4	109.6
SSPL	111.2	111.1	110.7	111.2	111.6	111.8	110.6	110.3	109.5

V_∞ =	201	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.48	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3527 CONDITION 3527

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	27.3	48.0	N	121.6	213.7
TEMP	(R)	705.7	1068.3	(K)	392.1	593.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.048	KG/M3	1.020	0.765	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	977.7	1719.0	M/S	298.0	524.0	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.1	76.2	71.0	71.4	79.7	77.3	75.9	80.6	83.3	95.6
.125	70.8	77.2	74.8	72.7	77.1	72.3	76.0	81.1	83.8	95.3
.160	66.7	76.6	72.8	72.5	77.0	73.3	76.0	80.9	84.6	95.2
.200	71.6	67.8	74.9	76.5	64.4	76.7	80.2	82.1	84.1	95.7
.250	76.4	77.1	78.5	79.0	79.0	80.5	81.1	84.2	86.3	98.8
.315	81.7	83.0	82.6	81.4	81.6	81.7	82.0	84.2	88.7	101.2
.400	83.6	83.5	82.7	83.8	82.8	82.0	84.2	86.3	90.6	102.6
.500	82.9	84.0	83.5	83.2	83.0	83.4	84.6	88.8	93.0	103.7
.630	85.2	85.4	85.4	85.3	85.2	86.0	87.4	90.3	94.5	105.6
.800	88.4	86.6	85.9	86.4	87.2	87.7	88.8	92.3	96.3	107.2
1.00	88.2	87.3	87.8	88.2	88.6	88.7	89.8	93.1	96.4	108.1
1.25	88.1	88.2	88.3	90.0	90.6	90.6	92.2	95.1	97.3	109.7
1.60	89.0	89.6	90.2	91.6	92.8	92.6	93.5	95.6	97.0	110.9
2.00	93.3	91.9	92.6	93.0	93.8	94.1	94.9	96.8	97.4	112.4
2.50	93.7	93.4	93.2	95.0	95.7	95.6	96.2	97.7	97.5	113.6
3.15	94.9	94.4	94.8	95.3	95.7	95.9	96.9	98.1	97.3	114.2
4.00	95.5	95.7	95.4	96.5	96.9	97.6	98.4	99.1	97.8	115.3
5.00	97.1	96.7	96.1	97.5	98.0	98.7	99.4	99.7	98.1	116.3
6.30	96.5	96.7	96.7	97.7	99.0	99.4	99.7	99.7	98.2	116.6
8.00	97.5	96.5	96.7	98.0	99.7	100.4	99.7	99.8	98.4	117.0
10.0	96.9	96.4	96.4	98.0	99.6	100.4	99.3	99.3	97.7	116.8
12.5	96.1	96.1	96.4	98.1	100.0	101.1	98.8	97.9	96.2	116.7
16.0	96.7	96.7	97.0	98.7	100.6	102.2	99.4	97.5	94.8	117.3
20.0	97.2	96.3	96.2	98.0	100.1	101.6	99.3	96.9	93.4	116.8
25.0	101.7	100.1	97.2	97.8	99.9	100.6	99.0	97.0	93.5	117.5
31.5	103.3	102.7	100.2	98.4	99.0	98.8	97.5	95.7	92.2	118.2
40.0	102.8	103.0	102.3	100.6	98.8	98.2	95.8	93.8	90.6	118.6
50.0	100.8	101.6	102.2	102.5	100.3	98.2	95.0	92.1	88.4	118.6
63.0	99.5	100.5	101.1	101.7	101.1	98.8	95.1	91.9	87.9	118.0
80.0	98.9	99.5	99.9	100.8	100.4	98.9	95.6	92.5	88.4	117.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.2	111.1	110.7	111.2	111.6	111.8	110.6	110.4	109.6	OAPWL = 129.4

V_∞ =	201	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.48	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3528	3528

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.6	74.5	77.7	80.2	80.2	78.1	79.5	85.6	82.0
125	74.1	74.6	66.7	77.5	76.9	65.7	80.0	84.7	83.3
160	71.8	73.8	73.8	75.0	76.8	70.2	79.5	85.1	84.7
200	72.7	74.5	67.2	71.4	76.8	74.8	80.7	84.0	84.7
250	69.0	69.5	73.4	73.9	72.4	78.2	81.0	85.9	84.7
315	76.2	77.2	78.0	77.5	77.5	79.4	81.7	86.0	90.6
400	78.3	79.3	78.6	80.5	80.3	80.3	83.8	87.2	92.8
500	78.3	79.8	80.2	80.4	80.6	81.6	84.3	90.2	92.3
630	80.9	81.9	82.7	83.1	83.3	84.6	86.9	91.1	94.9
800	84.0	83.1	82.9	83.8	85.2	86.3	88.0	92.4	95.3
1000	85.1	84.2	84.8	85.6	86.3	87.4	88.7	92.6	94.3
1250	87.4	87.3	87.7	87.4	88.4	88.9	90.4	93.6	93.9
1600	84.4	85.3	86.7	88.7	90.4	90.7	91.5	93.4	93.2
2000	88.6	90.6	91.7	92.0	92.5	92.0	92.7	94.6	92.5
2500	90.4	90.1	90.7	92.5	93.4	93.9	94.6	95.3	91.9
3150	91.6	91.9	92.0	92.9	93.5	93.5	94.7	95.3	91.9
4000	91.9	92.5	93.1	93.9	94.9	94.7	95.1	95.7	91.3
5000	93.0	93.1	93.1	94.7	95.6	96.0	95.7	95.2	91.1
6300	91.8	92.1	92.9	93.8	95.2	95.3	95.1	94.1	90.6
8000	91.4	91.2	92.3	93.6	95.3	95.8	94.9	94.1	89.4
10000	90.3	90.4	91.1	92.8	95.1	95.5	93.8	92.6	87.6
12500	89.0	89.5	90.6	92.8	95.0	96.1	92.9	90.9	86.2
16000	88.6	89.7	90.8	92.8	95.2	96.5	92.9	90.0	85.0
20000	86.8	87.8	89.1	91.5	93.9	95.4	92.1	88.6	83.1
25000	85.9	87.3	88.5	90.6	93.4	94.0	91.4	88.3	82.1
31500	84.6	86.2	87.6	89.8	92.0	92.2	89.5	86.1	80.2
40000	84.2	85.3	87.1	89.0	90.6	91.1	87.6	84.2	78.6
50000	82.9	84.1	86.2	88.7	89.7	89.9	86.3	82.4	76.7
63000	80.8	83.9	85.5	87.5	88.8	88.6	84.9	81.4	76.0
80000	75.5	81.9	84.3	86.7	87.5	87.6	84.1	80.6	76.3
TSPL	102.0	102.5	103.3	104.7	106.3	106.8	105.8	106.2	104.9
SSPL	101.9	102.4	103.2	104.7	106.2	106.7	105.7	105.9	104.3

V_∞ =	201	fps
T_a =	66	°F
RH_a =	11	%
P_a =	14.48	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3528 3528

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	102.9	103.1	103.5	104.5	105.7	105.8	104.5	104.7	104.2
SSPL	102.9	103.0	103.4	104.5	105.6	105.8	104.4	104.4	103.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	103.3	103.2	103.4	104.2	105.1	104.9	103.5	103.6	102.7
SSPL	103.3	103.2	103.3	104.1	105.0	104.9	103.4	103.3	102.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/14/76 -00 000000 XARF 0 3528 3528

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.9	75.2	78.1	79.7	78.9	76.4	76.6	81.0	82.5
125	75.4	74.8	67.1	77.3	75.4	64.0	74.6	81.1	82.2
160	73.1	74.5	73.9	74.5	75.5	68.5	75.0	80.8	83.0
200	74.0	74.8	67.1	71.2	75.7	72.9	77.1	80.4	82.1
250	70.3	70.4	73.7	73.2	71.3	76.0	78.0	81.6	83.5
315	77.5	78.0	78.0	76.9	76.3	77.5	78.7	81.4	85.4
400	79.6	80.0	78.8	80.0	79.0	78.4	80.7	83.0	86.9
500	79.6	80.5	80.2	79.8	79.4	79.7	81.2	85.2	88.9
630	82.2	82.6	82.7	82.6	82.1	82.7	83.9	86.6	90.2
800	85.3	83.7	82.9	83.3	84.1	84.4	85.1	87.9	91.3
1000	86.4	84.8	84.9	85.0	85.2	85.5	86.0	88.4	91.0
1250	88.7	88.0	87.7	86.8	87.2	87.1	87.7	89.8	91.5
1600	85.7	86.1	87.0	88.3	89.2	88.9	89.0	90.2	91.1
2000	89.9	91.4	91.8	91.5	91.3	90.3	90.2	91.5	91.7
2500	91.8	90.8	90.9	92.1	92.3	92.1	92.2	92.9	91.9
3150	92.9	92.5	92.0	92.3	92.3	91.6	92.2	92.9	91.8
4000	93.2	93.2	93.2	93.3	93.7	92.9	92.8	93.4	91.9
5000	94.3	93.7	93.2	94.2	94.4	94.2	93.5	93.2	91.4
6300	93.1	92.8	93.0	93.3	94.0	93.6	93.0	92.3	90.4
8000	92.8	91.9	92.5	93.2	94.2	94.1	92.9	92.3	90.1
10000	91.6	91.1	91.3	92.4	94.0	93.8	92.0	90.9	88.4
12500	90.3	90.2	90.8	92.4	93.8	94.4	91.4	89.4	86.7
16000	89.9	90.5	91.0	92.4	94.1	94.8	91.6	88.9	85.7
20000	88.1	88.6	89.4	91.1	92.8	93.7	90.8	87.8	84.0
25000	87.2	88.0	88.7	90.2	92.2	92.3	89.9	87.5	83.5
31500	85.9	87.0	87.8	89.4	90.8	90.5	88.0	85.4	81.4
40000	85.5	86.1	87.4	88.6	89.5	89.5	86.3	83.4	79.7
50000	84.2	84.9	86.5	88.3	88.5	88.3	85.0	81.8	77.7
63000	82.1	84.7	85.7	87.1	87.6	87.0	83.7	80.7	76.9
80000	76.9	83.0	84.7	86.2	86.4	85.9	82.8	79.7	76.4
TSPL	103.3	103.2	103.4	104.3	105.1	105.0	103.8	103.6	103.2
SSPL	103.3	103.1	103.4	104.2	105.1	105.0	103.7	103.4	102.8

V_∞ =	201	fps
T_a =	66	°F
RH_a =	11	%
P_a =	14.48	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3528 CONDITION 3528

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.79		1.53	1.79	THRUST,IDL	LB	28.1	27.3	N	125.1	121.4
TEMP	(R)	702.3	1083.3	(K)	390.2	601.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.043	KG/M3	1.028	0.691	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	984.6	1417.0	M/S	300.1	431.9	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.9	75.2	78.1	79.7	78.9	76.4	76.6	81.0	82.5	96.8
.125	75.4	74.8	67.1	77.3	75.4	64.0	74.6	81.1	82.2	94.5
.160	73.1	74.5	73.9	74.5	75.5	68.5	75.0	80.8	83.0	94.4
.200	74.0	74.8	67.1	71.2	75.7	72.9	77.1	80.4	82.1	94.1
.250	70.3	70.4	73.7	73.2	71.3	76.0	78.0	81.6	83.5	94.8
.315	77.5	78.0	78.0	76.9	76.3	77.5	78.7	81.4	85.4	97.1
.400	79.6	80.0	78.8	80.0	79.0	78.4	80.7	83.0	86.9	98.9
.500	79.6	80.5	80.2	79.8	79.4	79.7	81.2	85.2	88.9	100.1
.630	82.2	82.6	82.7	82.6	82.1	82.7	83.9	86.6	90.2	102.2
.800	85.3	83.7	82.9	83.3	84.1	84.4	85.1	87.9	91.3	103.5
1.00	86.4	84.8	84.9	85.0	85.2	85.5	86.0	88.4	91.0	104.4
1.25	88.7	88.0	87.7	86.8	87.2	87.1	87.7	89.8	91.5	106.3
1.60	85.7	86.1	87.0	88.3	89.2	88.9	89.0	90.2	91.1	106.7
2.00	89.9	91.4	91.8	91.5	91.3	90.3	90.2	91.5	91.7	109.5
2.50	91.8	90.8	90.9	92.1	92.3	92.1	92.2	92.9	91.9	110.2
3.15	92.9	92.5	92.0	92.3	92.3	91.6	92.2	92.9	91.8	110.6
4.00	93.2	93.2	93.2	93.3	93.7	92.9	92.8	93.4	91.9	111.5
5.00	94.3	93.7	93.2	94.2	94.4	94.2	93.5	93.2	91.4	112.1
6.30	93.1	92.8	93.0	93.3	94.0	93.6	93.0	92.3	90.4	111.4
8.00	92.8	91.9	92.5	93.2	94.2	94.1	92.9	92.3	90.1	111.3
10.0	91.6	91.1	91.3	92.4	94.0	93.8	92.0	90.9	88.4	110.6
12.5	90.3	90.2	90.8	92.4	93.8	94.4	91.4	89.4	86.7	110.2
16.0	89.9	90.5	91.0	92.4	94.1	94.8	91.6	88.9	85.7	110.4
20.0	88.1	88.6	89.4	91.1	92.8	93.7	90.8	87.8	84.0	109.1
25.0	87.2	88.0	88.7	90.2	92.2	92.3	89.9	87.5	83.5	108.2
31.5	85.9	87.0	87.8	89.4	90.8	90.5	88.0	85.4	81.4	106.9
40.0	85.5	86.1	87.4	88.6	89.5	89.5	86.3	83.4	79.7	105.8
50.0	84.2	84.9	86.5	88.3	88.5	88.3	85.0	81.8	77.7	104.9
63.0	82.1	84.7	85.7	87.1	87.6	87.0	83.7	80.7	76.9	103.8
80.0	76.9	83.0	84.7	86.2	86.4	85.9	82.8	79.7	76.4	102.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	103.3	103.2	103.4	104.3	105.1	105.0	103.8	103.6	103.2	OAPWL = 122.3

V_∞ = 201 fps
T_a = 66 °F
RH_a = 11 %
P_a = 14.48 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3529 3529

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.4	67.1	69.7	71.5	71.7	69.1	71.5	75.6	79.1
125	68.8	70.6	73.4	72.9	72.3	73.3	73.9	77.6	81.8
160	69.2	72.4	73.9	74.8	75.1	75.0	75.7	80.2	84.7
200	71.4	73.4	74.0	77.2	76.6	77.9	80.3	81.6	84.9
250	73.4	76.1	76.8	77.6	79.6	80.6	81.2	86.0	86.2
315	77.4	79.7	80.4	80.3	81.5	82.0	83.1	86.2	92.9
400	80.9	81.8	81.8	83.1	78.2	82.7	85.5	88.7	95.3
500	81.9	82.9	82.9	82.8	80.5	84.3	86.7	92.4	94.4
630	82.5	83.2	84.3	84.4	83.8	86.6	89.0	93.7	98.7
800	85.9	85.0	84.6	85.7	86.8	88.6	90.6	95.2	98.5
1000	86.7	85.9	86.7	87.7	88.6	89.3	91.0	95.5	98.4
1250	89.7	89.3	90.3	89.9	90.6	90.7	92.5	96.6	98.0
1600	85.8	86.7	88.1	90.3	91.9	92.5	93.6	96.2	96.8
2000	89.1	91.3	93.1	93.5	94.2	93.9	95.0	97.2	96.2
2500	91.7	91.7	92.4	94.9	95.0	96.4	97.2	98.3	96.2
3150	92.5	92.6	92.6	93.8	94.7	95.0	96.2	97.4	95.1
4000	92.7	93.0	93.8	95.1	96.0	96.2	96.7	97.9	94.9
5000	93.6	94.0	93.6	95.4	96.4	96.9	97.1	97.3	94.6
6300	92.5	92.4	93.5	94.6	96.0	96.5	96.6	96.1	93.9
8000	91.9	91.8	92.9	94.3	96.3	97.1	96.1	96.0	92.8
10000	91.1	91.2	91.9	93.8	96.1	96.9	95.1	94.5	90.7
12500	90.2	90.8	91.7	93.8	96.3	97.5	94.3	92.7	88.8
16000	89.9	90.8	91.8	93.9	96.5	98.1	94.4	91.6	87.0
20000	88.1	89.1	90.3	92.8	95.4	97.2	93.6	90.2	84.7
25000	87.4	88.5	89.9	92.0	94.9	95.7	92.7	89.5	83.5
31500	86.1	87.6	89.1	91.2	93.5	93.8	91.0	87.3	81.2
40000	85.5	86.6	88.4	90.3	92.2	92.8	88.9	85.1	79.3
50000	84.4	85.4	87.5	90.0	91.2	91.3	87.4	83.2	77.2
63000	83.4	85.1	87.0	88.7	90.3	89.9	85.9	82.0	76.3
80000	83.0	84.1	86.1	88.0	89.0	88.6	85.3	81.1	75.5
TSPL	103.1	103.5	104.4	106.0	107.5	108.3	107.5	108.3	108.3
SSPL	103.0	103.4	104.3	105.9	107.5	108.3	107.4	108.2	107.8

V_∞ =	101	fps
T_a =	69	°F
RH_a =	14	%
P_a =	14.73	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3529	3529

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	103.5	103.7	104.4	105.8	107.2	107.8	106.8	107.5	107.5
SSPL	103.4	103.7	104.4	105.8	107.2	107.8	106.7	107.4	107.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	103.7	103.8	104.4	105.7	106.9	107.4	106.3	107.0	106.9
SSPL	103.7	103.8	104.3	105.6	106.9	107.4	106.2	106.8	106.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3529 3529

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	68.1	67.5	69.9	71.3	71.0	68.2	69.9	73.2	76.5
125	69.5	71.1	73.5	72.5	71.7	72.4	72.5	75.2	78.8
160	69.9	72.9	74.0	74.5	74.5	74.1	74.3	77.6	81.6
200	72.1	73.8	74.1	77.0	76.0	76.9	78.9	79.8	82.0
250	74.1	76.5	76.8	77.4	79.1	79.7	79.7	83.7	85.2
315	78.1	80.1	80.4	80.0	80.9	81.0	81.7	83.7	88.6
400	81.6	82.2	81.9	82.7	77.6	81.6	83.9	86.2	91.1
500	82.6	83.3	82.9	82.5	79.9	83.3	85.1	89.8	92.7
630	83.2	83.6	84.3	84.1	83.2	85.6	87.4	91.1	95.4
800	86.6	85.3	84.6	85.5	86.3	87.6	89.0	92.7	96.0
1000	87.4	86.2	86.8	87.5	88.1	88.4	89.5	93.1	96.1
1250	90.4	89.7	90.3	89.6	90.0	89.8	91.0	94.4	96.4
1600	86.5	87.1	88.2	90.1	91.4	91.6	92.2	94.3	95.4
2000	89.8	91.8	93.2	93.3	93.6	93.0	93.7	95.6	95.5
2500	92.4	92.1	92.5	94.7	94.5	95.5	96.0	97.0	96.0
3150	93.1	92.9	92.6	93.5	94.2	94.0	94.9	96.0	94.9
4000	93.3	93.3	93.8	94.8	95.4	95.3	95.5	96.6	95.0
5000	94.2	94.3	93.6	95.2	95.8	96.0	95.9	96.1	94.5
6300	93.2	92.8	93.6	94.4	95.4	95.6	95.5	95.1	93.5
8000	92.6	92.2	93.0	94.1	95.8	96.3	95.1	95.0	92.9
10000	91.8	91.6	92.0	93.6	95.6	96.0	94.1	93.6	91.0
12500	90.8	91.1	91.8	93.6	95.8	96.6	93.5	91.9	89.0
16000	90.6	91.2	91.9	93.7	96.0	97.3	93.7	91.1	87.5
20000	88.7	89.5	90.4	92.6	94.9	96.3	92.9	89.9	85.5
25000	88.0	88.9	90.0	91.8	94.3	94.8	91.9	89.2	84.6
31500	86.7	88.0	89.2	91.0	92.9	92.9	90.3	87.1	82.3
40000	86.2	87.0	88.5	90.1	91.7	92.0	88.3	85.0	80.3
50000	85.1	85.8	87.6	89.8	90.6	90.5	86.8	83.1	78.2
63000	84.1	85.5	87.1	88.5	89.8	89.2	85.3	81.8	77.2
80000	83.6	84.6	86.2	87.8	88.4	87.8	84.6	81.0	76.3
TSPL	103.7	103.9	104.4	105.7	107.0	107.4	106.4	106.9	106.9
SSPL	103.7	103.8	104.4	105.7	106.9	107.4	106.3	106.8	106.6

V_∞ =	101	fps
T_a =	69	°F
RH_a =	14	%
P_a =	14.73	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/14/76 SCALE RATIO 0.0/1 RUN NUMBER 3529 CONDITION 3529

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	28.3	76.7	N	126.1	341.4
TEMP	(R)	698.7	1062.3	(K)	388.2	590.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.044	KG/M3	1.030.	0.706	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	970.9	1404.0	M/S	295.9	427.9	W (MODEL)	LB/S	0.9	1.8	KG/S	0.4	0.8

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.1	67.5	69.9	71.3	71.0	68.2	69.9	73.2	76.5	89.0
.125	69.5	71.1	73.5	72.5	71.7	72.4	72.5	75.2	78.8	91.4
.160	69.9	72.9	74.0	74.5	74.5	74.1	74.3	77.6	81.6	93.4
.200	72.1	73.8	74.1	77.0	76.0	76.9	78.9	79.8	82.0	95.3
.250	74.1	76.5	76.8	77.4	79.1	79.7	79.7	83.7	85.2	97.9
.315	78.1	80.1	80.4	80.0	80.9	81.0	81.7	83.7	88.6	100.0
.400	81.6	82.2	81.9	82.7	77.6	81.6	83.9	86.2	91.1	101.8
.500	82.6	83.3	82.9	82.5	79.9	83.3	85.1	89.8	92.7	103.5
.630	83.2	83.6	84.3	84.1	83.2	85.6	87.4	91.1	95.4	105.4
.800	86.6	85.3	84.6	85.5	86.3	87.6	89.0	92.7	96.0	106.9
1.00	87.4	86.2	86.8	87.5	88.1	88.4	89.5	93.1	96.1	107.7
1.25	90.4	89.7	90.3	89.6	90.0	89.8	91.0	94.4	96.4	109.5
1.60	86.5	87.1	88.2	90.1	91.4	91.6	92.2	94.3	95.4	109.4
2.00	89.8	91.8	93.2	93.3	93.6	93.0	93.7	95.6	95.5	111.7
2.50	92.4	92.1	92.5	94.7	94.5	95.5	96.0	97.0	96.0	112.9
3.15	93.1	92.9	92.6	93.5	94.2	94.0	94.9	96.0	94.9	112.3
4.00	93.3	93.3	93.8	94.8	95.4	95.3	95.5	96.6	95.0	113.2
5.00	94.2	94.3	93.6	95.2	95.8	96.0	95.9	96.1	94.5	113.5
6.30	93.2	92.8	93.6	94.4	95.4	95.6	95.5	95.1	93.5	112.8
8.00	92.6	92.2	93.0	94.1	95.8	96.3	95.1	95.0	92.9	112.8
10.0	91.8	91.6	92.0	93.6	95.6	96.0	94.1	93.6	91.0	112.1
12.5	90.8	91.1	91.8	93.6	95.8	96.6	93.5	91.9	89.0	112.0
16.0	90.6	91.2	91.9	93.7	96.0	97.3	93.7	91.1	87.5	112.2
20.0	88.7	89.5	90.4	92.6	94.9	96.3	92.9	89.9	85.5	111.0
25.0	88.0	88.9	90.0	91.8	94.3	94.8	91.9	89.2	84.6	110.1
31.5	86.7	88.0	89.2	91.0	92.9	92.9	90.3	87.1	82.3	108.7
40.0	86.2	87.0	88.5	90.1	91.7	92.0	88.3	85.0	80.3	107.6
50.0	85.1	85.8	87.6	89.8	90.6	90.5	86.8	83.1	78.2	106.5
63.0	84.1	85.5	87.1	88.5	89.8	89.2	85.3	81.8	77.2	105.5
80.0	83.6	84.6	86.2	87.8	88.4	87.8	84.6	81.0	76.3	104.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	103.7	103.9	104.4	105.7	107.0	107.4	106.4	106.9	106.9	OAPWL = 124.2

V_∞ =	101	fps
T_a =	69	°F
RH_a =	14	%
P_a =	14.73	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3532 3532

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.9	61.7	63.2	65.5	67.4	63.9	69.0	71.9	73.6
125	64.1	65.5	68.6	67.9	68.2	69.0	70.5	73.6	77.2
160	64.9	67.6	69.3	70.2	70.7	70.4	71.5	75.7	79.7
200	66.6	68.8	69.8	72.9	72.2	73.2	75.7	76.8	80.1
250	68.7	71.2	72.3	73.1	75.2	76.1	76.7	81.2	81.1
315	72.8	75.5	76.1	75.9	77.3	77.5	78.3	81.5	87.9
400	76.5	77.6	77.5	78.7	79.0	78.2	80.5	83.6	90.1
500	78.0	79.1	79.0	79.1	79.3	80.0	81.8	87.0	89.1
630	78.9	79.7	80.9	80.7	77.7	82.2	83.5	88.1	93.5
800	82.1	81.3	80.9	82.1	81.6	83.7	84.9	89.6	93.0
1000	87.0	86.2	85.3	85.4	85.1	84.9	85.7	90.0	93.3
1250	89.7	90.7	88.5	90.0	88.5	86.2	87.5	91.2	92.7
1600	83.7	84.2	84.3	86.0	87.7	87.9	88.2	90.7	92.2
2000	85.4	85.1	87.0	89.2	90.4	89.5	89.2	92.0	92.0
2500	86.8	87.8	88.1	89.1	89.4	89.3	89.7	92.1	91.1
3150	86.7	87.1	88.2	88.7	89.5	89.4	89.0	90.9	89.5
4000	87.1	87.2	86.5	88.1	89.1	89.0	89.1	90.7	87.9
5000	85.3	86.1	85.7	87.4	88.3	88.2	88.3	89.1	86.5
6300	83.2	83.7	84.7	86.0	87.2	86.9	86.8	86.9	84.1
8000	83.2	82.7	84.2	85.5	87.2	87.0	85.9	85.6	81.6
10000	82.5	82.3	83.1	84.8	87.0	87.0	85.2	84.0	79.4
12500	81.8	82.1	83.0	84.1	86.2	87.0	84.7	82.6	78.3
16000	81.1	82.3	83.7	84.6	86.2	86.5	83.7	81.3	76.9
20000	80.6	81.9	83.1	84.6	86.5	85.5	82.2	79.7	75.3
25000	81.5	82.6	83.1	83.8	86.4	84.9	81.3	79.0	74.4
31500	80.5	81.8	82.9	83.9	85.5	85.2	80.4	77.3	73.1
40000	80.2	81.2	82.9	83.8	84.9	84.1	80.0	76.7	72.5
50000	79.5	80.1	82.0	83.5	83.6	82.8	79.1	75.5	71.3
63000	78.0	79.3	81.1	82.4	82.9	81.8	78.1	74.8	70.8
80000	76.2	77.1	79.2	80.9	81.7	80.9	77.0	73.7	68.5
TSPL	97.6	98.1	98.3	99.5	100.4	100.1	99.6	101.6	102.6
SSPL	97.5	98.0	98.2	99.5	100.3	100.0	99.4	101.4	102.1

V_∞ =	103	fps
T_a =	71	°F
RH_a =	18	%
P_a =	14.72	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/14/76		-00	000000	XARF	0	3532	3532

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	98.0	98.3	98.4	99.4	100.1	99.6	98.9	100.7	101.9
SSPL	98.0	98.3	98.3	99.3	100.0	99.5	98.7	100.5	101.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	98.3	98.4	98.3	99.3	99.8	99.2	98.4	100.2	101.2
SSPL	98.2	98.4	98.2	99.2	99.7	99.1	98.2	100.0	100.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3532 3532

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	63.6	62.0	63.3	65.3	66.8	63.0	67.2	69.9	71.7
125	64.8	65.9	68.7	67.6	67.6	68.1	69.1	71.4	74.4
160	65.6	68.0	69.4	70.0	70.1	69.5	70.0	73.2	76.8
200	67.3	69.2	69.9	72.7	71.6	72.3	74.3	75.0	77.2
250	69.4	71.6	72.4	72.9	74.7	75.2	75.3	79.0	80.2
315	73.5	75.9	76.1	75.7	76.7	76.6	76.9	79.0	83.8
400	77.2	78.0	77.5	78.5	78.4	77.3	79.0	81.1	85.9
500	78.7	79.5	79.0	78.8	78.7	79.1	80.2	84.5	87.3
630	79.6	80.1	80.9	80.3	77.1	81.2	82.0	85.4	90.0
800	82.8	81.6	80.9	81.8	81.0	82.7	83.4	87.1	90.5
1000	87.7	86.5	85.3	85.1	84.5	84.0	84.2	87.6	90.8
1250	90.4	91.0	88.5	89.7	87.8	85.4	86.0	89.0	91.0
1600	84.4	84.6	84.4	85.8	87.2	87.0	86.9	88.8	90.4
2000	86.1	85.5	87.1	89.0	89.8	88.7	87.9	90.1	90.9
2500	87.5	88.2	88.2	88.9	88.8	88.4	88.4	90.4	90.5
3150	87.3	87.4	88.2	88.4	88.9	88.5	87.7	89.3	88.9
4000	87.7	87.5	86.5	87.9	88.5	88.1	87.9	89.3	88.0
5000	85.9	86.4	85.7	87.2	87.7	87.3	87.1	87.8	86.4
6300	83.9	84.1	84.8	85.8	86.6	86.0	85.7	85.8	84.0
8000	83.9	83.1	84.3	85.3	86.7	86.2	84.9	84.7	82.1
10000	83.2	82.6	83.2	84.6	86.4	86.2	84.2	83.3	80.1
12500	82.4	82.4	83.0	83.9	85.6	86.1	83.8	82.0	78.7
16000	81.8	82.7	83.8	84.4	85.6	85.7	82.9	80.8	77.3
20000	81.2	82.3	83.2	84.4	85.9	84.7	81.4	79.2	75.7
25000	82.1	82.9	83.1	83.6	85.8	84.1	80.5	78.4	74.9
31500	81.1	82.2	82.9	83.7	84.9	84.4	79.8	76.8	73.3
40000	80.9	81.6	83.0	83.6	84.3	83.3	79.4	76.3	72.8
50000	80.2	80.5	82.1	83.3	83.0	82.0	78.5	75.2	71.5
63000	78.7	79.7	81.1	82.1	82.3	81.0	77.4	74.4	70.9
80000	76.8	77.5	79.3	80.7	81.1	80.1	76.3	73.4	69.2
TSPL	98.3	98.4	98.4	99.3	99.8	99.3	98.4	99.8	100.8
SSPL	98.2	98.3	98.3	99.2	99.7	99.2	98.2	99.6	100.5

V_∞ =	103	fps
T_a =	71	°F
RH_a =	18	%
P_a =	14.72	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=103 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3532 CONDITION 3532

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	28.9	11.3	N	128.5	50.2
TEMP	(R)	689.7	1056.7	(K)	383.2	587.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.041	KG/M3	1.045	0.650	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	968.8	956.0	M/S	295.3	291.4	W (MODEL)	LB/S	1.0	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.6	62.0	63.3	65.3	66.8	63.0	67.2	69.9	71.7	84.5
.125	64.8	65.9	68.7	67.6	67.6	68.1	69.1	71.4	74.4	87.0
.160	65.6	68.0	69.4	70.0	70.1	69.5	70.0	73.2	76.8	88.8
.200	67.3	69.2	69.9	72.7	71.6	72.3	74.3	75.0	77.2	90.8
.250	69.4	71.6	72.4	72.9	74.7	75.2	75.3	79.0	80.2	93.2
.315	73.5	75.9	76.1	75.7	76.7	76.6	76.9	79.0	83.8	95.5
.400	77.2	78.0	77.5	78.5	78.4	77.3	79.0	81.1	85.9	97.5
.500	78.7	79.5	79.0	78.8	78.7	79.1	80.2	84.5	87.3	99.0
.630	79.6	80.1	80.9	80.3	77.1	81.2	82.0	85.4	90.0	100.5
.800	82.8	81.6	80.9	81.8	81.0	82.7	83.4	87.1	90.5	101.9
1.00	87.7	86.5	85.3	85.1	84.5	84.0	84.2	87.6	90.8	104.3
1.25	90.4	91.0	88.5	89.7	87.8	85.4	86.0	89.0	91.0	107.2
1.60	84.4	84.6	84.4	85.8	87.2	87.0	86.9	88.8	90.4	104.9
2.00	86.1	85.5	87.1	89.0	89.8	88.7	87.9	90.1	90.9	106.7
2.50	87.5	88.2	88.2	88.9	88.8	88.4	88.4	90.4	90.5	107.0
3.15	87.3	87.4	88.2	88.4	88.9	88.5	87.7	89.3	88.9	106.6
4.00	87.7	87.5	86.5	87.9	88.5	88.1	87.9	89.3	88.0	106.2
5.00	85.9	86.4	85.7	87.2	87.7	87.3	87.1	87.8	86.4	105.2
6.30	83.9	84.1	84.8	85.8	86.6	86.0	85.7	85.8	84.0	103.7
8.00	83.9	83.1	84.3	85.3	86.7	86.2	84.9	84.7	82.1	103.3
10.0	83.2	82.6	83.2	84.6	86.4	86.2	84.2	83.3	80.1	102.7
12.5	82.4	82.4	83.0	83.9	85.6	86.1	83.8	82.0	78.7	102.2
16.0	81.8	82.7	83.8	84.4	85.6	85.7	82.9	80.8	77.3	102.1
20.0	81.2	82.3	83.2	84.4	85.9	84.7	81.4	79.2	75.7	101.7
25.0	82.1	82.9	83.1	83.6	85.8	84.1	80.5	78.4	74.9	101.4
31.5	81.1	82.2	82.9	83.7	84.9	84.4	79.8	76.8	73.3	101.0
40.0	80.9	81.6	83.0	83.6	84.3	83.3	79.4	76.3	72.8	100.5
50.0	80.2	80.5	82.1	83.3	83.0	82.0	78.5	75.2	71.5	99.6
63.0	78.7	79.7	81.1	82.1	82.3	81.0	77.4	74.4	70.9	98.6
80.0	76.8	77.5	79.3	80.7	81.1	80.1	76.3	73.4	69.2	97.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.3	98.4	98.4	99.3	99.8	99.3	98.4	99.8	100.8	DAPWL = 117.4

V_∞ = 103 fps
T_a = 71 °F
RH_a = 18 %
P_a = 14.72 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3533 3533

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.3	74.9	76.4	79.1	79.0	77.6	78.3	84.7	78.6
125	73.3	74.0	75.1	75.6	75.2	76.5	78.3	83.7	81.6
160	70.5	72.4	71.4	72.8	74.6	76.1	77.6	84.0	81.5
200	71.3	73.4	71.6	73.8	74.3	66.9	78.0	83.4	81.2
250	71.1	72.7	63.1	73.0	74.3	72.8	77.3	83.3	80.5
315	72.3	70.5	71.8	70.4	75.0	74.2	77.5	82.7	85.0
400	74.4	75.2	73.6	75.5	73.8	75.5	78.9	82.8	87.2
500	74.9	76.3	76.0	76.3	75.7	76.8	78.8	84.6	86.2
630	77.4	78.3	78.8	78.9	78.7	79.5	80.8	84.8	88.7
800	80.8	80.1	79.4	79.9	80.9	81.4	81.8	86.1	89.2
1000	86.1	84.5	84.1	83.4	83.5	82.7	82.8	86.2	88.3
1250	85.9	85.9	85.3	85.9	85.3	84.0	84.5	87.1	87.7
1600	82.5	82.9	83.0	84.3	86.0	85.9	85.6	87.0	87.6
2000	84.4	84.3	86.1	87.9	88.7	87.5	86.8	88.8	87.5
2500	85.9	86.5	86.8	87.6	87.8	87.4	87.2	88.7	86.6
3150	85.7	86.5	87.1	87.4	88.2	87.9	86.5	87.5	85.4
4000	86.3	86.5	85.6	87.0	87.9	87.5	86.6	87.5	83.9
5000	84.5	84.8	84.6	86.1	86.6	86.3	85.5	85.9	82.4
6300	82.3	82.8	83.6	84.7	85.6	85.3	84.3	83.7	80.6
8000	82.6	82.0	83.1	84.4	85.7	85.5	83.5	82.8	78.4
10000	81.9	81.8	82.5	84.4	86.6	86.3	83.6	82.0	77.5
12500	81.0	81.7	82.1	83.2	85.1	86.2	83.1	80.4	76.2
16000	80.6	81.9	83.1	84.0	85.4	85.4	82.1	79.2	74.6
20000	80.2	81.5	82.5	84.2	85.5	84.3	80.9	77.7	73.3
25000	80.6	81.9	82.5	83.4	85.4	84.3	80.0	77.3	72.8
31500	79.7	81.2	82.0	83.6	84.6	84.1	79.5	76.0	72.0
40000	79.7	80.8	82.3	83.4	84.2	83.4	79.5	75.6	71.8
50000	78.7	79.6	81.2	83.0	83.0	82.2	78.3	74.5	70.0
63000	72.4	78.6	80.0	81.4	81.9	81.1	76.9	73.9	68.9
80000	77.1	71.3	77.5	79.8	80.3	80.6	75.2	72.4	65.5
TSPL	96.4	96.7	97.1	98.2	99.1	98.7	97.4	99.1	98.7
SSPL	96.3	96.6	97.0	98.1	99.0	98.5	97.1	98.1	97.8

V_∞ =	201	fps
T_a =	66	°F
RH_a =	23	%
P_a =	14.48	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3533 3533

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	97.3	97.3	97.3	98.0	98.5	97.7	96.1	97.6	98.0
SSPL	97.2	97.1	97.2	97.9	98.4	97.6	95.8	96.6	97.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	97.7	97.4	97.2	97.7	97.9	96.9	95.1	96.5	96.5
SSPL	97.6	97.3	97.1	97.5	97.8	96.7	94.7	95.6	95.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/14/76		-00 000000	XARF 0	3533 3533

DBTF JET NOISE TEST COANNULAR NOZ. WI
TH EJECTOR AR=.75 TAPE 4227 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.6	75.6	76.7	78.6	77.8	75.9	75.5	80.2	80.9
125	74.6	74.7	75.2	75.0	74.0	74.6	75.3	79.2	81.1
160	71.8	73.1	71.4	72.3	73.5	74.2	74.6	79.1	81.3
200	72.6	74.0	71.7	73.3	72.9	65.1	73.1	79.4	80.7
250	72.4	72.8	63.3	72.9	73.1	70.9	73.7	78.8	80.5
315	73.6	71.2	71.8	70.0	73.9	72.4	74.2	78.0	81.5
400	75.7	75.8	73.7	74.8	72.6	73.5	75.7	78.5	82.1
500	76.2	77.0	76.0	75.6	74.5	74.9	75.8	79.6	83.2
630	78.7	79.0	78.8	78.3	77.5	77.6	78.0	80.3	84.0
800	82.1	80.7	79.4	79.3	79.8	79.6	79.2	81.5	85.0
1000	87.4	85.1	84.0	82.8	82.3	80.9	80.3	82.1	84.7
1250	87.2	86.5	85.3	85.3	84.1	82.3	81.9	83.4	85.1
1600	83.8	83.6	83.1	83.8	84.8	84.2	83.3	83.8	84.9
2000	85.7	85.1	86.4	87.4	87.5	85.8	84.5	85.5	86.1
2500	87.3	87.2	86.9	87.1	86.6	85.7	84.9	85.7	85.7
3150	87.0	87.2	87.2	86.9	87.0	86.2	84.4	84.7	84.5
4000	87.6	87.1	85.6	86.5	86.8	85.8	84.5	84.9	84.0
5000	85.8	85.4	84.7	85.5	85.4	84.5	83.4	83.5	82.3
6300	83.6	83.5	83.7	84.2	84.4	83.6	82.3	81.7	80.2
8000	84.0	82.7	83.3	83.9	84.5	83.8	81.7	80.9	78.8
10000	83.2	82.5	82.7	84.0	85.4	84.6	82.0	80.4	77.9
12500	82.3	82.4	82.2	82.8	84.0	84.5	81.7	79.2	76.3
16000	81.9	82.7	83.2	83.5	84.2	83.8	80.8	78.1	75.0
20000	81.5	82.3	82.7	83.7	84.3	82.7	79.6	76.8	73.5
25000	81.9	82.6	82.6	82.9	84.2	82.7	78.8	76.1	73.1
31500	81.0	82.0	82.2	83.1	83.4	82.5	78.4	75.0	71.9
40000	81.0	81.6	82.5	82.9	83.0	81.9	78.3	74.8	71.6
50000	80.0	80.4	81.5	82.4	81.8	80.6	77.1	73.7	70.2
63000	73.8	79.6	80.2	80.9	80.6	79.5	75.7	72.8	69.5
80000	78.4	72.1	78.1	79.3	79.1	79.0	74.2	71.4	67.5
TSPL	97.7	97.4	97.2	97.7	97.9	97.0	95.3	95.8	96.6
SSPL	97.6	97.2	97.1	97.6	97.8	96.8	95.0	95.1	95.6

V_∞ =	201	fps
T_a =	66	°F
RH_a =	23	%
P_a =	14.48	psia

20035F DBTF JET NOISE TEST COANNULAR NOZ. WITH EJECTOR AR=.75 TAPE 4227 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/14/76 SCALE RATIO 22.5/1 RUN NUMBER 3533 CONDITION 3533

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	27.7	10.9	N	123.2	48.6
TEMP	(R)	692.8	1049.0	(K)	384.9	582.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.041	KG/M3	1.040	0.655	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	969.4	951.1	M/S	295.5	289.9	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.6	75.6	76.7	78.6	77.8	75.9	75.5	80.2	80.9	95.9
.125	74.6	74.7	75.2	75.0	74.0	74.6	75.3	79.2	81.1	94.2
.160	71.8	73.1	71.4	72.3	73.5	74.2	74.6	79.1	81.3	93.2
.200	72.6	74.0	71.7	73.3	72.9	65.1	73.1	79.4	80.7	92.8
.250	72.4	72.8	63.3	72.9	73.1	70.9	73.7	78.8	80.5	92.3
.315	73.6	71.2	71.8	70.0	73.9	72.4	74.2	78.0	81.5	92.6
.400	75.7	75.8	73.7	74.8	72.6	73.5	75.7	78.5	82.1	94.1
.500	76.2	77.0	76.0	75.6	74.5	74.9	75.8	79.6	83.2	95.2
.630	78.7	79.0	78.8	78.3	77.5	77.6	78.0	80.3	84.0	97.2
.800	82.1	80.7	79.4	79.3	79.8	79.6	79.2	81.5	85.0	98.8
1.00	87.4	85.1	84.0	82.8	82.3	80.9	80.3	82.1	84.7	101.8
1.25	87.2	86.5	85.3	85.3	84.1	82.3	81.9	83.4	85.1	103.1
1.60	83.8	83.6	83.1	83.8	84.8	84.2	83.3	83.8	84.9	102.2
2.00	85.7	85.1	86.4	87.4	87.5	85.8	84.5	85.5	86.1	104.5
2.50	87.3	87.2	86.9	87.1	86.6	85.7	84.9	85.7	85.7	104.8
3.15	87.0	87.2	87.2	86.9	87.0	86.2	84.4	84.7	84.5	104.8
4.00	87.6	87.1	85.6	86.5	86.8	85.8	84.5	84.9	84.0	104.4
5.00	85.8	85.4	84.7	85.5	85.4	84.5	83.4	83.5	82.3	103.1
6.30	83.6	83.5	83.7	84.2	84.4	83.6	82.3	81.7	80.2	101.7
8.00	84.0	82.7	83.3	83.9	84.5	83.8	81.7	80.9	78.8	101.5
10.0	83.2	82.5	82.7	84.0	85.4	84.6	82.0	80.4	77.9	101.6
12.5	82.3	82.4	82.2	82.8	84.0	84.5	81.7	79.2	76.3	100.9
16.0	81.9	82.7	83.2	83.5	84.2	83.8	80.8	78.1	75.0	101.0
20.0	81.5	82.3	82.7	83.7	84.3	82.7	79.6	76.8	73.5	100.6
25.0	81.9	82.6	82.6	82.9	84.2	82.7	78.8	76.1	73.1	100.4
31.5	81.0	82.0	82.2	83.1	83.4	82.5	78.4	75.0	71.9	100.0
40.0	81.0	81.6	82.5	82.9	83.0	81.9	78.3	74.8	71.6	99.8
50.0	80.0	80.4	81.5	82.4	81.8	80.6	77.1	73.7	70.2	98.7
63.0	73.8	79.6	80.2	80.9	80.6	79.5	75.7	72.8	69.5	97.3
80.0	78.4	72.1	78.1	79.3	79.1	79.0	74.2	71.4	67.5	95.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.7	97.4	97.2	97.7	97.9	97.0	95.3	95.8	96.6	

V_∞ = 201 fps
T_a = 66 °F
RH_a = 23 %
P_a = 14.48 psia

OAPWL = 115.4

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3535	3535

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.4	74.8	78.1	80.1	79.7	78.8	79.6	84.2	87.7
125	75.6	78.0	80.8	80.6	79.6	80.6	81.8	86.1	89.9
160	76.3	79.8	81.2	82.3	81.7	82.0	83.0	88.6	92.9
200	78.6	80.5	81.7	84.6	83.7	86.4	87.6	88.8	93.1
250	81.9	84.2	84.8	86.1	87.4	87.8	89.8	94.7	94.9
315	86.5	89.5	89.0	88.7	87.1	89.7	90.3	96.1	101.8
400	90.1	89.2	88.3	89.7	88.3	89.5	94.0	96.9	103.9
500	89.4	90.4	89.0	89.5	91.1	93.4	96.1	102.1	103.9
630	87.4	89.1	89.9	91.3	92.2	94.6	97.2	102.7	107.8
800	91.7	90.6	90.3	92.3	93.8	95.9	99.3	105.4	108.6
1000	90.9	91.1	92.2	94.2	94.9	97.0	100.4	106.1	108.6
1250	90.7	91.7	92.2	94.4	96.2	99.1	101.9	106.8	107.5
1600	91.9	93.0	93.7	95.9	98.0	100.0	103.2	106.8	106.5
2000	94.2	95.2	96.0	98.0	100.0	101.9	104.9	107.4	105.9
2500	95.4	95.8	96.5	98.5	100.8	103.0	105.5	107.2	105.1
3150	96.2	97.2	97.6	99.7	101.5	104.0	106.3	107.3	105.2
4000	97.4	98.4	98.9	100.7	103.0	105.9	107.3	108.2	105.3
5000	98.7	99.6	99.8	102.3	104.2	107.1	108.1	108.6	106.5
6300	98.8	99.7	100.5	102.8	105.1	107.8	108.4	109.1	107.4
8000	99.7	100.0	100.8	103.1	106.1	108.8	108.7	110.3	108.2
10000	100.2	100.6	101.2	103.6	106.2	108.8	108.9	110.3	108.1
12500	101.5	101.4	101.5	104.1	106.5	108.6	108.2	109.5	107.2
16000	105.3	104.7	103.0	105.1	107.3	108.5	107.4	108.3	105.4
20000	106.6	105.7	104.3	105.3	107.7	108.1	106.0	105.8	102.2
25000	106.9	107.3	105.8	105.9	109.1	108.7	105.5	104.9	100.2
31500	105.5	106.6	106.8	107.1	108.5	108.9	105.5	103.6	98.5
40000	105.9	106.4	106.8	107.8	108.7	108.8	105.3	102.8	97.7
50000	105.9	106.6	106.9	108.9	109.7	108.8	105.7	102.5	96.9
63000	105.5	106.8	107.2	108.4	109.7	109.2	105.7	102.8	96.5
80000	105.7	106.3	106.8	108.0	109.3	108.9	106.0	102.9	96.9
TSPL	115.9	116.3	116.3	117.6	119.4	120.3	119.5	120.6	119.5
SSPL	115.9	116.3	116.2	117.6	119.4	120.3	119.5	120.5	119.3

V_∞ =	102	fps
T_a =	80	°F
RH_a =	31	%
P_a =	14.65	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3535 3535

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	116.3	116.6	116.3	117.5	119.1	119.8	118.8	119.7	118.7
SSPL	116.3	116.5	116.3	117.5	119.1	119.8	118.8	119.7	118.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	116.5	116.7	116.3	117.4	118.8	119.4	118.3	119.2	118.1
SSPL	116.5	116.6	116.3	117.4	118.8	119.4	118.3	119.1	117.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF	0	3535	3535

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.1	75.2	78.3	79.9	79.1	77.9	78.1	81.7	85.1
125	76.3	78.5	80.9	80.2	79.0	79.7	80.3	83.6	87.1
160	77.0	80.3	81.3	82.0	81.1	81.1	81.4	85.8	90.0
200	79.3	80.9	81.8	84.4	83.1	85.4	86.3	86.9	89.8
250	82.6	84.6	84.9	85.9	86.8	86.9	88.2	92.4	93.9
315	87.2	89.9	89.0	88.4	86.6	88.7	88.8	93.1	98.3
400	90.8	89.5	88.3	89.4	87.7	88.5	92.3	94.5	99.5
500	90.1	90.7	89.0	89.3	90.6	92.4	94.4	99.5	102.3
630	88.1	89.5	90.0	91.1	91.7	93.6	95.5	99.9	104.6
800	92.4	90.9	90.4	92.1	93.3	94.9	97.5	102.7	106.3
1000	91.6	91.5	92.3	94.0	94.3	96.0	98.7	103.5	106.6
1250	91.4	92.1	92.3	94.2	95.7	98.1	100.3	104.5	106.3
1600	92.6	93.4	93.8	95.7	97.5	99.0	101.6	104.9	105.6
2000	94.9	95.6	96.1	97.8	99.5	100.9	103.4	105.8	105.5
2500	96.1	96.2	96.6	98.4	100.3	102.0	104.1	105.8	104.9
3150	96.8	97.5	97.6	99.5	101.0	103.0	104.9	105.9	104.9
4000	98.0	98.7	98.9	100.5	102.5	104.9	106.0	106.9	105.3
5000	99.3	99.9	99.9	102.1	103.7	106.1	106.8	107.3	106.1
6300	99.5	100.1	100.6	102.6	104.6	106.8	107.2	107.8	106.9
8000	100.4	100.4	100.9	103.0	105.7	107.9	107.5	108.9	108.0
10000	100.9	101.0	101.3	103.4	105.7	107.8	107.7	108.9	107.9
12500	102.1	101.7	101.5	103.9	106.0	107.6	107.0	108.1	107.0
16000	106.0	105.0	103.0	104.9	106.8	107.6	106.3	107.0	105.5
20000	107.2	106.0	104.3	105.1	107.2	107.2	105.0	104.8	102.5
25000	107.5	107.6	105.7	105.7	108.5	107.9	104.6	104.0	100.9
31500	106.1	107.0	106.8	106.8	107.9	108.1	104.7	103.0	99.3
40000	106.6	106.8	106.9	107.6	108.2	108.0	104.6	102.4	98.5
50000	106.6	107.0	107.0	108.7	109.1	108.0	105.0	102.2	97.8
63000	106.1	107.1	107.2	108.1	109.1	108.4	104.9	102.5	97.7
80000	106.4	106.7	106.9	107.8	108.7	108.1	105.2	102.6	98.0
TSPL	116.5	116.7	116.3	117.4	118.9	119.4	118.4	119.1	118.6
SSPL	116.5	116.7	116.3	117.4	118.9	119.4	118.4	119.1	118.5

V_∞ =	102	fps
T_a =	80	°F
RH_a =	31	%
P_a =	14.65	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3535 CONDITION 3535

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.24		1.52	3.24	THRUST,IDL	LB	28.1	69.9	N	124.9	310.8
TEMP	(R)	724.8	1230.3	(K)	402.7	683.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.044	KG/M3	0.994	0.709	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	993.6	2064.0	M/S	302.8	629.1	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.1	75.2	78.3	79.9	79.1	77.9	78.1	81.7	85.1	97.5
.125	76.3	78.5	80.9	80.2	79.0	79.7	80.3	83.6	87.1	99.1
.160	77.0	80.3	81.3	82.0	81.1	81.1	81.4	85.8	90.0	100.9
.200	79.3	80.9	81.8	84.4	83.1	85.4	86.3	86.9	89.8	102.8
.250	82.6	84.6	84.9	85.9	86.8	86.9	88.2	92.4	93.9	106.1
.315	87.2	89.9	89.0	88.4	86.6	88.7	88.8	93.1	98.3	108.6
.400	90.8	89.5	88.3	89.4	87.7	88.5	92.3	94.5	99.5	109.7
.500	90.1	90.7	89.0	89.3	90.6	92.4	94.4	99.5	102.3	112.5
.630	88.1	89.5	90.0	91.1	91.7	93.6	95.5	99.9	104.6	113.6
.800	92.4	90.9	90.4	92.1	93.3	94.9	97.5	102.7	106.3	115.6
1.00	91.6	91.5	92.3	94.0	94.3	96.0	98.7	103.5	106.6	116.4
1.25	91.4	92.1	92.3	94.2	95.7	98.1	100.3	104.5	106.3	117.2
1.60	92.6	93.4	93.8	95.7	97.5	99.0	101.6	104.9	105.6	117.8
2.00	94.9	95.6	96.1	97.8	99.5	100.9	103.4	105.8	105.5	119.2
2.50	96.1	96.2	96.6	98.4	100.3	102.0	104.1	105.8	104.9	119.6
3.15	96.8	97.5	97.6	99.5	101.0	103.0	104.9	105.9	104.9	120.2
4.00	98.0	98.7	98.9	100.5	102.5	104.9	106.0	106.9	105.3	121.5
5.00	99.3	99.9	99.9	102.1	103.7	106.1	106.8	107.3	106.1	122.4
6.30	99.5	100.1	100.6	102.6	104.6	106.8	107.2	107.8	106.9	123.0
8.00	100.4	100.4	100.9	103.0	105.7	107.9	107.5	108.9	108.0	123.8
10.0	100.9	101.0	101.3	103.4	105.7	107.8	107.7	108.9	107.9	123.9
12.5	102.1	101.7	101.5	103.9	106.0	107.6	107.0	108.1	107.0	123.7
16.0	106.0	105.0	103.0	104.9	106.8	107.6	106.3	107.0	105.5	124.2
20.0	107.2	106.0	104.3	105.1	107.2	107.2	105.0	104.8	102.5	124.1
25.0	107.5	107.6	105.7	105.7	108.5	107.9	104.6	104.0	100.9	124.9
31.5	106.1	107.0	106.8	106.8	107.9	108.1	104.7	103.0	99.3	124.9
40.0	106.6	106.8	106.9	107.6	108.2	108.0	104.6	102.4	98.5	125.0
50.0	106.6	107.0	107.0	108.7	109.1	108.0	105.0	102.2	97.8	125.5
63.0	106.1	107.1	107.2	108.1	109.1	108.4	104.9	102.5	97.7	125.4
80.0	106.4	106.7	106.9	107.8	108.7	108.1	105.2	102.6	98.0	125.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	116.5	116.7	116.3	117.4	118.9	119.4	118.4	119.1	118.6	

OAPWL = 136.3

V_∞ =	102	fps
T_a =	80	°F
RH_a =	31	%
P_a =	14.65	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF 0	3536	3536

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.6	72.6	80.5	81.7	79.9	79.7	79.3	87.5	89.6
125	76.0	76.7	81.9	81.5	75.4	79.8	80.0	87.7	90.2
160	72.8	76.4	79.4	80.4	78.4	80.8	80.4	88.3	91.9
200	76.3	77.5	80.1	83.0	80.7	84.7	84.4	88.1	91.7
250	80.5	82.3	83.1	84.6	86.5	85.6	85.8	92.8	92.8
315	85.3	87.7	87.2	86.3	85.7	87.3	86.4	94.8	100.1
400	87.3	86.3	85.6	86.8	86.8	87.2	90.2	95.1	101.6
500	85.3	86.6	86.0	86.9	88.6	90.5	91.1	99.8	102.1
630	85.5	86.7	87.5	88.8	89.9	92.1	93.5	100.7	104.8
800	89.2	88.0	87.9	90.5	92.1	93.5	95.1	103.0	106.1
1000	88.9	89.4	89.8	91.8	92.7	94.9	96.5	103.9	105.3
1250	89.1	90.2	90.6	92.8	94.4	97.1	98.4	104.4	104.0
1600	90.9	91.6	92.2	94.3	96.3	97.9	99.9	104.6	103.2
2000	92.9	93.6	94.5	96.5	98.3	100.4	101.9	105.3	102.5
2500	93.8	94.6	95.2	97.4	99.3	101.4	103.1	105.2	101.6
3150	95.1	96.1	96.6	98.6	100.4	102.7	104.3	105.1	101.6
4000	97.1	98.1	98.4	100.0	102.4	104.8	106.1	106.2	101.6
5000	98.4	98.9	99.2	101.5	103.3	106.2	107.7	106.8	102.5
6300	98.0	98.9	99.8	102.0	104.2	106.9	108.3	106.9	103.0
8000	99.5	99.2	100.4	102.6	105.7	108.1	109.4	108.2	103.7
10000	99.8	100.5	100.7	103.2	105.9	108.1	109.7	108.4	103.9
12500	101.5	101.4	101.6	103.9	106.3	108.1	109.6	107.8	103.8
16000	105.8	104.8	103.2	104.9	107.2	108.2	109.3	106.6	102.4
20000	106.8	106.1	104.4	105.2	107.6	107.9	107.9	104.4	99.5
25000	107.0	107.5	106.0	106.2	109.1	108.8	107.7	103.6	97.6
31500	105.4	106.8	107.1	107.1	108.4	108.9	107.9	102.5	96.3
40000	105.5	105.8	106.7	107.8	108.6	108.5	107.7	101.6	95.4
50000	105.1	105.6	106.2	108.3	109.0	108.3	107.6	101.1	94.4
63000	104.6	105.8	106.5	107.7	109.0	108.6	107.4	101.2	94.4
80000	105.1	105.7	106.4	107.8	108.9	108.5	107.9	101.5	95.3
TSPL	115.6	116.0	116.0	117.3	119.0	119.7	120.1	118.7	116.2
SSPL	115.6	115.9	116.0	117.3	119.0	119.7	120.1	118.6	115.9

V_∞ =	202	fps
T_a =	68	°F
RH_a =	51	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3536	3536

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	116.5	116.5	116.2	117.1	118.4	118.8	118.8	117.2	115.5
SSPL	116.5	116.5	116.1	117.1	118.4	118.8	118.8	117.1	115.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	116.9	116.7	116.1	116.7	117.8	117.9	117.8	116.1	114.0
SSPL	116.9	116.7	116.0	116.7	117.8	117.9	117.8	116.0	113.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO STND C	OBS CORR
W631	315	05/17/76		-00 000000 XARF 0	3536 3536

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	78.9	73.5	81.1	81.1	78.7	77.9	76.5	81.4	86.5
125	77.3	77.7	82.2	80.5	74.2	77.8	77.2	81.7	86.7
160	74.1	77.4	79.7	79.8	77.2	78.9	77.7	82.1	87.7
200	77.6	78.3	80.5	82.4	79.5	82.8	82.0	83.7	87.1
250	81.8	83.1	83.3	84.1	85.3	83.9	83.0	87.4	91.0
315	86.6	88.4	87.1	85.6	84.5	85.5	83.7	88.2	94.8
400	88.6	86.9	85.6	86.3	85.6	85.3	87.0	90.1	95.1
500	86.6	87.3	86.0	86.4	87.5	88.6	88.1	93.5	98.9
630	86.8	87.5	87.6	88.3	88.7	90.2	90.5	94.9	100.2
800	90.5	88.6	88.1	90.1	91.0	91.6	92.0	97.0	102.3
1000	90.2	90.1	90.0	91.3	91.6	93.0	93.5	98.3	102.6
1250	90.4	90.9	90.8	92.4	93.3	95.2	95.5	99.5	102.4
1600	92.2	92.3	92.4	93.9	95.2	96.0	97.0	100.4	102.2
2000	94.2	94.4	94.8	96.1	97.2	98.5	99.2	101.7	102.3
2500	95.2	95.4	95.5	97.0	98.2	99.5	100.5	102.3	101.8
3150	96.4	96.8	96.7	98.1	99.2	100.7	101.7	102.6	101.6
4000	98.4	98.8	98.5	99.6	101.3	102.8	103.6	104.1	102.3
5000	99.7	99.6	99.4	101.1	102.2	104.2	105.3	105.1	102.9
6300	99.3	99.6	100.0	101.6	103.1	105.0	106.0	105.4	103.1
8000	100.9	99.9	100.7	102.3	104.7	106.2	107.1	106.7	104.2
10000	101.1	101.2	100.9	102.8	104.8	106.2	107.3	106.9	104.4
12500	102.8	102.0	101.8	103.5	105.2	106.2	107.2	106.4	103.9
16000	107.1	105.3	103.2	104.5	106.1	106.4	107.1	105.6	102.5
20000	108.1	106.6	104.3	104.7	106.4	106.1	105.9	103.8	100.0
25000	108.3	108.0	105.9	105.7	107.9	107.1	105.9	103.2	98.8
31500	106.7	107.5	107.1	106.5	107.2	107.1	106.3	102.7	97.5
40000	106.8	106.5	106.9	107.3	107.4	106.8	106.1	102.2	96.6
50000	106.4	106.3	106.4	107.8	107.8	106.6	106.0	101.9	95.9
63000	105.9	106.5	106.6	107.2	107.8	106.9	105.8	101.8	96.0
80000	106.4	106.4	106.6	107.3	107.7	106.8	106.3	102.2	96.5
TSPL	116.9	116.6	116.1	116.8	117.8	117.9	118.0	116.9	115.3
SSPL	116.9	116.6	116.1	116.8	117.8	117.9	118.0	116.8	115.1

V_∞ =	202	fps
T_a =	68	°F
RH_a =	51	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3536 CONDITION 3536

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	27.6	67.4	N	122.9	299.8
TEMP	(R)	732.0	1269.0	(K)	406.7	705.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.061	0.043	KG/M3	0.984	0.684	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1000.0	2087.0	M/S	304.8	636.1	W (MODEL)	LB/S	0.9	1.0	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.9	73.5	81.1	81.1	78.7	77.9	76.5	81.4	86.5	98.2
.125	77.3	77.7	82.2	80.5	74.2	77.8	77.2	81.7	86.7	98.3
.160	74.1	77.4	79.7	79.8	77.2	78.9	77.7	82.1	87.7	98.2
.200	77.6	78.3	80.5	82.4	79.5	82.8	82.0	83.7	87.1	100.0
.250	81.8	83.1	83.3	84.1	85.3	83.9	83.0	87.4	91.0	103.1
.315	86.6	88.4	87.1	85.6	84.5	85.5	83.7	88.2	94.8	105.6
.400	88.6	86.9	85.6	86.3	85.6	85.3	87.0	90.1	95.1	106.1
.500	86.6	87.3	86.0	86.4	87.5	88.6	88.1	93.5	98.9	108.2
.630	86.8	87.5	87.6	88.3	88.7	90.2	90.5	94.9	100.2	109.6
.800	90.5	88.6	88.1	90.1	91.0	91.6	92.0	97.0	102.3	111.5
1.00	90.2	90.1	90.0	91.3	91.6	93.0	93.5	98.3	102.6	112.4
1.25	90.4	90.9	90.8	92.4	93.3	95.2	95.5	99.5	102.4	113.4
1.60	92.2	92.3	92.4	93.9	95.2	96.0	97.0	100.4	102.2	114.4
2.00	94.2	94.4	94.8	96.1	97.2	98.5	99.2	101.7	102.3	116.2
2.50	95.2	95.4	95.5	97.0	98.2	99.5	100.5	102.3	101.8	117.0
3.15	96.4	96.8	96.7	98.1	99.2	100.7	101.7	102.6	101.6	117.9
4.00	98.4	98.8	98.5	99.6	101.3	102.8	103.6	104.1	102.3	119.7
5.00	99.7	99.6	99.4	101.1	102.2	104.2	105.3	105.1	102.9	120.9
6.30	99.3	99.6	100.0	101.6	103.1	105.0	106.0	105.4	103.1	121.4
8.00	100.9	99.9	100.7	102.3	104.7	106.2	107.1	106.7	104.2	122.5
10.0	101.1	101.2	100.9	102.8	104.8	106.2	107.3	106.9	104.4	122.8
12.5	102.8	102.0	101.8	103.5	105.2	106.2	107.2	106.4	103.9	123.0
16.0	107.1	105.3	103.2	104.5	106.1	106.4	107.1	105.6	102.5	123.9
20.0	108.1	106.6	104.3	104.7	106.4	106.1	105.9	103.8	100.0	124.0
25.0	108.3	108.0	105.9	105.7	107.9	107.1	105.9	103.2	98.8	124.9
31.5	106.7	107.5	107.1	106.5	107.2	107.1	106.3	102.7	97.5	124.8
40.0	106.8	106.5	106.9	107.3	107.4	106.8	106.1	102.2	96.6	124.7
50.0	106.4	106.3	106.4	107.8	107.8	106.6	106.0	101.9	95.9	124.7
63.0	105.9	106.5	106.6	107.2	107.8	106.9	105.8	101.8	96.0	124.6
80.0	106.4	106.4	106.6	107.3	107.7	106.8	106.3	102.2	96.5	124.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	116.9	116.6	116.1	116.8	117.8	117.9	118.0	116.9	115.3	OAPWL = 135.4

V_∞ =	202	fps
T_a =	68	°F
RH_a =	51	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3537	3537

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	69.8	76.8	73.1	74.7	85.2	74.5	80.4	84.5	85.1
125	68.6	77.4	76.5	74.6	83.6	76.1	71.3	84.7	86.0
160	64.7	63.1	74.8	75.3	83.3	76.6	75.4	85.5	88.1
200	71.6	70.6	76.2	78.7	82.8	80.9	80.1	84.7	88.1
250	76.4	78.4	79.5	80.5	84.8	82.2	82.0	89.5	89.3
315	81.5	83.5	83.2	82.5	84.0	83.7	82.4	90.6	95.9
400	83.3	82.8	82.0	83.5	85.5	83.9	86.1	91.0	97.4
500	82.2	83.6	83.0	83.7	86.5	87.1	87.4	95.5	97.8
630	83.0	84.5	85.3	86.6	88.2	88.9	89.5	96.3	100.5
800	86.4	85.5	85.4	87.4	89.8	90.1	90.9	98.2	101.3
1000	87.2	87.0	87.0	88.7	90.1	91.4	92.2	98.9	100.6
1250	87.9	88.5	88.4	90.2	92.1	93.6	94.3	100.2	100.1
1600	88.3	89.2	90.0	91.9	93.9	94.6	95.5	100.3	99.5
2000	92.1	92.1	92.6	94.0	95.7	96.9	97.7	101.3	99.0
2500	91.9	92.8	93.3	95.1	96.9	98.2	98.8	101.6	98.1
3150	93.6	94.3	94.5	96.4	97.5	99.3	100.3	101.8	98.3
4000	94.7	95.4	95.8	97.1	99.1	100.9	102.2	102.5	98.2
5000	96.3	96.7	96.7	99.0	100.2	102.3	103.7	103.1	99.1
6300	95.6	96.5	97.3	99.1	101.1	103.0	104.3	103.2	99.4
8000	96.6	96.6	97.5	99.7	102.3	104.1	104.7	103.8	99.3
10000	96.2	97.0	97.4	99.9	102.4	104.4	104.7	103.4	98.6
12500	95.8	96.9	97.6	100.5	103.2	105.0	104.4	102.2	97.7
16000	96.4	97.6	98.5	101.4	104.2	106.3	105.0	100.9	96.0
20000	96.3	97.3	98.3	101.0	104.0	106.4	105.4	99.7	94.0
25000	98.3	98.8	98.5	100.8	104.1	106.0	106.0	100.8	94.0
31500	101.2	101.1	99.8	100.4	102.6	104.1	105.3	99.9	93.3
40000	101.9	102.5	102.0	101.3	102.0	102.7	103.4	98.2	92.0
50000	100.6	101.8	102.5	103.2	102.3	102.0	101.8	95.8	89.8
63000	99.5	101.2	102.3	103.6	103.4	102.2	101.2	94.7	88.6
80000	99.6	100.7	101.7	103.4	103.8	102.6	102.0	95.1	89.0
TSPL	110.2	111.0	111.4	112.9	114.5	115.9	116.0	114.4	111.9
SSPL	110.2	111.0	111.3	112.9	114.5	115.8	116.0	114.3	111.6

V_∞ =	202	fps
T_a =	67	°F
RH_a =	68	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF 0	3537	3537

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	111.2	111.6	111.5	112.7	114.0	114.9	114.7	112.9	111.2
SSPL	111.1	111.5	111.5	112.7	113.9	114.9	114.7	112.8	110.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	111.5	111.7	111.5	112.4	113.3	114.0	113.6	111.8	109.7
SSPL	111.5	111.7	111.4	112.3	113.3	114.0	113.6	111.7	109.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/17/76 -00 000000 XARF 0 3537 3537

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	71.1	77.6	73.0	74.8	84.0	73.1	76.6	80.6	82.6
125	69.9	78.4	76.2	74.4	82.4	74.9	68.9	76.3	83.9
160	66.0	64.4	75.6	75.1	82.1	75.2	72.5	78.5	84.8
200	72.9	71.5	76.7	78.4	81.7	79.2	77.6	79.9	83.7
250	77.8	79.2	79.6	80.1	83.6	80.6	79.2	83.8	87.6
315	82.8	84.2	83.1	82.0	82.9	82.0	79.9	84.1	90.6
400	84.6	83.4	82.0	83.0	84.3	82.1	83.1	86.0	91.0
500	83.5	84.3	83.0	83.3	85.3	85.3	84.5	89.4	94.5
630	84.3	85.3	85.4	86.1	87.1	87.1	86.7	90.6	95.8
800	87.7	86.1	85.5	87.0	88.6	88.3	88.0	92.4	97.4
1000	88.5	87.6	87.1	88.2	88.9	89.6	89.4	93.5	97.6
1250	89.2	89.2	88.5	89.8	91.0	91.8	91.5	95.3	98.3
1600	89.6	90.0	90.2	91.5	92.8	92.8	92.8	95.9	98.1
2000	93.4	92.8	92.8	93.6	94.6	95.1	95.1	97.6	98.5
2500	93.3	93.6	93.5	94.7	95.8	96.4	96.3	98.3	98.3
3150	94.9	94.9	94.6	95.9	96.3	97.4	97.8	99.0	98.3
4000	96.0	96.1	95.9	96.6	98.0	99.0	99.7	100.3	98.7
5000	97.6	97.3	96.9	98.5	99.1	100.4	101.3	101.3	99.3
6300	96.9	97.2	97.5	98.7	100.0	101.1	102.0	101.6	99.4
8000	98.0	97.3	97.8	99.4	101.2	102.3	102.5	102.1	99.9
10000	97.5	97.7	97.6	99.5	101.3	102.5	102.5	101.9	99.3
12500	97.1	97.6	97.8	100.1	102.1	103.1	102.4	100.9	98.1
16000	97.7	98.4	98.8	101.1	103.1	104.5	103.4	100.5	96.5
20000	97.6	98.0	98.6	100.7	102.9	104.5	103.8	100.0	94.9
25000	99.6	99.4	98.6	100.4	103.0	104.1	104.2	101.0	95.7
31500	102.5	101.6	99.7	99.9	101.5	102.2	103.3	100.3	94.8
40000	103.2	103.2	101.9	100.7	100.9	100.9	101.5	98.5	93.3
50000	101.9	102.6	102.6	102.6	101.1	100.3	100.1	96.3	90.9
63000	100.9	101.9	102.4	103.0	102.1	100.5	99.6	95.4	89.7
80000	100.9	101.5	101.9	102.9	102.6	100.9	100.4	95.9	90.0
TSPL	111.5	111.7	111.5	112.4	113.4	114.0	114.0	112.6	111.0
SSPL	111.5	111.7	111.5	112.4	113.4	114.0	114.0	112.5	110.8

V_∞ =	202	fps
T_a =	67	°F
RH_a =	68	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3537 CONDITION 3537

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.45		1.52	2.45	THRUST,IDL	LB	27.4	46.2	N	121.9	205.3
TEMP	(R)	726.7	1260.0	(K)	403.7	700.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.040	KG/M3	0.990	0.643	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	991.5	1858.0	M/S	302.2	566.3	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.1	77.6	73.0	74.8	84.0	73.1	76.6	80.6	82.6	97.1
.125	69.9	78.4	76.2	74.4	82.4	74.9	68.9	76.3	83.9	96.2
.160	66.0	64.4	75.6	75.1	82.1	75.2	72.5	78.5	84.8	95.8
.200	72.9	71.5	76.7	78.4	81.7	79.2	77.6	79.9	83.7	97.0
.250	77.8	79.2	79.6	80.1	83.6	80.6	79.2	83.8	87.6	99.8
.315	82.8	84.2	83.1	82.0	82.9	82.0	79.9	84.1	90.6	101.9
.400	84.6	83.4	82.0	83.0	84.3	82.1	83.1	86.0	91.0	102.6
.500	83.5	84.3	83.0	83.3	85.3	85.3	84.5	89.4	94.5	104.6
.630	84.3	85.3	85.4	86.1	87.1	87.1	86.7	90.6	95.8	106.2
.800	87.7	86.1	85.5	87.0	88.6	88.3	88.0	92.4	97.4	107.6
1.00	88.5	87.6	87.1	88.2	88.9	89.6	89.4	93.5	97.6	108.5
1.25	89.2	89.2	88.5	89.8	91.0	91.8	91.5	95.3	98.3	110.1
1.60	89.6	90.0	90.2	91.5	92.8	92.8	92.8	95.9	98.1	111.0
2.00	93.4	92.8	92.8	93.6	94.6	95.1	95.1	97.6	98.5	113.0
2.50	93.3	93.6	93.5	94.7	95.8	96.4	96.3	98.3	98.3	113.9
3.15	94.9	94.9	94.6	95.9	96.3	97.4	97.8	99.0	98.3	114.9
4.00	96.0	96.1	95.9	96.6	98.0	99.0	99.7	100.3	98.7	116.2
5.00	97.6	97.3	96.9	98.5	99.1	100.4	101.3	101.3	99.3	117.6
6.30	96.9	97.2	97.5	98.7	100.0	101.1	102.0	101.6	99.4	118.0
8.00	98.0	97.3	97.8	99.4	101.2	102.3	102.5	102.1	99.9	118.7
10.0	97.5	97.7	97.6	99.5	101.3	102.5	102.5	101.9	99.3	118.8
12.5	97.1	97.6	97.8	100.1	102.1	103.1	102.4	100.9	98.1	118.9
16.0	97.7	98.4	98.8	101.1	103.1	104.5	103.4	100.5	96.5	119.8
20.0	97.6	98.0	98.6	100.7	102.9	104.5	103.8	100.0	94.9	119.7
25.0	99.6	99.4	98.6	100.4	103.0	104.1	104.2	101.0	95.7	119.9
31.5	102.5	101.6	99.7	99.9	101.5	102.2	103.3	100.3	94.8	119.6
40.0	103.2	103.2	101.9	100.7	100.9	100.9	101.5	98.5	93.3	119.7
50.0	101.9	102.6	102.6	102.6	101.1	100.3	100.1	96.3	90.9	119.6
63.0	100.9	101.9	102.4	103.0	102.1	100.5	99.6	95.4	89.7	119.6
80.0	100.9	101.5	101.9	102.9	102.6	100.9	100.4	95.9	90.0	119.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.5	111.7	111.5	112.4	113.4	114.0	114.0	112.6	111.0	OAPWL = 131.0

V_∞ = 202 fps
T_a = 67 °F
RH_a = 68 %
P_a = 14.41 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76	✓	-00 000000	XARF 0	3538 3538

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	70.7	69.6	73.5	75.6	81.6	74.6	74.3	80.5	83.7
125	72.4	75.6	78.1	77.6	80.6	78.0	77.0	82.9	86.9
160	73.7	77.3	78.7	79.7	81.1	79.3	78.1	85.4	89.8
200	75.9	77.7	78.9	82.0	81.7	83.3	82.6	85.8	89.8
250	79.1	81.5	82.2	83.1	82.2	85.3	84.4	91.8	91.7
315	83.2	86.1	85.9	85.6	82.4	86.7	85.4	92.9	98.7
400	86.9	86.4	85.4	86.7	85.0	86.8	88.8	93.8	100.3
500	86.4	87.7	86.3	86.9	88.3	90.6	91.1	98.6	100.4
630	85.5	87.0	88.0	89.3	89.9	91.9	92.1	99.4	104.4
800	89.1	88.5	88.1	90.2	91.4	93.1	94.0	101.7	104.7
1000	89.2	89.2	89.7	91.6	92.4	94.4	95.1	102.5	105.0
1250	89.7	90.1	90.5	92.2	93.9	96.2	96.9	103.2	104.2
1600	89.7	90.9	91.8	94.0	95.9	97.4	98.3	103.3	103.5
2000	93.1	93.3	94.0	95.8	97.5	99.2	99.9	104.1	102.8
2500	93.5	94.2	94.6	96.5	98.6	100.2	100.8	104.2	101.9
3150	95.0	95.4	95.8	97.7	99.1	101.3	102.1	104.1	101.9
4000	95.6	96.5	97.0	98.4	100.5	102.7	103.4	104.9	101.9
5000	97.0	97.8	97.7	100.0	101.5	103.8	104.8	105.1	102.6
6300	96.9	97.5	98.3	100.0	102.3	104.3	105.2	105.0	103.1
8000	97.6	97.7	98.4	100.4	103.2	105.4	105.6	105.8	103.0
10000	97.4	97.9	98.2	100.7	103.3	105.3	105.6	105.0	102.0
12500	96.9	97.9	98.5	101.3	104.0	105.8	105.4	103.6	100.7
16000	97.4	98.4	99.2	102.1	104.9	107.2	105.6	102.1	98.4
20000	97.0	97.9	98.9	101.6	104.7	107.4	105.8	100.6	95.7
25000	98.6	99.1	99.0	101.5	105.0	107.1	106.5	101.2	94.8
31500	99.9	99.8	99.3	101.0	103.6	105.2	106.0	100.2	94.0
40000	100.6	100.8	100.5	100.9	102.5	103.6	103.9	98.4	92.6
50000	100.1	100.8	101.2	102.0	102.2	102.9	102.5	96.1	90.1
63000	99.1	100.5	101.3	102.2	102.6	102.5	101.7	95.1	88.6
80000	99.3	100.1	100.9	102.2	102.8	102.4	101.9	94.8	88.5
TSPL	110.3	111.0	111.4	113.1	115.2	117.0	116.8	116.4	115.4
SSPL	110.3	110.9	111.3	113.1	115.2	116.9	116.8	116.3	115.1

V_∞ =	99	fps
T_a =	70	°F
RH_a =	67	%
P_a =	14.66	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3538 3538

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	110.8	111.2	111.4	113.0	114.9	116.4	116.1	115.5	114.6
SSPL	110.7	111.2	111.4	113.0	114.8	116.4	116.1	115.4	114.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	111.0	111.3	111.4	112.9	114.6	116.1	115.6	115.0	113.9
SSPL	111.0	111.3	111.3	112.8	114.6	116.0	115.6	114.9	113.7

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3538 3538

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	71.4	70.0	73.6	75.6	81.0	73.9	72.8	77.7	81.5
125	73.1	76.1	78.2	77.4	80.0	77.2	75.6	80.1	84.2
160	74.4	77.8	78.8	79.5	80.5	78.5	76.7	82.2	87.1
200	76.6	78.1	79.0	81.8	81.1	82.4	81.3	83.5	86.8
250	79.8	81.9	82.3	82.8	81.7	84.4	82.9	89.0	91.1
315	83.9	86.5	85.9	85.2	81.8	85.7	84.0	89.6	95.3
400	87.6	86.7	85.4	86.4	84.4	85.8	87.2	91.0	96.3
500	87.1	88.0	86.3	86.7	87.8	89.7	89.5	95.7	98.9
630	86.2	87.4	88.1	89.1	89.3	91.0	90.5	96.2	101.4
800	89.8	88.8	88.2	90.0	90.9	92.2	92.4	98.6	102.7
1000	89.9	89.6	89.8	91.4	91.9	93.5	93.5	99.5	103.2
1250	90.4	90.5	90.6	92.0	93.3	95.3	95.4	100.6	103.0
1600	90.4	91.3	91.9	93.8	95.4	96.5	96.8	101.0	102.6
2000	93.8	93.7	94.1	95.6	97.0	98.3	98.5	102.1	102.5
2500	94.2	94.6	94.7	96.4	98.1	99.3	99.5	102.4	102.0
3150	95.6	95.7	95.8	97.5	98.5	100.3	100.7	102.5	101.7
4000	96.2	96.8	97.0	98.2	100.0	101.7	102.1	103.5	102.1
5000	97.6	98.1	97.8	99.8	101.0	102.8	103.5	103.9	102.4
6300	97.6	97.9	98.4	99.8	101.8	103.4	104.0	103.9	102.6
8000	98.3	98.1	98.5	100.3	102.8	104.5	104.5	104.7	103.0
10000	98.1	98.3	98.3	100.5	102.8	104.4	104.4	104.0	102.0
12500	97.5	98.2	98.6	101.1	103.5	104.8	104.3	102.8	100.4
16000	98.1	98.8	99.3	102.0	104.4	106.3	104.8	101.7	98.4
20000	97.6	98.3	99.0	101.4	104.2	106.5	105.0	100.7	96.0
25000	99.2	99.4	99.0	101.3	104.5	106.1	105.6	101.4	95.8
31500	100.5	100.1	99.3	100.8	103.1	104.2	105.1	100.5	94.9
40000	101.3	101.2	100.5	100.7	102.0	102.7	103.0	98.7	93.4
50000	100.8	101.2	101.3	101.8	101.6	102.0	101.7	96.5	90.9
63000	99.7	100.8	101.3	101.9	102.0	101.6	100.9	95.5	89.5
80000	100.0	100.5	101.0	102.0	102.2	101.5	101.2	95.4	89.3
TSPL	111.0	111.3	111.4	112.9	114.7	116.0	115.8	115.0	114.5
SSPL	111.0	111.3	111.4	112.9	114.7	116.0	115.8	115.0	114.3

V_∞ =	99	fps
T_a =	70	°F
RH_a =	67	%
P_a =	14.66	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3538 CONDITION 3538

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	28.0	47.8	N	124.6	212.6
TEMP	(R)	723.0	1260.3	(K)	401.7	700.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.040	KG/M3	0.996	0.646	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	991.5	1877.0	M/S	302.2	572.1	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.4	70.0	73.6	75.6	81.0	73.9	72.8	77.7	81.5	94.7
.125	73.1	76.1	78.2	77.4	80.0	77.2	75.6	80.1	84.2	96.6
.160	74.4	77.8	78.8	79.5	80.5	78.5	76.7	82.2	87.1	98.2
.200	76.6	78.1	79.0	81.8	81.1	82.4	81.3	83.5	86.8	99.7
.250	79.8	81.9	82.3	82.8	81.7	84.4	82.9	89.0	91.1	102.8
.315	83.9	86.5	85.9	85.2	81.8	85.7	84.0	89.6	95.3	105.2
.400	87.6	86.7	85.4	86.4	84.4	85.8	87.2	91.0	96.3	106.4
.500	87.1	88.0	86.3	86.7	87.8	89.7	89.5	95.7	98.9	109.1
.630	86.2	87.4	88.1	89.1	89.3	91.0	90.5	96.2	101.4	110.4
.800	89.8	88.8	88.2	90.0	90.9	92.2	92.4	98.6	102.7	112.1
1.00	89.9	89.6	89.8	91.4	91.9	93.5	93.5	99.5	103.2	112.9
1.25	90.4	90.5	90.6	92.0	93.3	95.3	95.4	100.6	103.0	113.8
1.60	90.4	91.3	91.9	93.8	95.4	96.5	96.8	101.0	102.6	114.6
2.00	93.8	93.7	94.1	95.6	97.0	98.3	98.5	102.1	102.5	116.0
2.50	94.2	94.6	94.7	96.4	98.1	99.3	99.5	102.4	102.0	116.6
3.15	95.6	95.7	95.8	97.5	98.5	100.3	100.7	102.5	101.7	117.3
4.00	96.2	96.8	97.0	98.2	100.0	101.7	102.1	103.5	102.1	118.4
5.00	97.6	98.1	97.8	99.8	101.0	102.8	103.5	103.9	102.4	119.5
6.30	97.6	97.9	98.4	99.8	101.8	103.4	104.0	103.9	102.6	119.8
8.00	98.3	98.1	98.5	100.3	102.8	104.5	104.5	104.7	103.0	120.5
10.0	98.1	98.3	98.3	100.5	102.8	104.4	104.4	104.0	102.0	120.3
12.5	97.5	98.2	98.6	101.1	103.5	104.8	104.3	102.8	100.4	120.4
16.0	98.1	98.8	99.3	102.0	104.4	106.3	104.8	101.7	98.4	121.1
20.0	97.6	98.3	99.0	101.4	104.2	106.5	105.0	100.7	96.0	120.9
25.0	99.2	99.4	99.0	101.3	104.5	106.1	105.6	101.4	95.8	121.1
31.5	100.5	100.1	99.3	100.8	103.1	104.2	105.1	100.5	94.9	120.3
40.0	101.3	101.2	100.5	100.7	102.0	102.7	103.0	98.7	93.4	119.6
50.0	100.8	101.2	101.3	101.8	101.6	102.0	101.7	96.5	90.9	119.4
63.0	99.7	100.8	101.3	101.9	102.0	101.6	100.9	95.5	89.5	119.2
80.0	100.0	100.5	101.0	102.0	102.2	101.5	101.2	95.4	89.3	119.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.0	111.3	111.4	112.9	114.7	116.0	115.8	115.0	114.5	OAPWL = 132.2

V_∞ =	99	fps
T_a =	70	°F
RH_a =	67	%
P_a =	14.66	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3541	3541

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.4	67.1	69.6	71.5	72.2	71.5	73.0	76.8	79.6
125	68.1	71.4	73.6	73.2	72.7	74.1	75.1	78.8	82.4
160	69.2	73.0	74.5	75.5	75.3	75.3	76.2	81.2	85.2
200	71.9	74.0	74.5	77.3	76.9	78.8	79.9	81.5	85.3
250	74.8	77.3	78.1	78.6	81.2	80.6	82.0	87.1	87.0
315	78.4	81.2	81.2	80.9	80.9	82.1	83.0	88.0	93.9
400	81.8	81.6	80.8	82.0	73.8	82.5	86.1	89.0	95.3
500	81.9	83.2	82.1	83.0	82.7	86.0	88.4	93.6	95.3
630	82.2	83.8	84.8	86.0	85.8	87.7	89.6	94.4	99.1
800	85.1	84.8	84.4	86.0	87.0	88.9	91.3	96.1	99.0
1000	86.6	86.1	86.4	87.9	88.3	89.7	92.1	96.7	99.0
1250	90.3	89.9	90.8	89.4	90.9	91.9	93.5	97.5	98.7
1600	87.0	87.8	88.3	90.2	91.9	93.0	94.4	97.2	97.6
2000	89.2	91.6	92.5	93.9	94.2	94.8	96.2	98.3	97.0
2500	91.3	91.7	93.0	93.6	94.7	96.7	97.9	99.2	96.9
3150	92.4	93.3	92.5	94.1	95.1	96.2	97.4	98.3	96.1
4000	93.1	93.5	94.2	95.2	96.5	97.3	98.0	98.8	95.8
5000	93.8	94.4	94.2	96.2	97.1	98.1	98.4	98.4	96.1
6300	92.9	93.3	94.1	95.4	96.8	97.8	97.8	97.7	95.3
8000	92.0	92.5	93.6	95.0	97.2	98.5	97.2	97.5	94.4
10000	91.5	92.2	92.5	94.8	96.8	98.6	96.3	96.1	92.4
12500	90.5	91.6	92.3	94.7	97.0	98.7	95.4	94.2	90.2
16000	90.4	91.7	92.4	95.0	97.3	99.7	95.6	93.2	88.6
20000	89.1	90.5	91.5	94.2	96.4	99.1	95.2	91.7	86.6
25000	88.3	89.8	91.1	93.4	96.6	97.9	94.6	91.4	85.4
31500	87.3	89.0	90.2	92.8	95.0	96.0	93.2	89.7	83.5
40000	87.1	88.7	90.2	92.3	94.4	95.2	91.4	88.0	82.3
50000	86.7	88.1	89.8	92.5	94.0	94.4	90.4	86.5	80.7
63000	86.1	88.1	89.6	91.9	93.5	93.4	89.4	85.6	79.8
80000	86.0	87.4	89.1	91.3	92.8	92.5	89.1	85.2	80.1
TSPL	103.5	104.3	105.0	106.8	108.5	109.8	108.7	109.5	109.1
SSPL	103.4	104.3	105.0	106.7	108.4	109.8	108.7	109.4	108.7

V_∞ =	102	fps
T_a =	75	°F
RH_a =	34	%
P_a =	14.65	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3541 3541

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	103.9	104.6	105.1	106.7	108.1	109.3	108.0	108.7	108.3
SSPL	103.8	104.5	105.0	106.6	108.1	109.3	108.0	108.5	107.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	104.1	104.7	105.1	106.5	107.9	108.9	107.5	108.1	107.7
SSPL	104.1	104.6	105.0	106.5	107.8	108.9	107.5	108.0	107.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/17/76		-00 000000	XARF 0	3541 3541

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	68.1	67.5	69.7	71.3	71.6	70.5	71.5	74.5	77.2
125	68.8	71.9	73.7	72.9	72.1	73.2	73.7	76.5	79.7
160	69.9	73.5	74.6	75.2	74.7	74.4	74.7	78.6	82.4
200	72.6	74.4	74.6	77.1	76.3	77.8	78.6	79.5	82.2
250	75.5	77.7	78.1	78.4	80.6	79.7	80.5	84.8	86.2
315	79.1	81.6	81.2	80.6	80.3	81.1	81.5	85.2	90.2
400	82.5	81.9	80.8	81.5	73.2	81.3	84.5	86.6	91.2
500	82.6	83.5	82.1	82.7	82.2	85.0	86.8	91.1	93.6
630	82.9	84.2	84.9	85.7	85.2	86.7	88.0	91.8	96.0
800	85.8	85.1	84.5	85.8	86.5	87.9	89.7	93.6	96.7
1000	87.3	86.4	86.5	87.7	87.8	88.7	90.5	94.3	97.0
1250	91.0	90.3	90.8	89.1	90.3	91.0	92.0	95.3	97.2
1600	87.7	88.2	88.4	90.0	91.4	92.1	93.0	95.3	96.3
2000	89.9	92.1	92.6	93.7	93.6	93.9	94.8	96.7	96.5
2500	92.0	92.1	93.1	93.4	94.2	95.8	96.6	97.9	96.8
3150	93.0	93.6	92.5	93.8	94.6	95.2	96.1	97.0	95.8
4000	93.7	93.8	94.2	94.9	95.9	96.3	96.7	97.5	95.9
5000	94.4	94.7	94.2	96.0	96.5	97.2	97.2	97.2	95.8
6300	93.6	93.7	94.2	95.2	96.3	96.9	96.6	96.6	95.0
8000	92.7	92.9	93.7	94.8	96.7	97.6	96.2	96.4	94.5
10000	92.2	92.6	92.6	94.6	96.3	97.7	95.3	95.1	92.7
12500	91.1	91.9	92.4	94.5	96.5	97.8	94.5	93.3	90.5
16000	91.1	92.1	92.5	94.8	96.8	98.8	94.9	92.7	89.1
20000	89.7	90.9	91.6	94.0	95.9	98.2	94.5	91.4	87.2
25000	88.9	90.2	91.2	93.2	96.1	97.0	93.9	91.1	86.5
31500	87.9	89.4	90.3	92.6	94.5	95.1	92.4	89.5	84.7
40000	87.8	89.1	90.3	92.2	93.9	94.4	90.8	87.8	83.3
50000	87.4	88.5	89.9	92.3	93.5	93.6	89.8	86.4	81.6
63000	86.8	88.5	89.7	91.7	92.9	92.5	88.8	85.5	80.7
80000	86.7	87.8	89.2	91.1	92.2	91.7	88.4	85.0	80.7
TSPL	104.1	104.7	105.1	106.6	107.9	108.9	107.6	108.1	107.9
SSPL	104.1	104.6	105.0	106.5	107.9	108.9	107.6	108.0	107.6

V_∞ =	102	fps
T_a =	75	°F
RH_a =	34	%
P_a =	14.65	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3541 CONDITION 3541

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.50	1.81		1.50	1.81	THRUST,IDL	LB	27.6	27.4	N	122.9	121.8
TEMP	(R)	708.8	1232.0	(K)	393.8	684.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.038	KG/M3	1.013	0.607	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	967.4	1520.0	M/S	294.9	463.3	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.1	67.5	69.7	71.3	71.6	70.5	71.5	74.5	77.2	89.8
.125	68.8	71.9	73.7	72.9	72.1	73.2	73.7	76.5	79.7	92.1
.160	69.9	73.5	74.6	75.2	74.7	74.4	74.7	78.6	82.4	94.0
.200	72.6	74.4	74.6	77.1	76.3	77.8	78.6	79.5	82.2	95.5
.250	75.5	77.7	78.1	78.4	80.6	79.7	80.5	84.8	86.2	98.9
.315	79.1	81.6	81.2	80.6	80.3	81.1	81.5	85.2	90.2	100.8
.400	82.5	81.9	80.8	81.5	73.2	81.3	84.5	86.6	91.2	101.6
.500	82.6	83.5	82.1	82.7	82.2	85.0	86.8	91.1	93.6	104.5
.630	82.9	84.2	84.9	85.7	85.2	86.7	88.0	91.8	96.0	106.2
.800	85.8	85.1	84.5	85.8	86.5	87.9	89.7	93.6	96.7	107.3
1.00	87.3	86.4	86.5	87.7	87.8	88.7	90.5	94.3	97.0	108.3
1.25	91.0	90.3	90.8	89.1	90.3	91.0	92.0	95.3	97.2	110.1
1.60	87.7	88.2	88.4	90.0	91.4	92.1	93.0	95.3	96.3	110.0
2.00	89.9	92.1	92.6	93.7	93.6	93.9	94.8	96.7	96.5	112.2
2.50	92.0	92.1	93.1	93.4	94.2	95.8	96.6	97.9	96.8	113.1
3.15	93.0	93.6	92.5	93.8	94.6	95.2	96.1	97.0	95.8	113.0
4.00	93.7	93.8	94.2	94.9	95.9	96.3	96.7	97.5	95.9	113.8
5.00	94.4	94.7	94.2	96.0	96.5	97.2	97.2	97.2	95.8	114.4
6.30	93.6	93.7	94.2	95.2	96.3	96.9	96.6	96.6	95.0	113.8
8.00	92.7	92.9	93.7	94.8	96.7	97.6	96.2	96.4	94.5	113.7
10.0	92.2	92.6	92.6	94.6	96.3	97.7	95.3	95.1	92.7	113.2
12.5	91.1	91.9	92.4	94.5	96.5	97.8	94.5	93.3	90.5	112.9
16.0	91.1	92.1	92.5	94.8	96.8	98.8	94.9	92.7	89.1	113.3
20.0	89.7	90.9	91.6	94.0	95.9	98.2	94.5	91.4	87.2	112.5
25.0	88.9	90.2	91.2	93.2	96.1	97.0	93.9	91.1	86.5	111.9
31.5	87.9	89.4	90.3	92.6	94.5	95.1	92.4	89.5	84.7	110.5
40.0	87.8	89.1	90.3	92.2	93.9	94.4	90.8	87.8	83.3	109.8
50.0	87.4	88.5	89.9	92.3	93.5	93.6	89.8	86.4	81.6	109.3
63.0	86.8	88.5	89.7	91.7	92.9	92.5	88.8	85.5	80.7	108.7
80.0	86.7	87.8	89.2	91.1	92.2	91.7	88.4	85.0	80.7	108.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	104.1	104.7	105.1	106.6	107.9	108.9	107.6	108.1	107.9	

V_∞ =	102	fps
T_a =	75	°F
RH_a =	34	%
P_a =	14.65	psia

OAPWL = 125.3

DECK	LO	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3542	3542

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.1	75.8	77.3	79.8	81.3	67.6	76.2	84.7	83.9
125	74.0	75.7	67.8	77.6	78.8	68.9	76.4	84.0	84.1
160	72.0	74.5	65.6	66.6	78.2	70.2	76.9	84.0	85.3
200	61.4	75.1	69.9	73.4	78.1	76.0	78.8	83.0	84.8
250	71.9	72.9	75.0	75.0	76.1	77.7	80.1	85.9	85.4
315	77.0	78.5	78.6	77.6	76.6	79.3	80.4	86.6	91.3
400	78.5	78.6	77.8	79.1	79.1	79.7	83.6	87.0	92.5
500	78.4	79.9	79.5	80.1	81.4	82.7	84.8	90.6	92.6
630	80.4	81.8	82.5	83.4	83.8	84.9	86.8	91.3	95.0
800	83.3	83.0	82.4	84.0	85.3	86.1	88.1	92.9	95.5
1000	85.2	84.5	84.2	85.3	86.0	87.4	89.2	93.4	94.7
1250	87.7	88.1	87.6	87.0	88.3	89.2	90.7	94.2	94.1
1600	85.1	86.0	86.5	88.5	90.1	90.6	91.8	94.1	93.4
2000	88.1	90.5	91.3	92.3	92.6	92.7	93.4	95.3	92.9
2500	89.9	90.2	90.9	92.0	93.2	94.2	95.0	95.9	92.2
3150	91.5	92.4	91.6	92.9	93.6	94.5	95.3	95.7	92.1
4000	92.2	92.8	93.1	94.2	95.2	95.8	95.9	96.1	91.6
5000	93.4	93.4	93.3	95.2	96.1	96.7	96.6	96.0	91.8
6300	92.3	92.7	93.4	94.7	95.7	96.7	96.2	95.3	91.1
8000	91.8	92.1	93.0	94.6	96.3	97.4	95.9	95.4	90.5
10000	90.8	91.6	91.9	94.1	96.2	97.4	94.9	94.1	88.7
12500	89.9	91.1	91.8	94.1	96.3	97.7	94.1	92.4	87.3
16000	89.8	91.1	91.8	94.4	96.5	98.4	94.3	91.3	85.9
20000	88.3	89.8	90.9	93.5	95.7	97.7	93.9	90.3	84.3
25000	87.3	89.1	90.2	92.7	95.3	96.4	93.2	90.0	83.3
31500	86.3	88.0	89.2	91.8	94.0	94.7	91.7	88.3	81.9
40000	86.0	87.6	89.0	91.4	93.2	93.6	89.7	86.4	80.5
50000	85.3	86.7	88.4	91.2	92.4	92.6	88.9	85.0	78.6
63000	84.5	86.8	88.3	90.6	92.0	91.8	88.0	84.3	78.2
80000	83.9	86.2	88.2	90.4	91.6	91.4	87.9	84.2	79.0
TSPL	102.6	103.4	104.0	105.8	107.3	108.3	106.8	107.0	105.3
SSPL	102.5	103.3	103.9	105.7	107.3	108.3	106.8	106.8	104.7

V_∞ =	202	fps
T_a =	69	°F
RH_a =	49	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3542 3542

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	103.5	104.0	104.1	105.6	106.8	107.4	105.5	105.5	104.6
SSPL	103.4	103.9	104.1	105.5	106.7	107.4	105.5	105.3	104.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	103.9	104.1	104.0	105.2	106.2	106.5	104.5	104.4	103.1
SSPL	103.8	104.1	104.0	105.2	106.1	106.5	104.4	104.2	102.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
N631	315	05/17/76		-00 000000	XARF 0	3542 3542

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.4	76.5	77.6	79.4	79.8	66.3	71.5	79.2	82.8
125	75.3	75.9	68.1	77.5	77.4	67.4	72.1	78.8	82.3
160	73.3	74.7	65.0	66.6	77.1	68.6	72.8	78.8	82.6
200	62.8	76.1	69.8	73.2	77.0	74.2	75.7	78.7	81.5
250	73.2	73.8	75.2	74.4	74.9	75.7	77.0	81.1	83.8
315	78.3	79.2	78.5	76.9	75.4	77.4	77.6	81.1	86.2
400	79.8	79.2	77.8	78.6	77.9	77.8	80.4	82.8	86.6
500	79.7	80.6	79.6	79.6	80.2	80.8	81.8	85.6	89.3
630	81.7	82.6	82.6	82.9	82.6	83.0	83.9	86.7	90.4
800	84.6	83.6	82.5	83.5	84.2	84.2	85.1	88.3	91.7
1000	86.5	85.1	84.2	84.7	84.9	85.5	86.3	89.1	91.7
1250	89.0	88.8	87.5	86.4	87.1	87.3	88.0	90.3	92.0
1600	86.4	86.7	86.7	88.1	88.9	88.8	89.2	90.8	91.6
2000	89.4	91.3	91.5	91.8	91.4	90.9	90.9	92.3	92.3
2500	91.3	90.9	91.1	91.5	92.1	92.4	92.6	93.4	92.4
3150	92.8	93.0	91.6	92.3	92.4	92.6	92.9	93.4	92.1
4000	93.5	93.5	93.2	93.7	94.0	94.0	93.7	93.9	92.2
5000	94.7	94.0	93.4	94.7	94.9	94.9	94.4	94.1	92.1
6300	93.6	93.4	93.6	94.2	94.5	94.9	94.1	93.5	91.4
8000	93.2	92.9	93.2	94.2	95.2	95.7	94.0	93.5	91.4
10000	92.1	92.3	92.1	93.7	95.1	95.7	93.2	92.3	89.8
12500	91.2	91.8	92.0	93.7	95.1	96.0	92.7	90.8	88.1
16000	91.1	91.8	92.1	94.0	95.4	96.7	93.1	90.3	86.8
20000	89.6	90.6	91.2	93.1	94.6	96.0	92.7	89.6	85.6
25000	88.6	89.9	90.4	92.3	94.1	94.7	91.8	89.2	85.1
31500	87.6	88.8	89.5	91.4	92.8	93.0	90.3	87.6	83.5
40000	87.3	88.4	89.3	91.0	92.1	92.0	88.5	85.6	81.8
50000	86.6	87.5	88.7	90.8	91.2	91.0	87.7	84.5	80.1
63000	85.8	87.6	88.6	90.2	90.8	90.2	86.8	83.7	79.6
80000	85.2	87.1	88.5	89.9	90.5	89.8	86.6	83.5	79.8
TSPL	103.9	104.1	104.1	105.3	106.2	106.6	104.9	104.5	103.8
SSPL	103.8	104.1	104.1	105.3	106.1	106.6	104.8	104.4	103.5

V_∞ =	202	fps
T_a =	69	°F
RH_a =	49	%
P_a =	14.41	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3542 CONDITION 3542

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	28.3	26.3	N	125.9	116.9
TEMP	(R)	703.7	1217.7	(K)	390.9	676.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.038	KG/M3	1.024	0.615	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	980.2	1511.0	M/S	298.8	460.6	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.4	76.5	77.6	79.4	79.8	66.3	71.5	79.2	82.8	96.2
.125	75.3	75.9	68.1	77.5	77.4	67.4	72.1	78.8	82.3	94.4
.160	73.3	74.7	65.0	66.6	77.1	68.6	72.8	78.8	82.6	93.2
.200	62.8	76.1	69.8	73.2	77.0	74.2	75.7	78.7	81.5	94.0
.250	73.2	73.8	75.2	74.4	74.9	75.7	77.0	81.1	83.8	95.2
.315	78.3	79.2	78.5	76.9	75.4	77.4	77.6	81.1	86.2	97.3
.400	79.8	79.2	77.8	78.6	77.9	77.8	80.4	82.8	86.6	98.3
.500	79.7	80.6	79.6	79.6	80.2	80.8	81.8	85.6	89.3	100.4
.630	81.7	82.6	82.6	82.9	82.6	83.0	83.9	86.7	90.4	102.3
.800	84.6	83.6	82.5	83.5	84.2	84.2	85.1	88.3	91.7	103.5
1.00	86.5	85.1	84.2	84.7	84.9	85.5	86.3	89.1	91.7	104.6
1.25	89.0	88.8	87.5	86.4	87.1	87.3	88.0	90.3	92.0	106.6
1.60	86.4	86.7	86.7	88.1	88.9	88.8	89.2	90.8	91.6	106.8
2.00	89.4	91.3	91.5	91.8	91.4	90.9	90.9	92.3	92.3	109.7
2.50	91.3	90.9	91.1	91.5	92.1	92.4	92.6	93.4	92.4	110.2
3.15	92.8	93.0	91.6	92.3	92.4	92.6	92.9	93.4	92.1	110.9
4.00	93.5	93.5	93.2	93.7	94.0	94.0	93.7	93.9	92.2	111.9
5.00	94.7	94.0	93.4	94.7	94.9	94.9	94.4	94.1	92.1	112.6
6.30	93.6	93.4	93.6	94.2	94.5	94.9	94.1	93.5	91.4	112.3
8.00	93.2	92.9	93.2	94.2	95.2	95.7	94.0	93.5	91.4	112.4
10.0	92.1	92.3	92.1	93.7	95.1	95.7	93.2	92.3	89.8	111.8
12.5	91.2	91.8	92.0	93.7	95.1	96.0	92.7	90.8	88.1	111.6
16.0	91.1	91.8	92.1	94.0	95.4	96.7	93.1	90.3	86.8	111.9
20.0	89.6	90.6	91.2	93.1	94.6	96.0	92.7	89.6	85.6	111.1
25.0	88.6	89.9	90.4	92.3	94.1	94.7	91.8	89.2	85.1	110.2
31.5	87.6	88.8	89.5	91.4	92.8	93.0	90.3	87.6	83.5	108.9
40.0	87.3	88.4	89.3	91.0	92.1	92.0	88.5	85.6	81.8	108.2
50.0	86.6	87.5	88.7	90.8	91.2	91.0	87.7	84.5	80.1	107.4
63.0	85.8	87.6	88.6	90.2	90.8	90.2	86.8	83.7	79.6	107.0
80.0	85.2	87.1	88.5	89.9	90.5	89.8	86.6	83.5	79.8	106.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	103.9	104.1	104.1	105.3	106.2	106.6	104.9	104.5	103.9	OAPWL = 123.4

V_∞ =	202	fps
T_a =	69	°F
RH_a =	49	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
R631	315	05/17/76		-00 000000	XARF 0	3543	3543

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.2	74.2	76.3	79.2	75.2	78.6	67.1	82.5	79.8
125	72.8	73.9	75.5	76.0	69.8	76.6	71.3	81.5	81.3
160	70.1	71.9	71.8	73.6	73.8	76.4	72.1	81.3	81.8
200	71.4	72.9	72.2	74.3	69.8	68.8	74.4	80.4	80.6
250	58.0	72.9	66.4	62.2	76.1	72.2	75.2	82.0	80.9
315	72.3	71.2	72.6	71.0	74.9	73.6	75.6	81.9	85.7
400	73.8	74.2	72.7	73.7	75.4	74.5	78.1	82.0	86.7
500	74.8	76.3	75.5	75.9	78.0	78.0	79.2	84.6	86.6
630	76.7	78.3	78.9	79.9	80.4	80.1	81.0	84.8	88.5
800	80.1	79.7	79.1	80.1	81.4	81.2	82.0	86.1	88.8
1000	85.6	84.7	83.3	83.4	83.2	82.8	83.2	86.5	88.1
1250	86.8	87.0	86.4	86.1	85.4	84.8	84.8	87.2	87.6
1600	83.2	83.8	83.0	84.6	85.9	85.9	85.7	87.2	87.6
2000	84.9	84.7	86.0	88.3	88.9	87.9	87.3	89.2	87.9
2500	85.7	86.6	87.0	87.8	87.8	87.8	87.7	89.0	86.7
3150	86.1	87.1	87.5	88.0	88.7	88.7	87.2	88.0	85.8
4000	86.8	87.5	85.9	87.5	88.6	88.5	87.5	88.0	84.4
5000	85.2	85.7	85.3	87.0	87.3	87.3	86.9	87.1	83.5
6300	83.0	83.8	84.2	85.5	86.5	86.5	85.4	84.9	81.2
8000	83.0	82.9	83.8	85.2	86.3	86.6	84.4	83.9	79.0
10000	82.0	82.6	82.8	84.8	86.8	87.0	84.0	82.6	77.4
12500	81.1	82.1	82.5	84.1	85.9	86.8	83.4	81.0	76.2
16000	80.8	82.5	83.1	84.4	85.8	86.6	82.8	79.8	74.8
20000	80.1	82.1	82.9	84.5	85.8	85.4	81.5	78.2	73.5
25000	80.0	81.9	82.1	83.6	86.0	84.5	80.4	77.6	72.5
31500	79.0	80.8	81.8	83.4	84.6	84.5	79.6	76.4	71.3
40000	79.4	80.7	81.8	83.0	84.1	83.6	79.3	75.5	71.2
50000	78.5	79.6	80.9	82.9	83.1	82.5	78.5	74.8	69.9
63000	73.9	79.1	79.8	81.6	82.5	81.6	77.5	74.4	70.3
80000	78.7	74.6	78.4	80.8	82.0	81.8	76.9	74.2	71.8
TSPL	96.6	97.2	97.3	98.6	99.4	99.3	97.8	99.1	98.8
SSPL	96.5	97.1	97.2	98.5	99.3	99.2	97.7	98.5	97.9

V_∞ =	202	fps
T_a =	67	°F
RH_a =	66	%
P_a =	14.41	psia

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3543 3543

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	97.5	97.8	97.5	98.4	98.9	98.4	96.5	97.6	98.1
SSPL	97.4	97.7	97.4	98.3	98.8	98.3	96.4	97.1	97.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	97.9	98.0	97.4	98.0	98.3	97.5	95.5	96.6	96.6
SSPL	97.8	97.8	97.3	97.9	98.2	97.4	95.3	96.0	95.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3543 3543

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.5	74.9	76.7	78.5	74.0	77.1	66.0	73.3	80.6
125	74.1	74.7	75.7	75.1	68.6	74.7	69.4	74.5	80.0
160	71.4	72.6	71.9	73.1	72.7	74.7	70.1	74.7	79.8
200	72.7	73.6	72.3	73.5	68.4	66.9	70.7	75.7	78.5
250	59.4	73.9	65.6	62.2	75.1	70.5	71.8	76.9	79.8
315	73.6	71.9	72.5	70.5	73.7	71.9	72.5	76.5	81.2
400	75.1	74.8	72.6	73.2	74.2	72.7	74.9	77.6	81.4
500	76.1	77.0	75.5	75.5	76.8	76.2	76.4	79.7	83.3
630	78.0	79.1	79.0	79.3	79.2	78.3	78.3	80.4	83.9
800	81.4	80.3	79.1	79.6	80.2	79.5	79.3	81.7	64.8
1000	86.9	85.2	83.3	82.8	82.0	81.0	80.7	82.5	84.8
1250	88.1	87.6	86.3	85.4	84.2	83.1	82.3	83.6	85.1
1600	84.5	84.4	83.0	84.1	84.7	84.1	83.4	84.0	85.0
2000	86.2	85.4	86.3	87.8	87.7	86.2	85.0	86.0	86.5
2500	87.1	87.4	87.1	87.3	86.6	86.1	85.4	86.2	86.0
3150	87.4	87.8	87.6	87.5	87.5	87.0	85.2	85.3	84.9
4000	88.1	88.1	85.9	87.0	87.4	86.7	85.5	85.5	84.4
5000	86.5	86.3	85.4	86.4	86.1	85.5	84.7	84.8	83.5
6300	84.3	84.5	84.3	85.0	85.3	84.8	83.4	82.8	81.2
8000	84.4	83.6	84.0	84.7	85.1	84.9	82.7	81.9	79.8
10000	83.3	83.3	82.9	84.4	85.6	85.3	82.5	81.0	78.3
12500	82.4	82.8	82.7	83.6	84.7	85.1	82.0	79.8	76.8
16000	82.1	83.3	83.2	83.9	84.6	84.9	81.5	78.7	75.4
20000	81.4	82.9	83.0	84.0	84.6	83.8	80.3	77.3	73.9
25000	81.3	82.6	82.3	83.1	84.8	82.9	79.1	76.5	73.2
31500	80.3	81.6	82.0	82.9	83.4	82.9	78.5	75.4	72.0
40000	80.7	81.5	81.9	82.5	82.9	82.1	78.1	74.7	71.3
50000	79.8	80.4	81.2	82.4	81.9	80.9	77.3	74.0	70.4
63000	75.2	80.0	80.0	81.1	81.3	80.0	76.2	73.3	70.3
80000	80.0	75.3	78.9	80.4	80.9	80.2	75.8	72.7	70.7
TSPL	97.9	97.9	97.4	98.1	98.3	97.6	95.8	96.0	96.6
SSPL	97.8	97.8	97.3	98.0	98.2	97.5	95.7	95.7	95.8

V_∞ =	202	fps
T_a =	67	°F
RH_a =	66	%
P_a =	14.41	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3543 CONDITION 3543

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	27.8	12.2	N	123.9	54.1
TEMP	(R)	688.0	1156.7	(K)	382.2	642.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.037	KG/M3	1.046	0.594	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	964.1	1004.0	M/S	293.9	306.0	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.5	74.9	76.7	78.5	74.0	77.1	66.0	73.3	80.6	94.4
.125	74.1	74.7	75.7	75.1	68.6	74.7	69.4	74.5	80.0	92.8
.160	71.4	72.6	71.9	73.1	72.7	74.7	70.1	74.7	79.8	91.8
.200	72.7	73.6	72.3	73.5	68.4	66.9	70.7	75.7	78.5	91.1
.250	59.4	73.9	65.6	62.2	75.1	70.5	71.8	76.9	79.8	91.3
.315	73.6	71.9	72.5	70.5	73.7	71.9	72.5	76.5	81.2	92.2
.400	75.1	74.8	72.6	73.2	74.2	72.7	74.9	77.6	81.4	93.4
.500	76.1	77.0	75.5	75.5	76.8	76.2	76.4	79.7	83.3	95.6
.630	78.0	79.1	79.0	79.3	79.2	78.3	78.3	80.4	83.9	97.7
.800	81.4	80.3	79.1	79.6	80.2	79.5	79.3	81.7	84.8	98.7
1.00	86.9	85.2	83.3	82.8	82.0	81.0	80.7	82.5	84.8	101.7
1.25	88.1	87.6	86.3	85.4	84.2	83.1	82.3	83.6	85.1	103.8
1.60	84.5	84.4	83.0	84.1	84.7	84.1	83.4	84.0	85.0	102.4
2.00	86.2	85.4	86.3	87.8	87.7	86.2	85.0	86.0	86.5	104.8
2.50	87.1	87.4	87.1	87.3	86.6	86.1	85.4	86.2	86.0	105.0
3.15	87.4	87.8	87.6	87.5	87.5	87.0	85.2	85.3	84.9	105.3
4.00	88.1	88.1	85.9	87.0	87.4	86.7	85.5	85.5	84.4	105.1
5.00	86.5	86.3	85.4	86.4	86.1	85.5	84.7	84.8	83.5	104.0
6.30	84.3	84.5	84.3	85.0	85.3	84.8	83.4	82.8	81.2	102.7
8.00	84.4	83.6	84.0	84.7	85.1	84.9	82.7	81.9	79.8	102.3
10.0	83.3	83.3	82.9	84.4	85.6	85.3	82.5	81.0	78.3	102.1
12.5	82.4	82.8	82.7	83.6	84.7	85.1	82.0	79.8	76.8	101.5
16.0	82.1	83.3	83.2	83.9	84.6	84.9	81.5	78.7	75.4	101.5
20.0	81.4	82.9	83.0	84.0	84.6	83.8	80.3	77.3	73.9	101.1
25.0	81.3	82.6	82.3	83.1	84.8	82.9	79.1	76.5	73.2	100.6
31.5	80.3	81.6	82.0	82.9	83.4	82.9	78.5	75.4	72.0	99.9
40.0	80.7	81.5	81.9	82.5	82.9	82.1	78.1	74.7	71.3	99.5
50.0	79.8	80.4	81.2	82.4	81.9	80.9	77.3	74.0	70.4	98.8
63.0	75.2	80.0	80.0	81.1	81.3	80.0	76.2	73.3	70.3	97.7
80.0	80.0	75.3	78.9	80.4	80.9	80.2	75.8	72.7	70.7	97.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.9	97.9	97.4	98.1	98.3	97.6	95.8	96.0	96.6	OAPWL = 115.8

V_∞ =	202	fps
T_a =	67	°F
RH_a =	66	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3544	3544

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.7	52.7	63.5	65.7	74.2	64.6	69.0	72.7	74.6
125	63.7	66.5	69.2	68.5	74.3	69.6	70.6	74.5	77.5
160	64.6	67.9	69.6	71.1	74.9	70.4	71.7	76.6	80.2
200	67.5	69.3	70.0	72.9	75.9	73.4	75.1	76.6	79.9
250	69.6	72.1	73.3	73.7	77.8	75.7	76.6	81.6	81.6
315	73.2	75.9	76.0	76.0	78.2	76.7	77.7	82.4	88.1
400	76.6	77.1	76.2	77.4	79.3	77.4	80.4	83.5	89.4
500	77.6	79.0	78.4	79.0	75.1	81.2	82.5	87.6	89.2
630	78.5	80.1	81.2	81.7	80.6	82.4	83.6	88.2	93.3
800	81.0	81.0	80.6	81.8	82.0	83.6	85.0	89.6	92.6
1000	86.7	86.2	84.6	85.3	84.9	84.8	85.9	90.2	92.8
1250	90.4	91.5	89.6	90.1	88.7	87.2	87.9	91.3	92.4
1600	84.2	84.9	84.2	86.2	87.8	87.8	88.1	90.7	91.7
2000	85.7	85.5	86.8	89.3	90.4	89.9	89.6	92.3	91.7
2500	86.5	87.7	88.0	88.9	89.5	89.4	89.9	92.2	90.5
3150	87.0	87.8	88.3	89.3	89.9	90.1	89.3	90.9	89.3
4000	87.5	87.9	87.1	88.4	89.6	89.7	89.4	90.7	87.6
5000	85.9	86.8	86.2	88.1	88.8	88.7	88.8	89.4	86.4
6300	83.8	84.5	85.0	86.5	87.7	87.9	87.1	86.9	83.6
8000	83.6	83.6	84.5	86.1	87.6	87.9	86.1	85.6	81.2
10000	82.8	83.1	83.5	85.5	87.2	87.7	85.0	83.9	78.9
12500	81.9	82.4	83.2	84.8	86.6	87.6	84.5	82.4	77.6
16000	81.7	83.0	83.7	85.1	86.7	87.8	84.0	81.3	76.5
20000	80.7	82.4	83.3	85.0	86.6	86.4	82.3	79.4	74.5
25000	81.0	82.6	82.8	83.9	86.6	85.3	81.2	78.8	73.5
31500	80.0	81.3	82.4	83.9	85.0	85.3	80.0	77.2	71.8
40000	80.0	81.0	82.3	83.5	84.6	84.3	79.5	76.1	71.3
50000	79.0	80.0	81.2	83.3	83.4	82.8	78.8	75.1	70.1
63000	77.7	79.1	80.5	82.2	82.8	81.8	77.7	74.4	69.9
80000	77.1	77.6	79.4	81.5	82.4	81.7	77.6	74.2	69.0
TSPL	97.8	98.6	98.4	99.8	100.7	100.6	99.8	101.7	102.3
SSPL	97.7	98.5	98.4	99.7	100.5	100.6	99.6	101.5	101.8

V_∞ = 99 fps
T_a = 68 °F
RH_a = 70 %
P_a = 1466 psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	98.2	98.8	98.5	99.7	100.3	100.1	99.1	100.9	101.6
SSPL	98.2	98.7	98.4	99.6	100.2	100.0	98.9	100.7	101.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	98.5	98.9	98.5	99.5	100.1	99.7	98.6	100.3	100.9
SSPL	98.4	98.8	98.4	99.4	99.9	99.7	98.4	100.1	100.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3544 3544

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	63.4	53.0	63.8	65.7	73.6	63.8	67.2	70.5	72.6
125	64.4	67.0	69.3	68.3	73.7	68.8	69.2	72.1	75.1
160	65.3	68.4	69.7	71.0	74.3	69.6	70.1	74.0	77.6
200	68.2	69.7	70.1	72.8	75.3	72.5	73.7	74.7	77.1
250	70.3	72.5	73.4	73.5	77.2	74.8	75.1	79.3	80.7
315	73.9	76.3	76.0	75.8	77.6	75.8	76.2	79.7	84.5
400	77.3	77.4	76.2	77.2	78.7	76.5	78.8	81.1	85.5
500	78.3	79.4	78.4	78.6	74.6	80.1	81.0	85.2	87.6
630	79.2	80.5	81.3	81.4	80.0	81.5	82.1	85.5	90.0
800	81.7	81.3	80.6	81.6	81.4	82.7	83.5	87.1	90.3
1000	87.4	86.5	84.6	85.0	84.3	83.9	84.4	87.8	90.6
1250	91.1	91.8	89.6	89.8	88.0	86.3	86.5	89.2	90.9
1600	84.9	85.3	84.3	86.0	87.2	86.9	86.8	88.8	90.1
2000	86.4	85.9	86.9	89.1	89.8	89.1	88.3	90.5	90.9
2500	87.2	88.1	88.1	88.7	88.9	88.5	88.6	90.6	90.2
3150	87.6	88.1	88.3	89.0	89.3	89.2	88.1	89.3	88.8
4000	88.1	88.2	87.1	88.2	89.0	88.8	88.2	89.3	87.8
5000	86.5	87.1	86.2	87.9	88.2	87.8	87.6	88.2	86.5
6300	84.5	84.9	85.1	86.3	87.1	87.0	86.1	85.9	83.7
8000	84.3	84.0	84.6	85.9	87.1	87.1	85.1	84.7	81.9
10000	83.5	83.5	83.6	85.3	86.6	86.9	84.1	83.2	79.8
12500	82.5	82.7	83.2	84.6	86.0	86.7	83.7	81.8	78.2
16000	82.4	83.4	83.8	84.9	86.2	87.0	83.3	80.8	77.1
20000	81.3	82.8	83.4	84.8	86.0	85.6	81.6	79.0	75.1
25000	81.6	82.9	82.8	83.7	86.0	84.5	80.5	78.3	74.3
31500	80.6	81.7	82.5	83.7	84.4	84.5	79.4	76.8	72.6
40000	80.7	81.4	82.4	83.3	84.0	83.6	79.0	75.8	71.8
50000	79.7	80.4	81.3	83.1	82.8	82.0	78.2	74.9	70.7
63000	78.3	79.5	80.5	81.9	82.2	81.0	77.0	74.0	70.3
80000	77.7	78.0	79.5	81.2	81.8	80.9	77.0	73.9	69.7
TSPL	98.5	98.9	98.5	99.6	100.1	99.8	98.6	100.0	100.7
SSPL	98.4	98.8	98.4	99.5	99.9	99.7	98.5	99.8	100.4

V_∞ =	99	fps
T_a =	68	°F
RH_a =	70	%
P_a =	14.66	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/17/76 SCALE RATIO 0.0/1 RUN NUMBER 3544 CONDITION 3544

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.31		1.52	1.31	THRUST,IDL	LB	28.3	11.3	N	126.1	50.2
TEMP	(R)	678.3	1154.0	(K)	376.8	641.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.037	KG/M3	1.062	0.596	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	960.5	1010.0	M/S	292.8	307.8	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.4	53.0	63.8	65.7	73.6	63.8	67.2	70.5	72.6	86.6
.125	64.4	67.0	69.3	68.3	73.7	68.8	69.2	72.1	75.1	88.7
.160	65.3	68.4	69.7	71.0	74.3	69.6	70.1	74.0	77.6	90.0
.200	68.2	69.7	70.1	72.8	75.3	72.5	73.7	74.7	77.1	91.3
.250	70.3	72.5	73.4	73.5	77.2	74.8	75.1	79.3	80.7	93.9
.315	73.9	76.3	76.0	75.8	77.6	75.8	76.2	79.7	84.5	95.8
.400	77.3	77.4	76.2	77.2	78.7	76.5	78.8	81.1	85.5	97.0
.500	78.3	79.4	78.4	78.6	74.6	80.1	81.0	85.2	87.6	99.1
.630	79.2	80.5	81.3	81.4	80.0	81.5	82.1	85.5	90.0	100.9
.800	81.7	81.3	80.6	81.6	81.4	82.7	83.5	87.1	90.3	101.8
1.00	87.4	86.5	84.6	85.0	84.3	83.9	84.4	87.8	90.6	104.2
1.25	91.1	91.8	89.6	89.8	88.0	86.3	86.5	89.2	90.9	107.8
1.60	84.9	85.3	84.3	86.0	87.2	86.9	86.8	88.8	90.1	104.9
2.00	86.4	85.9	86.9	89.1	89.8	89.1	88.3	90.5	90.9	106.9
2.50	87.2	88.1	88.1	88.7	88.9	88.5	88.6	90.6	90.2	107.0
3.15	87.6	88.1	88.3	89.0	89.3	89.2	88.1	89.3	88.8	107.0
4.00	88.1	88.2	87.1	88.2	89.0	88.8	88.2	89.3	87.8	106.7
5.00	86.5	87.1	86.2	87.9	88.2	87.8	87.6	88.2	86.5	105.8
6.30	84.5	84.9	85.1	86.3	87.1	87.0	86.1	85.9	83.7	104.2
8.00	84.3	84.0	84.6	85.9	87.1	87.1	85.1	84.7	81.9	103.8
10.0	83.5	83.5	83.6	85.3	86.6	86.9	84.1	83.2	79.8	103.1
12.5	82.5	82.7	83.2	84.6	86.0	86.7	83.7	81.8	78.2	102.5
16.0	82.4	83.4	83.8	84.9	86.2	87.0	83.3	80.8	77.1	102.7
20.0	81.3	82.8	83.4	84.8	86.0	85.6	81.6	79.0	75.1	102.0
25.0	81.6	82.9	82.8	83.7	86.0	84.5	80.5	78.3	74.3	101.5
31.5	80.6	81.7	82.5	83.7	84.4	84.5	79.4	76.8	72.6	100.7
40.0	80.7	81.4	82.4	83.3	84.0	83.6	79.0	75.8	71.8	100.3
50.0	79.7	80.4	81.3	83.1	82.8	82.0	78.2	74.9	70.7	99.3
63.0	78.3	79.5	80.5	81.9	82.2	81.0	77.0	74.0	70.3	98.4
80.0	77.7	78.0	79.5	81.2	81.8	80.9	77.0	73.9	69.7	97.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.5	98.9	98.5	99.6	100.1	99.8	98.6	100.0	100.7	OAPWL = 117.7

$V_{\infty a}$ =	99	fps
T_a =	68	°F
RH_a =	70	%
P_a =	14.66	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR '
W631 315 05/17/76 -00 000000 XARF 0 3546 3546 '

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.2	89.0	90.0	92.3	92.5	89.7	87.8	95.7	91.7
125	85.6	88.6	78.9	90.3	90.3	89.5	88.0	84.7	94.9
160	83.5	87.3	85.9	87.5	89.1	88.3	87.4	87.1	94.6
200	85.1	87.7	71.9	87.4	88.6	88.1	86.5	86.7	93.0
250	68.5	87.1	78.4	75.9	88.0	87.2	86.3	90.8	93.1
315	81.0	79.6	84.0	80.5	86.6	87.2	86.0	92.8	97.7
400	81.9	75.4	81.5	82.0	86.4	86.7	81.6	92.5	99.0
500	79.8	77.3	82.1	82.9	86.7	88.1	86.5	96.6	100.2
630	82.8	82.0	84.5	85.9	83.9	89.7	91.6	97.5	100.7
800	86.0	84.4	85.1	87.7	88.4	90.8	93.4	99.1	102.0
1000	86.1	86.4	87.0	88.8	89.4	92.3	95.3	99.9	100.9
1250	87.0	88.1	88.5	90.4	91.5	94.3	97.3	100.6	99.6
1600	88.8	89.7	90.3	92.1	93.4	95.5	98.8	101.0	98.7
2000	91.1	91.7	92.3	94.3	95.8	97.8	100.7	101.8	98.2
2500	92.1	92.7	93.4	95.6	97.3	99.3	102.0	102.0	97.3
3150	93.5	94.8	94.9	96.9	98.5	100.6	103.2	102.1	97.1
4000	95.1	95.7	96.2	98.0	100.3	102.8	104.6	102.9	97.3
5000	96.6	97.1	97.4	99.9	101.5	104.4	105.7	103.4	98.0
6300	96.6	97.5	98.1	100.6	102.7	105.2	105.9	103.7	98.5
8000	97.9	98.1	98.8	101.4	104.2	106.4	106.5	104.7	99.2
10000	98.4	99.2	99.5	102.0	104.4	106.8	106.6	105.1	99.5
12500	100.2	100.3	100.4	103.0	104.9	106.7	106.3	104.8	99.8
16000	105.5	104.4	102.3	103.9	105.8	106.8	106.0	103.9	99.1
20000	106.7	106.2	104.1	104.7	106.3	106.8	104.9	102.0	97.0
25000	106.6	107.3	105.6	106.0	107.6	107.4	104.9	101.9	96.0
31500	104.6	106.2	106.5	106.8	107.4	107.6	105.3	101.4	95.5
40000	104.7	105.0	105.8	107.3	107.7	107.3	105.1	101.0	95.4
50000	104.2	105.0	105.4	107.7	108.1	107.6	105.3	100.6	95.0
63000	103.2	104.7	105.4	106.9	107.9	107.5	105.0	101.0	95.3
80000	103.6	104.2	105.0	106.7	107.7	107.2	105.4	101.4	96.2
TSPL	114.8	115.3	115.0	116.5	117.7	118.4	117.6	115.9	112.8
SSPL	114.8	115.2	115.0	116.5	117.7	118.3	117.6	115.8	112.1

V_∞ =	341	fps
T_a =	65	°F
RH_a =	69	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF	0	3546	3546

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	116.6	116.5	115.6	116.4	116.9	116.9	115.6	114.1	112.5
SSPL	116.6	116.4	115.5	116.3	116.9	116.9	115.6	114.0	111.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	117.2	116.6	115.3	115.7	115.8	115.5	113.9	112.1	110.3
SSPL	117.1	116.5	115.3	115.7	115.8	115.5	113.9	112.0	109.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3546 3546

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.6	90.3	90.5	91.5	90.5	87.3	84.2	87.2	92.0
125	88.0	88.9	80.1	90.4	88.4	86.9	85.1	81.9	82.2
160	85.9	88.6	86.0	86.8	87.2	85.7	84.1	82.7	84.4
200	87.5	87.3	73.2	88.0	86.7	85.5	83.4	82.1	83.9
250	70.8	88.7	77.0	76.3	86.3	84.6	82.7	84.0	87.7
315	83.4	81.1	83.7	80.0	84.8	84.5	82.4	84.4	90.2
400	84.2	76.7	82.1	81.6	84.6	84.2	78.7	81.2	90.3
500	82.2	78.8	82.7	82.4	84.9	85.3	82.7	86.3	94.0
630	85.2	83.3	85.0	84.7	82.1	86.5	87.3	90.0	94.6
800	88.3	85.5	85.6	87.0	86.5	87.7	88.8	91.8	96.2
1000	88.5	87.7	87.4	87.9	87.5	89.2	90.7	93.4	96.6
1250	89.3	89.4	88.8	89.7	89.6	91.3	92.8	95.1	97.0
1600	91.2	90.9	90.7	91.4	91.6	92.4	94.2	96.2	97.2
2000	93.4	92.9	92.7	93.7	93.9	94.8	96.4	97.7	97.8
2500	94.5	94.0	93.8	95.0	95.4	96.3	97.8	98.7	97.8
3150	95.9	96.0	95.3	96.3	96.7	97.6	99.2	99.5	97.9
4000	97.5	96.9	96.6	97.5	98.5	99.8	100.7	100.5	98.5
5000	99.0	98.3	97.8	99.2	99.6	101.4	102.0	101.3	99.0
6300	99.0	98.7	98.6	100.1	100.9	102.3	102.4	101.5	99.3
8000	100.3	99.3	99.3	101.0	102.4	103.6	103.2	102.3	100.4
10000	100.8	100.4	99.9	101.5	102.6	103.9	103.3	102.5	100.7
12500	102.5	101.4	100.8	102.4	103.0	103.8	103.0	102.1	100.5
16000	107.9	105.2	102.4	103.3	103.9	104.0	102.9	101.5	99.6
20000	109.1	107.1	104.0	103.9	104.4	104.1	102.1	100.0	97.6
25000	108.9	108.3	105.5	105.2	105.7	104.8	102.2	99.9	97.4
31500	107.0	107.5	106.6	105.9	105.5	105.0	102.7	100.0	96.9
40000	107.1	106.3	106.2	106.5	105.8	104.8	102.5	99.8	96.5
50000	106.6	106.3	105.9	107.0	106.2	105.1	102.7	99.7	96.1
63000	105.6	106.0	105.7	106.1	105.9	104.9	102.4	99.7	96.5
80000	105.9	105.5	105.4	106.0	105.8	104.6	102.6	100.1	96.9
TSPL	117.2	116.4	115.3	115.8	115.8	115.7	114.4	113.2	111.7
SSPL	117.1	116.4	115.3	115.7	115.8	115.6	114.4	113.2	111.6

V_∞ =	341	fps
T_a =	65	°F
RH_a =	69	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3546 CONDITION 3546

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	26.4	65.0	N	117.3	289.3
TEMP	(R)	739.8	1277.3	(K)	411.0	709.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.061	0.042	KG/M3	0.972	0.679	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	999.2	2094.0	M/S	304.6	638.3	W (MODEL)	LB/S	0.9	1.0	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.6	90.3	90.5	91.5	90.5	87.3	84.2	87.2	92.0	108.1
.125	88.0	88.9	80.1	90.4	88.4	86.9	85.1	81.9	82.2	105.6
.160	85.9	88.6	86.0	86.8	87.2	85.7	84.1	82.7	84.4	104.6
.200	87.5	87.3	73.2	88.0	86.7	85.5	83.4	82.1	83.9	103.9
.250	70.8	88.7	77.0	76.3	86.3	84.6	82.7	84.0	87.7	102.8
.315	83.4	81.1	83.7	80.0	84.8	84.5	82.4	84.4	90.2	102.2
.400	84.2	76.7	82.1	81.6	84.6	84.2	78.7	81.2	90.3	101.4
.500	82.2	78.8	82.7	82.4	84.9	85.3	82.7	86.3	94.0	103.3
.630	85.2	83.3	85.0	84.7	82.1	86.5	87.3	90.0	94.6	105.1
.800	88.3	85.5	85.6	87.0	86.5	87.7	88.8	91.8	96.2	107.0
1.00	88.5	87.7	87.4	87.9	87.5	89.2	90.7	93.4	96.6	108.3
1.25	89.3	89.4	88.8	89.7	89.6	91.3	92.8	95.1	97.0	109.8
1.60	91.2	90.9	90.7	91.4	91.6	92.4	94.2	96.2	97.2	111.1
2.00	93.4	92.9	92.7	93.7	93.9	94.8	96.4	97.7	97.8	113.1
2.50	94.5	94.0	93.8	95.0	95.4	96.3	97.8	98.7	97.8	114.3
3.15	95.9	96.0	95.3	96.3	96.7	97.6	99.2	99.5	97.9	115.5
4.00	97.5	96.9	96.6	97.5	98.5	99.8	100.7	100.5	98.5	116.9
5.00	99.0	98.3	97.8	99.2	99.6	101.4	102.0	101.3	99.0	118.2
6.30	99.0	98.7	98.6	100.1	100.9	102.3	102.4	101.5	99.3	118.9
8.00	100.3	99.3	99.3	101.0	102.4	103.6	103.2	102.3	100.4	119.9
10.0	100.8	100.4	99.9	101.5	102.6	103.9	103.3	102.5	100.7	120.3
12.5	102.5	101.4	100.8	102.4	103.0	103.8	103.0	102.1	100.5	120.7
16.0	107.9	105.2	102.4	103.3	103.9	104.0	102.9	101.5	99.6	122.2
20.0	109.1	107.1	104.0	103.9	104.4	104.1	102.1	100.0	97.6	123.1
25.0	108.9	108.3	105.5	105.2	105.7	104.8	102.2	99.9	97.4	123.9
31.5	107.0	107.5	106.6	105.9	105.5	105.0	102.7	100.0	96.9	123.8
40.0	107.1	106.3	106.2	106.5	105.8	104.8	102.5	99.8	96.5	123.6
50.0	106.6	106.3	105.9	107.0	106.2	105.1	102.7	99.7	96.1	123.7
63.0	105.6	106.0	105.7	106.1	105.9	104.9	102.4	99.7	96.5	123.3
80.0	105.9	105.5	105.4	106.0	105.8	104.6	102.6	100.1	96.9	123.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	117.2	116.4	115.3	115.8	115.8	115.7	114.4	113.2	111.7	OAPWL = 133.8

V_∞ =	341	fps
T_a =	65	°F
RH_a =	69	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3547 3547

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	94.5	82.7	95.8	98.5	99.3	96.0	97.5	84.4	103.4
125	91.7	85.9	84.0	96.9	97.6	96.2	97.0	83.8	89.1
160	89.9	84.4	85.1	94.4	96.3	95.4	96.0	89.4	90.1
200	91.1	87.0	81.4	93.2	95.0	93.5	93.6	87.6	88.3
250	90.4	82.9	82.0	91.9	82.1	91.4	92.0	90.4	89.1
315	76.7	85.8	84.1	89.8	92.1	80.0	91.1	91.0	95.4
400	76.9	83.0	80.4	75.6	79.9	77.8	91.1	91.9	97.0
500	75.1	83.0	81.8	80.8	82.5	84.2	83.4	95.0	98.1
630	80.6	84.5	83.8	84.6	85.8	87.4	90.2	95.8	97.9
800	84.0	84.6	83.6	85.7	87.0	88.7	91.5	97.1	98.8
1000	83.8	85.5	85.2	87.0	87.8	90.2	93.3	97.9	97.7
1250	84.9	86.8	86.8	88.6	89.8	92.5	95.2	98.1	96.6
1600	87.4	88.6	88.9	90.6	91.8	93.5	96.4	98.6	96.2
2000	89.7	90.4	90.8	92.8	94.1	95.7	98.6	99.4	95.7
2500	91.1	91.8	92.0	93.8	95.5	96.9	99.9	99.7	95.0
3150	92.6	94.0	93.7	95.8	96.9	98.8	101.1	99.8	95.0
4000	94.4	95.0	95.4	96.9	99.1	101.2	102.7	100.5	95.1
5000	96.3	96.7	96.6	99.1	100.6	102.7	103.7	100.9	96.0
6300	96.3	97.1	97.6	99.8	101.9	103.7	104.2	101.2	96.4
8000	97.8	97.7	98.2	100.6	103.3	105.1	104.8	102.4	97.2
10000	98.1	98.7	98.7	101.1	103.6	105.2	105.0	102.8	97.3
12500	100.4	100.0	99.7	102.0	104.0	105.3	104.5	102.5	97.8
16000	106.0	104.4	101.9	103.1	105.0	105.6	104.6	101.8	97.4
20000	107.0	106.3	103.9	104.1	105.4	105.7	103.7	100.2	95.7
25000	106.4	107.2	105.6	105.5	107.0	106.3	104.0	100.8	95.5
31500	104.1	105.4	105.9	106.4	106.9	106.5	104.9	100.9	95.6
40000	104.2	104.6	105.2	106.6	107.1	106.5	104.6	100.9	95.9
50000	103.8	104.6	104.9	107.0	107.4	106.9	105.0	100.9	95.9
63000	102.9	104.3	105.0	106.5	107.3	107.0	104.8	101.4	96.3
80000	102.8	103.6	104.3	105.9	106.9	106.6	105.1	101.9	97.4
TSPL	114.7	114.9	114.6	116.0	117.1	117.3	116.6	114.2	111.5
SSPL	114.6	114.9	114.5	115.8	116.9	117.2	116.4	114.1	110.3

V_∞ =	426	fps
T_a =	63	°F
RH_a =	80	%
P_a =	13.30	psia

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3547	3547

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	117.2	116.6	115.4	116.0	116.3	115.6	114.2	112.2	111.4
SSPL	117.1	116.5	115.3	115.8	116.1	115.5	114.0	112.1	110.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	117.7	116.6	115.0	115.0	114.9	113.8	112.1	109.7	108.6
SSPL	117.6	116.6	114.9	114.8	114.6	113.7	111.9	109.6	107.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3547 3547

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	97.5	85.1	97.7	97.6	96.8	92.8	93.7	87.6	81.3
125	94.7	86.4	86.6	96.9	95.2	92.8	93.5	87.7	79.4
160	92.9	85.3	87.2	94.2	93.9	92.0	92.1	89.2	84.8
200	94.1	87.1	83.3	93.2	92.6	90.2	89.8	86.9	83.1
250	93.4	83.4	84.2	90.0	79.7	87.2	88.1	86.9	85.8
315	79.7	87.8	85.1	89.5	89.3	76.9	82.7	87.1	87.1
400	79.9	84.6	79.0	74.6	77.5	73.9	82.4	87.5	88.1
500	78.1	85.0	81.4	79.7	80.3	80.7	78.5	82.3	91.4
630	83.6	86.1	83.8	83.5	83.5	83.8	84.7	87.5	91.9
800	87.0	85.9	83.9	84.8	84.7	85.0	86.0	88.8	93.1
1000	86.8	87.0	85.5	86.0	85.5	86.5	87.8	90.4	93.7
1250	88.0	88.3	87.2	87.6	87.6	88.8	89.9	91.8	93.7
1600	90.4	90.1	89.2	89.7	89.5	89.8	91.1	92.9	94.1
2000	92.7	91.9	91.2	91.9	91.8	92.1	93.4	94.6	94.8
2500	94.1	93.3	92.4	92.9	93.3	93.3	94.8	95.6	94.9
3150	95.7	95.5	94.1	94.9	94.7	95.2	96.3	96.5	95.0
4000	97.4	96.5	95.7	96.1	96.9	97.6	98.2	97.7	95.6
5000	99.3	98.1	97.1	98.3	98.3	99.1	99.5	98.5	96.0
6300	99.3	98.6	98.1	99.1	99.6	100.1	100.1	98.8	96.3
8000	100.8	99.2	98.7	99.9	101.1	101.6	100.9	99.6	97.5
10000	101.1	100.2	99.2	100.4	101.3	101.7	101.1	99.9	97.9
12500	103.4	101.3	100.2	101.3	101.8	101.8	100.8	99.4	97.7
16000	109.0	105.3	101.8	102.2	102.7	102.2	100.9	99.2	96.9
20000	110.0	107.3	103.6	103.0	103.0	102.3	100.4	97.9	95.3
25000	109.4	108.4	105.3	104.4	104.6	103.0	100.8	98.5	95.9
31500	107.1	107.0	106.0	105.3	104.5	103.2	101.5	99.1	95.9
40000	107.2	106.2	105.6	105.6	104.7	103.2	101.3	98.9	96.0
50000	106.8	106.1	105.4	106.0	105.0	103.6	101.7	99.1	95.9
63000	106.0	105.9	105.3	105.5	105.0	103.7	101.6	99.2	96.5
80000	105.8	105.2	104.7	104.9	104.5	103.3	101.6	99.5	97.0
TSPL	117.7	116.3	114.8	115.1	114.8	114.0	112.8	111.2	109.4
SSPL	117.6	116.3	114.7	114.8	114.6	113.8	112.6	111.1	109.3

V_∞ =	426	fps
T_a =	63	°F
RH_a =	80	%
P_a =	13 30	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=426 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3547 CONDITION 3547

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	25.6	61.7	N	114.0	274.3
TEMP	(R)	743.5	1271.7	(K)	413.1	706.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.060	0.043	KG/M3	0.969	0.682	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1006.0	2090.0	M/S	306.6	637.0	W (MODEL)	LB/S	0.8	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	97.5	85.1	97.7	97.6	96.8	92.8	93.7	87.6	81.3	113.5
.125	94.7	86.4	86.6	96.9	95.2	92.8	93.5	87.7	79.4	111.4
.160	92.9	85.3	87.2	94.2	93.9	92.0	92.1	89.2	84.8	109.9
.200	94.1	87.1	83.3	93.2	92.6	90.2	89.8	86.9	83.1	108.8
.250	93.4	83.4	84.2	90.0	79.7	87.2	88.1	86.9	85.8	105.9
.315	79.7	87.8	85.1	89.5	89.3	76.9	82.7	87.1	87.1	105.1
.400	79.9	84.6	79.0	74.6	77.5	73.9	82.4	87.5	88.1	100.6
.500	78.1	85.0	81.4	79.7	80.3	80.7	78.5	82.3	91.4	101.1
.630	83.6	86.1	83.8	83.5	83.5	83.8	84.7	87.5	91.9	103.7
.800	87.0	85.9	83.9	84.8	84.7	85.0	86.0	88.8	93.1	104.7
1.00	86.8	87.0	85.5	86.0	85.5	86.5	87.8	90.4	93.7	105.9
1.25	88.0	88.3	87.2	87.6	87.6	88.8	89.9	91.8	93.7	107.4
1.60	90.4	90.1	89.2	89.7	89.5	89.8	91.1	92.9	94.1	108.9
2.00	92.7	91.9	91.2	91.9	91.8	92.1	93.4	94.6	94.8	110.8
2.50	94.1	93.3	92.4	92.9	93.3	93.3	94.8	95.6	94.9	112.0
3.15	95.7	95.5	94.1	94.9	94.7	95.2	96.3	96.5	95.0	113.6
4.00	97.4	96.5	95.7	96.1	96.9	97.6	98.2	97.7	95.6	115.2
5.00	99.3	98.1	97.1	98.3	98.3	99.1	99.5	98.5	96.0	116.7
6.30	99.3	98.6	98.1	99.1	99.6	100.1	100.1	98.8	96.3	117.4
8.00	100.8	99.2	98.7	99.9	101.1	101.6	100.9	99.6	97.5	118.5
10.0	101.1	100.2	99.2	100.4	101.3	101.7	101.1	99.9	97.9	118.9
12.5	103.4	101.3	100.2	101.3	101.8	101.8	100.8	99.4	97.7	119.5
16.0	109.0	105.3	101.8	102.2	102.7	102.2	100.9	99.2	96.9	121.7
20.0	110.0	107.3	103.6	103.0	103.0	102.3	100.4	97.9	95.3	122.7
25.0	109.4	108.4	105.3	104.4	104.6	103.0	100.8	98.5	95.9	123.5
31.5	107.1	107.0	106.0	105.3	104.5	103.2	101.5	99.1	95.9	123.1
40.0	107.2	106.2	105.6	105.6	104.7	103.2	101.3	98.9	96.0	122.9
50.0	106.8	106.1	105.4	106.0	105.0	103.6	101.7	99.1	95.9	123.0
63.0	106.0	105.9	105.3	105.5	105.0	103.7	101.6	99.2	96.5	122.8
80.0	105.8	105.2	104.7	104.9	104.5	103.3	101.6	99.5	97.0	122.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	117.7	116.3	114.8	115.1	114.8	114.0	112.8	111.2	109.4	OAPWL = 133.1

V_∞ = 426 fps
T_a = 63 °F
RH_a = 80 %
P_a = 13 30 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/17/76		-00 000000	XARF 0	3548 3548

* DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	94.4	95.9	96.0	98.6	99.0	96.0	96.9	100.6	103.5
125	91.6	84.8	95.4	96.5	97.3	96.0	96.7	86.8	102.3
160	90.0	83.3	82.4	94.0	96.3	82.1	95.7	87.0	84.0
200	90.8	86.0	77.2	93.1	95.0	77.2	93.0	85.7	87.2
250	90.2	81.8	78.7	91.7	80.3	91.3	91.1	88.8	84.5
315	87.6	83.5	80.0	89.2	92.2	90.1	90.2	88.7	91.7
400	69.7	81.5	76.7	88.4	78.0	89.1	89.8	88.8	93.1
500	85.2	80.0	78.2	70.9	78.7	81.6	89.2	91.2	94.1
630	77.7	82.8	81.4	79.7	82.8	84.4	82.7	92.0	94.1
800	81.8	82.3	81.0	81.6	84.2	85.3	86.1	93.6	95.2
1000	82.5	83.2	82.5	83.9	84.8	87.5	88.4	94.5	94.4
1250	82.7	84.5	84.8	86.6	87.3	89.8	91.0	95.1	93.6
1600	86.2	86.5	87.3	88.9	89.8	91.0	92.5	95.5	93.4
2000	88.8	88.9	89.4	90.9	92.1	93.4	94.8	96.8	93.5
2500	89.9	90.4	90.7	92.5	93.8	94.7	96.2	97.1	93.0
3150	91.5	92.4	92.1	94.0	94.8	96.3	97.7	97.5	92.9
4000	93.2	93.7	93.9	95.4	96.7	98.8	99.5	98.2	93.2
5000	94.9	95.2	94.9	97.1	98.1	100.1	100.5	98.6	94.0
6300	95.1	95.6	95.9	97.7	99.3	101.1	100.9	98.7	94.3
8000	96.4	96.0	96.4	98.6	100.9	102.3	101.1	99.4	94.6
10000	96.1	96.4	96.3	98.9	101.2	102.6	100.7	99.2	94.3
12500	95.5	96.2	96.7	99.6	101.7	102.7	100.5	98.5	94.0
16000	95.6	96.6	97.1	100.4	102.5	103.8	101.1	98.1	93.5
20000	95.6	96.4	96.8	100.0	102.6	103.9	101.3	97.8	92.7
25000	97.2	97.6	97.3	99.8	102.8	103.6	102.1	99.4	93.8
31500	98.0	98.1	97.8	99.6	101.3	102.2	101.6	99.1	93.8
40000	98.3	98.8	98.6	99.6	100.6	101.0	99.8	97.7	93.4
50000	98.0	98.8	99.2	100.7	100.6	100.4	98.8	96.2	91.9
63000	97.6	98.9	99.5	100.7	101.0	100.2	98.0	95.8	91.2
80000	98.3	99.2	99.9	101.2	101.4	100.7	98.8	96.2	92.0
TSPL	108.9	109.3	109.6	111.8	113.2	113.8	112.9	111.4	109.9
SSPL	108.4	109.0	109.2	111.2	112.7	113.6	112.4	110.9	107.2

V_∞ =	425	fps
T_a =	62	°F
RH_a =	82	%
P_a =	1330	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	111.4	110.9	110.4	111.8	112.3	112.1	110.5	109.4	109.8
SSPL	110.9	110.7	110.0	111.2	111.8	111.9	110.1	108.9	107.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	111.9	111.0	110.0	110.8	110.9	110.3	108.4	106.9	107.0
SSPL	111.4	110.7	109.6	110.2	110.4	110.1	108.0	106.4	104.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3548	3548

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	97.4	97.4	96.6	97.7	96.5	92.8	92.0	93.4	96.7
125	94.6	87.2	96.7	95.5	94.9	92.6	93.0	88.0	83.6
160	93.0	83.9	84.7	94.2	93.4	79.1	87.2	89.5	82.1
200	93.8	85.5	79.7	93.7	91.9	74.3	83.5	87.1	81.3
250	93.2	81.9	81.4	89.8	77.9	87.1	87.6	85.9	84.0
315	90.6	83.9	81.6	89.2	89.8	86.8	86.0	84.9	84.6
400	72.7	83.1	78.9	86.5	75.7	84.8	85.9	84.6	84.8
500	88.2	80.8	76.3	70.1	76.7	77.7	82.5	85.7	87.2
630	80.7	84.5	80.8	78.8	80.6	81.0	78.4	80.9	88.3
800	84.8	83.6	80.9	80.8	82.0	81.8	81.0	83.9	89.7
1000	85.5	84.5	82.7	82.8	82.5	83.8	83.5	85.9	90.4
1250	85.7	86.1	85.2	85.6	85.1	86.1	86.1	87.9	90.8
1600	89.2	88.1	87.7	87.9	87.5	87.4	87.5	89.1	91.1
2000	91.9	90.4	89.7	90.0	89.8	89.9	90.0	91.1	92.2
2500	92.9	91.9	91.0	91.5	91.5	91.2	91.5	92.2	92.4
3150	94.5	93.8	92.5	93.0	92.5	92.7	93.1	93.4	92.7
4000	96.2	95.2	94.2	94.5	94.5	95.2	95.2	94.7	93.3
5000	97.9	96.6	95.3	96.1	95.8	96.5	96.4	95.5	93.8
6300	98.1	97.1	96.2	96.8	97.1	97.5	97.0	95.7	93.8
8000	99.4	97.4	96.9	97.9	98.6	98.8	97.5	96.1	94.5
10000	99.1	97.8	96.8	98.2	98.9	99.1	97.3	95.7	94.3
12500	98.5	97.7	97.3	98.9	99.5	99.3	97.2	95.3	93.7
16000	98.6	98.2	97.9	99.7	100.2	100.4	98.1	95.5	93.2
20000	98.6	98.0	97.5	99.4	100.3	100.5	98.3	95.6	92.9
25000	100.2	99.0	97.8	99.2	100.5	100.1	98.6	96.8	94.5
31500	101.0	99.4	98.1	98.7	99.0	98.7	97.8	96.3	94.1
40000	101.3	100.2	98.8	98.6	98.3	97.6	96.2	94.6	92.9
50000	101.0	100.3	99.6	99.6	98.2	97.1	95.3	93.4	91.3
63000	100.6	100.5	99.9	99.6	98.6	97.0	94.7	92.7	90.9
80000	101.3	100.8	100.2	100.1	99.0	97.4	95.3	93.3	91.4
TSPL	111.9	110.7	110.1	110.9	110.9	110.4	109.1	107.8	106.7
SSPL	111.4	110.5	109.6	110.3	110.4	110.2	108.8	107.4	106.1

V_∞ =	425	fps
T_a =	62	°F
RH_a =	82	%
P_a =	13.30	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3548 CONDITION 3548

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.57	2.64		1.57	2.64	THRUST,IDL	LB	26.3	47.1	N	116.9	209.5
TEMP	(R)	734.3	1255.0	(K)	407.9	697.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.041	KG/M3	0.989	0.658	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1032.0	1920.0	M/S	314.6	585.2	W (MODEL)	LB/S	0.8	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	97.4	97.4	96.6	97.7	96.5	92.8	92.0	93.4	96.7	114.4
.125	94.6	87.2	96.7	95.5	94.9	92.6	93.0	88.0	83.6	112.1
.160	93.0	83.9	84.7	94.2	93.4	79.1	87.2	89.5	82.1	108.5
.200	93.8	85.5	79.7	93.7	91.9	74.3	83.5	87.1	81.3	107.6
.250	93.2	81.9	81.4	89.8	77.9	87.1	87.6	85.9	84.0	105.3
.315	90.6	83.9	81.6	89.2	89.8	86.8	86.0	84.9	84.6	105.5
.400	72.7	83.1	78.9	86.5	75.7	84.8	85.9	84.6	84.8	101.9
.500	88.2	80.8	76.3	70.1	76.7	77.7	82.5	85.7	87.2	100.3
.630	80.7	84.5	80.8	78.8	80.6	81.0	78.4	80.9	88.3	100.1
.800	84.8	83.6	80.9	80.8	82.0	81.8	81.0	83.9	89.7	101.3
1.00	85.5	84.5	82.7	82.8	82.5	83.8	83.5	85.9	90.4	102.7
1.25	85.7	86.1	85.2	85.6	85.1	86.1	86.1	87.9	90.8	104.6
1.60	89.2	88.1	87.7	87.9	87.5	87.4	87.5	89.1	91.1	106.5
2.00	91.9	90.4	89.7	90.0	89.8	89.9	90.0	91.1	92.2	108.7
2.50	92.9	91.9	91.0	91.5	91.5	91.2	91.5	92.2	92.4	110.0
3.15	94.5	93.8	92.5	93.0	92.5	92.7	93.1	93.4	92.7	111.4
4.00	96.2	95.2	94.2	94.5	94.5	95.2	95.2	94.7	93.3	113.2
5.00	97.9	96.6	95.3	96.1	95.8	96.5	96.4	95.5	93.8	114.4
6.30	98.1	97.1	96.2	96.8	97.1	97.5	97.0	95.7	93.8	115.2
8.00	99.4	97.4	96.9	97.9	98.6	98.8	97.5	96.1	94.5	116.1
10.0	99.1	97.8	96.8	98.2	98.9	99.1	97.3	95.7	94.3	116.2
12.5	98.5	97.7	97.3	98.9	99.5	99.3	97.2	95.3	93.7	116.4
16.0	98.6	98.2	97.9	99.7	100.2	100.4	98.1	95.5	93.2	117.1
20.0	98.6	98.0	97.5	99.4	100.3	100.5	98.3	95.6	92.9	117.0
25.0	100.2	99.0	97.8	99.2	100.5	100.1	98.6	96.8	94.5	117.4
31.5	101.0	99.4	98.1	98.7	99.0	98.7	97.8	96.3	94.1	116.9
40.0	101.3	100.2	98.8	98.6	98.3	97.6	96.2	94.6	92.9	116.7
50.0	101.0	100.3	99.6	99.6	98.2	97.1	95.3	93.4	91.3	116.9
63.0	100.6	100.5	99.9	99.6	98.6	97.0	94.7	92.7	90.9	116.9
80.0	101.3	100.8	100.2	100.1	99.0	97.4	95.3	93.3	91.4	117.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.9	110.7	110.1	110.9	110.9	110.4	109.1	107.8	106.7	OAPWL = 128.6

V_∞ = 425 fps
T_a = 62 °F
RH_a = 82 %
P_a = 13.30 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3549	3549

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.7	82.4	82.0	92.8	94.7	91.0	92.2	95.6	98.1
125	76.0	82.2	83.2	82.0	92.6	79.5	92.1	94.6	96.5
160	75.4	76.0	79.7	76.9	91.7	72.9	91.1	93.4	84.4
200	74.1	89.1	78.3	78.6	90.8	80.4	88.9	91.3	83.3
250	75.7	80.9	80.3	81.5	89.8	80.2	87.7	85.1	85.1
315	79.1	81.5	81.6	79.9	88.4	81.4	87.3	88.0	92.6
400	79.3	81.0	79.3	80.6	87.8	80.5	87.6	88.8	94.4
500	78.3	80.0	80.8	81.5	76.8	83.4	81.1	92.4	95.1
630	81.0	82.4	83.0	84.0	82.8	86.1	88.9	92.9	95.6
800	83.5	83.4	82.6	84.8	85.6	87.1	89.9	94.5	96.9
1000	84.6	84.1	84.5	85.9	87.1	88.6	91.4	95.3	95.5
1250	84.5	86.1	86.2	87.7	88.9	90.8	93.6	96.2	95.1
1600	86.6	87.6	88.2	90.1	91.0	92.0	94.6	96.6	94.7
2000	90.3	90.2	90.2	91.8	93.2	94.1	96.5	97.6	94.3
2500	90.6	91.2	91.5	93.0	94.9	95.3	97.6	97.8	93.6
3150	92.3	92.7	92.8	94.7	95.7	96.9	99.0	98.1	93.7
4000	93.7	94.0	94.1	95.9	97.5	99.0	100.7	99.2	93.8
5000	95.3	95.6	95.4	97.7	98.6	100.4	101.8	99.6	94.7
6300	95.3	95.8	96.3	98.1	99.9	101.4	101.8	99.6	95.0
8000	96.4	96.2	96.5	98.8	101.0	102.4	102.1	100.2	95.2
10000	95.9	96.4	96.5	98.9	101.1	102.8	101.7	99.9	94.8
12500	95.1	96.0	96.7	99.5	101.7	103.0	101.0	98.9	94.0
16000	95.8	96.9	97.5	100.2	102.6	104.3	101.7	98.4	93.1
20000	95.9	96.5	97.2	100.1	102.8	104.2	102.0	97.9	92.1
25000	98.5	98.4	97.5	99.7	102.6	103.6	102.4	98.8	92.6
31500	100.6	100.4	99.2	99.6	101.2	102.2	101.8	98.4	92.5
40000	100.9	101.3	100.9	100.7	100.8	101.1	99.8	96.7	91.7
50000	99.6	100.8	101.3	102.3	101.3	100.5	98.6	95.0	90.2
63000	98.3	100.0	100.9	102.3	102.1	100.7	98.2	94.4	89.4
80000	98.6	99.6	100.6	102.2	102.5	101.4	99.3	95.2	90.0
TSPL	109.5	110.1	110.2	111.9	113.3	114.0	113.3	111.6	108.7
SSPL	109.4	110.0	110.2	111.8	113.1	113.9	113.2	111.2	107.6

V_∞ =	341	fps
T_a =	63	°F
RH_a =	84	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3549 3549

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	111.3	111.3	110.8	111.7	112.5	112.5	111.3	109.8	108.5
SSPL	111.3	111.2	110.8	111.7	112.3	112.5	111.2	109.4	107.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	111.9	111.4	110.5	111.1	111.4	111.1	109.6	107.8	106.2
SSPL	111.8	111.3	110.5	111.0	111.2	111.1	109.4	107.5	105.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3549 3549

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	91.1	83.0	83.9	93.1	92.7	88.5	88.0	89.6	92.5
125	78.4	83.9	83.0	82.4	90.6	77.2	84.7	90.2	91.4
160	77.7	77.6	79.4	77.8	89.7	70.7	82.0	90.4	88.8
200	76.5	90.2	77.2	79.3	88.9	78.0	82.6	87.3	86.8
250	78.0	82.3	80.4	81.8	87.8	77.9	82.1	83.4	81.4
315	81.5	82.9	81.2	79.9	86.5	78.9	81.9	83.9	85.0
400	81.6	82.1	79.3	80.7	85.9	78.0	81.9	84.4	85.9
500	80.7	81.4	81.0	79.8	74.9	80.3	77.6	81.4	89.7
630	83.4	83.7	83.3	82.8	80.9	83.0	84.4	86.6	89.8
800	85.8	84.4	83.0	84.1	83.8	84.1	85.4	87.9	91.5
1000	86.9	85.3	84.8	85.1	85.2	85.6	86.9	89.3	91.9
1250	86.9	87.4	86.4	87.0	87.0	87.8	89.2	91.0	92.6
1600	89.0	88.9	88.6	89.4	89.1	89.1	90.3	91.9	92.8
2000	92.7	91.4	90.5	91.1	91.3	91.2	92.3	93.5	93.6
2500	93.0	92.4	91.8	92.4	93.0	92.4	93.5	94.3	93.7
3150	94.6	93.9	93.1	94.0	93.8	94.0	95.0	95.2	93.9
4000	96.0	95.1	94.4	95.2	95.6	96.1	96.9	96.7	94.8
5000	97.7	96.8	95.8	97.0	96.8	97.4	98.1	97.5	95.3
6300	97.6	97.0	96.6	97.5	98.0	98.5	96.4	97.3	95.3
8000	98.8	97.4	96.9	98.3	99.2	99.6	98.9	97.8	95.9
10000	98.2	97.6	96.9	98.4	99.2	100.0	98.6	97.3	95.6
12500	97.5	97.3	97.3	99.0	99.8	100.2	98.2	96.4	94.5
16000	98.2	98.2	98.0	99.7	100.8	101.6	99.1	96.6	94.0
20000	98.2	97.7	97.7	99.7	100.9	101.5	99.4	96.6	93.4
25000	100.8	99.4	97.7	99.2	100.7	100.8	99.4	97.3	94.2
31500	103.0	101.4	99.1	98.8	99.3	99.4	98.6	96.9	93.9
40000	103.3	102.5	100.9	99.7	98.9	98.5	96.9	94.9	92.3
50000	102.0	102.1	101.6	101.2	99.3	97.9	95.8	93.4	90.6
63000	100.7	101.4	101.3	101.3	100.2	98.2	95.6	92.9	90.0
80000	101.0	100.9	101.0	101.4	100.5	98.9	96.6	93.9	90.8
TSPL	111.9	111.3	110.5	111.2	111.4	111.2	110.1	108.9	107.5
SSPL	111.8	111.2	110.5	111.1	111.2	111.2	110.0	108.7	107.0

V_∞ =	341	fps
T_a =	63	°F
RH_a =	84	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3549 CONDITION 3549

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	26.9	44.7	N	119.8	198.9
TEMP	(R)	727.5	1256.0	(K)	404.2	697.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.040	KG/M3	0.991	0.648	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	996.9	1870.0	M/S	303.9	570.0	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.1	83.0	83.9	93.1	92.7	88.5	88.0	89.6	92.5	108.3
.125	78.4	83.9	83.0	82.4	90.6	77.2	84.7	90.2	91.4	104.7
.160	77.7	77.6	79.4	77.8	89.7	70.7	82.0	90.4	88.8	103.2
.200	76.5	90.2	77.2	79.3	88.9	78.0	82.6	87.3	86.8	104.0
.250	78.0	82.3	80.4	81.8	87.8	77.9	82.1	83.4	81.4	101.3
.315	81.5	82.9	81.2	79.9	86.5	78.9	81.9	83.9	85.0	101.1
.400	81.6	82.1	79.3	80.7	85.9	78.0	81.9	84.4	85.9	100.9
.500	80.7	81.4	81.0	79.8	74.9	80.3	77.6	81.4	89.7	99.5
.630	83.4	83.7	83.3	82.8	80.9	83.0	84.4	86.6	89.8	102.4
.800	85.8	84.4	83.0	84.1	83.8	84.1	85.4	87.9	91.5	103.7
1.00	86.9	85.3	84.8	85.1	85.2	85.6	86.9	89.3	91.9	104.9
1.25	86.9	87.4	86.4	87.0	87.0	87.8	89.2	91.0	92.6	106.6
1.60	89.0	88.9	88.6	89.4	89.1	89.1	90.3	91.9	92.8	108.0
2.00	92.7	91.4	90.5	91.1	91.3	91.2	92.3	93.5	93.6	110.1
2.50	93.0	92.4	91.8	92.4	93.0	92.4	93.5	94.3	93.7	111.1
3.15	94.6	93.9	93.1	94.0	93.8	94.0	95.0	95.2	93.9	112.4
4.00	96.0	95.1	94.4	95.2	95.6	96.1	96.9	96.7	94.8	114.0
5.00	97.7	96.8	95.8	97.0	96.8	97.4	98.1	97.5	95.3	115.3
6.30	97.6	97.0	96.6	97.5	98.0	98.5	98.4	97.3	95.3	115.9
8.00	98.8	97.4	96.9	98.3	99.2	99.6	98.9	97.8	95.9	116.6
10.0	98.2	97.6	96.9	98.4	99.2	100.0	98.6	97.3	95.6	116.6
12.5	97.5	97.3	97.3	99.0	99.8	100.2	98.2	96.4	94.5	116.7
16.0	98.2	98.2	98.0	99.7	100.8	101.6	99.1	96.6	94.0	117.6
20.0	98.2	97.7	97.7	99.7	100.9	101.5	99.4	96.6	93.4	117.5
25.0	100.8	99.4	97.7	99.2	100.7	100.8	99.4	97.3	94.2	117.7
31.5	103.0	101.4	99.1	98.8	99.3	99.4	98.6	96.9	93.9	117.9
40.0	103.3	102.5	100.9	99.7	98.9	98.5	96.9	94.9	92.3	118.3
50.0	102.0	102.1	101.6	101.2	99.3	97.9	95.8	93.4	90.6	118.3
63.0	100.7	101.4	101.3	101.3	100.2	98.2	95.6	92.9	90.0	118.1
80.0	101.0	100.9	101.0	101.4	100.5	98.9	96.6	93.9	90.8	118.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.9	111.3	110.5	111.2	111.4	111.2	110.1	108.9	107.5	OAPWL = 129.1

V_∞ = 341 fps
T_a = 63 °F
RH_a = 84 %
P_a = 1381 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3550	3550

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.4	91.4	78.8	76.8	95.2	77.7	89.6	95.4	97.7
125	78.6	90.4	82.2	81.2	93.7	82.8	89.6	94.6	96.1
160	74.3	89.1	79.2	76.9	92.8	80.9	88.5	93.2	94.4
200	85.6	88.7	76.9	78.6	91.6	79.0	86.4	91.1	92.0
250	68.5	87.4	75.5	77.8	74.5	77.6	85.3	76.4	90.5
315	74.0	70.2	77.2	78.3	79.2	79.5	84.4	81.3	87.1
400	75.3	68.2	76.0	78.6	72.2	78.8	84.4	82.9	88.8
500	75.6	74.9	77.9	77.7	80.0	80.0	83.9	87.0	89.2
630	78.2	78.6	80.3	80.8	79.8	82.2	73.4	87.7	89.7
800	81.1	80.4	80.2	81.5	82.0	83.2	80.6	89.1	90.3
1000	83.2	82.4	81.9	82.4	83.6	84.2	84.1	89.4	89.2
1250	84.5	85.5	84.2	84.3	84.9	86.5	86.0	90.0	88.5
1600	83.1	83.9	84.9	87.0	87.6	88.1	87.6	89.8	87.7
2000	87.2	88.5	88.9	90.1	90.0	90.0	89.4	90.7	87.6
2500	88.4	88.8	88.7	89.8	90.9	91.4	90.9	91.2	87.1
3150	90.5	90.9	90.1	91.4	91.5	91.9	92.2	91.5	87.2
4000	91.3	91.6	91.6	92.6	93.2	93.4	92.9	92.0	87.1
5000	92.3	92.7	92.2	93.9	94.5	94.6	93.9	92.0	87.5
6300	91.6	92.1	92.3	93.5	94.2	94.7	93.8	91.3	86.9
8000	91.5	91.4	91.9	93.4	94.8	95.4	94.0	91.8	86.6
10000	90.6	90.9	90.9	92.7	94.6	95.3	92.9	90.7	85.4
12500	89.1	90.0	90.4	92.6	94.3	95.1	92.2	89.2	84.2
16000	89.2	90.2	90.6	92.8	94.8	95.6	92.9	88.8	83.4
20000	87.6	88.8	89.4	91.9	93.9	94.9	92.4	88.2	82.4
25000	86.6	88.1	88.8	90.9	93.4	93.5	91.7	88.3	82.0
31500	85.8	87.1	88.3	90.4	91.9	92.2	90.5	87.0	81.3
40000	85.0	86.4	87.6	89.8	91.1	91.3	88.8	85.2	80.3
50000	84.0	85.6	87.0	89.5	90.5	90.5	88.2	84.2	79.3
63000	83.2	85.0	86.4	88.7	89.8	89.7	87.3	84.1	79.8
80000	83.1	84.3	85.8	88.3	89.3	89.3	87.3	84.5	79.8
TSPL	101.8	103.3	102.6	104.2	106.4	105.9	104.9	104.8	104.3
SSPL	101.6	102.2	102.4	104.2	105.4	105.9	104.3	103.1	100.1

V_∞ =	341	fps
T_a =	63	°F
RH_a =	85	%
P_a =	1381	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3550 3550

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	103.6	104.5	103.1	104.1	105.6	104.5	102.9	103.0	104.1
SSPL	103.4	103.4	103.0	104.0	104.6	104.4	102.4	101.3	99.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	104.1	104.6	102.8	103.4	104.5	103.1	101.2	101.1	101.9
SSPL	104.0	103.5	102.7	103.4	103.5	103.0	100.6	99.3	97.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3550 3550

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.8	92.4	77.1	78.2	93.3	75.8	82.0	88.9	92.4
125	81.0	91.5	81.1	81.9	91.8	80.6	83.6	88.2	91.4
160	76.7	90.2	77.7	78.0	90.9	78.8	82.3	87.1	90.0
200	88.0	88.8	76.0	79.6	89.7	76.9	80.2	85.0	87.8
250	70.8	88.6	74.9	76.5	72.6	74.3	80.4	77.4	74.1
315	76.4	71.8	78.1	77.5	77.2	76.5	79.8	79.2	78.3
400	77.7	69.6	77.2	76.8	70.3	75.2	79.7	80.0	80.0
500	78.0	76.3	78.1	77.0	78.1	77.1	79.1	81.4	83.9
630	80.5	80.0	80.5	79.7	77.9	79.7	71.3	74.3	85.0
800	83.5	81.5	80.4	80.6	80.1	80.5	77.2	79.8	86.1
1000	85.6	83.4	81.9	81.5	81.8	81.5	80.3	82.3	86.0
1250	86.9	86.6	84.1	83.4	83.1	83.7	82.4	83.7	86.4
1600	85.5	85.2	85.4	86.2	85.7	85.3	84.1	84.7	86.1
2000	89.6	89.8	89.1	89.2	88.1	87.3	85.9	86.2	86.8
2500	90.8	89.9	88.9	89.0	89.0	88.7	87.5	87.4	87.1
3150	92.9	92.0	90.2	90.5	89.6	89.2	88.7	88.4	87.3
4000	93.7	92.8	91.7	91.8	91.3	90.6	89.6	88.9	87.7
5000	94.7	93.9	92.4	93.1	92.5	91.9	90.7	89.5	87.7
6300	94.0	93.3	92.6	92.7	92.3	91.9	90.7	89.1	87.0
8000	93.9	92.6	92.2	92.7	92.9	92.7	91.0	89.4	87.4
10000	93.0	92.1	91.2	92.1	92.8	92.6	90.2	88.3	86.3
12500	91.5	91.2	90.8	92.0	92.4	92.5	89.7	87.2	84.8
16000	91.6	91.5	91.0	92.2	92.9	92.9	90.4	87.4	84.3
20000	90.0	90.1	89.9	91.3	92.0	92.2	89.9	87.0	83.7
25000	89.0	89.4	89.2	90.4	91.6	90.9	88.9	86.7	83.7
31500	88.2	88.4	88.8	89.7	90.1	89.5	87.7	85.4	82.5
40000	87.4	87.8	88.1	89.1	89.2	88.7	86.2	83.5	80.8
50000	86.3	87.0	87.6	88.8	88.6	87.9	85.6	82.9	79.8
63000	85.6	86.4	87.0	88.0	87.9	87.1	84.6	82.2	79.8
80000	85.4	85.7	86.4	87.6	87.4	86.7	84.5	82.4	80.2
TSPL	104.1	104.4	102.9	103.5	104.5	103.3	101.7	100.9	101.1
SSPL	104.0	103.4	102.8	103.4	103.5	103.2	101.4	99.9	99.0

V_∞ =	341	fps
T_a =	63	°F
RH_a =	85	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3550 CONDITION 3550

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	26.6	25.3	N	118.5	112.4
TEMP	(R)	712.8	1215.0	(K)	396.0	675.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.038	KG/M3	1.011	0.616	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	986.0	1507.0	M/S	300.5	459.3	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.8	92.4	77.1	78.2	93.3	75.8	82.0	88.9	92.4	106.9
.125	81.0	91.5	81.1	81.9	91.8	80.6	83.6	88.2	91.4	106.2
.160	76.7	90.2	77.7	78.0	90.9	78.8	82.3	87.1	90.0	104.8
.200	88.0	88.8	76.0	79.6	89.7	76.9	80.2	85.0	87.8	103.9
.250	70.8	88.6	74.9	76.5	72.6	74.3	80.4	77.4	74.1	99.7
.315	76.4	71.8	78.1	77.5	77.2	76.5	79.8	79.2	78.3	95.8
.400	77.7	69.6	77.2	76.8	70.3	75.2	79.7	80.0	80.0	95.2
.500	78.0	76.3	78.1	77.0	78.1	77.1	79.1	81.4	83.9	97.0
.630	80.5	80.0	80.5	79.7	77.9	79.7	71.3	74.3	85.0	97.7
.800	83.5	81.5	80.4	80.6	80.1	80.5	77.2	79.8	86.1	99.3
1.00	85.6	83.4	81.9	81.5	81.8	81.5	80.3	82.3	86.0	100.8
1.25	86.9	86.6	84.1	83.4	83.1	83.7	82.4	83.7	86.4	102.8
1.60	85.5	85.2	85.4	86.2	85.7	85.3	84.1	84.7	86.1	103.7
2.00	89.6	89.8	89.1	89.2	88.1	87.3	85.9	86.2	86.8	106.7
2.50	90.8	89.9	88.9	89.0	89.0	88.7	87.5	87.4	87.1	107.2
3.15	92.9	92.0	90.2	90.5	89.6	89.2	88.7	88.4	87.3	108.6
4.00	93.7	92.8	91.7	91.8	91.3	90.6	89.6	88.9	87.7	109.7
5.00	94.7	93.9	92.4	93.1	92.5	91.9	90.7	89.5	87.7	110.8
6.30	94.0	93.3	92.6	92.7	92.3	91.9	90.7	89.1	87.0	110.5
8.00	93.9	92.6	92.2	92.7	92.9	92.7	91.0	89.4	87.4	110.5
10.0	93.0	92.1	91.2	92.1	92.8	92.6	90.2	88.3	86.3	110.0
12.5	91.5	91.2	90.8	92.0	92.4	92.5	89.7	87.2	84.8	109.5
16.0	91.6	91.5	91.0	92.2	92.9	92.9	90.4	87.4	84.3	109.8
20.0	90.0	90.1	89.9	91.3	92.0	92.2	89.9	87.0	83.7	108.8
25.0	89.0	89.4	89.2	90.4	91.6	90.9	88.9	86.7	83.7	108.0
31.5	88.2	88.4	88.8	89.7	90.1	89.5	87.7	85.4	82.5	107.0
40.0	87.4	87.8	88.1	89.1	89.2	88.7	86.2	83.5	80.8	106.1
50.0	86.3	87.0	87.6	88.8	88.6	87.9	85.6	82.9	79.8	105.5
63.0	85.6	86.4	87.0	88.0	87.9	87.1	84.6	82.2	79.8	104.8
80.0	85.4	85.7	86.4	87.6	87.4	86.7	84.5	82.4	80.2	104.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	104.1	104.4	102.9	103.5	104.5	103.3	101.7	100.9	101.1	

OAPWL = 121.6

V_∞ =	341	fps
T_a =	63	°F
RH_a =	85	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF 0	3551	3551

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.7	81.3	90.1	92.9	94.9	80.8	90.6	95.4	97.7
125	74.7	74.2	75.8	78.8	93.3	82.1	90.2	94.4	95.9
160	73.0	73.0	86.1	75.1	92.5	80.9	89.4	93.3	94.0
200	85.6	89.0	68.9	71.4	91.6	80.4	87.3	90.8	91.7
250	68.5	74.5	83.7	74.6	90.6	78.3	85.8	89.5	90.2
315	82.3	73.2	68.9	73.6	89.2	77.3	85.1	88.6	73.1
400	70.8	76.9	69.4	74.8	88.5	76.2	84.3	74.2	74.9
500	72.6	71.8	72.6	74.0	73.6	76.3	83.3	78.5	79.3
630	74.2	75.9	75.2	77.2	69.4	77.6	82.8	77.7	79.9
800	78.1	78.0	76.5	78.0	77.1	78.1	82.1	80.8	81.6
1000	83.7	82.5	81.1	80.6	78.9	79.3	82.2	81.3	80.9
1250	82.5	83.1	82.0	81.9	77.8	81.1	76.5	81.9	80.1
1600	80.9	81.3	80.2	82.0	81.8	82.6	79.5	82.4	80.2
2000	82.5	82.8	83.7	86.1	86.0	85.6	83.2	84.1	81.1
2500	85.1	85.4	85.0	86.0	85.9	85.9	85.0	85.2	81.3
3150	85.7	86.4	86.3	87.2	87.4	87.4	85.2	84.7	80.8
4000	87.6	87.1	85.7	88.0	88.2	87.9	86.2	84.5	80.7
5000	85.2	85.6	85.3	86.6	86.5	86.1	84.3	83.2	79.3
6300	83.2	83.5	83.9	85.1	85.8	85.4	83.2	80.8	77.1
8000	83.4	83.1	83.7	85.0	85.4	85.2	82.5	80.1	75.4
10000	84.8	86.3	86.6	89.8	90.8	89.5	88.8	83.6	80.5
12500	81.8	82.4	82.5	84.2	85.4	85.8	82.9	78.9	74.3
16000	81.2	82.3	82.5	84.0	84.9	85.2	82.0	77.5	72.4
20000	80.6	82.0	82.5	84.2	85.0	84.7	81.6	77.1	71.8
25000	79.7	81.3	81.5	82.9	85.0	83.7	80.6	76.8	70.8
31500	79.5	80.6	81.4	82.9	83.8	83.4	80.4	75.9	73.2
40000	79.1	80.1	81.1	82.7	83.2	82.9	80.0	75.7	72.9
50000	78.1	79.5	80.5	82.4	82.5	81.9	79.5	75.8	73.6
63000	76.7	77.9	79.1	81.3	81.8	81.5	78.4	77.3	76.1
80000	76.4	76.6	77.8	81.0	81.4	81.9	78.1	79.4	75.8
TSPL	97.3	97.4	97.8	99.3	102.6	98.6	99.6	101.5	102.2
SSPL	96.0	96.4	96.4	98.0	98.4	98.2	96.6	94.8	92.2

V_∞ =	340	fps
T_a =	63	°F
RH_a =	86	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3551 3551

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	99.1	98.6	98.4	99.2	101.8	97.2	97.6	99.7	101.9
SSPL	97.8	97.6	96.9	97.9	97.6	96.7	94.6	93.0	92.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	99.6	98.7	98.1	98.5	100.7	95.8	95.9	97.8	99.7
SSPL	98.4	97.8	96.6	97.2	96.5	95.3	92.9	91.1	89.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	91.1	82.9	91.4	92.5	92.7	78.7	83.7	89.3	92.3
125	77.1	75.4	76.4	80.2	91.4	79.9	83.9	88.6	91.2
160	75.4	75.6	85.1	75.5	90.7	78.7	83.0	87.8	90.0
200	88.0	88.3	67.2	73.5	89.8	78.2	81.4	85.3	87.5
250	70.8	77.1	82.7	75.0	88.7	76.1	79.7	84.0	86.2
315	84.7	73.3	69.2	75.2	87.3	75.2	78.9	84.4	83.2
400	73.1	77.7	69.5	76.3	86.6	74.1	79.0	77.0	70.2
500	75.0	72.9	73.0	73.0	71.8	73.1	78.3	78.0	74.8
630	76.6	77.1	75.6	75.2	67.5	74.0	78.5	77.1	74.1
800	80.4	78.9	76.6	77.0	75.1	75.1	77.6	78.0	77.2
1000	86.1	83.4	80.9	79.3	76.9	76.4	78.0	78.2	77.6
1250	84.9	84.2	82.0	80.3	75.9	78.3	74.0	74.5	78.3
1600	83.3	82.3	80.4	81.1	79.9	80.0	76.7	76.7	78.7
2000	84.9	84.1	84.3	85.3	84.0	83.0	80.2	79.6	80.2
2500	87.5	86.6	85.1	85.0	84.0	83.2	81.7	81.4	81.1
3150	88.1	87.6	86.4	86.2	85.5	84.8	82.3	81.2	80.6
4000	90.0	88.0	86.0	87.2	86.3	85.3	83.2	81.7	80.4
5000	87.5	86.7	85.5	85.7	84.6	83.5	81.3	80.1	79.1
6300	85.6	84.7	84.2	84.2	83.9	82.8	80.4	78.4	76.7
8000	85.8	84.3	84.0	84.1	83.5	82.6	79.9	77.8	75.8
10000	87.2	87.6	87.2	89.2	88.8	87.0	85.8	82.9	79.3
12500	84.2	83.6	82.8	83.5	83.5	83.2	80.5	77.5	74.6
16000	83.6	83.5	82.8	83.2	83.0	82.7	79.7	76.3	73.0
20000	83.0	83.3	82.9	83.4	83.0	82.1	79.2	76.0	72.6
25000	82.1	82.6	81.7	82.3	83.1	81.2	78.2	75.3	72.3
31500	81.9	81.9	81.7	82.2	81.9	80.9	78.0	74.6	71.8
40000	81.5	81.5	81.5	81.9	81.2	80.4	77.5	74.3	71.6
50000	80.5	80.9	80.9	81.6	80.6	79.4	76.8	74.0	71.8
63000	79.1	79.2	79.6	80.5	79.9	79.0	75.8	73.8	73.5
80000	78.8	77.9	76.5	80.3	79.5	79.3	75.6	74.7	75.4
TSPL	99.6	98.3	98.2	98.6	100.6	96.0	95.2	96.7	98.1
SSPL	98.4	97.6	96.6	97.2	96.5	95.6	93.6	91.9	90.8

V_∞ =	340	fps
T_a =	63	°F
RH_a =	86	%
P_a =	1381	psia

ORIGINAL PAGE IS OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3551 CONDITION 3551

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	26.8	9.9	N	119.3	43.9
TEMP	(R)	697.3	1144.0	(K)	387.4	635.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.037	KG/M3	1.032	0.600	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	970.6	992.7	M/S	295.8	302.6	W (MODEL)	LB/S	0.9	0.3	KG/S	0.4	0.1

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.1	82.9	91.4	92.5	92.7	78.7	83.7	89.3	92.3	108.3
.125	77.1	75.4	76.4	80.2	91.4	79.9	83.9	88.6	91.2	104.0
.160	75.4	75.6	85.1	75.5	90.7	78.7	83.0	87.8	90.0	103.7
.200	88.0	88.3	67.2	73.5	89.8	78.2	81.4	85.3	87.5	103.7
.250	70.8	77.1	82.7	75.0	88.7	76.1	79.7	84.0	86.2	101.2
.315	84.7	73.3	69.2	75.2	87.3	75.2	78.9	84.4	83.2	100.0
.400	73.1	77.7	69.5	76.3	86.6	74.1	79.0	77.0	70.2	98.1
.500	75.0	72.9	73.0	73.0	71.8	73.1	78.3	78.0	74.8	93.0
.630	76.6	77.1	75.6	75.2	67.5	74.0	78.5	77.1	74.1	94.1
.800	80.4	78.9	76.6	77.0	75.1	75.1	77.6	78.0	77.2	95.7
1.00	86.1	83.4	80.9	79.3	76.9	76.4	78.0	78.2	77.6	99.0
1.25	84.9	84.2	82.0	80.3	75.9	78.3	74.0	74.5	78.3	99.0
1.60	83.3	82.3	80.4	81.1	79.9	80.0	76.7	76.7	78.7	98.8
2.00	84.9	84.1	84.3	85.3	84.0	83.0	80.2	79.6	80.2	101.9
2.50	87.5	86.6	85.1	85.0	84.0	83.2	81.7	81.4	81.1	102.9
3.15	88.1	87.6	86.4	86.2	85.5	84.8	82.3	81.2	80.6	104.0
4.00	90.0	88.0	86.0	87.2	86.3	85.3	83.2	81.7	80.4	104.7
5.00	87.5	86.7	85.5	85.7	84.6	83.5	81.3	80.1	79.1	103.1
6.30	85.6	84.7	84.2	84.2	83.9	82.8	80.4	78.4	76.7	101.7
8.00	85.8	84.3	84.0	84.1	83.5	82.6	79.9	77.8	75.8	101.5
10.0	87.2	87.6	87.2	89.2	88.8	87.0	85.8	82.9	79.3	105.6
12.5	84.2	83.6	82.8	83.5	83.5	83.2	80.5	77.5	74.6	101.0
16.0	83.6	83.5	82.8	83.2	83.0	82.7	79.7	76.3	73.0	100.6
20.0	83.0	83.3	82.9	83.4	83.0	82.1	79.2	76.0	72.6	100.5
25.0	82.1	82.6	81.7	82.3	83.1	81.2	78.2	75.3	72.3	99.7
31.5	81.9	81.9	81.7	82.2	81.9	80.9	78.0	74.6	71.8	99.2
40.0	81.5	81.5	81.5	81.9	81.2	80.4	77.5	74.3	71.6	98.8
50.0	80.5	80.9	80.9	81.6	80.6	79.4	76.8	74.0	71.8	98.2
63.0	79.1	79.2	79.6	80.5	79.9	79.0	75.8	73.8	73.5	97.2
80.0	78.8	77.9	78.5	80.3	79.5	79.3	75.6	74.7	75.4	96.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 116.6
OSPL	99.6	98.3	98.2	98.6	100.6	96.0	95.3	96.7	98.1	

V_∞ =	340	fps
T_a =	63	°F
RH_a =	86	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000 XARF	0 3552	3552

DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.5	91.4	74.0	92.7	87.1	90.6	90.5	95.5	97.6
125	72.9	90.5	82.2	82.0	85.1	82.1	90.7	94.8	96.5
160	71.2	76.0	79.2	75.1	82.9	80.9	89.7	77.2	87.7
200	85.6	88.8	78.8	78.6	84.9	82.3	87.9	81.1	86.5
250	74.6	79.5	79.2	80.2	83.9	82.0	87.1	87.1	87.6
315	80.7	82.7	83.3	81.4	82.4	84.1	87.3	90.4	95.3
400	81.0	80.7	80.6	82.0	82.1	82.8	76.6	90.9	97.2
500	79.3	80.6	81.6	82.2	81.9	85.4	84.7	94.9	97.8
630	82.2	82.9	83.8	84.9	84.4	87.9	91.0	95.5	98.6
800	84.8	83.7	83.8	85.9	87.1	89.1	91.8	97.2	99.8
1000	84.6	84.9	85.6	87.1	88.2	90.7	93.5	97.9	98.6
1250	85.2	86.7	87.2	88.7	90.1	92.5	95.1	98.5	97.5
1600	87.3	88.2	88.8	90.7	92.0	93.5	96.5	99.0	96.9
2000	90.1	90.6	91.0	92.5	94.2	95.7	98.4	99.7	96.4
2500	91.4	91.8	92.1	93.6	95.3	96.6	99.4	99.9	95.5
3150	92.8	93.9	93.7	95.1	96.5	98.2	100.6	99.8	95.3
4000	94.5	94.7	94.9	96.1	98.2	100.2	101.9	100.7	95.3
5000	95.9	96.4	96.2	97.9	99.4	101.8	103.4	101.3	96.2
6300	96.0	96.5	97.0	98.5	100.7	102.5	103.7	101.4	96.7
8000	97.1	96.8	97.4	99.3	101.8	103.7	104.1	102.5	97.3
10000	97.3	97.6	97.9	99.6	102.0	103.7	104.1	102.5	97.0
12500	101.1	99.7	99.0	100.5	102.5	103.9	103.7	102.0	97.4
16000	106.8	105.0	102.0	101.7	103.4	104.3	103.4	101.2	96.9
20000	107.7	106.9	104.2	102.7	103.7	104.1	102.5	99.5	94.9
25000	106.7	107.7	106.0	104.5	105.0	104.4	102.4	99.2	93.7
31500	104.5	105.6	106.3	106.2	105.9	105.0	103.0	98.8	93.3
40000	104.9	104.9	105.3	106.3	106.9	105.7	102.8	98.6	93.2
50000	104.1	104.7	105.1	106.5	107.4	106.5	103.9	99.2	93.4
63000	103.1	104.3	104.9	105.8	106.9	106.6	104.1	99.8	94.2
80000	103.0	103.8	104.4	105.4	106.3	105.9	104.2	100.2	95.2
TSPL	115.0	115.2	114.6	115.1	116.1	116.2	115.5	113.7	110.9
SSPL	115.0	115.1	114.6	115.0	116.0	116.2	115.4	113.5	110.1

V_∞ =	339	fps
T_a =	63	°F
RH_a =	87	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3552 3552

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	116.9	116.4	115.2	115.0	115.2	114.8	113.5	111.9	110.7
SSPL	116.9	116.3	115.1	114.9	115.2	114.7	113.4	111.7	109.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	117.4	116.5	114.9	114.3	114.2	113.4	111.7	109.9	108.5
SSPL	117.4	116.4	114.9	114.3	114.2	113.3	111.7	109.8	107.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/17/76 -00 000000 XARF 0 3552 3552

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.9	90.8	75.8	92.7	85.1	87.6	86.8	88.4	92.4
125	75.3	92.0	81.3	81.4	83.1	79.2	84.5	89.1	91.6
160	73.6	77.9	78.6	74.8	81.1	77.9	84.6	80.7	74.3
200	88.0	89.1	77.8	78.4	83.0	79.5	83.3	81.3	77.9
250	77.0	81.0	79.3	79.8	82.0	79.2	82.2	83.6	83.6
315	83.1	84.0	83.0	80.3	80.5	81.1	82.8	84.5	87.5
400	83.4	81.8	80.9	81.1	80.2	80.3	73.7	77.4	88.7
500	81.6	81.9	81.8	81.1	80.1	82.4	80.8	84.6	92.1
630	84.5	84.2	84.1	83.9	82.5	84.8	86.4	88.9	92.5
800	87.2	84.7	84.1	85.2	85.2	86.1	87.2	90.1	94.2
1000	86.9	86.1	85.9	86.4	86.4	87.7	89.0	91.6	94.6
1250	87.6	88.0	87.5	88.0	88.2	89.5	90.7	92.9	94.9
1600	89.7	89.4	89.2	90.1	90.2	90.5	92.1	94.0	95.2
2000	92.5	91.8	91.3	91.8	92.4	92.7	94.1	95.5	95.8
2500	93.8	93.0	92.4	92.9	93.5	93.6	95.1	96.2	95.8
3150	95.1	95.1	93.9	94.4	94.6	95.3	96.6	96.9	95.6
4000	96.9	95.9	95.1	95.5	96.4	97.2	98.1	98.0	96.3
5000	98.3	97.6	96.5	97.2	97.6	98.8	99.6	99.1	96.9
6300	98.3	97.7	97.3	97.9	98.8	99.6	100.1	99.3	97.1
8000	99.5	98.0	97.8	98.8	100.0	100.9	100.7	100.0	98.2
10000	99.7	98.8	98.2	99.0	100.2	100.8	100.6	100.0	98.1
12500	103.4	100.6	99.1	99.8	100.6	101.1	100.4	99.4	97.7
16000	109.2	105.7	101.6	100.9	101.5	101.6	100.3	98.8	96.9
20000	110.1	107.7	103.7	101.6	101.8	101.4	99.6	97.5	95.2
25000	109.0	108.7	105.5	103.4	103.0	101.8	99.6	97.4	94.7
31500	106.9	106.9	106.3	105.1	103.9	102.4	100.3	97.6	94.3
40000	107.3	106.1	105.5	105.5	105.0	103.2	100.4	97.3	94.1
50000	106.5	105.9	105.4	105.7	105.5	104.0	101.4	98.3	94.7
63000	105.5	105.5	105.1	105.0	104.9	104.0	101.5	98.6	95.3
80000	105.3	105.1	104.6	104.6	104.4	103.3	101.4	98.9	95.8
TSPL	117.4	116.2	114.6	114.2	114.1	113.5	112.3	111.0	109.6
SSPL	117.4	116.2	114.6	114.2	114.1	113.5	112.2	110.9	109.4

V_∞ =	339	fps
T_a =	63	°F
RH_a =	87	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3552 CONDITION 3552

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.15		1.52	3.15	THRUST,IDL	LB	26.6	65.3	N	118.5	290.4
TEMP	(R)	698.2	1080.0	(K)	387.9	600.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.050	KG/M3	1.032	0.806	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	974.4	1911.0	M/S	297.0	582.5	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.9	90.8	75.8	92.7	85.1	87.6	86.8	88.4	92.4	107.5
.125	75.3	92.0	81.3	81.4	83.1	79.2	84.5	89.1	91.6	105.0
.160	73.6	77.9	78.6	74.8	81.1	77.9	84.6	80.7	74.3	98.0
.200	88.0	89.1	77.8	78.4	83.0	79.5	83.3	81.3	77.9	102.4
.250	77.0	81.0	79.3	79.8	82.0	79.2	82.2	83.6	83.6	99.4
.315	83.1	84.0	83.0	80.3	80.5	81.1	82.8	84.5	87.5	101.2
.400	83.4	81.8	80.9	81.1	80.2	80.3	73.7	77.4	88.7	99.7
.500	81.6	81.9	81.8	81.1	80.1	82.4	80.8	84.6	92.1	101.5
.630	84.5	84.2	84.1	83.9	82.5	84.8	86.4	88.9	92.5	104.1
.800	87.2	84.7	84.1	85.2	85.2	86.1	87.2	90.1	94.2	105.4
1.00	86.9	86.1	85.9	86.4	86.4	87.7	89.0	91.6	94.6	106.6
1.25	87.6	88.0	87.5	88.0	88.2	89.5	90.7	92.9	94.9	108.0
1.60	89.7	89.4	89.2	90.1	90.2	90.5	92.1	94.0	95.2	109.4
2.00	92.5	91.8	91.3	91.8	92.4	92.7	94.1	95.5	95.8	111.3
2.50	93.8	93.0	92.4	92.9	93.5	93.6	95.1	96.2	95.8	112.2
3.15	95.1	95.1	93.9	94.4	94.6	95.3	96.6	96.9	95.6	113.5
4.00	96.9	95.9	95.1	95.5	96.4	97.2	98.1	98.0	96.3	114.9
5.00	98.3	97.6	96.5	97.2	97.6	98.8	99.6	99.1	96.9	116.3
6.30	98.3	97.7	97.3	97.9	98.8	99.6	100.1	99.3	97.1	116.9
8.00	99.5	98.0	97.8	98.8	100.0	100.9	100.7	100.0	98.2	117.8
10.0	99.7	98.8	98.2	99.0	100.2	100.8	100.6	100.0	98.1	117.9
12.5	103.4	100.6	99.1	99.8	100.6	101.1	100.4	99.4	97.7	118.7
16.0	109.2	105.7	101.6	100.9	101.5	101.6	100.3	98.8	96.9	121.4
20.0	110.1	107.7	103.7	101.6	101.8	101.4	99.6	97.5	95.2	122.5
25.0	109.0	108.7	105.5	103.4	103.0	101.8	99.6	97.4	94.7	123.1
31.5	106.9	106.9	106.3	105.1	103.9	102.4	100.3	97.6	94.3	122.8
40.0	107.3	106.1	105.5	105.5	105.0	103.2	100.4	97.3	94.1	122.8
50.0	106.5	105.9	105.4	105.7	105.5	104.0	101.4	98.3	94.7	122.9
63.0	105.5	105.5	105.1	105.0	104.9	104.0	101.5	98.6	95.3	122.5
80.0	105.3	105.1	104.6	104.6	104.4	103.3	101.4	98.9	95.8	122.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	117.4	116.2	114.6	114.2	114.1	113.5	112.3	111.0	109.6	OAPWL = 132.7

V_∞ =	339	fps
T_a =	63	°F
RH_a =	87	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF 0	3553	3553

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.5	91.3	81.2	92.2	94.5	80.8	89.6	95.0	97.5
125	86.0	90.3	80.8	90.2	92.5	81.4	89.6	94.0	95.8
160	73.0	89.1	77.0	88.1	91.7	80.1	88.7	93.0	94.4
200	85.6	88.9	75.0	87.4	90.4	79.7	86.6	90.8	79.1
250	68.5	77.6	76.9	75.9	89.3	78.8	85.3	80.6	82.2
315	77.7	79.6	80.4	75.4	88.1	80.5	85.4	84.3	91.2
400	77.3	77.6	77.7	77.4	87.3	79.7	85.3	86.2	93.1
500	76.9	79.0	79.3	78.6	86.1	82.1	85.1	90.7	93.6
630	79.9	80.9	81.6	82.1	75.6	84.7	83.7	91.3	94.1
800	82.5	81.3	81.3	82.6	82.5	85.7	86.1	93.0	95.2
1000	83.7	82.8	83.0	83.7	84.7	87.3	88.2	93.6	94.3
1250	83.2	84.5	85.2	86.2	87.6	89.6	90.5	94.8	93.8
1600	86.6	87.5	87.7	88.6	89.7	90.7	91.9	95.1	93.5
2000	89.6	89.3	89.3	90.2	91.8	92.9	93.7	96.0	93.3
2500	90.2	90.4	90.7	91.7	93.4	94.0	95.0	96.4	92.5
3150	91.9	92.4	92.3	93.1	94.2	95.3	96.3	96.6	92.5
4000	93.2	93.5	93.6	94.2	95.8	97.1	98.2	97.4	92.6
5000	94.8	95.1	94.5	95.8	97.1	98.6	99.3	97.9	93.2
6300	94.8	95.3	95.3	96.1	98.1	99.5	99.7	97.7	93.6
8000	95.6	95.2	95.4	96.6	99.1	100.7	99.8	98.2	93.5
10000	95.1	95.2	95.1	96.6	99.3	100.8	99.5	97.9	92.8
12500	94.3	94.8	95.0	97.0	99.7	101.0	99.0	96.9	92.3
16000	95.5	95.8	95.8	97.8	100.5	102.0	99.9	96.3	91.7
20000	96.2	95.7	95.5	97.1	99.9	101.5	99.8	95.9	90.6
25000	100.7	100.0	97.3	97.3	100.1	100.8	99.9	96.7	90.9
31500	102.6	102.3	100.6	98.6	99.2	99.6	98.9	95.7	90.4
40000	101.9	102.7	102.4	101.1	100.1	99.2	97.3	94.3	89.5
50000	100.1	101.2	102.2	102.8	101.8	99.8	97.4	93.4	88.4
63000	98.9	100.3	101.1	102.3	102.7	101.2	98.0	94.1	88.8
80000	98.9	99.8	100.6	101.6	102.6	101.7	99.5	95.3	90.4
TSPL	110.1	110.6	110.3	110.9	112.1	112.2	111.2	109.9	107.6
SSPL	110.1	110.4	110.3	110.7	111.8	112.2	111.1	109.5	106.2

V_∞ =	341	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3553 3553

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	112.0	111.8	110.8	110.7	111.2	110.8	109.2	108.1	107.4
SSPL	111.9	111.6	110.8	110.6	111.0	110.8	109.1	107.7	106.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	112.5	111.9	110.6	110.1	110.2	109.4	107.5	106.2	105.1
SSPL	112.4	111.8	110.5	109.9	109.9	109.4	107.3	105.7	103.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3553 3553

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.9	91.5	82.2	92.7	92.3	78.7	83.0	88.5	92.0
125	88.4	90.7	81.6	90.5	90.4	79.1	83.3	88.1	90.8
160	75.4	90.0	77.8	88.7	89.6	77.8	82.2	87.2	89.8
200	88.0	88.8	76.0	88.1	88.3	77.5	80.6	85.8	86.0
250	70.8	79.4	76.5	76.8	87.4	76.6	80.1	79.9	76.9
315	80.1	81.0	79.4	75.7	86.3	78.2	80.4	81.0	81.5
400	79.7	78.7	77.6	77.8	85.4	77.3	80.0	81.7	83.5
500	79.3	80.3	79.1	78.5	84.2	79.5	80.3	83.5	87.7
630	82.2	82.2	81.8	80.1	73.7	81.3	80.2	82.6	88.4
800	84.8	82.4	81.6	81.6	80.6	82.7	82.1	84.9	90.1
1000	86.1	83.9	83.1	82.8	82.8	84.3	84.1	86.5	90.3
1250	85.5	85.8	85.4	85.4	85.7	86.6	86.5	88.5	91.3
1600	89.0	88.7	87.9	87.8	87.8	87.9	87.8	89.5	91.5
2000	92.0	90.4	89.5	89.5	89.9	90.1	89.8	90.9	92.2
2500	92.6	91.6	90.9	91.0	91.5	91.1	91.1	92.0	92.4
3150	94.3	93.6	92.4	92.2	92.4	92.4	92.5	92.9	92.5
4000	95.5	94.6	93.7	93.4	93.9	94.3	94.5	94.4	93.2
5000	97.2	96.2	94.7	95.1	95.2	95.7	95.7	95.2	93.6
6300	97.1	96.4	95.4	95.4	96.2	96.7	96.3	95.3	93.5
8000	98.0	96.3	95.6	96.0	97.3	97.9	96.7	95.5	94.0
10000	97.4	96.3	95.3	96.0	97.4	98.0	96.5	95.2	93.6
12500	96.7	96.0	95.4	96.5	97.8	98.2	96.2	94.4	92.7
16000	97.9	96.9	96.1	97.3	98.7	99.3	97.2	94.6	91.9
20000	98.5	96.8	95.7	96.6	98.0	98.7	97.0	94.5	91.4
25000	103.0	100.8	97.0	96.6	98.2	98.0	96.8	95.0	92.2
31500	105.0	103.2	100.1	97.4	97.3	96.9	95.8	94.0	91.3
40000	104.3	103.9	102.2	99.8	98.2	96.7	94.5	92.4	90.0
50000	102.5	102.5	102.4	101.7	99.8	97.4	94.8	92.0	89.0
63000	101.3	101.7	101.4	101.4	100.8	98.7	95.6	92.7	89.7
80000	101.3	101.1	100.8	100.8	100.7	99.2	96.8	94.1	90.9
TSPL	112.5	111.7	110.3	110.1	110.2	109.5	108.1	106.8	105.9
SSPL	112.4	111.6	110.3	109.9	109.9	109.5	108.0	106.6	105.4

V_∞ =	341	fps
T_a =	63	°F
RH_a =	88	%
P_a =	1381	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3553 CONDITION 3553

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.51		1.53	2.51	THRUST,IDL	LB	26.6	45.4	N	118.3	201.8
TEMP	(R)	692.8	1082.7	(K)	384.9	601.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.047	KG/M3	1.041	0.757	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	972.8	1739.0	M/S	296.5	530.0	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.9	91.5	82.2	92.7	92.3	78.7	83.0	88.5	92.0	108.1
.125	88.4	90.7	81.6	90.5	90.4	79.1	83.3	88.1	90.8	106.6
.160	75.4	90.0	77.8	88.7	89.6	77.8	82.2	87.2	89.8	105.2
.200	88.0	88.8	76.0	88.1	88.3	77.5	80.6	85.8	86.0	104.4
.250	70.8	79.4	76.5	76.8	87.4	76.6	80.1	79.9	76.9	99.4
.315	80.1	81.0	79.4	75.7	86.3	78.2	80.4	81.0	81.5	99.7
.400	79.7	78.7	77.6	77.8	85.4	77.3	80.0	81.7	83.5	99.1
.500	79.3	80.3	79.1	78.5	84.2	79.5	80.3	83.5	87.7	99.9
.630	82.2	82.2	81.8	80.1	73.7	81.3	80.2	82.6	88.4	100.0
.800	84.8	82.4	81.6	81.6	80.6	82.7	82.1	84.9	90.1	101.6
1.00	86.1	83.9	83.1	82.8	82.8	84.3	84.1	86.5	90.3	102.9
1.25	85.5	85.8	85.4	85.4	85.7	86.6	86.5	88.5	91.3	104.9
1.60	89.0	88.7	87.9	87.8	87.8	87.9	87.8	89.5	91.5	106.7
2.00	92.0	90.4	89.5	89.5	89.9	90.1	89.8	90.9	92.2	108.6
2.50	92.6	91.6	90.9	91.0	91.5	91.1	91.1	92.0	92.4	109.7
3.15	94.3	93.6	92.4	92.2	92.4	92.4	92.5	92.9	92.5	111.1
4.00	95.5	94.6	93.7	93.4	93.9	94.3	94.5	94.4	93.2	112.5
5.00	97.2	96.2	94.7	95.1	95.2	95.7	95.7	95.2	93.6	113.8
6.30	97.1	96.4	95.4	95.4	96.2	96.7	96.3	95.3	93.5	114.3
8.00	98.0	96.3	95.6	96.0	97.3	97.9	96.7	95.5	94.0	114.9
10.0	97.4	96.3	95.3	96.0	97.4	98.0	96.5	95.2	93.6	114.8
12.5	96.7	96.0	95.4	96.5	97.8	98.2	96.2	94.4	92.7	114.8
16.0	97.9	96.9	96.1	97.3	98.7	99.3	97.2	94.6	91.9	115.7
20.0	98.5	96.8	95.7	96.6	98.0	98.7	97.0	94.5	91.4	115.3
25.0	103.0	100.8	97.0	96.6	98.2	98.0	96.8	95.0	92.2	116.8
31.5	105.0	103.2	100.1	97.4	97.3	96.9	95.8	94.0	91.3	118.1
40.0	104.3	103.9	102.2	99.8	98.2	96.7	94.5	92.4	90.0	118.7
50.0	102.5	102.5	102.4	101.7	99.8	97.4	94.8	92.0	89.0	118.7
63.0	101.3	101.7	101.4	101.4	100.8	98.7	95.6	92.7	89.7	118.4
80.0	101.3	101.1	100.8	100.8	100.7	99.2	96.8	94.1	90.9	118.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	112.5	111.7	110.3	110.1	110.2	109.5	108.1	106.8	105.9	OAPWL = 128.4

V_∞ =	341	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3554	3554

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.4	90.6	90.3	93.1	94.5	80.8	90.8	95.2	97.7
125	79.3	89.6	80.0	81.2	92.8	83.3	90.5	94.3	95.8
160	75.4	88.4	69.8	72.1	91.9	80.9	89.6	93.1	94.0
200	85.6	88.2	68.9	76.2	91.0	81.4	87.7	90.6	91.9
250	84.8	87.1	67.5	86.1	89.5	78.8	86.0	89.4	74.2
315	74.0	85.7	74.6	73.6	88.1	78.3	85.4	72.6	85.6
400	74.5	83.8	73.6	74.8	87.2	76.7	85.0	79.2	86.9
500	74.7	82.8	75.6	75.9	85.8	78.7	84.3	84.8	87.7
630	76.8	74.9	79.0	79.5	85.0	81.0	73.4	85.5	88.0
800	80.1	78.5	78.9	79.7	73.9	82.1	80.3	87.2	88.8
1000	83.1	81.0	81.1	81.2	80.1	83.1	83.2	87.7	87.6
1250	83.7	84.1	83.3	83.4	83.4	85.5	85.4	88.2	87.0
1600	82.2	83.2	84.2	86.1	86.6	87.0	87.0	88.4	86.4
2000	86.9	88.1	88.6	89.3	89.3	89.0	88.5	89.2	86.4
2500	88.1	88.3	88.4	89.3	90.2	90.2	90.1	89.8	86.0
3150	90.3	90.5	89.6	90.7	90.8	90.8	91.0	90.4	86.4
4000	91.0	91.2	91.0	91.7	92.4	92.1	91.9	90.8	86.1
5000	92.1	92.4	91.6	92.9	93.3	93.3	92.3	90.6	86.2
6300	91.3	91.5	91.6	92.3	93.2	93.2	92.6	90.0	85.6
8000	91.0	90.7	90.9	92.1	93.4	93.9	92.5	90.4	85.4
10000	89.5	90.0	89.7	91.2	92.9	93.5	91.6	89.0	83.7
12500	88.1	88.9	89.1	91.0	92.9	93.4	90.8	87.7	82.8
16000	88.1	89.1	89.3	91.3	93.2	93.9	91.5	87.4	82.0
20000	86.3	87.5	87.8	90.2	92.0	92.9	91.0	86.7	81.0
25000	85.4	87.0	87.4	89.3	91.8	91.6	90.3	86.9	80.7
31500	84.5	85.8	86.8	88.5	90.3	90.5	88.7	85.4	80.1
40000	84.0	85.2	86.4	88.2	89.8	89.7	87.3	83.9	79.1
50000	83.1	84.4	85.7	88.1	89.0	88.7	87.0	82.9	78.5
63000	82.8	84.0	85.1	87.1	88.4	88.1	86.0	82.8	79.7
80000	83.9	83.4	84.7	87.0	88.2	88.0	86.2	83.3	80.7
TSPL	101.3	102.7	101.9	103.5	105.5	104.5	104.0	103.9	103.5
SSPL	101.0	101.5	101.5	102.9	104.1	104.3	103.1	101.6	98.8

V_∞ =	341	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

ORIGINAL PAGE IS OF POOR QUALITY

C3

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3554 3554

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	103.1	103.9	102.4	103.3	104.7	103.0	102.0	102.1	103.2
SSPL	102.8	102.7	102.1	102.8	103.3	102.9	101.1	99.8	98.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	103.7	104.0	102.2	102.7	103.6	101.6	100.3	100.2	101.0
SSPL	103.4	102.8	101.8	102.1	102.3	101.5	99.3	97.9	96.3

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0	3554 3554

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.8	92.8	90.8	92.6	92.3	78.7	83.9	89.4	92.1
125	81.6	90.5	79.2	81.9	90.9	81.0	84.5	88.6	91.1
160	77.7	88.5	68.2	74.1	90.1	78.6	83.2	87.8	89.8
200	88.0	87.5	68.2	78.0	89.2	79.2	82.0	85.4	87.3
250	87.2	86.3	69.0	87.4	87.4	76.6	80.0	85.2	84.1
315	76.4	86.5	73.3	74.5	86.3	76.0	80.6	76.0	70.0
400	76.9	84.5	72.8	75.7	85.3	74.4	79.4	78.9	76.3
500	77.0	83.8	74.9	76.4	83.9	76.3	79.1	80.9	81.6
630	79.1	76.3	79.4	79.3	83.1	79.0	70.9	73.5	82.8
800	82.4	79.5	79.2	77.9	72.0	78.8	77.0	78.9	84.2
1000	85.4	82.0	81.2	80.0	78.2	80.2	79.5	81.2	84.3
1250	86.1	85.2	83.2	82.3	81.5	82.6	81.8	82.7	84.6
1600	84.5	84.5	84.6	85.3	84.7	84.2	83.4	83.8	84.6
2000	89.3	89.4	88.7	88.3	87.3	86.3	85.1	85.1	85.3
2500	90.5	89.5	88.6	88.5	88.3	87.5	86.7	86.4	85.7
3150	92.7	91.5	89.7	89.8	88.9	88.0	87.5	87.1	86.3
4000	93.4	92.3	91.1	90.8	90.4	89.4	88.5	87.8	86.6
5000	94.5	93.5	91.7	92.1	91.4	90.6	89.2	87.9	86.4
6300	93.7	92.7	91.7	91.5	91.3	90.5	89.4	87.9	85.7
8000	93.4	91.9	91.2	91.4	91.5	91.2	89.5	88.0	86.1
10000	91.8	91.1	89.9	90.5	91.0	90.9	88.8	86.8	84.7
12500	90.5	90.2	89.4	90.4	91.0	90.8	88.3	85.8	83.3
16000	90.4	90.3	89.7	90.7	91.3	91.2	89.0	86.1	82.9
20000	88.6	88.8	88.3	89.7	90.2	90.2	88.3	85.5	82.1
25000	87.8	88.3	87.7	88.8	89.9	89.0	87.3	85.3	82.4
31500	86.9	87.1	87.2	87.9	88.4	87.8	85.9	83.6	80.9
40000	86.4	86.6	86.8	87.5	87.9	87.1	84.7	82.1	79.5
50000	85.4	85.8	86.2	87.4	87.0	86.1	84.2	81.6	78.5
63000	85.2	85.3	85.5	86.5	86.5	85.5	83.3	80.8	78.6
80000	86.3	84.7	85.3	86.4	86.3	85.4	83.4	81.1	79.3
TSPL	103.7	103.8	102.1	102.8	103.6	101.8	100.5	100.1	100.2
SSPL	103.4	102.7	101.7	102.2	102.2	101.7	100.0	98.6	97.6

V_{∞} =	341	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3554 CONDITION 3554

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	26.4	25.6	N	117.5	114.1
TEMP	(R)	689.0	1089.0	(K)	382.8	605.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.043	KG/M3	1.045	0.688	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	966.2	1424.0	M/S	294.5	434.0	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.8	92.8	90.8	92.6	92.3	78.7	83.9	89.4	92.1	108.8
.125	81.6	90.5	79.2	81.9	90.9	81.0	84.5	88.6	91.1	105.6
.160	77.7	88.5	68.2	74.1	90.1	78.6	83.2	87.8	89.8	104.0
.200	88.0	87.5	68.2	78.0	89.2	79.2	82.0	85.4	87.3	103.4
.250	87.2	86.3	69.0	87.4	87.4	76.6	80.0	85.2	84.1	103.2
.315	76.4	86.5	73.3	74.5	86.3	76.0	80.6	76.0	70.0	100.2
.400	76.9	84.5	72.8	75.7	85.3	74.4	79.4	78.9	76.3	99.1
.500	77.0	83.8	74.9	76.4	83.9	76.3	79.1	80.9	81.6	98.8
.630	79.1	76.3	79.4	79.3	83.1	79.0	70.9	73.5	82.8	97.6
.800	82.4	79.5	79.2	77.9	72.0	78.8	77.0	78.9	84.2	97.3
1.00	85.4	82.0	81.2	80.0	78.2	80.2	79.5	81.2	84.3	99.6
1.25	86.1	85.2	83.2	82.3	81.5	82.6	81.8	82.7	84.6	101.7
1.60	84.5	84.5	84.6	85.3	84.7	84.2	83.4	83.8	84.6	102.8
2.00	89.3	89.4	88.7	88.3	87.3	86.3	85.1	85.1	85.3	106.0
2.50	90.5	89.5	88.6	88.5	88.3	87.5	86.7	86.4	85.7	106.6
3.15	92.7	91.5	89.7	89.8	88.9	88.0	87.5	87.1	86.3	107.9
4.00	93.4	92.3	91.1	90.8	90.4	89.4	88.5	87.8	86.6	108.9
5.00	94.5	93.5	91.7	92.1	91.4	90.6	89.2	87.9	86.4	109.9
6.30	93.7	92.7	91.7	91.5	91.3	90.5	89.4	87.9	85.7	109.5
8.00	93.4	91.9	91.2	91.4	91.5	91.2	89.5	88.0	86.1	109.4
10.0	91.8	91.1	89.9	90.5	91.0	90.9	88.8	86.8	84.7	108.5
12.5	90.5	90.2	89.4	90.4	91.0	90.8	88.3	85.8	83.3	108.1
16.0	90.4	90.3	89.7	90.7	91.3	91.2	89.0	86.1	82.9	108.3
20.0	88.6	88.8	88.3	89.7	90.2	90.2	88.3	85.5	82.1	107.2
25.0	87.8	88.3	87.7	88.8	89.9	89.0	87.3	85.3	82.4	106.5
31.5	86.9	87.1	87.2	87.9	88.4	87.8	85.9	83.6	80.9	105.4
40.0	86.4	86.6	86.8	87.5	87.9	87.1	84.7	82.1	79.5	104.8
50.0	85.4	85.8	86.2	87.4	87.0	86.1	84.2	81.6	78.5	104.1
63.0	85.2	85.3	85.5	86.5	86.5	85.5	83.3	80.8	78.6	103.5
80.0	86.3	84.7	85.3	86.4	86.3	85.4	83.4	81.1	79.3	103.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	103.7	103.8	102.1	102.8	103.6	101.8	100.5	100.1	100.2	OAPWL = 120.8

V_∞ = 341 fps

T_a = 63 °F

RH_a = 88 %

P_a = 13.81 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/17/76		-00 000000	XARF 0 3555	3555

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.4	90.5	77.0	93.1	95.0	81.9	89.7	95.3	97.7
125	77.1	89.4	78.9	81.2	92.2	82.1	89.8	94.4	95.8
160	75.4	88.3	86.1	75.1	91.4	79.0	88.9	92.9	94.2
200	85.5	87.9	85.1	87.6	90.6	78.2	86.8	90.3	91.6
250	84.8	87.0	70.5	72.8	88.9	75.0	85.1	89.3	90.0
315	69.0	85.5	72.1	72.3	87.6	74.6	84.0	88.6	89.2
400	73.5	83.5	70.4	71.0	86.6	72.5	83.3	87.3	88.2
500	73.1	82.3	72.6	71.8	85.2	74.4	82.4	77.0	73.6
630	73.9	81.5	74.6	76.3	84.1	76.8	81.9	77.0	77.3
800	77.5	73.6	75.8	76.6	83.2	77.2	81.3	79.7	79.9
1000	83.3	81.3	80.7	79.8	77.3	78.8	81.4	80.1	79.1
1250	81.6	81.9	81.1	81.1	75.2	80.5	71.4	80.9	79.0
1600	80.3	80.2	79.8	81.6	80.7	82.3	77.5	81.7	79.5
2000	82.0	82.6	84.0	85.9	85.6	84.8	82.1	83.5	80.5
2500	84.8	85.2	84.9	85.4	85.2	85.2	83.8	84.5	80.5
3150	85.3	86.1	85.9	86.7	86.9	86.5	83.7	83.8	80.0
4000	86.9	86.4	84.9	87.0	87.2	86.8	84.3	83.7	79.7
5000	84.1	84.7	84.3	85.4	85.3	84.8	82.0	82.3	77.9
6300	82.0	82.5	82.9	83.9	84.3	84.0	80.9	80.0	76.1
8000	82.5	82.1	82.5	83.7	84.3	83.9	80.6	79.1	74.2
10000	83.3	84.4	85.0	88.3	89.1	88.7	86.7	83.1	79.0
12500	80.5	81.0	81.2	82.5	83.8	84.5	81.1	77.8	73.1
16000	80.2	81.4	81.7	82.9	83.7	83.7	80.3	76.6	71.2
20000	79.3	80.5	81.0	82.8	83.7	83.0	79.8	75.9	70.3
25000	78.9	80.6	80.7	81.8	83.6	82.4	79.1	75.7	70.3
31500	78.9	79.8	80.6	81.7	82.8	82.3	79.1	74.9	73.1
40000	78.5	79.7	80.5	81.8	82.5	82.0	79.1	75.1	73.3
50000	78.0	79.1	79.8	81.5	81.9	81.1	78.5	75.3	74.3
63000	78.4	78.2	79.0	80.7	81.7	81.1	78.1	76.6	77.1
80000	80.7	78.5	78.7	81.1	82.3	82.1	79.3	78.9	78.6
TSPL	96.4	99.2	96.6	99.0	101.9	97.6	98.6	101.4	102.4
SSPL	95.4	95.9	95.6	97.1	97.9	97.2	95.1	94.0	91.1

V_∞ =	339	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00 000000	XARF 0	3555	3555

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.2	100.4	97.1	98.9	101.0	96.2	96.6	99.6	102.2
SSPL	97.2	97.1	96.2	96.9	97.1	95.8	93.1	92.2	90.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.7	100.5	96.8	98.2	100.0	94.8	94.8	97.6	100.0
SSPL	97.7	97.2	95.9	96.3	96.0	94.4	91.4	90.2	88.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/17/76		-00	000000	XARF 0	3555	3555

DBTF JET NOISE TEST CONF. 3 COANNULAR
NOZ. WITH EJECTOR AR=.75 TA 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	82.8	90.9	78.7	94.0	92.8	79.8	83.3	88.6	92.3
125	79.4	90.3	78.3	82.0	90.3	79.8	83.6	88.3	91.2
160	77.7	90.2	83.7	75.4	89.5	76.8	82.1	87.4	89.7
200	87.9	88.9	85.3	87.3	88.5	76.0	80.4	85.0	87.0
250	87.2	86.6	69.2	74.4	87.0	72.9	78.2	83.7	86.0
315	71.4	86.4	70.7	73.5	85.7	72.4	77.3	82.7	85.3
400	75.9	84.0	69.1	72.3	84.7	70.3	76.2	81.9	84.0
500	75.5	83.1	71.4	72.6	83.3	72.1	76.8	77.2	72.7
630	76.3	82.5	74.2	76.6	82.2	74.4	77.2	76.4	73.2
800	79.9	74.7	76.1	76.6	81.3	74.8	76.6	77.1	76.1
1000	85.7	82.3	80.5	78.3	75.4	75.9	77.3	77.2	76.3
1250	84.0	83.0	81.1	79.2	73.3	77.8	69.8	70.6	77.5
1600	82.7	81.3	80.1	80.6	78.8	79.7	75.0	75.0	78.1
2000	84.4	83.9	84.5	85.0	83.6	82.3	79.2	78.7	79.6
2500	87.2	86.4	85.0	84.4	83.3	82.6	80.7	80.4	80.4
3150	87.6	87.3	86.1	85.8	85.0	83.9	80.9	79.9	79.8
4000	89.3	87.3	85.2	86.2	85.2	84.2	81.4	80.2	79.6
5000	86.5	85.9	84.4	84.5	83.4	82.3	79.2	78.2	78.1
6300	84.4	83.8	83.1	83.0	82.4	81.5	78.3	76.6	75.8
8000	84.8	83.2	82.8	82.9	82.3	81.4	78.1	76.2	74.8
10000	85.7	85.6	85.6	87.7	87.2	86.1	84.0	81.5	78.8
12500	82.9	82.2	81.4	81.8	81.9	81.9	78.8	75.9	73.5
16000	82.5	82.6	81.9	82.1	81.8	81.2	78.0	75.0	72.1
20000	81.6	81.8	81.4	82.0	81.8	80.5	77.4	74.4	71.4
25000	81.3	81.9	80.9	81.1	81.7	79.9	76.7	73.9	71.3
31500	81.3	81.1	80.8	80.9	80.8	79.8	76.7	73.3	70.9
40000	80.9	81.0	80.8	80.9	80.6	79.4	76.6	73.4	71.1
50000	80.3	80.4	80.2	80.7	80.0	78.6	75.9	73.1	71.4
63000	80.8	79.4	79.4	80.0	79.8	78.5	75.5	73.3	72.9
80000	83.1	79.5	79.1	80.4	80.4	79.6	76.6	75.0	75.3
TSPL	98.7	100.1	96.6	98.8	99.9	95.1	94.0	96.0	98.1
SSPL	97.7	97.0	95.9	96.2	96.0	94.6	92.1	90.7	90.0

V_∞ =	339	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3555 CONDITION 3555

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	26.5	8.9	N	118.0	39.5
TEMP	(R)	684.7	1051.7	(K)	380.4	584.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.041	KG/M3	1.051	0.654	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	959.6	954.2	M/S	292.5	290.8	W (MODEL)	LB/S	0.9	0.3	KG/S	0.4	0.1

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.8	90.9	78.7	94.0	92.8	79.8	83.3	88.6	92.3	108.2
.125	79.4	90.3	78.3	82.0	90.3	79.8	83.6	88.3	91.2	105.2
.160	77.7	90.2	83.7	75.4	89.5	76.8	82.1	87.4	89.7	104.6
.200	87.9	88.9	85.3	87.3	88.5	76.0	80.4	85.0	87.0	104.7
.250	87.2	86.6	69.2	74.4	87.0	72.9	78.2	83.7	86.0	101.7
.315	71.4	86.4	70.7	73.5	85.7	72.4	77.3	82.7	85.3	100.3
.400	75.9	84.0	69.1	72.3	84.7	70.3	76.2	81.9	84.0	98.8
.500	75.5	83.1	71.4	72.6	83.3	72.1	76.8	77.2	72.7	97.2
.630	76.3	82.5	74.2	76.6	82.2	74.4	77.2	76.4	73.2	97.1
.800	79.9	74.7	76.1	76.6	81.3	74.8	76.6	77.1	76.1	95.8
1.00	85.7	82.3	80.5	78.3	75.4	75.9	77.3	77.2	76.3	98.2
1.25	84.0	83.0	81.1	79.2	73.3	77.8	69.8	70.6	77.5	97.9
1.60	82.7	81.3	80.1	80.6	78.8	79.7	75.0	75.0	78.1	98.0
2.00	84.4	83.9	84.5	85.0	83.6	82.3	79.2	78.7	79.6	101.5
2.50	87.2	86.4	85.0	84.4	83.3	82.6	80.7	80.4	80.4	102.5
3.15	87.6	87.3	86.1	85.8	85.0	83.9	80.9	79.9	79.8	103.5
4.00	89.3	87.3	85.2	86.2	85.2	84.2	81.4	80.2	79.6	103.7
5.00	86.5	85.9	84.4	84.5	83.4	82.3	79.2	78.2	78.1	102.0
6.30	84.4	83.8	83.1	83.0	82.4	81.5	78.3	76.6	75.8	100.5
8.00	84.8	83.2	82.8	82.9	82.3	81.4	78.1	76.2	74.8	100.3
10.0	85.7	85.6	85.6	87.7	87.2	86.1	84.0	81.5	78.8	104.1
12.5	82.9	82.2	81.4	81.8	81.9	81.9	78.8	75.9	73.5	99.5
16.0	82.5	82.6	81.9	82.1	81.8	81.2	78.0	75.0	72.1	99.5
20.0	81.6	81.8	81.4	82.0	81.8	80.5	77.4	74.4	71.4	99.0
25.0	81.3	81.9	80.9	81.1	81.7	79.9	76.7	73.9	71.3	98.6
31.5	81.3	81.1	80.8	80.9	80.8	79.8	76.7	73.3	70.9	98.2
40.0	80.9	81.0	80.8	80.9	80.6	79.4	76.6	73.4	71.1	98.1
50.0	80.3	80.4	80.2	80.7	80.0	78.6	75.9	73.1	71.4	97.5
63.0	80.8	79.4	79.4	80.0	79.8	78.5	75.5	73.3	72.9	97.1
80.0	83.1	79.5	79.1	80.4	80.4	79.6	76.6	75.0	75.3	97.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 116.3
OSPL	98.7	100.1	96.6	98.8	99.9	95.1	94.0	96.0	98.1	

V_∞ =	339	fps
T_a =	63	°F
RH_a =	88	%
P_a =	13.81	psia

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3537 CONDITION 3537

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	450.6	405.0	KG/S	204.4	183.7
PRES	25.00IN	0.85BAR	P.R.		1.52	2.45		1.52	2.45	THRUST,IDL	LB	13873.7	23369.2	N	61712.9	103951.1
WIND D			TEMP	(R)	726.7	1260.0	(K)	403.7	700.0	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.062	0.040	KG/M3	0.990	0.643	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	991.5	1658.0	M/S	302.2	566.3	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	92.7	92.7	92.0	93.3	94.5	95.3	95.0	98.8	101.8	140.6
.063	93.1	93.5	93.7	95.0	96.3	96.3	96.3	99.4	101.6	141.6
.080	96.9	96.3	96.3	97.1	98.1	98.6	98.6	101.1	102.0	143.6
.100	96.8	97.1	97.0	98.2	99.3	99.9	99.8	101.8	101.8	144.4
.125	98.4	98.4	98.1	99.4	99.8	100.9	101.3	102.5	101.8	145.4
.160	99.5	99.6	99.4	100.1	101.5	102.5	103.2	103.8	102.2	146.8
.200	101.1	100.8	100.4	102.0	102.6	103.9	104.8	104.8	102.8	148.1
.250	100.4	100.7	101.0	102.2	103.5	104.6	105.5	105.1	102.9	148.5
.315	101.4	100.7	101.2	102.8	104.6	105.7	105.9	105.5	103.3	149.2
.400	100.9	101.1	101.0	102.9	104.7	105.9	105.9	105.3	102.7	149.2
.500	100.5	101.0	101.2	103.5	105.5	106.5	105.8	104.3	101.5	149.4
.630	101.1	101.8	102.2	104.5	106.5	107.9	106.8	103.9	99.9	150.2
.800	100.9	101.3	101.9	104.0	106.2	107.8	107.1	103.3	98.2	150.1
1.00	102.9	102.7	101.9	103.7	106.3	107.4	107.5	104.3	99.0	150.2
1.25	105.7	104.8	102.9	103.1	104.7	105.4	106.5	103.5	98.0	149.8
1.60	106.3	106.3	105.0	103.8	104.0	104.0	104.6	101.6	96.4	149.8
2.00	104.9	105.6	105.6	105.6	104.1	103.3	103.1	99.3	93.9	149.6
2.50	103.7	104.7	105.2	105.8	104.9	103.3	102.4	98.2	92.5	149.4
3.15	103.5	104.1	104.5	105.5	105.2	103.5	103.0	98.5	92.6	149.3
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 161.2

	70	80	90	100	110	120	130	140	150
OSPL	114.6	114.8	114.6	115.6	116.6	117.2	117.2	115.8	113.5
PNL	125.0	125.4	125.5	126.5	126.8	126.3	126.1	123.2	119.1
200. SIDELINE									
PNL	121.7	122.6	122.8	123.6	123.5	122.3	120.9	116.4	110.1
370. SIDELINE									
PNL	115.7	116.6	116.8	117.6	117.5	116.2	114.8	110.2	104.3
800. SIDELINE									
PNL	107.4	108.4	108.7	109.3	109.1	107.8	106.2	102.0	96.3

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3538 CONDITION 3538

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	460.7	415.1	KG/S	209.0	188.3
PRES	25.00IN	0.85BAR	P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	14185.4	24198.4	N	63099.7	107639.4
WIND D			TEMP	(R)	723.0	1260.3	(K)	401.7	700.2	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.062	0.040	KG/M3	0.996	0.646	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	991.5	1877.0	M/S	302.2	572.1	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	93.9	94.0	94.1	95.5	96.8	98.8	98.9	104.1	106.5	144.4
.063	93.9	94.8	95.4	97.3	98.9	100.0	100.3	104.5	106.1	145.1
.080	97.3	97.2	97.6	99.1	100.5	101.8	102.0	105.6	106.0	146.5
.100	97.7	98.1	98.2	99.9	101.6	102.8	103.0	105.9	105.5	147.2
.125	99.1	99.2	99.3	101.0	102.0	103.8	104.2	106.0	105.2	147.8
.160	99.7	100.3	100.5	101.7	103.5	105.2	105.6	107.0	105.6	149.0
.200	101.1	101.6	101.3	103.3	104.5	106.3	107.0	107.4	105.9	150.0
.250	101.1	101.4	101.9	103.3	105.3	106.9	107.5	107.4	106.1	150.3
.315	101.7	101.5	101.9	103.7	106.2	107.9	107.9	108.1	106.4	151.0
.400	101.5	101.7	101.7	103.9	106.2	107.8	107.8	107.4	105.4	150.8
.500	100.9	101.6	102.0	104.5	106.9	108.2	107.7	106.2	103.8	150.8
.630	101.5	102.2	102.7	105.4	107.8	109.7	108.2	105.1	101.8	151.5
.800	100.9	101.6	102.3	104.7	107.5	109.8	108.3	104.0	99.3	151.3
1.00	102.5	102.7	102.3	104.6	107.8	109.4	108.9	104.7	99.1	151.4
1.25	103.7	103.3	102.5	104.0	106.3	107.4	108.3	103.7	98.1	150.6
1.60	104.4	104.3	103.6	103.8	105.1	105.8	106.1	101.8	96.5	149.7
2.00	103.8	104.2	104.3	104.8	104.6	105.0	104.7	99.5	93.9	149.4
2.50	102.5	103.6	104.1	104.7	104.8	104.4	103.7	98.3	92.3	149.0
3.15	102.6	103.1	103.6	104.6	104.8	104.1	103.8	98.0	91.9	148.8
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 162.4

OSPL	114.1	114.4	114.5	116.1	117.9	119.2	119.0	118.0	116.6
PNL	124.4	124.8	125.1	126.3	127.3	127.7	127.5	124.2	121.1

200. SIDELINE

PNL	121.1	122.0	122.4	123.5	124.0	123.7	122.3	117.4	112.3

370. SIDELINE

PNL	115.1	116.0	116.4	117.5	118.1	117.7	116.2	111.5	106.5

800. SIDELINE

PNL	106.7	107.8	108.2	109.2	109.8	109.5	107.7	103.9	98.8

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3539 CONDITION 3539

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	460.7	430.3	KG/S	209.0	195.2
PRES	25.00IN	0.85BAR	P.R.		1.52	2.53		1.52	2.53	THRUST,IDL	LB	14198.3	25070.4	N	63157.0	111518.0
WIND D			TEMP	(R)	721.8	1245.0	(K)	401.0	691.7	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.062	0.041	KG/M3	0.998	0.656	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL	H 70.0%		VEL	FPS	992.4	1876.0	M/S	302.5	571.8	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	94.2	94.6	95.3	96.8	99.0	101.0	103.5	108.2	109.9	147.6
.063	94.0	95.6	96.4	98.5	100.5	101.9	104.6	108.3	109.1	148.0
.080	96.9	98.0	98.3	100.1	101.8	103.7	106.1	108.9	108.5	149.0
.100	98.6	98.8	98.9	100.6	102.9	104.7	106.8	109.0	108.0	149.5
.125	98.7	99.4	99.8	101.6	103.3	105.2	107.3	108.9	107.8	149.8
.160	100.0	100.9	101.2	102.7	104.7	107.1	108.5	109.7	108.3	150.9
.200	100.8	101.8	101.8	104.1	105.5	107.8	109.1	109.6	109.1	151.5
.250	100.7	101.4	102.1	103.8	105.9	108.1	108.8	109.8	109.5	151.6
.315	101.2	101.5	102.2	104.3	107.0	109.0	108.6	110.1	109.3	152.0
.400	101.4	101.6	102.2	104.5	107.2	109.2	108.3	109.4	108.3	151.9
.500	100.5	101.3	102.1	104.6	107.3	109.0	107.4	107.8	106.4	151.3
.630	100.6	101.4	102.3	105.2	107.7	109.8	106.9	106.0	103.8	151.3
.800	100.4	100.8	101.9	104.6	107.6	110.0	106.6	103.9	100.7	151.0
1.00	101.1	101.4	101.9	104.4	107.9	109.5	107.1	103.8	99.5	151.0
1.25	101.1	101.3	101.6	103.5	106.1	107.7	106.6	102.6	97.9	149.8
1.60	101.4	101.6	101.9	103.1	104.9	105.9	105.2	100.9	96.5	148.8
2.00	100.9	101.3	101.8	103.4	104.3	104.7	104.3	98.9	94.1	148.2
2.50	100.1	101.2	101.7	102.9	103.8	104.1	103.6	97.9	92.6	147.7
3.15	100.2	100.8	101.6	102.7	103.5	103.6	104.1	97.2	92.3	147.5
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 163.0

OSPL	112.8	113.4	113.9	115.9	118.2	120.0	119.6	120.2	119.4
PNL	122.5	123.1	123.8	125.3	126.9	127.9	127.8	125.2	123.3

200. SIDELINE

PNL	119.3	120.3	121.1	122.5	123.6	123.9	122.6	118.6	114.5

370. SIDELINE

PNL	113.3	114.4	115.2	116.6	117.7	117.9	116.6	112.9	108.8

800. SIDELINE

PNL	105.0	106.2	106.9	108.4	109.6	109.8	108.1	105.4	101.2

2128. SIDELINE

PNL	92.7	93.9	94.6	96.3	97.8	98.6	96.6	94.5	90.1

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3540 CONDITION 3540

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	475.9	293.6	KG/S	215.9	133.2
PRES	25.00IN	0.85BAR	P.R.		1.53	1.80		1.53	1.80	THRUST,IDL		L814582.2	13878.8		N64864.4	61735.7
WIND D			TEMP	(R)	711.5	1237.3	(K)	395.3	687.4	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.063	0.038	KG/M3	1.013	0.604	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	986.7	1522.0	M/S	300.7	463.9	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	96.7	95.0	97.7	96.8	97.7	98.0	98.8	103.6	106.4	144.7
.063	91.7	92.5	93.2	95.0	96.7	97.7	99.3	102.5	103.7	143.1
.080	93.4	96.0	97.4	98.5	98.8	99.4	101.0	103.5	103.2	144.9
.100	96.4	96.5	96.5	98.4	99.2	101.6	103.0	104.7	103.5	145.9
.125	96.2	97.2	96.7	98.3	99.4	100.5	102.0	103.5	102.3	145.3
.160	97.6	97.5	98.2	99.5	100.6	101.8	102.6	103.8	102.2	146.0
.200	97.5	98.6	98.2	100.2	101.0	102.1	102.6	103.1	102.4	146.2
.250	96.6	97.1	97.7	99.1	100.5	101.8	101.7	102.4	101.3	145.4
.315	96.1	96.6	97.5	98.9	101.0	102.5	101.2	102.0	100.3	145.4
.400	95.6	96.0	96.3	98.5	100.8	102.5	100.3	100.1	97.9	144.7
.500	94.4	95.4	96.1	98.3	100.6	102.4	99.0	98.1	95.7	144.1
.630	94.2	95.2	96.0	98.5	100.8	103.1	98.8	96.8	93.8	144.2
.800	92.9	93.8	94.9	97.3	99.7	102.2	98.0	95.0	91.3	143.2
1.00	91.7	93.1	94.2	96.4	99.5	100.8	97.4	94.5	89.9	142.3
1.25	90.3	91.9	93.2	95.5	97.8	98.4	95.6	92.5	87.8	140.7
1.60	90.3	91.5	92.9	94.9	96.9	97.5	93.8	90.6	86.2	139.7
2.00	89.5	90.9	92.4	94.9	96.2	96.5	92.6	89.1	84.8	139.0
2.50	88.8	90.7	92.2	94.0	95.5	95.3	91.6	88.3	83.9	138.3
3.15	89.2	90.4	92.1	93.9	95.3	95.0	91.7	88.4	84.9	138.1
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 156.7

OSPL	107.3	108.0	108.7	110.4	112.0	113.4	112.5	113.5	113.1
PNL	114.0	115.0	116.2	118.1	119.7	120.3	118.0	117.1	115.1

200. SIDELINE

PNL	110.8	112.2	113.6	115.3	116.5	116.3	112.8	110.5	106.3

370. SIDELINE

PNL	104.8	106.3	107.7	109.4	110.5	110.4	106.9	104.9	100.6

800. SIDELINE

PNL	96.7	98.3	99.6	101.3	102.4	102.5	99.2	97.3	93.0

2128. SIDELINE

PNL	85.9	87.3	88.1	89.9	91.3	91.7	88.5	86.5	82.0

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3541 CONDITION 3541

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	465.7	293.6	KG/S	211.3	133.2
PRES	25.00IN	0.85BAR	P.R.		1.50	1.81		1.50	1.81	THRUST,IDL	LB	13992.7	13860.6	N	62242.5	61654.5
WIND D			TEMP	(R)	708.8	1232.0	(K)	393.8	684.4	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.063	0.038	KG/M3	1.013	0.607	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	967.4	1520.0	M/S	294.9	463.3	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	94.5	93.8	94.3	92.6	93.8	94.5	95.5	98.8	100.7	140.7
.063	91.2	91.7	91.9	93.5	94.9	95.6	96.5	98.8	99.8	140.5
.080	93.4	95.6	96.1	97.2	97.1	97.4	98.3	100.2	100.0	142.7
.100	95.5	95.6	96.6	96.9	97.7	99.3	100.1	101.4	100.3	143.7
.125	96.5	97.1	96.0	97.3	98.1	98.7	99.6	100.5	99.3	143.5
.160	97.2	97.3	97.7	98.4	99.4	99.8	100.2	101.0	99.4	144.4
.200	97.9	98.2	97.7	99.5	100.0	100.7	100.7	100.7	99.3	144.9
.250	97.1	97.2	97.7	98.7	99.8	100.4	100.1	100.1	98.5	144.3
.315	96.1	96.3	97.1	98.2	100.1	101.0	99.6	99.8	97.9	144.2
.400	95.6	96.0	96.0	98.0	99.7	101.1	98.7	98.5	96.1	143.7
.500	94.5	95.3	95.8	97.9	99.9	101.2	97.9	96.7	93.9	143.3
.630	94.5	95.5	95.9	98.2	100.2	102.2	98.3	96.1	92.5	143.7
.800	93.0	94.2	94.9	97.3	99.2	101.5	97.8	94.7	90.5	142.8
1.00	92.2	93.5	94.5	96.5	99.4	100.3	97.2	94.4	89.8	142.2
1.25	91.1	92.6	93.5	95.8	97.7	98.3	95.6	92.7	87.9	140.7
1.60	90.9	92.2	93.4	95.3	97.0	97.5	93.9	90.9	86.4	140.0
2.00	90.4	91.5	92.9	95.3	96.5	96.6	92.8	89.4	84.6	139.3
2.50	89.6	91.3	92.5	94.5	95.7	95.3	91.6	88.3	83.5	138.5
3.15	89.3	90.4	91.8	93.7	94.8	94.3	91.0	87.6	83.3	137.7
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 155.4

OSPL	107.3	107.8	108.2	109.7	111.1	112.1	110.7	110.8	109.7
PNL	114.2	115.1	116.0	117.8	119.1	119.4	117.0	115.3	112.9

200. SIDELINE

PNL	110.9	112.3	113.4	115.0	115.9	115.5	111.8	108.8	104.1

370. SIDELINE

PNL	105.0	106.5	107.5	109.1	110.0	109.6	105.8	103.0	98.3

800. SIDELINE

PNL	96.9	98.5	99.5	101.1	102.0	101.5	97.9	95.4	90.4

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3542 CONDITION 3542

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	470.8	283.5	KG/S	213.6	128.6
PRES	25.00IN	0.858AR	P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	14332.0	13303.4	N	63751.6	59176.0
WIND D			TEMP	(R)	703.7	1217.7	(K)	390.9	676.5	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.038	KG/M3	1.024	0.615	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	960.2	1511.0	M/S	298.8	460.6	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	92.5	92.3	91.0	89.9	90.6	90.8	91.5	93.8	95.5	137.1
.063	89.9	90.2	90.2	91.6	92.4	92.3	92.7	94.3	95.1	137.4
.080	92.9	94.8	95.0	95.3	94.9	94.4	94.4	95.8	95.8	140.2
.100	94.8	94.4	94.6	95.0	95.6	95.9	96.1	96.9	95.9	140.8
.125	96.3	96.5	95.1	95.8	95.9	96.1	96.4	96.9	95.6	141.4
.160	97.0	97.0	96.7	97.2	97.5	97.5	97.2	97.4	95.7	142.5
.200	98.2	97.5	96.9	98.2	98.4	98.4	97.9	97.6	95.6	143.1
.250	97.1	96.9	97.1	97.7	98.0	98.4	97.6	97.0	94.9	142.8
.315	96.6	96.3	96.6	97.6	98.6	99.1	97.4	96.9	94.8	142.8
.400	95.5	95.7	95.5	97.1	98.5	99.1	96.6	95.7	93.2	142.3
.500	94.6	95.2	95.4	97.1	98.5	99.4	96.1	94.2	91.5	142.1
.630	94.5	95.2	95.5	97.4	98.8	100.1	96.5	93.7	90.2	142.3
.800	92.9	93.9	94.5	96.4	97.9	99.3	96.0	92.9	88.9	141.4
1.00	91.9	93.2	93.7	95.6	97.4	98.0	95.1	92.5	88.4	140.5
1.25	90.8	92.0	92.7	94.6	96.0	96.2	93.5	90.8	86.7	139.2
1.60	90.4	91.5	92.4	94.1	95.2	95.1	91.6	88.7	84.9	138.3
2.00	89.6	90.5	91.7	93.8	94.2	94.0	90.7	87.5	83.1	137.5
2.50	88.6	90.4	91.4	93.0	93.6	93.0	89.6	86.5	82.4	136.8
3.15	87.8	89.7	91.1	92.5	93.1	92.4	89.2	86.1	82.4	136.3
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 153.6

OSPL	107.0	107.3	107.3	108.5	109.4	109.8	108.1	107.4	105.9
PNL	113.4	114.5	115.2	116.6	117.4	117.3	114.8	112.8	110.1

200. SIDELINE

PNL	110.2	111.7	112.5	113.8	114.1	113.3	109.6	106.0	101.2

370. SIDELINE

PNL	104.3	105.8	106.6	107.9	108.2	107.3	103.5	100.1	95.3

800. SIDELINE

PNL	96.4	97.8	98.5	99.8	100.1	99.2	95.5	92.4	87.3

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3548 CONDITION 3548

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	415.1	399.9	KG/S	188.3	181.4
PRES	25.00IN	0.85BAR	P.R.		1.57	2.64		1.57	2.64	THRUST,IDL	LB	13304.6	23847.2	N	59181.6	106077.1
WIND D			TEMP	(R)	734.3	1255.0	(K)	407.9	697.2	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.062	0.041	KG/M3	0.989	0.658	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	1032.0	1920.0	M/S	314.6	585.2	W (MODEL)	LB/S	0.8	0.8	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	89.2	89.6	88.7	89.1	88.6	89.6	89.6	91.4	94.3	135.2
.063	92.7	91.6	91.2	91.4	91.0	90.9	91.0	92.6	94.6	137.0
.080	95.4	93.9	93.2	93.5	93.3	93.4	93.5	94.6	95.7	139.2
.100	96.4	95.4	94.5	95.0	95.0	94.7	95.0	95.7	95.9	140.5
.125	98.0	97.3	96.0	96.5	96.0	96.2	96.6	96.9	96.2	141.9
.160	99.7	98.7	97.7	98.0	98.0	98.7	98.7	98.2	96.8	143.7
.200	101.4	100.1	98.8	99.6	99.3	100.0	99.9	99.0	97.3	145.0
.250	101.6	100.6	99.7	100.3	100.6	101.0	100.5	99.2	97.3	145.7
.315	102.8	100.8	100.3	101.3	102.0	102.2	100.9	99.5	97.9	146.6
.400	102.5	101.2	100.2	101.6	102.3	102.5	100.7	99.1	97.7	146.7
.500	101.9	101.1	100.7	102.3	102.9	102.7	100.6	98.7	97.1	146.8
.630	102.0	101.6	101.3	103.1	103.6	103.8	101.5	98.9	96.6	147.5
.800	101.9	101.3	100.8	102.7	103.6	103.8	101.6	98.9	96.2	147.4
1.00	103.5	102.3	101.1	102.5	103.8	103.4	101.9	100.1	97.8	147.7
1.25	104.2	102.6	101.3	101.9	102.2	101.9	101.0	99.5	97.3	147.1
1.60	104.4	103.3	101.9	101.7	101.4	100.7	99.3	97.7	96.0	146.9
2.00	104.0	103.3	102.6	102.6	101.2	100.1	98.3	96.4	94.3	146.9
2.50	103.4	103.3	102.7	102.4	101.4	99.8	97.5	95.5	93.7	146.8
3.15	103.9	103.4	102.8	102.7	101.6	100.0	97.9	95.9	94.0	147.0
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 158.4

OSPL	114.6	113.6	112.8	113.5	113.6	113.4	112.0	110.6	109.1
PNL	125.1	124.4	123.7	124.0	123.5	122.6	120.9	119.3	117.6

200. SIDELINE

PNL	121.9	121.6	121.0	121.2	120.2	118.6	115.7	112.4	108.2

370. SIDELINE

PNL	115.8	115.6	115.0	115.2	114.2	112.5	109.6	106.1	101.8

800. SIDELINE

PNL	107.5	107.3	106.7	106.9	105.9	104.1	101.0	97.3	92.7

2128. SIDELINE

PNL	94.7	94.5	94.0	94.2	93.2	91.9	88.8	85.1	80.2

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3549 CONDITION 3549

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	440.4	389.8	KG/S	199.8	176.8
PRES	25.00IN	0.85BAR	P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	13635.8	22638.2	N	60654.7	100699.1
WIND D			TEMP	(R)	727.5	1256.0	(K)	404.2	697.8	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.062	0.040	KG/M3	0.991	0.648	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	996.9	1870.0	M/S	303.9	570.0	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	90.4	90.9	89.9	90.5	90.5	91.3	92.7	94.5	96.1	137.1
.063	92.5	92.4	92.1	92.9	92.6	92.6	93.8	95.4	96.3	138.6
.080	96.2	94.9	94.0	94.6	94.8	94.7	95.8	97.0	97.1	140.6
.100	96.5	95.9	95.3	95.9	96.5	95.9	97.0	97.8	97.2	141.7
.125	98.1	97.4	96.6	97.5	97.3	97.5	98.5	98.7	97.4	143.0
.160	99.5	98.6	97.9	98.7	99.1	99.6	100.4	100.2	98.3	144.5
.200	101.2	100.3	99.3	100.5	100.3	100.9	101.6	101.0	98.8	145.8
.250	101.1	100.5	100.1	101.0	101.5	102.0	101.9	100.8	98.8	146.4
.315	102.2	100.8	100.3	101.7	102.6	103.0	102.3	101.2	99.3	147.1
.400	101.6	101.0	100.3	101.8	102.6	103.4	102.0	100.7	99.0	147.1
.500	100.9	100.7	100.7	102.4	103.2	103.6	101.6	99.8	97.9	147.1
.630	101.6	101.6	101.4	103.1	104.2	105.0	102.5	100.0	97.4	148.0
.800	101.5	101.0	101.0	103.0	104.2	104.8	102.7	99.9	96.7	147.9
1.00	104.1	102.7	101.0	102.5	104.0	104.1	102.7	100.6	97.5	148.0
1.25	106.2	104.6	102.3	102.0	102.5	102.6	101.8	100.1	97.1	148.2
1.60	106.4	105.6	104.0	102.8	102.0	101.6	100.0	98.0	95.4	148.4
2.00	105.0	105.1	104.6	104.2	102.3	100.9	98.8	96.4	93.6	148.3
2.50	103.5	104.2	104.1	104.1	103.0	101.0	98.4	95.7	92.8	148.0
3.15	103.6	103.5	103.6	104.0	103.1	101.5	99.2	96.5	93.4	147.8
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 159.2

OSPL	114.9	114.4	113.6	114.2	114.4	114.4	113.2	111.9	110.0
PNL	125.2	124.9	124.5	125.0	124.6	123.8	122.2	120.2	117.7

200. SIDELINE

PNL	121.9	122.0	121.8	122.2	121.3	119.8	117.0	113.3	108.4

370. SIDELINE

PNL	115.9	116.0	115.8	116.2	115.3	113.7	110.9	107.1	101.9

20036F DBTF JET NOISE TEST CONF. 3 COANNULAR NOZ. WITH EJECTOR AR=.75 TA 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/17/76 SCALE RATIO 22.5/1 RUN NUMBER 3550 CONDITION 3550

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	440.4	273.4	KG/S	199.8	124.0
PRES	25.00IN	0.85BAR	P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	13486.7	12794.3	N	59991.5	56911.5
WIND D			TEMP	(R)	712.8	1215.0	(K)	396.0	675.0	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.063	0.038	KG/M3	1.011	0.616	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	986.0	1507.0	M/S	300.5	459.3	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	90.4	90.1	87.6	86.9	86.6	87.2	85.9	87.2	89.9	133.4
.063	89.0	88.7	88.9	89.7	89.2	88.8	87.6	88.2	89.6	134.2
.080	93.1	93.3	92.6	92.7	91.6	90.8	89.4	89.7	90.3	137.2
.100	94.3	93.4	92.4	92.5	92.5	92.2	91.0	90.9	90.6	137.8
.125	96.4	95.5	93.7	94.0	93.1	92.7	92.2	91.9	90.8	139.1
.160	97.2	96.3	95.2	95.3	94.8	94.1	93.1	92.4	91.2	140.2
.200	98.2	97.4	95.9	96.6	96.0	95.4	94.2	93.0	91.2	141.3
.250	97.5	96.8	96.1	96.2	95.8	95.4	94.2	92.6	90.5	141.0
.315	97.3	96.0	95.6	96.1	96.3	96.1	94.4	92.8	90.8	141.0
.400	96.4	95.5	94.6	95.5	96.2	96.0	93.6	91.7	89.7	140.4
.500	94.9	94.6	94.2	95.4	95.8	95.9	93.1	90.6	88.2	139.9
.630	95.0	94.9	94.4	95.6	96.3	96.3	93.8	90.8	87.7	140.2
.800	93.3	93.4	93.2	94.6	95.3	95.5	93.2	90.3	87.0	139.2
1.00	92.3	92.7	92.5	93.7	94.9	94.2	92.2	90.0	87.0	138.3
1.25	91.4	91.6	92.0	92.9	93.3	92.7	90.9	88.6	85.7	137.2
1.60	90.5	90.9	91.2	92.2	92.3	91.8	89.3	86.6	83.9	136.3
2.00	89.3	90.0	90.6	91.8	91.6	90.9	88.6	85.9	82.8	135.6
2.50	88.4	89.2	89.8	90.8	90.7	89.9	87.4	85.0	82.6	134.7
3.15	88.0	88.3	89.0	90.2	90.0	89.3	87.1	85.0	82.8	134.1
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	107.2	106.7	106.0	106.7	106.8	106.5	104.6	103.1	101.6	OAPWL = 151.4
PNL	113.6	113.6	113.6	114.5	114.5	114.0	112.0	110.1	108.0	
200. SIDELINE										
PNL	110.4	110.8	110.9	111.7	111.3	110.0	106.8	103.2	98.6	
370. SIDELINE										
PNL	104.4	104.9	105.0	105.8	105.3	104.0	100.7	97.0	92.2	
800. SIDELINE										
PNL	96.7	97.0	97.1	97.8	97.3	95.9	92.4	88.6	83.8	
2128. SIDELINE										
PNL	86.2	86.2	85.8	86.5	86.2	84.8	81.2	77.2	71.9	

V_j - 341 fps
T_n - 63 °F
RH_j - 55 %
P_j - 121 psia

Configuration 4
1 2 Area Ratio Coannular Nozzle

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/11/76 SCALE RATIO 0.0/1 RUN NUMBER 3401 CONDITION 3401

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	22.0	83.9	N	97.9	373.3
TEMP	(R)	693.5	1278.7	(K)	385.3	710.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.042	KG/M3	1.039	0.678	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	970.7	2095.0	M/S	295.9	638.6	W (MODEL)	LB/S	0.7	1.3	KG/S	0.3	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.1	72.6	75.8	78.5	78.3	78.1	79.9	83.1	93.3	100.1
.125	75.8	78.0	80.8	81.1	80.4	81.7	83.3	86.2	94.1	102.2
.160	79.1	82.2	83.5	84.2	83.6	84.5	83.6	88.3	95.4	104.2
.200	80.6	82.5	83.6	86.9	86.1	87.6	88.7	89.6	96.5	106.1
.250	84.0	86.2	86.5	88.0	89.2	90.1	91.7	96.3	97.1	109.2
.315	89.4	91.3	90.1	90.5	91.9	92.7	92.6	97.7	103.7	112.6
.400	93.6	92.6	92.0	93.0	91.8	93.1	97.4	99.9	107.7	115.5
.500	93.7	93.4	92.3	91.6	92.9	96.4	99.4	104.1	107.5	116.9
.630	90.6	92.9	92.7	94.1	95.2	98.1	100.3	105.6	111.7	119.3
.800	96.5	95.2	94.6	95.8	96.7	99.0	103.2	109.2	113.1	121.6
1.00	94.5	94.9	96.4	98.4	98.5	100.5	104.6	110.2	114.1	127.7
1.25	94.8	94.8	95.2	97.3	99.3	102.2	106.0	110.7	113.1	122.8
1.60	94.2	95.3	96.0	98.7	100.1	103.0	107.3	111.0	112.1	123.1
2.00	95.9	96.7	97.9	99.8	101.6	105.1	109.0	111.4	111.2	123.9
2.50	96.8	96.9	98.0	100.6	102.4	106.3	110.1	111.4	110.8	124.4
3.15	97.1	97.9	99.0	101.9	103.4	107.4	110.8	111.3	111.0	124.8
4.00	98.5	99.1	100.1	103.1	105.2	109.4	111.6	112.4	111.9	126.0
5.00	99.3	100.1	101.0	104.5	106.0	110.3	112.0	112.4	113.0	126.6
6.30	99.2	99.9	101.4	104.4	106.2	110.5	111.9	113.1	114.6	127.0
8.00	100.4	100.5	102.0	104.9	107.4	111.5	112.3	113.9	116.0	127.9
10.0	102.2	102.1	102.7	105.6	107.7	111.4	112.5	114.3	116.5	128.2
12.5	108.4	105.5	105.3	106.2	107.8	110.9	112.2	114.5	115.3	128.3
16.0	112.0	110.1	106.2	106.2	107.8	110.6	111.8	114.7	113.7	128.8
20.0	109.5	110.6	109.1	106.9	107.6	109.8	111.3	113.3	111.7	128.4
25.0	107.5	108.1	109.7	109.5	109.1	110.0	111.1	113.0	111.3	128.4
31.5	109.0	108.0	108.1	110.3	110.1	109.9	110.7	112.0	110.2	128.1
40.0	109.6	109.9	109.4	110.5	111.3	111.0	111.0	112.0	110.5	129.0
50.0	110.4	110.3	110.9	111.8	112.5	112.2	112.0	112.8	110.7	130.0
63.0	111.4	111.9	112.2	113.1	113.6	113.8	113.0	114.0	111.8	131.2
80.0	113.9	113.9	114.4	115.4	115.4	115.7	115.5	116.2	114.0	133.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	120.5	120.3	120.3	121.3	122.0	123.5	124.5	126.2	126.6	OAPWL = 141.2

V_∞	=	31	fps
T_a	=	122	°F
RH_a	=	10	%
P_a	=	14.74	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3407 CONDITION 3407

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.52		1.53	2.52	THRUST,IDL	LB	22.9	59.7	N	102.0	265.5
TEMP	(R)	707.0	1264.3	(K)	392.8	702.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.020	0.645	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	984.2	1884.0	M/S	300.0	574.2	W (MODEL)	LB/S	0.8	1.0	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.1	69.6	72.8	75.5	75.3	75.1	76.9	81.2	94.7	100.1
.125	72.8	74.8	77.9	78.3	77.5	79.0	80.4	83.6	93.0	100.6
.160	76.1	79.2	80.6	81.0	80.7	81.7	80.8	85.3	94.3	102.0
.200	77.9	79.6	80.5	83.8	83.1	84.5	85.7	86.8	94.7	103.5
.250	81.1	83.4	83.7	84.5	86.0	87.1	88.4	92.9	95.2	106.2
.315	85.5	87.2	86.3	86.7	88.3	89.6	89.5	94.3	100.9	109.3
.400	89.7	89.0	88.6	89.6	88.8	90.4	94.5	96.7	104.8	112.4
.500	90.2	89.9	89.2	88.6	89.6	92.9	96.2	100.8	104.0	113.6
.630	86.7	89.2	89.6	91.0	92.2	94.9	96.9	102.1	107.9	115.7
.800	92.6	91.9	91.8	92.6	93.6	95.8	99.9	105.3	109.0	117.8
1.00	91.2	91.8	93.0	95.0	95.2	97.2	101.0	106.2	109.9	118.8
1.25	91.5	91.9	92.5	94.6	96.5	98.9	102.6	106.6	109.0	119.1
1.60	91.1	92.4	93.2	95.9	97.2	99.7	103.9	107.2	108.1	119.5
2.00	93.3	94.1	94.9	97.1	98.7	101.6	105.2	107.6	107.2	120.2
2.50	94.2	94.4	95.3	97.9	99.8	102.7	106.1	107.4	106.4	120.6
3.15	94.4	95.2	96.3	99.0	100.6	103.7	106.7	108.9	106.2	120.9
4.00	95.6	96.3	97.3	100.3	102.2	105.6	107.3	107.8	106.5	121.9
5.00	96.5	97.4	98.3	101.5	103.1	106.5	107.7	108.6	107.1	122.5
6.30	96.3	97.3	98.7	101.3	103.4	106.8	107.5	108.0	108.2	122.7
8.00	97.1	97.6	99.1	101.6	104.4	107.6	107.6	108.6	109.1	123.3
10.0	97.5	98.2	99.0	102.3	104.9	107.6	107.9	108.9	110.4	123.7
12.5	98.3	98.0	99.3	102.3	104.7	107.2	107.8	109.9	113.1	124.2
16.0	98.1	98.3	99.3	102.1	104.5	106.7	107.3	109.9	111.3	123.7
20.0	102.3	99.9	99.3	101.3	104.1	105.7	106.4	108.9	109.0	122.9
25.0	106.1	104.2	100.7	101.5	104.1	105.2	105.7	108.6	108.3	123.3
31.5	104.8	105.6	104.0	102.3	103.7	104.5	104.9	107.2	106.8	123.0
40.0	103.3	104.2	105.2	104.7	104.5	104.7	104.5	106.6	106.5	123.2
50.0	104.6	104.1	104.6	106.7	105.5	105.7	104.9	106.7	106.4	124.0
63.0	105.1	105.7	105.4	106.6	107.9	107.1	105.5	107.3	106.9	124.8
80.0	106.5	106.8	107.0	107.9	108.7	108.5	107.4	108.6	108.5	126.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	114.3	114.3	114.3	115.6	117.1	118.6	119.4	121.2	122.3	OAPWL = 136.0

ORIGINAL PAGE IS OF POOR QUALITY

V_∞	=	222	fps
T_a	=	124	°F
RH_a	=	17	%
P_a	=	14.73	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3408 CONDITION 3408

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	22.7	34.0	N	101.1	151.3
TEMP	(R)	700.8	1269.2	(K)	389.3	705.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.037	KG/M3	1.028	0.589	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	976.1	1543.0	M/S	297.5	470.3	W (MODEL)	LB/S	0.8	0.7	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.6	65.6	68.2	71.0	71.1	71.1	72.1	75.7	90.3	95.6
.125	68.1	70.4	73.2	73.7	73.4	75.1	76.0	78.6	90.2	96.6
.160	71.4	74.9	76.0	76.7	76.5	77.5	76.9	81.0	90.0	97.7
.200	73.8	75.6	76.6	79.3	78.6	80.3	81.4	82.6	90.1	99.1
.250	76.5	78.9	79.5	79.7	81.1	82.5	83.9	88.5	90.4	101.6
.315	80.5	82.2	81.7	82.2	83.5	84.9	85.4	89.6	96.1	104.6
.400	84.4	83.9	83.8	84.6	84.3	86.0	89.6	92.1	99.1	107.2
.500	85.0	85.1	84.8	84.3	85.3	88.3	91.7	95.4	98.2	108.4
.630	82.3	84.2	84.8	86.3	87.8	90.6	92.1	96.3	102.2	110.3
.800	87.4	87.2	86.9	88.0	89.2	91.2	94.6	99.4	102.9	112.2
1.00	87.1	87.0	88.2	90.0	90.8	92.7	95.7	100.2	103.8	113.2
1.25	86.8	87.5	88.2	90.1	91.7	94.3	97.2	100.9	102.9	113.6
1.60	87.0	88.2	89.1	91.7	92.8	95.0	98.3	101.4	102.4	114.1
2.00	89.0	89.7	90.5	92.6	94.2	96.8	99.5	101.5	101.4	114.8
2.50	90.0	90.3	91.2	93.6	95.1	97.7	100.1	101.7	100.4	115.2
3.15	90.1	91.0	92.1	94.6	95.8	98.5	100.8	100.8	100.1	115.4
4.00	91.5	91.8	93.0	95.8	97.4	100.2	101.4	101.5	100.0	116.3
5.00	91.8	92.6	93.7	96.7	97.0	100.5	101.3	100.5	99.9	116.4
6.30	91.4	92.3	93.7	96.3	97.7	100.5	100.8	100.6	99.8	116.3
8.00	92.0	92.4	94.1	96.4	98.6	101.3	100.6	100.9	99.6	116.7
10.0	92.1	92.6	93.7	96.7	98.8	101.1	100.6	100.3	99.2	116.5
12.5	91.2	91.8	93.3	96.4	98.2	100.5	99.9	99.9	99.0	115.9
16.0	90.7	91.6	93.2	96.0	97.9	100.0	99.0	99.3	99.1	115.5
20.0	90.0	90.8	92.2	94.9	97.2	98.7	98.1	97.5	97.8	114.3
25.0	89.5	90.5	92.1	94.7	97.5	98.2	97.0	97.1	97.7	114.1
31.5	89.2	90.2	91.8	94.2	96.6	97.4	96.4	95.9	96.0	113.2
40.0	90.0	91.0	92.4	94.5	96.3	97.4	96.1	95.4	95.4	113.2
50.0	90.9	92.0	93.9	97.1	97.8	98.2	96.6	95.5	95.2	114.3
63.0	92.0	92.8	94.4	96.4	98.1	98.9	96.7	96.2	95.9	114.6
80.0	93.7	94.4	96.0	97.7	98.9	99.8	98.2	97.2	97.3	115.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	103.9	104.6	106.0	108.4	110.1	112.0	112.3	113.2	114.0	OAPWL = 128.4

V_∞	=	22	fps
T_a	=	121	°F
RH_a	=	10	%
P_a	=	14.74	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONFG 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=37 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3413 CONDITION 3413

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	23.2	13.5	N	103.2	60.1
TEMP	(R)	689.5	1212.7	(K)	383.1	673.7	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.035	KG/M3	1.046	0.567	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	970.4	1036.0	M/S	295.8	315.8	W (MODEL)	LB/S	0.8	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.5	60.2	63.8	66.7	66.2	65.7	67.4	70.9	77.5	86.2
.125	64.6	67.0	69.8	70.0	69.1	70.2	71.4	74.1	78.9	89.5
.160	66.4	69.8	71.4	72.7	71.9	72.5	71.9	76.1	81.6	91.7
.200	68.9	70.8	71.3	75.0	73.9	75.1	76.8	77.6	82.0	93.5
.250	71.2	73.9	75.5	74.3	75.4	77.6	77.9	82.9	83.5	96.0
.315	75.0	76.4	76.3	76.9	78.2	79.0	79.9	83.1	89.8	98.6
.400	79.0	78.5	78.4	79.5	79.0	80.3	82.9	85.9	93.0	101.3
.500	78.8	79.4	78.8	78.9	80.2	82.6	85.6	88.8	90.9	102.0
.630	77.3	79.2	79.6	81.2	82.4	84.3	85.4	89.6	95.4	103.9
.800	81.8	81.2	81.2	82.3	83.6	85.5	88.0	92.0	95.4	105.3
1.00	81.2	81.1	82.0	84.0	84.8	86.5	88.7	92.6	96.4	106.1
1.25	81.1	81.7	82.3	84.2	85.6	87.8	89.9	93.2	95.7	106.5
1.60	81.3	82.4	83.3	85.7	86.7	88.4	90.7	93.3	95.1	106.9
2.00	82.9	83.6	84.5	86.5	87.8	89.5	91.3	93.7	94.1	107.4
2.50	83.3	83.8	84.5	86.9	88.1	89.7	91.3	93.3	92.7	107.3
3.15	83.0	84.2	85.1	87.5	88.3	89.9	91.3	92.3	91.4	107.0
4.00	83.9	84.4	85.4	87.8	89.2	90.6	91.3	92.3	90.1	107.3
5.00	84.1	85.0	85.6	88.3	89.2	90.6	91.2	90.6	88.7	107.0
6.30	83.4	84.4	85.6	87.6	88.5	89.9	90.2	89.2	87.4	106.2
8.00	84.3	84.3	85.6	87.3	88.8	90.2	89.3	88.7	85.7	106.1
10.0	84.2	84.6	84.9	86.9	88.1	89.4	88.4	87.2	84.1	105.3
12.5	82.9	83.4	84.1	86.1	87.1	88.4	87.1	85.7	82.7	104.2
16.0	82.6	83.2	83.7	85.8	87.1	87.7	85.7	84.2	81.4	103.7
20.0	82.6	82.7	83.4	85.4	86.4	86.6	84.2	82.2	79.2	102.8
25.0	82.6	83.2	83.5	85.1	86.4	86.1	83.1	81.5	78.2	102.6
31.5	82.9	82.9	83.7	84.7	85.5	85.1	82.3	80.2	76.6	102.0
40.0	83.5	83.2	84.2	84.8	85.4	84.9	81.8	79.5	76.2	102.1
50.0	84.2	83.6	84.6	86.0	87.1	84.9	81.9	79.4	76.3	102.9
63.0	83.5	83.9	84.6	85.1	85.0	84.3	81.2	79.3	76.4	102.1
80.0	83.6	83.9	84.5	85.3	85.1	84.3	81.8	79.7	77.2	102.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 119.0
OSPL	96.6	97.0	97.8	99.5	100.5	101.6	102.1	103.6	105.1	

V_∞	=	37	fps
T_a	=	86	°F
RH_a	=	23	%
P_a	=	14.73	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3426 CONDITION 3426

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.21		1.53	3.21	THRUST,IDL	LB	4.3	90.7	N	19.1	403.5
TEMP	(R)	705.8	1064.0	(K)	392.1	591.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.051	KG/M3	1.022	0.823	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	985.3	1909.0	M/S	300.3	581.9	W (MODEL)	LB/S	0.1	1.5	KG/S	0.1	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.1	72.6	75.5	77.8	77.8	77.0	78.6	84.5	97.8	103.1
.125	74.8	76.7	80.0	80.6	79.6	81.0	82.5	86.3	97.4	103.6
.160	77.6	81.0	83.0	83.4	82.8	83.7	83.1	88.5	97.8	104.9
.200	79.4	82.4	82.5	85.4	84.9	86.9	88.0	89.1	97.8	106.0
.250	81.9	84.4	85.6	86.3	88.9	89.3	90.9	95.8	98.0	108.7
.315	88.0	90.0	88.7	89.9	90.0	91.9	92.7	96.6	103.2	111.7
.400	93.9	91.9	91.5	91.9	91.1	92.4	96.0	98.9	107.9	115.1
.500	94.0	92.3	90.7	90.7	92.1	93.9	97.8	103.2	106.0	115.7
.630	89.2	90.7	91.1	92.5	94.2	97.0	99.8	104.8	111.0	118.5
.800	94.6	93.3	92.6	95.4	96.5	98.7	102.1	108.2	112.5	120.8
1.00	94.0	95.1	96.2	97.8	98.4	99.7	103.1	108.9	113.1	121.7
1.25	93.9	94.3	95.2	97.6	99.2	101.3	104.7	109.5	112.7	122.0
1.60	93.6	94.3	95.3	98.2	100.2	102.3	105.9	109.6	111.3	122.0
2.00	94.8	96.1	97.0	99.0	100.7	104.0	107.3	110.1	110.3	122.6
2.50	96.0	96.3	97.1	99.6	101.8	104.7	108.1	110.1	109.7	123.0
3.15	96.1	96.9	97.9	100.2	102.4	105.8	109.0	109.6	109.6	123.2
4.00	97.5	97.8	99.0	101.4	103.7	107.5	109.6	110.5	110.1	124.2
5.00	98.2	98.8	99.8	102.6	104.4	108.0	110.0	110.3	111.1	124.6
6.30	98.3	99.1	100.3	102.7	104.5	108.5	110.0	110.8	112.7	125.1
8.00	99.8	99.4	100.7	102.9	105.7	109.2	110.1	111.5	114.1	125.8
10.0	102.3	101.3	101.9	103.8	105.9	109.1	110.2	111.5	114.3	126.0
12.5	109.3	105.5	103.3	104.3	106.0	108.4	109.8	111.4	113.7	126.4
16.0	112.0	110.3	105.8	104.8	105.9	108.3	109.2	111.8	112.5	127.3
20.0	109.0	109.9	109.1	106.5	106.0	107.7	108.5	111.1	110.3	127.0
25.0	107.6	107.4	108.8	109.2	107.9	107.9	108.2	110.9	110.0	127.0
31.5	109.4	108.1	107.2	109.3	109.4	108.6	108.1	109.9	109.0	127.0
40.0	109.3	109.5	108.7	108.9	110.3	109.6	108.3	109.6	109.0	127.6
50.0	109.9	109.5	109.7	110.5	110.9	110.6	109.1	109.9	109.0	128.4
63.0	110.5	110.6	110.7	111.2	111.5	111.6	109.7	110.7	109.5	129.1
80.0	111.7	111.7	111.9	112.5	112.6	112.5	111.0	111.7	110.9	130.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	119.9	119.4	119.0	119.6	120.2	121.4	122.0	123.8	125.2	OAPWL = 139.4

V_∞	=	22	fps
T_a	=	114	°F
RH_a	=	20	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3427 CONDITION 3427

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.52		1.52	2.52	THRUST,IDL	LB	23.2	63.2	N	103.2	281.2
TEMP	(R)	713.0	1060.7	(K)	396.1	589.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.048	KG/M3	1.010	0.774	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	983.3	1725.0	M/S	299.7	525.8	W (MODEL)	LB/S	0.8	1.2	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.8	69.4	72.1	75.0	75.0	74.7	75.4	80.0	95.3	100.4
.125	71.9	73.5	77.1	77.8	77.0	78.3	79.4	82.7	94.8	100.8
.160	74.4	77.9	80.0	80.5	80.0	80.7	80.0	84.7	94.3	101.6
.200	76.6	79.6	79.8	82.4	82.1	83.9	84.9	86.1	94.0	102.7
.250	78.7	81.5	82.7	83.5	85.8	86.0	87.8	92.5	94.8	105.6
.315	84.2	86.2	85.8	86.9	87.1	88.6	89.7	93.2	99.7	108.4
.400	90.5	88.7	88.3	88.8	88.0	89.6	93.1	95.8	103.8	111.5
.500	90.9	89.2	87.9	88.0	89.3	90.9	94.8	100.1	102.6	112.5
.630	86.5	87.5	88.1	89.6	91.4	94.3	96.9	101.4	107.5	115.2
.800	91.2	90.2	89.8	92.5	93.4	95.8	98.9	104.4	108.5	117.1
1.00	91.3	92.0	93.0	94.6	95.1	96.7	99.6	105.0	109.1	117.9
1.25	91.2	91.3	92.4	94.5	95.9	98.2	101.3	105.8	108.5	118.3
1.60	90.7	91.7	92.6	95.5	97.1	99.1	102.3	105.8	107.3	118.4
2.00	92.1	93.3	94.3	96.3	97.6	100.7	103.3	106.2	106.4	119.0
2.50	93.4	93.8	94.5	96.9	98.9	101.4	104.2	106.0	105.4	119.3
3.15	93.3	94.3	95.2	97.5	99.4	102.2	104.9	105.6	105.0	119.4
4.00	94.8	95.4	96.3	98.7	100.8	103.9	105.6	106.2	105.0	120.4
5.00	95.2	96.1	97.2	99.8	101.3	104.5	105.8	105.7	105.3	120.7
6.30	95.3	96.2	97.3	99.8	101.6	104.6	105.6	106.1	105.9	120.8
8.00	96.2	96.3	97.6	100.1	102.6	105.5	105.7	106.4	106.4	121.3
10.0	96.5	96.8	97.7	100.4	102.8	105.4	105.6	106.2	107.5	121.4
12.5	98.1	97.4	98.0	100.8	102.8	105.2	105.5	107.0	112.4	122.4
16.0	98.8	98.0	98.3	100.9	102.8	104.9	104.9	106.5	109.0	121.6
20.0	104.4	100.9	98.9	100.5	102.6	104.3	104.3	106.0	107.6	121.5
25.0	107.4	106.0	102.6	101.7	103.4	104.3	104.2	106.3	107.6	123.0
31.5	105.7	106.4	105.7	104.0	103.9	104.5	104.0	105.7	106.6	123.4
40.0	106.0	105.8	106.5	107.4	106.1	105.6	104.7	105.9	107.2	124.5
50.0	108.2	107.5	107.2	109.5	109.2	107.9	106.2	107.0	107.8	126.3
63.0	109.0	109.1	108.9	109.6	110.6	109.9	107.4	108.1	108.8	127.5
80.0	110.2	110.1	110.0	111.0	111.0	110.9	109.0	109.2	109.9	128.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 136.1
OSPL	116.6	116.2	116.0	117.1	117.7	118.4	118.3	119.7	121.5	

V_∞	=	222	fps
T_a	=	117	°F
RH_a	=	10	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3432 CONDITION 3432

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	24.3	36.4	N	107.9	162.1
TEMP	(R)	714.8	1060.7	(K)	397.1	589.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.044	KG/M3	1.008	0.709	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	988.5	1414.0	M/S	301.3	431.0	W (MODEL)	LB/S	0.8	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.8	70.0	69.5	71.9	71.4	70.5	72.0	76.4	89.7	95.3
.125	68.3	72.5	74.2	74.9	73.6	74.4	75.6	79.0	89.9	96.6
.160	70.1	75.1	76.2	77.1	76.3	77.0	76.8	81.2	90.0	97.7
.200	72.7	76.6	76.1	79.0	78.1	79.9	81.5	82.8	90.1	99.1
.250	74.8	78.3	79.2	79.4	81.2	82.2	83.6	88.7	90.3	101.5
.315	79.4	81.9	81.7	82.5	83.0	84.3	86.1	89.0	96.1	104.5
.400	86.0	84.4	83.5	84.3	83.9	85.4	88.8	91.9	99.7	107.4
.500	86.1	84.7	83.4	83.8	85.0	87.0	90.6	95.4	97.6	107.9
.630	81.7	83.7	84.2	86.0	87.4	89.9	92.5	97.0	102.7	110.7
.800	86.9	86.4	85.9	88.2	89.5	91.8	94.5	99.5	103.1	112.3
1.00	86.9	87.9	88.5	90.4	91.0	92.7	95.2	100.0	103.8	113.1
1.25	86.6	87.5	88.2	90.3	91.8	93.9	96.8	100.8	103.3	113.6
1.60	86.7	88.2	88.9	91.3	92.8	94.8	97.7	100.8	102.2	113.7
2.00	88.2	89.7	90.1	92.2	93.6	96.1	98.5	101.0	101.3	114.2
2.50	89.4	90.1	90.7	92.8	94.6	96.7	98.9	100.8	99.9	114.3
3.15	89.4	90.7	91.4	93.6	95.2	97.6	99.6	100.2	99.5	114.5
4.00	90.4	91.3	92.1	94.3	96.4	98.8	99.9	100.5	98.8	115.1
5.00	90.9	92.1	92.8	95.4	97.0	99.3	100.2	99.7	98.6	115.4
6.30	90.7	91.9	93.1	95.3	97.0	99.4	99.8	99.4	98.6	115.3
8.00	91.5	91.8	93.3	95.5	97.7	100.1	99.4	99.7	98.2	115.6
10.0	91.5	92.3	93.0	95.6	97.7	99.8	99.3	99.3	97.8	115.4
12.5	90.8	91.6	92.9	95.4	97.3	99.4	98.8	98.5	97.4	114.9
16.0	90.7	91.7	92.8	95.5	97.3	99.2	98.1	98.1	97.2	114.7
20.0	90.1	91.1	92.2	94.5	96.7	98.3	97.3	96.7	96.0	113.8
25.0	90.1	91.3	92.3	94.7	97.1	97.9	96.8	96.7	95.8	113.8
31.5	90.2	91.4	92.6	94.5	96.6	97.6	96.4	95.7	94.5	113.3
40.0	90.8	91.8	92.8	94.8	96.3	97.4	95.8	95.0	94.0	113.2
50.0	91.2	92.6	93.7	96.9	97.2	97.4	95.9	94.6	93.3	113.8
63.0	91.2	92.4	93.5	95.2	96.6	97.1	95.1	94.2	93.2	113.2
80.0	91.6	92.4	93.9	95.5	96.5	96.9	95.2	94.0	93.6	113.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
DSPL	103.5	104.5	105.4	107.7	109.3	111.0	111.3	112.4	113.5	

OAPWL = 127.7

V_∞	=	22	fps
T_a	=	98	°F
RH_a	=	12	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3433 CONDITION 3433

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	24.3	14.7	N	107.9	65.5
TEMP	(R)	709.0	1067.3	(K)	393.9	592.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.018	0.645	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	989.0	968.3	M/S	301.4	295.1	W (MODEL)	LB/S	0.8	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.3	60.4	63.7	66.5	66.3	65.2	66.6	70.3	76.6	85.7
.125	64.1	66.2	69.7	70.3	68.8	69.6	70.9	74.1	79.1	89.3
.160	65.7	69.4	71.4	72.2	71.3	72.3	72.1	76.0	81.1	91.4
.200	67.9	70.8	71.0	74.1	73.4	75.6	76.8	77.9	82.2	93.4
.250	69.3	72.6	75.0	74.6	76.4	77.8	78.5	83.6	83.7	96.3
.315	74.9	76.8	77.4	78.1	78.4	79.5	80.7	83.2	89.9	99.0
.400	80.4	79.0	78.6	79.4	79.2	80.4	82.9	86.2	93.0	101.4
.500	80.6	79.4	78.4	78.4	80.2	82.4	85.4	89.4	91.1	102.2
.630	76.9	78.2	79.4	81.1	82.4	84.6	86.5	90.8	96.3	104.6
.800	81.5	80.6	80.7	82.8	84.2	86.3	88.5	92.9	96.4	106.0
1.00	81.8	81.8	82.6	84.1	85.5	87.0	88.7	93.2	97.3	106.7
1.25	81.2	81.6	82.7	84.5	86.0	88.2	90.0	93.8	97.0	107.1
1.60	81.2	82.3	83.2	85.6	87.0	88.9	90.7	93.9	96.3	107.4
2.00	82.3	83.4	84.3	86.4	87.7	89.8	91.4	94.3	95.4	107.8
2.50	83.1	83.6	84.4	86.6	88.3	89.8	91.4	94.0	93.9	107.6
3.15	82.6	83.8	84.8	86.8	88.1	89.9	91.4	93.0	92.7	107.2
4.00	83.3	84.0	85.1	87.2	88.7	90.4	91.2	92.8	91.1	107.2
5.00	83.6	84.5	85.0	87.4	88.6	90.2	91.0	91.1	89.7	106.8
6.30	82.9	83.8	85.0	86.8	87.8	89.6	89.9	89.8	88.1	105.9
8.00	83.7	83.8	84.9	86.6	88.1	89.5	89.0	88.8	86.1	105.6
10.0	83.7	84.0	84.2	86.0	87.3	88.6	88.0	87.4	84.4	104.8
12.5	82.3	82.6	83.5	85.1	86.4	87.4	86.7	85.5	82.9	103.5
16.0	82.0	82.6	83.1	85.0	86.2	86.8	85.4	84.1	81.5	103.0
20.0	82.1	82.2	82.8	84.4	85.4	85.3	83.6	82.0	79.5	102.0
25.0	82.6	83.0	82.9	84.6	85.4	84.8	82.6	81.1	78.8	101.9
31.5	82.9	82.8	83.8	84.3	85.2	84.0	81.8	80.0	77.1	101.6
40.0	83.4	83.3	84.0	84.6	84.8	83.8	81.0	79.1	76.6	101.7
50.0	83.3	83.4	83.7	85.0	84.7	83.2	80.7	78.7	76.2	101.6
63.0	82.4	83.0	83.4	83.7	83.7	82.5	79.8	78.0	75.4	100.8
80.0	81.8	81.9	82.6	83.2	82.9	82.0	79.7	77.9	75.9	100.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	96.2	96.6	97.3	98.9	100.1	101.3	102.0	104.1	106.1	OAPNL = 118.9

V_∞	=	30	fps
T_a	=	83	°F
RH_a	=	11	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONFL 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3438 CONDITION 3438

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.22		1.53	3.22	THRUST,IDL	LB	23.7	92.5	N	105.3	411.3
TEMP	(R)	694.0	719.3	(K)	385.6	399.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.077	KG/M3	1.040	1.233	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	977.0	1567.0	M/S	297.8	477.6	W (MODEL)	LB/S	0.8	1.9	KG/S	0.4	0.9

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.5	72.2	75.8	78.3	77.7	76.9	78.7	83.5	95.5	101.3
.125	74.5	76.9	80.0	80.2	79.4	80.6	81.5	84.9	95.4	102.2
.160	75.7	79.5	81.3	82.4	82.9	82.9	81.9	86.7	95.9	103.4
.200	78.8	81.8	82.0	85.1	84.7	86.0	87.9	88.6	95.6	104.9
.250	80.6	83.6	85.5	85.8	88.1	89.4	89.2	94.3	96.7	107.7
.315	87.2	89.0	88.6	89.2	89.8	90.2	91.5	93.9	102.1	110.5
.400	93.0	90.5	89.7	90.3	90.1	90.7	93.7	97.0	106.0	113.3
.500	91.6	90.3	89.3	89.4	91.4	93.3	96.4	101.2	103.7	113.8
.630	87.7	90.0	89.8	91.5	92.9	94.9	97.3	102.8	108.9	116.5
.800	92.9	91.4	91.6	94.1	95.5	96.9	99.7	105.4	110.0	118.4
1.00	92.5	93.4	93.8	95.6	96.9	97.6	100.4	106.2	110.8	119.3
1.25	92.2	92.4	93.5	95.5	96.9	98.5	101.7	106.8	109.9	119.3
1.60	92.4	93.4	94.0	96.4	98.1	99.7	102.9	106.9	109.1	119.6
2.00	93.6	94.4	95.0	97.2	98.9	101.0	103.8	107.3	108.0	119.9
2.50	94.6	94.7	95.4	97.8	99.8	101.3	104.5	107.5	107.0	120.2
3.15	94.7	95.4	96.1	98.6	100.3	102.3	105.3	107.1	106.9	120.4
4.00	95.5	96.0	96.9	99.1	101.0	103.5	105.8	107.6	106.4	120.9
5.00	96.7	97.4	97.8	100.1	101.8	104.1	106.5	107.5	106.6	121.4
6.30	97.3	97.6	98.5	100.4	102.2	104.3	106.2	107.5	107.7	121.6
8.00	103.2	98.8	99.3	101.2	103.0	105.3	106.3	108.0	108.2	122.3
10.0	106.7	103.8	103.2	103.3	103.9	105.3	106.1	107.7	107.6	123.4
12.5	113.3	109.9	105.1	103.6	103.7	105.2	105.7	106.8	108.0	125.7
16.0	112.1	113.0	110.0	105.8	104.4	105.4	105.3	106.6	108.2	127.2
20.0	107.9	109.0	110.6	109.5	106.2	105.3	104.6	105.6	107.3	126.3
25.0	109.5	108.0	107.4	110.1	109.7	106.6	104.6	105.6	106.7	126.4
31.5	109.4	110.1	108.0	108.0	110.6	109.0	105.4	105.3	105.6	126.9
40.0	109.6	109.2	109.4	108.7	109.4	110.3	105.9	105.2	105.6	127.1
50.0	109.3	109.5	109.3	110.0	108.9	110.1	106.8	105.3	105.2	127.2
63.0	109.4	110.0	109.9	110.1	110.0	109.6	106.6	105.5	105.1	127.5
80.0	110.6	110.8	110.9	111.3	111.0	110.8	107.6	106.4	106.1	128.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 137.9
OSPL	120.3	120.0	119.2	119.2	119.2	119.4	118.6	120.1	121.5	

V_∞	=	30	fps
T_a	=	71	°F
RH_a	=	49	%
P_a	=	14.76	psia

20034F D8TF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3439 CONDITION 3439

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.52		1.53	2.52	THRUST,IDL	LB	23.6	65.6	N	105.2	291.9
TEMP	(R)	693.8	721.0	(K)	385.4	400.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.072	KG/M3	1.040	1.149	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	976.3	1418.0	M/S	297.6	432.2	W (MODEL)	LB/S	0.8	1.5	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.1	69.2	72.7	75.3	74.7	73.9	75.3	79.6	92.0	97.9
.125	71.5	73.9	77.1	77.4	76.7	77.5	78.5	81.7	91.3	98.6
.160	72.8	76.7	78.6	79.5	79.9	79.8	78.9	83.4	91.7	99.8
.200	75.8	79.2	79.2	82.1	81.5	83.1	84.8	85.5	91.8	101.7
.250	77.4	80.6	82.6	82.6	84.5	86.1	85.8	91.0	93.1	104.3
.315	83.5	85.5	85.4	85.9	86.6	87.2	88.6	90.7	98.7	107.2
.400	89.5	87.2	86.3	87.2	86.9	87.7	90.7	93.9	102.5	109.9
.500	88.5	87.3	86.2	86.3	88.5	90.4	93.5	97.7	100.4	110.6
.630	84.6	86.8	87.1	88.5	90.1	92.1	94.3	99.4	105.8	113.3
.800	89.6	88.2	88.6	91.1	92.4	94.1	96.6	101.9	106.4	115.0
1.00	89.5	90.1	90.7	92.5	93.9	94.7	97.2	102.6	107.3	115.9
1.25	89.2	89.6	90.7	92.4	93.8	95.7	98.5	103.1	106.4	115.9
1.60	89.2	90.3	91.1	93.3	94.9	96.7	99.4	103.2	105.3	116.1
2.00	90.8	91.4	92.3	94.2	95.8	97.8	100.4	103.5	104.2	116.4
2.50	91.8	92.1	92.7	94.9	96.8	98.4	100.9	103.5	103.1	116.7
3.15	91.9	92.6	93.5	95.6	97.2	99.3	101.7	103.1	102.7	116.9
4.00	92.8	93.3	94.0	96.3	98.0	100.3	102.2	103.5	102.2	117.4
5.00	93.8	94.3	95.1	97.4	98.9	101.1	102.9	103.4	102.0	118.0
6.30	93.5	94.4	95.5	97.3	99.1	101.3	102.4	102.9	102.3	117.9
8.00	95.0	94.7	95.5	97.8	99.8	102.1	102.6	103.2	102.2	118.3
10.0	96.5	95.6	95.7	97.9	99.8	101.6	102.3	103.1	102.2	118.2
12.5	101.8	97.6	97.1	98.8	100.3	102.3	102.1	103.5	104.6	119.2
16.0	104.3	100.6	98.3	98.9	100.1	101.9	101.7	101.9	101.2	119.3
20.0	108.4	105.7	102.2	99.5	99.8	101.1	100.7	100.4	100.1	121.2
25.0	107.1	107.0	107.7	102.3	101.1	101.0	100.2	100.2	99.7	122.7
31.5	104.2	104.8	105.4	104.8	103.0	101.6	100.0	99.5	98.7	121.7
40.0	105.4	104.2	103.9	105.0	104.8	103.0	100.2	99.1	98.4	121.9
50.0	105.3	105.2	104.9	104.7	105.3	104.8	101.2	99.3	98.1	122.6
63.0	105.2	105.6	105.6	105.3	105.1	105.4	101.9	100.0	98.4	122.9
80.0	105.8	105.9	106.1	106.1	105.8	105.2	102.4	100.2	98.8	123.4
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	115.5	114.7	114.5	114.0	114.2	114.7	114.5	115.7	117.0	OAPWL = 133.1

V_∞	=	30	fps
T_a	=	72	°F
RH_a	=	41	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3444 CONDITION 3444

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	22.9	37.5	N	101.8	166.7
TEMP	(R)	690.0	715.7	(K)	383.3	397.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.066	KG/M3	1.044	1.057	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	969.6	1160.0	M/S	295.5	353.6	W (MODEL)	LB/S	0.8	1.0	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	65.7	72.3	69.8	72.3	72.7	70.5	72.5	77.6	89.4	95.4
.125	67.5	73.9	73.8	75.0	74.3	73.9	75.0	78.7	89.0	96.1
.160	68.4	75.3	75.0	76.6	76.8	76.3	75.7	80.3	88.9	96.9
.200	71.7	77.0	75.9	78.7	78.0	78.6	80.4	81.7	88.9	98.2
.250	73.4	78.2	78.7	79.2	80.1	81.1	81.2	86.5	89.4	100.2
.315	78.4	81.6	80.9	81.7	82.5	82.6	84.0	86.6	93.9	102.7
.400	84.3	83.7	81.9	83.2	83.1	83.3	86.2	89.7	97.5	105.4
.500	83.3	83.8	81.9	82.7	84.5	85.9	89.0	92.8	95.4	106.0
.630	79.9	83.7	83.0	84.7	86.2	87.7	89.8	94.5	100.0	108.3
.800	84.9	85.1	84.5	87.0	88.2	89.6	91.8	96.5	100.5	109.8
1.00	84.9	86.6	86.5	88.3	89.4	90.2	92.3	97.0	101.5	110.6
1.25	84.4	86.3	86.4	88.4	89.6	91.3	93.5	97.6	100.6	110.8
1.60	84.6	86.8	87.1	89.1	90.6	92.1	94.2	97.4	100.0	110.9
2.00	86.1	87.8	88.0	90.0	91.6	92.9	94.9	97.6	98.9	111.3
2.50	87.0	88.1	88.3	90.4	92.1	93.4	95.4	97.7	97.8	111.4
3.15	86.8	88.4	88.8	91.1	92.5	93.8	95.6	97.1	97.1	111.4
4.00	87.5	88.5	89.1	91.3	93.0	94.7	95.8	97.1	96.1	111.6
5.00	88.0	89.1	89.8	92.0	93.5	94.9	96.2	96.5	95.3	111.7
6.30	87.5	88.8	89.9	91.7	93.4	94.8	95.4	95.8	94.9	111.4
8.00	88.3	88.6	89.6	91.8	93.7	95.2	95.3	95.5	94.0	111.4
10.0	88.1	88.9	89.4	91.5	93.4	94.4	94.7	94.9	93.2	110.9
12.5	87.6	88.4	89.2	91.4	93.0	94.3	94.3	93.7	92.4	110.4
16.0	87.6	88.2	88.9	91.0	92.7	93.9	93.6	93.0	91.5	110.0
20.0	86.9	87.5	88.2	90.3	91.8	92.7	92.3	91.4	89.8	108.9
25.0	86.4	87.2	87.9	89.7	92.0	92.1	91.5	91.0	89.0	108.5
31.5	86.1	87.1	87.8	89.5	91.4	91.6	90.6	89.7	88.0	107.9
40.0	86.9	88.2	89.4	92.0	92.2	91.5	89.8	88.7	87.0	108.6
50.0	86.5	86.9	88.1	90.0	90.7	91.0	89.9	88.1	86.4	107.5
63.0	86.5	87.5	88.4	89.8	91.2	91.1	89.3	88.1	86.4	107.6
80.0	87.3	87.7	88.9	90.3	91.6	91.3	89.8	88.3	86.9	108.0
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	100.3	101.4	101.9	103.9	105.4	106.4	107.1	108.8	110.6	OAPWL = 123.8

V_∞	=	30	fps
T_a	=	70	°F
RH_a	=	46	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3445 CONDITION 3445

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.54		1.53	1.54	THRUST,IDL	LB	23.0	25.9	N	102.2	115.1
TEMP	(R)	690.0	708.0	(K)	383.3	393.3	THRUST,HEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.064	KG/M3	1.045	1.020	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	973.3	991.6	M/S	296.7	302.2	W (MODEL)	LB/S	0.8	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.0	62.3	65.8	68.4	68.1	66.6	68.4	72.9	82.8	89.5
.125	65.2	67.8	70.9	71.2	70.2	70.7	71.6	75.3	83.6	91.6
.160	65.8	70.0	71.8	72.9	73.2	73.2	72.7	76.8	84.3	92.9
.200	69.1	72.4	72.6	75.4	75.4	76.5	78.0	78.9	84.0	94.8
.250	70.4	73.8	76.0	75.9	77.4	78.9	79.1	84.5	86.0	97.5
.315	75.7	77.7	78.4	78.9	79.8	80.1	81.6	83.7	91.4	100.0
.400	81.6	79.9	79.3	80.1	80.5	80.5	83.6	87.2	95.1	102.8
.500	80.9	79.9	79.1	79.4	81.6	83.1	86.2	89.8	92.5	103.0
.630	77.4	79.5	80.1	81.9	83.5	85.0	87.1	91.9	97.5	105.6
.800	82.2	80.9	81.5	83.6	85.3	86.9	89.2	93.7	97.6	106.9
1.00	82.3	82.7	83.2	85.0	86.7	87.5	89.4	94.2	98.8	107.8
1.25	81.6	82.1	83.4	85.3	87.0	88.4	90.5	94.6	98.2	107.9
1.60	81.6	82.9	83.7	86.0	87.7	89.2	91.1	94.4	97.5	108.0
2.00	82.8	83.8	84.7	86.8	88.6	90.0	91.8	94.6	96.1	108.2
2.50	83.5	84.1	85.0	87.0	89.0	90.1	91.8	94.5	94.6	108.1
3.15	83.3	84.4	85.3	87.5	89.1	90.4	91.9	93.8	93.6	107.9
4.00	83.7	84.5	85.4	87.6	89.4	91.0	91.7	93.6	91.9	107.8
5.00	84.5	85.4	86.0	88.1	89.7	91.0	91.9	92.7	90.9	107.8
6.30	83.7	84.8	85.9	87.7	89.3	90.4	90.9	91.2	89.8	107.0
8.00	84.2	84.4	85.6	87.6	89.3	90.5	90.6	90.8	88.5	106.9
10.0	84.0	84.9	85.3	87.2	88.7	89.3	89.7	89.7	87.1	106.1
12.5	83.7	84.3	85.2	87.1	88.3	89.1	88.8	88.3	86.1	105.5
16.0	84.0	84.5	84.9	86.9	88.2	88.6	88.1	87.3	85.1	105.2
20.0	83.3	83.7	84.3	85.9	87.2	87.3	86.6	85.6	83.3	104.0
25.0	83.5	83.9	84.5	85.7	87.5	86.6	85.7	85.0	82.3	103.8
31.5	83.8	84.5	84.9	86.1	87.3	86.4	85.0	84.0	81.3	103.7
40.0	85.2	85.5	86.3	87.3	89.1	87.8	84.5	83.2	80.9	104.9
50.0	84.7	84.4	85.5	86.6	86.5	85.7	84.2	82.7	80.0	103.5
63.0	84.0	84.4	84.9	85.6	86.3	85.5	83.6	82.3	79.7	103.1
80.0	83.9	83.6	84.7	85.5	86.1	85.5	83.7	82.3	80.1	102.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	97.2	97.6	98.4	100.1	101.5	102.3	103.0	105.2	107.4	OAPWL = 120.1

V_∞	=	30	fps
T_a	=	66	°F
RH_a	=	37	%
P_a	=	14.76	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3450 CONDITION 3450

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	23.2	15.2	N	103.1	67.7
TEMP	(R)	703.4	711.7	(K)	390.8	395.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.061	KG/M3	1.025	0.969	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	981.9	790.6	M/S	299.3	241.0	W (MODEL)	LB/S	0.8	0.6	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	60.5	59.9	63.5	66.1	65.6	64.4	66.2	70.2	79.9	86.9
.125	62.9	65.7	69.0	69.6	68.2	68.6	69.6	72.7	80.9	89.2
.160	63.6	67.6	69.6	71.0	71.1	71.4	70.7	74.9	82.9	91.2
.200	67.3	70.3	70.3	73.3	73.2	74.7	76.3	77.4	82.8	93.1
.250	68.3	71.5	74.0	73.7	75.0	76.8	77.1	82.5	85.2	95.7
.315	73.8	75.5	76.4	76.9	77.7	78.1	79.7	81.9	91.8	99.1
.400	79.5	77.9	77.3	77.9	78.3	78.4	81.5	85.3	94.6	101.5
.500	79.0	77.8	76.9	77.4	79.8	81.3	84.2	88.1	92.3	101.6
.630	75.4	77.5	78.1	79.9	81.5	82.9	85.0	90.2	97.5	104.6
.800	80.4	79.2	79.5	81.9	83.4	84.8	87.1	91.8	97.7	105.7
1.00	80.4	80.8	81.4	83.1	84.8	85.4	87.5	92.4	98.9	106.7
1.25	79.6	80.0	81.3	83.2	84.8	86.4	88.5	92.8	98.5	106.7
1.60	79.8	80.9	81.8	83.8	85.7	87.3	89.3	92.8	98.1	106.9
2.00	80.5	81.4	82.4	84.7	86.4	87.9	89.8	92.9	96.8	106.8
2.50	81.1	81.6	82.4	84.7	86.6	87.8	89.5	92.8	95.1	106.4
3.15	80.7	81.7	82.7	85.1	86.7	88.0	89.6	91.9	94.1	106.0
4.00	81.1	81.7	82.6	84.9	86.4	88.1	89.1	91.5	91.9	105.4
5.00	81.6	82.3	82.9	85.2	86.5	87.7	89.1	90.1	90.1	105.0
6.30	81.4	82.1	82.8	84.7	86.1	87.0	87.7	88.3	88.4	104.0
8.00	82.2	82.0	82.8	84.6	85.9	86.6	86.7	87.1	86.0	103.5
10.0	82.3	82.6	82.8	84.4	85.1	85.3	85.7	85.5	84.1	102.7
12.5	81.6	81.9	82.4	83.9	85.0	84.9	84.5	83.5	82.6	101.9
16.0	82.7	82.6	82.7	84.1	84.9	84.0	83.0	81.8	80.6	101.6
20.0	83.0	82.5	82.2	84.2	84.1	82.5	81.6	80.1	79.0	101.0
25.0	83.4	83.3	84.0	84.4	84.6	82.7	80.7	79.8	78.4	101.5
31.5	83.8	84.2	84.4	84.6	84.9	81.9	79.9	78.7	77.2	101.6
40.0	84.3	85.0	84.4	85.8	84.7	82.3	79.5	78.0	77.7	102.1
50.0	84.4	84.1	84.9	85.1	84.3	81.8	79.3	77.6	77.2	101.7
63.0	83.2	83.2	83.6	84.3	83.9	81.5	78.7	77.5	76.9	100.9
80.0	82.5	82.2	82.8	83.5	83.1	81.2	78.8	77.6	77.3	100.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	95.7	95.9	96.4	97.8	98.8	99.2	100.2	103.0	107.4	

OAPWL = 118.1

V_∞	=	30	fps
T_a	=	59	°F
RH_a	=	48	%
P_a	=	14.76	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 80	3402 3402

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.1	74.3	78.3	80.7	80.0	79.3	80.6	84.4	88.4
125	76.8	79.4	82.1	81.6	80.0	81.1	82.5	85.8	90.8
160	78.6	81.7	83.2	84.3	83.4	83.8	83.2	88.4	94.1
200	80.1	82.5	83.6	87.5	86.4	87.9	89.3	89.7	94.8
250	83.3	86.2	86.9	88.3	89.3	90.7	91.1	95.9	96.5
315	89.7	91.4	90.1	90.3	91.4	91.9	92.5	96.8	103.7
400	92.8	90.9	90.4	91.8	91.0	92.3	96.4	99.3	106.6
500	90.9	91.0	90.1	90.5	92.7	95.8	99.0	103.4	106.0
630	91.1	91.9	91.3	93.0	94.2	97.0	99.1	104.7	110.6
800	95.0	93.6	93.7	95.1	96.3	98.0	101.9	108.0	111.7
1000	92.8	93.7	95.0	96.9	97.7	99.3	103.1	108.9	112.5
1250	93.2	93.5	94.4	96.4	97.9	100.9	104.9	109.4	111.5
1600	93.8	94.8	95.6	97.7	99.3	102.3	106.5	109.9	110.4
2000	95.1	95.9	97.0	99.2	100.9	104.2	108.0	110.4	109.6
2500	96.0	96.1	97.2	99.9	101.7	105.1	108.9	110.3	108.8
3150	96.4	97.5	98.6	101.2	102.7	106.7	110.0	110.1	109.0
4000	97.5	98.4	99.6	102.3	104.3	108.5	110.5	111.2	109.3
5000	98.5	99.6	100.5	103.7	105.6	109.5	111.4	111.4	110.3
6300	98.9	99.6	101.1	104.0	106.1	110.0	111.5	111.8	111.8
8000	100.1	100.2	101.6	104.4	107.4	111.2	111.9	113.0	113.3
10000	102.3	102.2	102.7	105.3	107.6	111.2	112.2	113.5	114.1
12500	109.5	106.5	105.3	106.2	108.0	111.0	112.0	113.7	114.0
16000	112.7	111.2	107.0	106.4	108.0	110.8	112.0	114.3	112.6
20000	109.4	110.9	110.0	107.4	108.0	110.0	111.5	113.2	110.2
25000	107.1	107.9	109.8	107.8	109.1	109.6	110.8	112.2	109.4
31500	108.6	107.6	107.2	109.8	109.9	109.2	110.2	110.8	107.7
40000	108.0	108.6	107.8	108.9	110.3	109.4	109.3	109.8	106.9
50000	107.5	107.6	108.1	109.1	110.0	109.4	109.0	109.0	105.4
63000	106.9	107.4	107.7	108.5	109.3	109.1	108.3	108.4	104.9
80000	106.4	106.7	107.1	108.2	108.3	108.3	108.0	107.8	104.2
TSPL	118.9	118.6	118.2	119.1	120.1	121.8	123.2	124.6	124.3
SSPL	118.9	118.6	118.2	119.1	120.1	121.8	123.1	124.5	124.2

V_∞	=	102	fps
T_a	=	80	°F
RH_a	=	11	%
P_a	=	14.66	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	119.3	118.9	118.3	119.0	119.8	121.3	122.5	123.7	123.6
SSPL	119.3	118.9	118.3	118.9	119.8	121.3	122.4	123.7	123.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	119.5	119.0	118.3	118.8	119.5	120.9	122.0	123.2	122.9
SSPL	119.5	119.0	118.2	118.8	119.5	120.9	121.9	123.2	122.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
N631 315 05/11/76 -00 000000 XARF 0 3402 3402

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.7	74.7	78.5	80.4	79.3	78.4	79.2	82.0	85.5
125	77.4	79.9	82.2	81.2	79.4	80.2	81.0	83.4	87.4
160	79.2	82.1	83.3	84.0	82.8	82.9	81.8	85.5	90.5
200	80.7	82.9	83.7	87.3	85.8	86.9	88.0	87.9	91.0
250	84.0	86.6	87.0	88.1	88.8	89.8	89.7	93.6	95.3
315	90.4	91.7	90.1	90.1	90.8	91.0	91.1	94.0	99.5
400	93.5	91.2	90.4	91.5	90.4	91.3	94.7	96.8	102.0
500	91.6	91.3	90.1	90.3	92.2	94.8	97.4	101.0	103.8
630	91.6	92.2	91.3	92.8	93.7	96.0	97.5	101.8	107.0
800	95.7	93.9	93.8	94.9	95.8	97.0	100.1	105.2	109.2
1000	93.5	94.1	95.1	96.7	97.2	98.3	101.3	106.2	110.0
1250	93.9	93.9	94.5	96.2	97.4	99.9	103.2	107.1	109.6
1600	94.5	95.2	95.7	97.5	98.8	101.3	104.8	107.9	109.1
2000	95.8	96.3	97.1	99.0	100.4	103.2	106.4	108.8	108.9
2500	96.7	96.5	97.4	99.8	101.3	104.1	107.4	108.9	108.3
3150	97.0	97.8	98.7	101.0	102.2	105.6	108.5	108.8	108.1
4000	98.1	98.8	99.7	102.1	103.8	107.4	109.1	109.9	108.8
5000	99.1	100.0	100.6	103.5	105.1	108.5	110.1	110.2	109.4
6300	99.6	100.0	101.2	103.8	105.6	109.0	110.2	110.4	110.4
8000	100.8	100.6	101.8	104.3	107.0	110.2	110.7	111.5	111.9
10000	103.0	102.5	102.8	105.1	107.1	110.2	110.9	111.9	112.5
12500	110.1	106.7	105.3	105.9	107.5	110.0	110.6	112.0	112.6
16000	113.4	111.4	106.9	106.1	107.5	109.8	110.6	112.7	112.2
20000	110.0	111.2	109.9	107.1	107.4	109.0	110.1	111.8	110.4
25000	107.7	108.3	109.8	109.5	108.5	108.6	109.4	110.8	109.4
31500	109.2	107.9	107.3	109.6	109.3	108.3	108.9	109.6	107.8
40000	108.7	109.0	107.9	108.7	109.7	108.6	108.1	108.6	107.0
50000	108.2	108.0	108.2	108.9	109.4	108.5	107.9	108.0	105.7
63000	107.5	107.7	107.7	108.2	108.7	108.2	107.2	107.3	105.1
80000	107.1	107.1	107.2	108.0	107.7	107.4	106.9	106.8	104.5
TSPL	119.5	119.0	118.3	118.9	119.6	120.9	121.8	123.0	123.1
SSPL	119.5	118.9	118.3	118.8	119.5	120.9	121.8	123.0	123.0

V_∞	=	102	fps
T_a	=	80	°F
RH_a	=	11	%
P_a	=	14.66	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONFG 4 TAPE 4225 NO.2049

STAND XARF RIG ID VT=102 TEST DATE 05/11/76 SCALE RATIO 0.0/1 RUN NUMBER 3402 CONDITION 3402

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	3.21		1.54	3.21	THRUST,IDL	LB	23.0	84.8	N	102.3	377.3
TEMP	(R)	701.2	1265.3	(K)	389.6	702.9	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.043	KG/M3	1.030	0.686	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	987.5	2085.0	M/S	301.0	635.5	W (MODEL)	LB/S	0.8	1.3	KG/S	0.3	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.7	74.7	78.5	80.4	79.3	78.4	79.2	82.0	85.5	97.9
.125	77.4	79.9	82.2	81.2	79.4	80.2	81.0	83.4	87.4	99.8
.160	79.2	82.1	83.3	84.0	82.8	82.9	81.8	85.5	90.5	102.1
.200	80.7	82.9	83.7	87.3	85.8	86.9	88.0	87.9	91.0	104.7
.250	84.0	86.6	87.0	88.1	88.8	89.8	89.7	93.6	95.3	107.9
.315	90.4	91.7	90.1	90.1	90.8	91.0	91.1	94.0	99.5	110.4
.400	93.5	91.2	90.4	91.5	90.4	91.3	94.7	96.8	102.0	112.1
.500	91.6	91.3	90.1	90.3	92.2	94.8	97.4	101.0	103.8	114.2
.630	91.8	92.2	91.3	92.8	93.7	96.0	97.5	101.8	107.0	115.8
.800	95.7	93.9	93.8	94.9	95.8	97.0	100.1	105.2	109.2	118.3
1.00	93.5	94.1	95.1	96.7	97.2	98.3	101.3	106.2	110.0	119.2
1.25	93.9	93.9	94.5	96.2	97.4	99.9	103.2	107.1	109.6	119.8
1.60	94.5	95.2	95.7	97.5	96.8	101.3	104.8	107.9	109.1	120.6
2.00	95.8	96.3	97.1	99.0	100.4	103.2	106.4	108.8	108.9	121.7
2.50	96.7	96.5	97.4	99.8	101.3	104.1	107.4	108.9	108.3	122.1
3.15	97.0	97.8	98.7	101.0	102.2	105.6	108.5	108.8	108.1	122.8
4.00	98.1	98.8	99.7	102.1	103.8	107.4	109.1	109.9	108.8	123.9
5.00	99.1	100.0	100.6	103.5	105.1	108.5	110.1	110.2	109.4	124.8
6.30	99.6	100.0	101.2	103.8	105.6	109.0	110.2	110.4	110.4	125.1
8.00	100.8	100.6	101.8	104.3	107.0	110.2	110.7	111.5	111.9	126.1
10.0	103.0	102.5	102.8	105.1	107.1	110.2	110.9	111.9	112.5	126.5
12.5	110.1	106.7	105.3	105.9	107.5	110.0	110.6	112.0	112.6	127.3
16.0	113.4	111.4	106.9	106.1	107.5	109.8	110.6	112.7	112.2	128.4
20.0	110.0	111.2	109.9	107.1	107.4	109.0	110.1	111.8	110.4	128.0
25.0	107.7	108.3	109.8	109.5	108.5	108.6	109.4	110.8	109.4	127.5
31.5	109.2	107.9	107.3	109.6	109.3	108.3	108.9	109.6	107.8	127.0
40.0	108.7	109.0	107.9	108.7	109.7	108.6	108.1	108.6	107.0	127.0
50.0	108.2	108.0	108.2	108.9	109.4	108.5	107.9	108.0	105.7	126.7
63.0	107.5	107.7	107.7	108.2	108.7	108.2	107.2	107.3	105.1	126.1
80.0	107.1	107.1	107.2	108.0	107.7	107.4	106.9	106.8	104.5	125.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	119.5	119.0	118.3	118.9	119.6	120.9	121.8	123.0	123.1	OAPWL = 138.7

V_∞	=	102	fps
T_a	=	80	°F
RH_a	=	11	%
P_a	=	14.66	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3403 3403

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	73.3	69.4	79.4	82.5	82.1	82.2	86.3	84.7	89.6
125	75.2	78.8	82.7	82.6	80.9	81.9	86.1	85.3	91.1
160	75.9	79.8	81.8	83.1	82.4	83.0	85.0	87.0	93.5
200	77.8	80.5	82.2	86.2	85.2	86.7	89.0	87.9	94.2
250	82.5	85.4	85.9	87.3	88.2	89.0	90.0	94.3	95.9
315	88.4	89.7	88.4	88.4	89.0	89.7	90.5	95.0	102.5
400	90.0	88.2	87.5	89.0	89.1	90.7	94.6	97.5	105.3
500	87.2	87.1	87.0	88.0	90.0	93.4	96.0	101.2	104.4
630	89.0	89.9	89.7	91.2	91.7	94.0	97.0	102.7	107.8
800	92.1	90.7	91.4	92.7	93.9	95.6	99.6	105.9	109.5
1000	90.5	91.2	92.8	94.6	95.1	96.9	101.0	106.4	109.1
1250	91.5	92.6	92.6	94.7	96.1	99.1	103.1	107.1	108.4
1600	92.2	93.0	94.3	96.2	97.8	100.4	104.4	107.6	107.1
2000	93.8	94.3	95.7	98.1	99.3	102.5	106.1	108.4	106.2
2500	94.4	94.9	95.7	98.4	100.1	103.3	107.0	108.2	105.2
3150	95.1	96.2	97.3	99.9	101.1	104.9	108.1	107.9	105.0
4000	96.4	96.9	98.0	100.7	102.7	106.7	108.7	108.7	104.9
5000	97.4	98.4	98.9	102.3	104.1	108.0	109.7	109.2	105.4
6300	97.6	98.4	99.8	102.8	104.5	108.6	110.0	109.3	106.4
8000	99.2	99.2	100.6	103.3	106.1	109.9	110.5	110.5	107.3
10000	102.2	101.8	101.9	104.3	106.6	109.9	110.8	111.1	108.3
12500	109.7	106.5	104.9	105.6	107.1	110.0	110.9	111.4	109.2
16000	112.6	111.4	107.1	105.8	107.3	109.9	110.9	112.0	109.3
20000	109.1	111.0	109.9	107.2	107.3	109.1	110.5	111.5	107.6
25000	107.2	107.9	109.6	109.7	109.0	109.0	110.2	111.3	106.6
31500	108.9	107.8	107.3	109.7	109.9	109.0	109.5	109.6	104.8
40000	107.9	108.6	108.0	108.9	110.2	109.4	108.7	108.3	103.9
50000	107.5	107.5	107.9	109.0	109.8	109.4	108.3	107.4	102.2
63000	106.6	107.0	107.4	108.3	109.1	109.1	107.4	106.5	101.3
80000	105.9	106.4	106.8	107.8	108.0	108.0	107.0	105.8	100.4
TSPL	118.7	118.5	118.0	118.7	119.5	120.9	121.9	122.5	120.6
SSPL	118.7	118.5	118.0	118.6	119.5	120.9	121.9	122.5	120.4

V_∞	=	202	fps
T_a	=	69	°F
RH_a	=	13	%
P_a	=	14.41	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	119.6	119.1	118.1	118.5	118.9	120.0	120.6	121.0	119.9
SSPL	119.6	119.1	118.1	118.4	118.9	120.0	120.6	121.0	119.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	120.0	119.2	118.1	118.1	118.3	119.1	119.5	120.0	118.4
SSPL	120.0	119.2	118.0	118.1	118.3	119.1	119.5	119.9	118.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3403 3403

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	74.6	70.5	80.3	82.0	80.9	80.2	83.4	82.6	83.7
125	76.5	79.9	82.9	81.9	79.6	79.9	83.2	82.8	84.6
160	77.2	80.7	82.1	82.5	81.2	81.2	82.3	83.2	86.8
200	79.1	81.4	82.7	85.7	84.0	84.8	86.4	85.3	87.3
250	83.8	86.2	86.0	86.8	87.0	87.2	87.3	89.9	92.8
315	89.8	90.4	88.3	87.8	87.8	87.8	87.8	90.0	95.3
400	91.3	88.7	87.5	88.4	87.9	88.7	91.4	93.3	97.8
500	88.5	87.8	87.0	87.5	88.9	91.4	93.0	96.4	100.2
630	90.3	90.6	89.8	90.7	90.6	92.0	93.8	97.5	102.4
800	93.4	91.3	91.5	92.2	92.8	93.6	96.2	100.7	105.2
1000	91.8	92.0	93.1	94.1	94.0	94.9	97.6	101.6	105.3
1250	92.8	92.7	92.8	94.3	95.0	97.1	99.9	103.0	105.4
1600	93.5	93.8	94.6	95.8	96.7	98.4	101.3	104.0	105.3
2000	95.1	95.1	96.0	97.7	98.2	100.5	103.1	105.4	105.5
2500	95.8	95.7	96.0	98.0	99.0	101.3	104.1	105.7	104.9
3150	96.4	96.9	97.5	99.4	100.0	102.8	105.3	105.9	104.4
4000	97.7	97.6	98.3	100.3	101.6	104.6	106.1	106.6	105.0
5000	98.7	99.1	99.2	101.9	103.0	106.0	107.2	107.3	105.5
6300	98.9	99.2	100.1	102.4	103.4	106.6	107.6	107.4	105.9
8000	100.6	100.0	100.9	103.0	105.1	108.0	108.3	108.3	107.1
10000	103.5	102.4	102.1	103.9	105.5	107.9	108.4	108.8	107.8
12500	111.0	106.9	104.8	105.1	106.0	108.0	108.5	108.9	108.2
16000	113.9	111.7	106.7	105.2	106.2	108.0	108.4	109.3	108.8
20000	110.4	111.7	109.6	106.5	106.1	107.2	108.0	109.0	107.9
25000	108.5	108.6	109.7	109.0	107.7	107.2	107.6	108.8	107.4
31500	110.2	108.3	107.5	109.2	108.7	107.3	107.1	107.5	105.6
40000	109.2	109.3	108.1	108.4	109.0	107.7	106.7	106.3	104.4
50000	108.8	108.2	108.0	108.5	108.6	107.7	106.4	105.7	103.2
63000	107.9	107.6	108.5	107.7	107.9	107.4	105.5	104.7	102.3
80000	107.2	107.1	106.9	107.2	106.8	106.3	105.1	104.2	101.5
TSPL	120.0	119.1	118.0	118.1	118.3	119.1	119.4	120.0	119.4
SSPL	120.0	119.1	118.0	118.1	118.3	119.0	119.4	120.0	119.3

V_∞	=	202	fps
T_a	=	69	°F
RH_a	=	13	%
P_a	=	14.41	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3403 CONDITION 3403

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	23.8	83.2	N	105.7	370.3
TEMP	(R)	708.2	1257.3	(K)	393.4	698.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.043	KG/M3	1.017	0.691	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	981.1	2076.0	M/S	299.0	633.4	W (MODEL)	LB/S	0.8	1.3	KG/S	0.4	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.6	70.5	80.3	82.0	80.9	80.2	83.4	82.6	83.7	99.1
.125	76.5	79.9	82.9	81.9	79.6	79.9	83.2	82.8	84.6	99.9
.160	77.2	80.7	82.1	82.5	81.2	81.2	82.3	83.2	86.8	100.3
.200	79.1	81.4	82.7	85.7	84.0	84.8	86.4	85.3	87.3	102.7
.250	83.8	86.2	86.0	86.8	87.0	87.2	87.3	89.9	92.8	105.8
.315	89.8	90.4	88.3	87.8	87.8	87.8	87.8	90.0	95.3	107.6
.400	91.3	88.7	87.5	88.4	87.9	88.7	91.4	93.3	97.8	108.9
.500	88.5	87.8	87.0	87.5	88.9	91.4	93.0	96.4	100.2	110.3
.630	90.3	90.6	89.8	90.7	90.6	92.0	93.8	97.5	102.4	112.0
.800	93.4	91.3	91.5	92.2	92.8	93.6	96.2	100.7	105.2	114.5
1.00	91.8	92.0	93.1	94.1	94.0	94.9	97.6	101.6	105.3	115.3
1.25	92.8	92.7	92.8	94.3	95.0	97.1	99.9	103.0	105.4	116.4
1.60	93.5	93.8	94.6	95.8	96.7	98.4	101.3	104.0	105.3	117.4
2.00	95.1	95.1	96.0	97.7	98.2	100.5	103.1	105.4	105.5	118.8
2.50	95.8	95.7	96.0	98.0	99.0	101.3	104.1	105.7	104.9	119.3
3.15	96.4	96.9	97.5	99.4	100.0	102.8	105.3	105.9	104.4	120.1
4.00	97.7	97.6	98.3	100.3	101.6	104.6	106.1	106.6	105.0	121.1
5.00	98.7	99.1	99.2	101.9	103.0	106.0	107.2	107.3	105.5	122.3
6.30	98.9	99.2	100.1	102.4	103.4	106.6	107.6	107.4	105.9	122.7
8.00	100.6	100.0	100.9	103.0	105.1	108.0	108.3	108.3	107.1	123.7
10.0	103.5	102.4	102.1	103.9	105.5	107.9	108.4	108.8	107.8	124.3
12.5	111.0	106.9	104.8	105.1	106.0	108.0	108.5	108.9	108.2	125.7
16.0	113.9	111.7	106.7	105.2	106.2	108.0	108.4	109.3	108.8	127.4
20.0	110.4	111.7	109.6	106.5	106.1	107.2	108.0	109.0	107.9	127.2
25.0	108.5	108.6	109.7	109.0	107.7	107.2	107.6	108.8	107.4	126.8
31.5	110.2	108.3	107.5	109.2	108.7	107.3	107.1	107.5	105.6	126.5
40.0	109.2	109.3	108.1	108.4	109.0	107.7	106.7	106.3	104.4	126.4
50.0	108.8	108.2	108.0	108.5	108.6	107.7	106.4	105.7	103.2	126.1
63.0	107.9	107.6	107.5	107.7	107.9	107.4	105.5	104.7	102.3	125.4
80.0	107.2	107.1	106.9	107.2	106.8	106.3	105.1	104.2	101.5	124.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.0	119.1	118.0	118.1	118.3	119.1	119.4	120.0	119.4	OAPWL = 137.3

V_∞ =	202	fps
T_a =	69	°F
RH_a =	13	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3404 3404

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.7	76.7	71.4	76.2	77.1	76.2	78.3	85.8	90.7
125	59.5	73.3	78.5	78.0	76.9	76.7	80.1	85.3	92.3
160	70.6	74.9	78.0	78.8	78.2	79.1	79.7	79.0	94.0
200	73.5	75.6	78.3	81.9	81.4	83.3	84.8	82.2	96.2
250	79.0	81.3	82.3	82.7	83.7	85.8	86.4	90.1	97.6
315	84.7	85.0	84.0	83.7	84.4	86.3	87.2	90.9	103.6
400	86.3	83.8	83.7	85.1	85.1	87.4	91.4	93.2	107.2
500	83.7	82.7	83.2	83.9	85.8	90.0	93.0	96.7	104.2
630	85.3	85.5	86.1	87.1	87.8	91.0	93.6	98.0	107.2
800	88.7	86.5	87.7	88.7	89.7	92.4	96.1	100.9	108.5
1000	87.2	87.2	88.9	90.3	90.9	93.7	97.5	101.4	108.0
1250	88.3	88.3	89.1	90.6	91.9	95.6	99.4	102.1	107.2
1600	89.2	89.2	90.8	92.3	93.4	96.9	100.4	102.5	106.3
2000	90.8	90.3	92.1	94.0	95.2	98.9	102.1	103.4	105.5
2500	91.4	91.0	92.2	94.2	96.0	99.5	102.8	103.0	104.3
3150	92.0	92.1	93.7	95.7	96.9	101.0	103.8	102.4	104.1
4000	93.2	93.0	94.6	96.8	98.6	102.8	104.5	103.3	104.0
5000	94.2	94.4	95.5	98.2	99.9	104.3	105.4	103.6	104.3
6300	94.4	94.6	96.4	98.7	100.5	104.9	105.6	103.6	104.9
8000	95.5	94.8	96.9	99.1	101.9	106.0	105.9	104.8	105.3
10000	95.8	95.6	97.1	99.8	102.2	106.1	106.2	105.4	106.0
12500	96.1	95.8	97.5	100.2	102.5	106.1	106.3	105.8	107.4
16000	98.1	97.4	98.3	100.6	102.9	106.1	106.3	106.5	108.4
20000	103.2	100.0	99.1	100.2	102.4	105.2	105.7	106.1	107.9
25000	106.6	104.3	100.9	100.4	102.5	104.7	104.9	106.0	107.4
31500	104.5	104.5	104.1	101.7	101.9	103.8	104.0	104.4	105.3
40000	102.1	102.1	103.9	103.6	102.6	103.2	102.8	102.6	103.9
50000	102.4	101.2	102.1	104.2	103.9	103.3	102.0	101.3	102.1
63000	101.4	101.1	101.6	102.5	103.6	103.7	101.2	100.3	100.9
80000	100.7	100.4	101.0	101.8	101.9	102.7	100.7	99.1	100.1
TSPL	112.7	111.7	112.0	112.8	114.0	116.6	117.1	117.1	119.9
SSPL	112.7	111.7	112.0	112.8	114.0	116.6	117.1	117.0	119.5

V_∞	=	201	fps
T_a	=	65	°F
RH_a	=	15	%
P_a	=	14.42	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	113.6	112.3	112.2	112.6	113.4	115.6	115.8	115.6	119.2
SSPL	113.6	112.3	112.1	112.6	113.4	115.6	115.8	115.5	118.8

ANGLES AND YTOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	114.0	112.5	112.1	112.3	112.8	114.8	114.8	114.5	117.7
SSPL	114.0	112.4	112.0	112.3	112.8	114.8	114.8	114.5	117.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3404 3404

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.0	77.0	71.5	75.8	75.9	74.4	75.1	79.8	85.6
125	60.8	74.9	78.8	77.3	75.6	74.8	76.9	80.2	85.5
160	72.0	75.9	78.2	78.1	77.0	77.3	77.4	75.4	81.2
200	74.8	76.5	78.8	81.4	80.2	81.4	82.5	79.5	83.9
250	80.3	82.1	82.4	82.2	82.5	83.9	83.8	85.4	90.4
315	66.1	85.6	83.9	83.1	83.3	84.4	84.5	85.7	92.8
400	87.6	84.3	83.8	84.6	83.9	85.3	88.3	88.8	95.4
500	85.0	83.4	83.3	83.5	84.7	87.9	90.0	92.1	96.9
630	86.7	86.2	86.2	86.5	86.7	89.0	90.6	92.9	98.9
800	90.0	87.1	87.8	88.2	88.6	90.4	92.9	95.9	101.3
1000	88.6	87.9	89.1	89.8	89.8	91.7	94.3	96.9	101.4
1250	89.6	89.0	89.3	90.1	90.8	93.5	96.3	98.2	101.5
1600	90.5	89.9	91.0	91.8	92.3	94.9	97.4	99.0	101.5
2000	92.1	91.0	92.4	93.6	94.1	96.9	99.3	100.3	101.8
2500	92.7	91.7	92.5	93.8	95.0	97.5	100.0	100.5	101.0
3150	93.3	92.9	93.9	95.2	95.8	98.9	101.2	100.4	100.3
4000	94.5	93.7	94.9	96.3	97.5	100.7	102.1	101.3	100.9
5000	95.5	95.1	95.8	97.8	98.8	102.3	103.2	101.8	101.2
6300	95.7	95.4	96.7	98.3	99.4	102.9	103.5	101.8	101.4
8000	96.9	95.6	97.3	98.8	100.9	104.1	103.9	102.7	102.4
10000	97.1	96.3	97.4	99.4	101.1	104.1	104.1	103.2	103.0
12500	97.4	96.5	97.8	99.8	101.4	104.1	104.1	103.3	103.8
16000	99.4	98.1	98.5	100.2	101.8	104.2	104.1	103.7	104.7
20000	104.5	100.4	99.1	99.7	101.3	103.3	103.4	103.3	104.2
25000	107.9	104.6	100.6	99.8	101.4	102.8	102.6	102.9	104.0
31500	105.8	105.1	103.8	101.0	100.7	101.9	101.7	101.6	102.2
40000	103.4	102.9	104.0	103.0	101.4	101.5	100.7	100.0	100.6
50000	103.7	101.9	102.4	103.7	102.7	101.6	100.1	98.9	99.0
63000	102.7	101.7	101.7	101.9	102.4	102.0	99.5	97.9	97.9
80000	102.0	101.1	101.1	101.2	100.7	101.0	99.0	97.0	96.8
TSPL	114.0	112.4	112.0	112.3	112.8	114.7	114.8	114.4	115.3
SSPL	114.0	112.3	112.0	112.3	112.8	114.7	114.8	114.3	115.3

V_∞	=	201	fps
T_a	=	65	°F
RH_a	=	15	%
P_a	=	14.42	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3404 CON

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	22.3	58.7	N	
TEMP	(R)	712.5	1276.0	(K)	395.8	708.9	THRUST,HEA	LB		0.0	N	
RHO	LB/FT3	0.063	0.040	KG/M3	1.010	0.638	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001 0.001
VEL	FPS	981.8	1889.0	M/S	299.3	575.8	W (MODEL)	LB/S	0.7	1.0	KG/S	0.3 0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL — (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.0	77.0	71.5	75.8	75.9	74.4	75.1	79.8	85.6	95.7
.125	60.8	74.9	78.8	77.3	75.6	74.8	76.9	80.2	85.5	96.1
.160	72.0	75.9	78.2	78.1	77.0	77.3	77.4	75.4	81.2	95.6
.200	74.8	76.5	78.8	81.4	80.2	81.4	82.5	79.5	83.9	98.6
.250	80.3	82.1	82.4	82.2	82.5	83.9	83.8	85.4	90.4	102.0
.315	86.1	85.6	83.9	83.1	83.3	84.4	84.5	85.7	92.8	103.7
.400	87.6	84.3	83.8	84.6	83.9	85.3	88.3	88.8	95.4	105.4
.500	85.0	83.4	83.3	83.5	84.7	87.9	90.0	92.1	96.9	106.6
.630	86.7	86.2	86.2	86.5	86.7	89.0	90.6	92.9	98.9	108.2
.800	90.0	87.1	87.8	88.2	88.6	90.4	92.9	95.9	101.3	110.5
1.00	88.6	87.9	89.1	89.8	89.8	91.7	94.3	96.9	101.4	111.3
1.25	89.6	89.0	89.3	90.1	90.8	93.5	96.3	98.2	101.5	112.3
1.60	90.5	89.9	91.0	91.8	92.3	94.9	97.4	99.0	101.5	113.2
2.00	92.1	91.0	92.4	93.6	94.1	96.9	99.3	100.3	101.8	114.7
2.50	92.7	91.7	92.5	93.8	95.0	97.5	100.0	100.5	101.0	115.0
3.15	93.3	92.9	93.9	95.2	95.8	98.9	101.2	100.4	100.3	115.8
4.00	94.5	93.7	94.9	96.3	97.5	100.7	102.1	101.3	100.9	117.0
5.00	95.5	95.1	95.8	97.8	98.8	102.3	103.2	101.8	101.2	118.1
6.30	95.7	95.4	96.7	98.3	99.4	102.9	103.5	101.8	101.4	118.5
8.00	96.9	95.6	97.3	98.8	100.9	104.1	103.9	102.7	102.4	119.3
10.0	97.1	96.3	97.4	99.4	101.1	104.1	104.1	103.2	103.0	119.6
12.5	97.4	96.5	97.8	99.8	101.4	104.1	104.1	103.3	103.8	119.8
16.0	99.4	98.1	98.5	100.2	101.8	104.2	104.1	103.7	104.7	120.2
20.0	104.5	100.4	99.1	99.7	101.3	103.3	103.4	103.3	104.2	120.3
25.0	107.9	104.6	100.6	99.8	101.4	102.8	102.6	102.9	104.0	121.4
31.5	105.8	105.1	103.8	101.0	100.7	101.9	101.7	101.6	102.2	121.2
40.0	103.4	102.9	104.0	103.0	101.4	101.5	100.7	100.0	100.6	120.6
50.0	103.7	101.9	102.4	103.7	102.7	101.6	100.1	98.9	99.0	120.4
63.0	102.7	101.7	101.7	101.9	102.4	102.0	99.5	97.9	97.9	119.7
80.0	102.0	101.1	101.1	101.2	100.7	101.0	99.0	97.0	96.8	118.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	114.0	112.4	112.1	112.3	112.8	114.7	114.8	114.4	115.4	

OAPWL = 131.8

V_∞ =	201	fps
T_a =	65	°F
RH_a =	15	%
P_a =	14.42	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3406 3406

DBTF JET NOISE TEST COANN
=1.2 CONF. 4 TAPE 4225

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.5	71.4	75.3	77.4	76.7	76.1	78.0	81.2	85.4
125	74.0	76.8	79.5	79.0	77.2	78.5	80.0	83.2	87.7
160	75.3	78.6	80.3	81.5	80.3	81.0	80.4	85.6	91.1
200	77.5	79.4	80.5	84.5	83.3	84.8	86.6	87.2	91.3
250	80.4	83.4	84.2	84.7	85.6	87.6	88.1	93.0	93.4
315	85.7	87.4	86.2	86.6	87.5	88.4	89.5	93.3	100.4
400	89.1	87.6	87.1	88.5	87.7	89.5	93.3	96.3	103.3
500	87.1	87.6	86.7	87.4	89.0	92.5	95.7	99.9	102.2
630	86.9	88.3	88.2	89.9	91.1	93.7	95.8	101.2	106.9
800	91.1	90.0	90.3	91.6	92.8	94.6	98.7	104.2	107.5
1000	89.4	89.9	91.2	93.2	93.9	96.0	99.6	104.8	107.9
1250	89.8	90.7	91.5	93.4	94.9	97.7	101.5	105.4	106.8
1600	90.3	91.6	92.6	94.9	96.2	98.9	102.7	105.7	105.8
2000	92.2	92.8	94.0	96.2	97.7	100.7	104.1	106.3	104.9
2500	92.8	93.1	94.1	96.9	98.5	101.5	104.8	105.9	103.8
3150	93.4	94.4	95.5	98.2	99.4	103.0	105.8	105.6	103.8
4000	94.4	95.2	96.4	99.2	101.0	104.5	106.1	106.4	103.6
5000	95.4	96.4	97.2	100.5	102.2	105.7	106.9	106.6	104.1
6300	95.5	96.4	98.1	100.8	102.8	106.3	107.1	106.7	104.9
8000	96.5	96.7	98.5	101.2	104.0	107.4	107.3	107.6	105.5
10000	96.6	97.5	98.6	101.8	104.2	107.2	107.7	108.3	106.9
12500	96.8	97.6	99.0	102.2	104.4	107.4	107.8	108.9	108.7
16000	98.6	98.8	99.6	102.5	104.9	107.6	108.1	109.6	109.3
20000	103.5	100.8	100.3	102.2	104.6	106.8	107.7	109.4	107.9
25000	107.5	105.7	101.8	102.4	105.0	106.2	107.0	109.3	106.9
31500	105.8	106.8	105.5	103.2	104.3	105.6	106.1	107.8	105.0
40000	103.6	104.8	106.1	105.7	104.7	105.3	105.2	106.6	104.3
50000	104.2	103.6	104.4	106.8	106.2	105.4	104.8	105.7	102.9
63000	103.5	104.1	104.0	105.4	106.6	105.7	104.1	105.1	101.9
80000	102.9	103.2	103.7	104.7	105.2	105.0	103.9	104.2	101.2
TSPL	114.0	113.9	113.8	115.1	116.4	118.2	119.0	120.3	119.7
SSPL	114.0	113.9	113.8	115.1	116.3	118.2	119.0	120.3	119.5

V_∞	=	101	fps
T_a	=	71	°F
RH_a	=	22	%
P_a	=	14.66	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	114.4	114.2	113.9	115.0	116.0	117.7	118.3	119.5	118.9
SSPL	114.4	114.1	113.9	115.0	116.0	117.7	118.3	119.5	118.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	114.6	114.3	113.9	114.9	115.8	117.3	117.8	119.0	118.3
SSPL	114.6	114.2	113.8	114.8	115.7	117.3	117.8	118.9	118.1

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3406 3406

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	73.1	71.8	75.5	77.1	76.1	75.2	76.5	78.9	82.3
125	74.6	77.2	79.6	78.6	76.6	77.5	78.6	80.9	84.5
160	75.9	79.0	80.4	81.2	79.7	80.1	79.1	82.8	87.6
200	78.1	79.8	80.6	84.3	82.7	83.8	85.2	85.4	88.0
250	81.1	83.8	84.2	84.4	85.1	86.7	86.6	90.7	92.3
315	86.4	87.7	86.2	86.3	86.9	87.5	88.0	90.6	96.0
400	89.8	87.9	87.1	88.2	87.1	88.5	91.7	93.8	98.9
500	87.8	87.9	86.7	87.2	88.5	91.5	94.1	97.6	100.2
630	87.6	88.7	88.3	89.7	90.6	92.7	94.2	98.4	103.4
800	91.8	90.3	90.4	91.4	92.3	93.6	96.9	101.6	105.1
1000	90.1	90.3	91.3	93.0	93.4	95.0	97.9	102.3	105.6
1250	90.5	91.1	91.6	93.2	94.4	96.7	99.8	103.3	105.2
1600	91.0	92.0	92.7	94.7	95.7	97.9	101.1	103.9	104.7
2000	92.9	93.2	94.1	96.0	97.2	99.7	102.6	104.7	104.4
2500	93.5	93.5	94.3	96.8	98.0	100.5	103.4	104.6	103.6
3150	94.0	94.7	95.6	98.0	98.9	101.9	104.4	104.5	103.2
4000	95.0	95.6	96.5	99.0	100.5	103.5	104.8	105.2	103.5
5000	96.0	96.8	97.3	100.3	101.7	104.7	105.6	105.5	103.8
6300	96.2	96.8	98.2	100.6	102.3	105.3	105.9	105.6	104.3
8000	97.2	97.1	98.7	101.1	103.6	106.5	106.2	106.4	105.2
10000	97.3	97.9	98.7	101.7	103.7	106.2	106.5	107.0	106.2
12500	97.4	98.0	99.1	102.0	103.9	106.4	106.5	107.3	107.5
16000	99.3	99.2	99.7	102.3	104.4	106.6	106.8	108.0	108.2
20000	104.1	101.0	100.3	102.0	104.1	105.8	106.4	107.9	107.4
25000	108.1	105.8	101.7	102.2	104.5	105.2	105.6	107.7	106.8
31500	106.4	107.1	105.4	102.9	103.7	104.7	104.8	106.4	105.1
40000	104.3	105.2	106.2	105.4	104.1	104.4	104.0	105.2	104.2
50000	104.9	104.0	104.5	106.6	105.6	104.6	103.7	104.4	102.9
63000	104.1	104.4	104.0	105.1	106.0	104.8	103.0	103.8	102.1
80000	103.6	103.6	103.8	104.5	104.6	104.1	102.8	103.0	101.3
TSPL	114.6	114.2	113.9	114.9	115.8	117.3	117.7	118.8	118.6
SSPL	114.6	114.2	113.9	114.9	115.8	117.2	117.7	118.8	118.5

V_∞	=	101	fps
T_a	=	71	°F
RH_a	=	22	%
P_a	=	14.66	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3406 CONDITION 3406

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	22.8	58.9	N	101.5	261.9
TEMP	(R)	710.0	1260.0	(K)	394.4	700.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.040	KG/M3	1.014	0.646	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	979.8	1877.0	M/S	298.6	572.1	W (MODEL)	LB/S	0.8	1.0	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.1	71.8	75.5	77.1	76.1	75.2	76.5	78.9	82.3	94.8
.125	74.6	73.2	79.6	78.6	76.6	77.5	78.6	80.9	84.5	97.1
.160	75.9	79.0	80.4	81.2	79.7	80.1	79.1	82.8	87.6	99.2
.200	78.1	79.8	80.6	84.3	82.7	83.8	85.2	85.4	88.0	101.7
.250	81.1	83.8	84.2	84.4	85.1	86.7	86.6	90.7	92.3	104.8
.315	86.4	87.7	86.2	86.3	86.9	87.5	88.0	90.6	96.0	106.8
.400	89.8	87.9	87.1	88.2	87.1	88.5	91.7	93.8	98.9	109.0
.500	87.8	87.9	86.7	87.2	88.5	91.5	94.1	97.6	100.2	110.8
.630	87.6	88.7	88.3	89.7	90.6	92.7	94.2	98.4	103.4	112.4
.800	91.8	90.3	90.4	91.4	92.3	93.6	96.9	101.6	105.1	114.6
1.00	90.1	90.3	91.3	93.0	93.4	95.0	97.9	102.3	105.6	115.3
1.25	90.5	91.1	91.6	93.2	94.4	96.7	99.8	103.3	105.2	116.1
1.60	91.0	92.0	92.7	94.7	95.7	97.9	101.1	103.9	104.7	116.8
2.00	92.9	93.2	94.1	96.0	97.2	99.7	102.6	104.7	104.4	117.9
2.50	93.5	93.5	94.3	96.8	98.0	100.5	103.4	104.6	103.6	118.2
3.15	94.0	94.7	95.6	98.0	98.9	101.9	104.4	104.5	103.2	118.9
4.00	95.0	95.6	96.5	99.0	100.5	103.5	104.8	105.2	103.5	119.8
5.00	96.0	96.8	97.3	100.3	101.7	104.7	105.6	105.5	103.8	120.6
6.30	96.2	96.8	98.2	100.6	102.3	105.3	105.9	105.6	104.3	121.0
8.00	97.2	97.1	98.7	101.1	103.6	106.5	106.2	106.4	105.2	121.8
10.0	97.3	97.9	98.7	101.7	103.7	106.2	106.5	107.0	106.2	122.1
12.5	97.4	98.0	99.1	102.0	103.9	106.4	106.5	107.3	107.5	122.4
16.0	99.3	99.2	99.7	102.3	104.4	106.6	106.8	108.0	108.2	122.9
20.0	104.1	101.0	100.3	102.0	104.1	105.8	106.4	107.9	107.4	122.8
25.0	108.1	105.8	101.7	102.2	104.5	105.2	105.6	107.7	106.8	123.6
31.5	106.4	107.1	105.4	102.9	103.7	104.7	104.8	106.4	105.1	123.6
40.0	104.3	105.2	106.2	105.4	104.1	104.4	104.0	105.2	104.2	123.3
50.0	104.9	104.0	104.5	106.6	105.6	104.6	103.7	104.4	102.9	123.2
63.0	104.1	104.4	104.0	105.1	106.0	104.8	103.0	103.8	102.1	122.8
80.0	103.6	103.6	103.8	104.5	104.6	104.1	102.8	103.0	101.3	122.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	114.6	114.2	113.9	114.9	115.8	117.3	117.7	118.8	118.6	OAPWL = 134.5

V_∞ =	101	fps
T_a =	71	°F
RH_a =	22	%
P_a =	14.66	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3409 3409

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.3	68.1	70.4	72.5	71.9	71.2	72.5	75.7	79.7
125	69.2	72.1	74.8	74.4	73.0	74.0	75.3	78.1	82.9
160	70.3	74.0	75.7	76.6	75.9	76.2	75.9	80.7	85.9
200	72.8	75.0	75.8	79.1	78.4	80.1	81.6	82.2	86.5
250	75.6	78.8	79.6	79.4	80.6	82.4	82.9	88.0	88.2
315	80.2	81.8	81.1	81.4	82.5	83.3	84.5	88.2	94.9
400	83.6	82.2	81.9	83.5	83.2	84.4	87.9	91.0	97.4
500	81.7	82.4	82.1	82.7	84.3	87.1	90.6	94.2	96.4
630	81.9	83.2	83.3	84.9	86.3	88.6	90.6	95.3	100.6
800	86.1	85.1	85.5	86.9	88.0	90.0	93.3	98.0	101.1
1000	85.4	85.4	86.3	88.4	89.2	91.1	94.2	98.5	101.4
1250	85.3	86.6	86.8	88.8	90.3	92.6	95.8	99.4	100.6
1600	85.8	87.1	88.1	90.4	91.8	93.8	96.9	99.8	100.2
2000	87.6	88.4	89.4	91.6	93.1	95.5	98.1	100.3	99.2
2500	88.3	88.8	89.7	92.4	93.9	96.0	98.8	100.2	98.2
3150	88.8	89.9	91.0	93.6	94.7	97.2	99.6	99.6	98.0
4000	89.8	90.6	91.7	94.6	96.2	98.9	100.2	100.1	97.5
5000	90.2	91.6	92.5	95.6	97.2	99.6	100.8	99.8	97.6
6300	90.2	91.4	93.0	95.6	97.3	99.9	100.4	99.9	97.8
8000	90.9	91.5	93.3	95.9	98.3	100.9	100.3	100.2	97.5
10000	90.8	91.8	93.0	96.2	98.3	100.7	100.2	100.2	97.4
12500	90.0	91.2	92.8	96.0	98.1	100.4	99.7	99.5	97.1
16000	89.6	91.0	92.5	95.8	97.9	100.0	99.2	98.8	96.7
20000	88.5	89.7	91.4	94.6	96.9	98.7	97.8	97.2	95.0
25000	87.9	89.3	91.0	94.1	96.8	97.8	96.9	96.4	94.8
31500	86.9	88.4	90.1	92.8	95.3	96.5	95.2	94.4	92.4
40000	86.6	87.9	89.6	92.1	94.0	95.4	93.9	92.7	90.6
50000	86.0	87.6	89.7	93.1	94.1	94.4	92.8	91.0	88.3
63000	85.2	86.4	88.4	90.7	92.4	93.2	91.1	89.6	86.8
80000	84.4	85.5	87.3	89.8	91.0	91.6	89.7	88.3	85.6
TSPL	101.7	102.8	104.1	106.9	108.7	110.8	111.3	111.9	111.6
SSPL	101.6	102.6	104.0	106.8	108.7	110.8	111.2	111.8	111.3

V_∞	=	102	fps
T_a	=	75	°F
RH_a	=	11	%
P_a	=	14.66	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	102.1	103.0	104.1	106.8	108.4	110.3	110.6	111.1	110.9
SSPL	102.0	102.9	104.1	106.7	108.4	110.3	110.5	111.0	110.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	102.4	103.1	104.1	106.6	108.2	109.9	110.1	110.5	110.2
SSPL	102.3	103.0	104.0	106.6	108.1	109.9	110.0	110.4	109.9

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3409 3409

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	68.0	68.5	70.5	72.3	71.3	70.3	71.1	73.4	76.7
125	69.8	72.6	74.9	74.1	72.4	73.1	73.9	75.9	79.5
160	70.9	74.4	75.8	76.3	75.2	75.3	74.5	78.0	82.5
200	73.5	75.5	75.9	78.8	77.8	79.1	80.3	80.4	83.1
250	76.2	79.2	79.6	79.1	80.1	81.5	81.4	85.6	87.2
315	80.9	82.2	81.1	81.1	81.9	82.3	83.0	85.6	90.7
400	84.3	82.5	82.0	83.2	82.6	83.4	86.3	88.6	93.3
500	82.4	82.7	82.1	82.5	83.8	86.1	89.0	92.0	94.3
630	82.6	83.6	83.4	84.7	85.8	87.6	89.0	92.6	97.2
800	86.8	85.4	85.6	86.7	87.5	89.0	91.6	95.5	98.7
1000	86.1	85.8	86.4	88.2	88.7	90.1	92.6	96.1	99.1
1250	86.0	87.0	86.9	88.6	89.8	91.6	94.2	97.3	99.0
1600	86.5	87.5	88.2	90.2	91.3	92.8	95.4	97.9	98.9
2000	88.3	88.8	89.5	91.4	92.6	94.5	96.6	98.7	98.6
2500	89.0	89.2	89.8	92.3	93.4	95.0	97.4	98.8	97.9
3150	89.4	90.2	91.1	93.4	94.1	96.2	98.2	98.4	97.3
4000	90.4	91.0	91.8	94.4	95.7	97.9	98.9	99.0	97.3
5000	90.8	92.0	92.6	95.4	96.7	98.6	99.6	98.8	97.1
6300	90.9	91.8	93.1	95.4	96.8	98.9	99.2	98.9	97.3
8000	91.6	91.9	93.5	95.8	97.9	100.0	99.2	99.1	97.4
10000	91.5	92.2	93.1	96.0	97.8	99.8	99.1	99.1	97.3
12500	90.6	91.6	92.9	95.8	97.6	99.4	98.6	98.4	96.8
16000	90.3	91.4	92.6	95.6	97.4	99.1	98.1	97.7	96.2
20000	89.1	90.1	91.5	94.4	96.4	97.8	96.7	96.1	94.6
25000	88.5	89.7	91.1	93.9	96.2	96.9	95.8	95.2	94.1
31500	87.5	88.8	90.2	92.6	94.8	95.6	94.2	93.3	91.8
40000	87.3	88.3	89.7	92.0	93.5	94.5	93.0	91.8	90.1
50000	86.7	88.0	89.9	92.9	93.5	93.6	91.9	90.2	88.0
63000	85.9	86.8	88.6	90.6	91.8	92.3	90.1	88.8	86.6
80000	85.1	85.9	87.5	89.6	90.4	90.7	88.8	87.4	85.3
TSPL	102.4	103.1	104.2	106.7	108.2	109.9	110.0	110.5	110.3
SSPL	102.3	103.0	104.1	106.6	108.2	109.8	110.0	110.4	110.1

V_∞	=	102	fps
T_a	=	75	°F
RH_a	=	11	%
P_a	=	14.66	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3409 CONDITION 3409

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	22.1	34.0	N	98.4	151.1
TEMP	(R)	699.8	1261.3	(K)	388.8	700.7	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.037	KG/M3	1.030	0.593	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	975.6	1541.0	M/S	297.4	469.7	W (MODEL)	LB/S	0.7	0.7	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.0	68.5	70.5	72.3	71.3	70.3	71.1	73.4	76.7	89.7
.125	69.8	72.6	74.9	74.1	72.4	73.1	73.9	75.9	79.5	92.5
.160	70.9	74.4	75.8	76.3	75.2	75.3	74.5	78.0	82.5	94.4
.200	73.5	75.5	75.9	78.8	77.8	79.1	80.3	80.4	83.1	96.8
.250	76.2	79.2	79.6	79.1	80.1	81.5	81.4	85.6	87.2	99.8
.315	80.9	82.2	81.1	81.1	81.9	82.3	83.0	85.6	90.7	101.6
.400	84.3	82.5	82.0	83.2	82.6	83.4	86.3	88.6	93.3	103.7
.500	82.4	82.7	82.1	82.5	83.8	86.1	89.0	92.0	94.3	105.4
.630	82.6	83.6	83.4	84.7	85.8	87.6	89.0	92.6	97.2	106.8
.800	86.8	85.4	85.6	86.7	87.5	89.0	91.6	95.5	98.7	108.9
1.00	86.1	85.8	86.4	88.2	88.7	90.1	92.6	96.1	99.1	109.6
1.25	86.0	87.0	86.9	88.6	89.8	91.6	94.2	97.3	99.0	110.6
1.60	86.5	87.5	88.2	90.2	91.3	92.8	95.4	97.9	98.9	111.4
2.00	88.3	88.8	89.5	91.4	92.6	94.5	96.6	98.7	98.6	112.4
2.50	89.0	89.2	89.8	92.3	93.4	95.0	97.4	98.8	97.9	112.8
3.15	89.4	90.2	91.1	93.4	94.1	96.2	98.2	98.4	97.3	113.3
4.00	90.4	91.0	91.8	94.4	95.7	97.9	98.9	99.0	97.3	114.3
5.00	90.8	92.0	92.6	95.4	96.7	98.6	99.6	98.8	97.1	114.8
6.30	90.9	91.8	93.1	95.4	96.8	98.9	99.2	98.9	97.3	114.9
8.00	91.6	91.9	93.5	95.8	97.9	100.0	99.2	99.1	97.4	115.4
10.0	91.5	92.2	93.1	96.0	97.8	99.8	99.1	99.1	97.3	115.3
12.5	90.6	91.6	92.9	95.8	97.6	99.4	98.6	98.4	96.8	114.9
16.0	90.3	91.4	92.6	95.6	97.4	99.1	98.1	97.7	96.2	114.6
20.0	89.1	90.1	91.5	94.4	96.4	97.8	96.7	96.1	94.6	113.3
25.0	88.5	89.7	91.1	93.9	96.2	96.9	95.8	95.2	94.1	112.6
31.5	87.5	88.8	90.2	92.6	94.8	95.6	94.2	93.3	91.8	111.2
40.0	87.3	88.3	89.7	92.0	93.5	94.5	93.0	91.8	90.1	110.2
50.0	86.7	88.0	89.9	92.9	93.5	93.6	91.9	90.2	88.0	109.8
63.0	85.9	86.8	88.6	90.6	91.8	92.3	90.1	88.8	86.6	108.2
80.0	85.1	85.9	87.5	89.6	90.4	90.7	88.8	87.4	85.3	106.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	102.4	103.1	104.2	106.7	108.2	109.9	110.0	110.5	110.3	OAPWL = 126.2

V_∞ =	102	fps
T_a =	75	°F
RH_a =	11	%
P_a =	14.66	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3410 3410

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.8	73.5	77.7	69.5	74.4	78.8	84.2	86.2	89.1
125	75.4	73.6	71.4	72.4	72.8	78.2	83.8	85.3	85.8
160	67.3	72.6	73.6	74.6	74.6	78.6	82.2	75.3	86.3
200	65.6	72.0	72.7	77.7	77.1	80.1	83.0	75.7	88.1
250	73.1	77.6	77.5	77.6	79.0	81.5	83.4	84.8	91.0
315	78.7	80.3	78.6	78.8	79.8	81.6	83.5	85.9	95.2
400	80.5	80.2	78.7	80.6	80.9	82.8	86.3	88.4	99.6
500	78.5	79.8	79.0	80.1	81.5	84.4	87.4	91.6	94.6
630	80.0	81.6	81.3	82.5	83.5	86.0	88.1	92.5	97.1
800	83.2	82.7	82.8	84.2	85.4	87.4	90.4	95.1	98.1
1000	82.8	83.4	84.0	86.0	86.5	88.6	91.6	95.5	97.1
1250	83.5	84.7	84.7	86.5	87.9	90.3	93.3	96.2	96.8
1600	84.1	85.2	86.1	88.0	89.3	91.4	94.3	96.7	96.0
2000	85.7	86.6	87.4	89.6	90.8	93.2	95.7	97.4	94.9
2500	86.3	87.0	87.7	90.3	91.7	93.9	96.3	97.1	93.7
3150	86.9	88.0	89.0	91.6	92.6	95.0	97.1	96.4	93.3
4000	88.0	88.8	90.0	92.5	94.2	96.8	97.7	97.0	92.8
5000	89.1	90.2	90.8	93.8	95.3	97.9	98.7	97.0	92.9
6300	89.0	90.1	91.6	94.2	95.7	98.2	98.4	96.7	93.1
8000	89.7	90.3	91.8	94.4	96.7	99.2	98.3	97.3	92.8
10000	89.7	90.7	91.7	94.6	96.8	98.8	98.1	97.3	92.7
12500	89.2	90.2	91.8	94.7	96.7	98.8	97.7	96.6	92.4
16000	89.0	90.4	91.7	94.5	96.6	98.6	97.3	95.9	91.5
20000	88.0	89.1	90.7	93.5	95.8	97.3	96.0	94.4	89.9
25000	87.3	88.8	90.2	93.1	95.6	96.4	95.1	93.6	89.2
31500	86.7	87.9	89.5	92.0	94.3	95.2	93.7	91.7	87.3
40000	86.3	87.2	88.8	91.2	92.9	94.0	92.1	89.9	85.8
50000	85.9	87.1	89.3	92.2	92.7	92.8	90.8	88.4	84.1
63000	84.9	85.8	87.4	89.5	90.8	91.5	89.2	87.1	82.8
80000	84.0	85.0	86.7	89.0	89.6	90.3	88.3	86.0	82.1
TSPL	100.6	101.6	102.8	105.4	107.2	109.1	109.1	109.0	108.3
SSPL	100.4	101.5	102.7	105.3	107.1	109.0	109.0	108.9	107.2

V_∞	=	201	fps
T_a	=	66	°F
RH_a	=	15	%
P_a	=	14.42	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	101.5	102.1	103.0	105.2	106.6	108.1	107.8	107.5	107.6
SSPL	101.4	102.0	102.9	105.1	106.6	108.1	107.7	107.4	106.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	101.9	102.3	102.9	104.8	106.0	107.3	106.8	106.4	106.1
SSPL	101.8	102.2	102.8	104.8	105.9	107.2	106.7	106.3	105.0

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3410 3410

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.1	74.2	77.3	68.8	73.4	76.6	80.8	82.8	84.8
125	76.7	74.0	71.4	71.8	71.7	76.0	80.5	82.4	83.1
160	68.6	73.5	73.7	74.0	73.5	76.5	79.9	74.8	75.6
200	66.9	73.0	73.2	77.2	75.9	78.1	80.8	75.2	76.5
250	74.4	78.5	77.5	77.0	77.9	79.6	80.8	81.3	84.5
315	80.0	81.0	78.5	78.2	78.7	79.7	80.8	81.6	86.6
400	81.9	80.8	78.7	80.1	79.7	80.8	83.3	84.1	89.6
500	79.8	80.4	79.1	79.7	80.4	82.4	84.4	87.2	90.4
630	81.3	82.3	81.4	82.0	82.3	84.0	85.2	87.9	91.9
800	84.5	83.4	82.9	83.7	84.2	85.4	87.3	90.5	94.0
1000	84.1	84.1	84.2	85.5	85.3	86.6	88.6	91.4	93.9
1250	84.8	85.4	84.8	86.0	86.8	88.3	90.3	92.6	94.2
1600	85.4	85.9	86.3	87.5	88.2	89.4	91.4	93.4	94.3
2000	87.1	87.3	87.6	89.2	89.7	91.3	92.9	94.6	94.3
2500	87.6	87.7	88.0	89.9	90.6	92.0	93.6	94.7	93.7
3150	88.3	88.8	89.3	91.1	91.4	93.0	94.5	94.5	92.8
4000	89.3	89.5	90.3	92.1	93.1	94.9	95.4	95.2	93.1
5000	90.4	90.9	91.1	93.4	94.2	96.0	96.5	95.6	93.1
6300	90.3	90.9	91.9	93.8	94.6	96.3	96.3	95.2	92.9
8000	91.0	91.1	92.1	94.1	95.6	97.4	96.4	95.6	93.3
10000	91.0	91.4	92.0	94.2	95.7	97.0	96.1	95.5	93.3
12500	90.5	90.9	92.1	94.3	95.6	96.9	95.8	94.8	92.7
16000	90.3	91.2	92.0	94.1	95.5	96.8	95.5	94.3	91.9
20000	89.3	89.9	91.0	93.1	94.7	95.5	94.1	92.9	90.3
25000	88.6	89.6	90.5	92.7	94.4	94.6	93.2	92.0	89.6
31500	88.0	88.7	89.8	91.6	93.2	93.4	91.9	90.3	87.6
40000	87.6	88.0	89.1	90.8	91.8	92.3	90.4	88.6	85.9
50000	87.2	87.9	89.7	91.7	91.5	91.1	89.1	87.2	84.3
63000	86.2	86.6	87.7	89.1	89.7	89.8	87.6	85.8	83.1
80000	85.3	85.8	87.0	88.5	88.4	88.6	86.6	84.7	82.1
TSPL	101.9	102.3	103.1	105.0	106.0	107.2	106.9	106.7	106.0
SSPL	101.8	102.2	103.0	104.9	106.0	107.2	106.9	106.6	105.7

V_∞	=	201	fps
T_a	=	66	°F
RH_a	=	15	%
P_a	=	14.42	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3410 CONDITION 3410

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	23.8	33.4	N	105.7	148.4
TEMP	(R)	704.7	1257.3	(K)	391.5	698.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.037	KG/M3	1.023	0.595	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	980.9	1535.0	M/S	299.0	467.9	W (MODEL)	LB/S	0.8	0.7	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.1	74.2	77.3	68.8	73.4	76.6	80.8	82.8	84.8	96.7
.125	76.7	74.0	71.4	71.8	71.7	76.0	80.5	82.4	83.1	95.7
.160	68.6	73.5	73.7	74.0	73.5	76.5	79.9	74.8	75.6	93.6
.200	66.9	73.0	73.2	77.2	75.9	78.1	80.8	75.2	76.5	94.8
.250	74.4	78.5	77.5	77.0	77.9	79.6	80.8	81.3	84.5	97.5
.315	80.0	81.0	78.5	78.2	78.7	79.7	80.8	81.6	86.6	98.7
.400	81.9	80.8	78.7	80.1	79.7	80.8	83.3	84.1	89.6	100.4
.500	79.8	80.4	79.1	79.7	80.4	82.4	84.4	87.2	90.4	101.4
.630	81.3	82.3	81.4	82.0	82.3	84.0	85.2	87.9	91.9	102.8
.800	84.5	83.4	82.9	83.7	84.2	85.4	87.3	90.5	94.0	104.8
1.00	84.1	84.1	84.2	85.5	85.3	86.6	88.6	91.4	93.9	105.7
1.25	84.8	85.4	84.8	86.0	86.8	88.3	90.3	92.6	94.2	106.8
1.60	85.4	85.9	86.3	87.5	88.2	89.4	91.4	93.4	94.3	107.7
2.00	87.1	87.3	87.6	89.2	89.7	91.3	92.9	94.6	94.3	109.1
2.50	87.6	87.7	88.0	89.9	90.6	92.0	93.6	94.7	93.7	109.5
3.15	88.3	88.8	89.3	91.1	91.4	93.0	94.5	94.5	92.8	110.2
4.00	89.3	89.5	90.3	92.1	93.1	94.9	95.4	95.2	93.1	111.3
5.00	90.4	90.9	91.1	93.4	94.2	96.0	96.5	95.6	93.1	112.3
6.30	90.3	90.9	91.9	93.8	94.6	96.3	96.3	95.2	92.9	112.4
8.00	91.0	91.1	92.1	94.1	95.6	97.4	96.4	95.6	93.3	113.0
10.0	91.0	91.4	92.0	94.2	95.7	97.0	96.1	95.5	93.3	112.9
12.5	90.5	90.9	92.1	94.3	95.6	96.9	95.8	94.8	92.7	112.7
16.0	90.3	91.2	92.0	94.1	95.5	96.8	95.5	94.3	91.9	112.5
20.0	89.3	89.9	91.0	93.1	94.7	95.5	94.1	92.9	90.3	111.4
25.0	88.6	89.6	90.5	92.7	94.4	94.6	93.2	92.0	89.6	110.7
31.5	88.0	88.7	89.8	91.6	93.2	93.4	91.9	90.3	87.6	109.6
40.0	87.6	88.0	89.1	90.8	91.8	92.3	90.4	88.6	85.9	108.5
50.0	87.2	87.9	89.7	91.7	91.5	91.1	89.1	87.2	84.3	108.2
63.0	86.2	86.6	87.7	89.1	89.7	89.8	87.6	85.8	83.1	106.4
80.0	85.3	85.8	87.0	88.5	88.4	88.6	86.6	84.7	82.1	105.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.9	102.3	103.1	105.0	106.0	107.2	106.9	106.7	106.0	OAPWL = 123.7

V_∞ =	201	fps
T_a =	66	°F
RH_a =	15	%
P_a =	14.42	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF 0 3411 3411

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.8	75.9	76.4	78.4	68.0	79.2	84.3	73.5	89.1
125	75.1	73.3	75.6	75.3	69.1	78.4	83.3	75.1	84.8
160	61.2	72.3	64.0	65.0	68.7	77.6	82.2	72.9	85.3
200	65.6	72.9	73.0	70.5	71.2	76.9	81.4	74.2	87.7
250	66.3	73.9	69.0	69.5	72.8	77.4	80.6	78.2	90.4
315	73.0	75.2	70.5	72.1	73.3	77.5	80.1	78.6	93.3
400	74.1	75.3	71.9	74.4	75.0	77.4	80.7	81.2	90.4
500	72.6	74.2	71.9	73.5	75.2	77.9	80.8	83.9	88.7
630	73.7	75.5	74.9	76.3	77.2	79.2	81.0	84.5	89.3
800	77.0	76.3	76.1	77.7	78.8	80.4	82.6	86.7	89.6
1000	76.7	77.0	77.3	79.2	79.5	81.4	83.5	87.0	88.8
1250	77.2	78.0	78.1	79.8	80.8	82.8	84.6	87.2	88.3
1600	77.6	78.5	79.3	81.2	82.0	83.5	85.2	87.4	87.8
2000	78.8	79.3	80.3	82.2	83.4	85.0	86.1	88.0	86.8
2500	79.5	79.9	80.4	82.8	83.8	85.3	86.4	87.5	85.4
3150	79.5	80.4	81.4	83.4	84.1	85.6	86.4	86.5	84.2
4000	80.3	80.8	81.6	83.9	85.1	86.5	86.4	86.5	82.9
5000	80.8	81.6	81.9	84.6	85.5	86.8	86.6	85.4	81.8
6300	80.9	81.7	82.7	84.6	85.3	86.6	85.8	84.1	80.7
8000	82.4	82.2	83.2	84.8	86.0	87.1	85.3	83.9	79.6
10000	82.3	82.6	82.6	84.5	85.6	86.4	84.5	82.9	78.4
12500	81.6	81.8	82.3	84.1	84.9	85.9	83.7	81.6	77.3
16000	82.0	82.4	82.6	84.3	85.4	85.7	82.9	80.8	76.3
20000	82.3	82.2	82.7	84.5	85.2	85.0	81.7	79.0	74.2
25000	82.3	82.7	83.0	84.5	85.2	84.6	81.0	78.4	73.4
31500	82.1	82.2	82.9	83.4	84.1	83.6	80.0	76.8	72.0
40000	82.1	82.3	82.6	83.1	83.1	82.9	79.1	75.7	70.8
50000	82.0	81.9	82.3	83.6	83.3	82.1	78.8	75.2	70.3
63000	80.6	80.6	81.1	81.7	81.1	80.1	77.0	73.9	68.6
80000	78.0	78.5	79.9	81.0	80.0	79.2	76.6	73.1	73.4
TSPL	94.2	94.6	95.0	96.6	97.3	98.3	98.2	98.2	102.7
SSPL	94.0	94.3	94.8	96.5	97.2	98.0	97.4	98.0	98.1

V_∞	=	201	fps
T_a	=	64	°F
RH_a	=	18	%
P_a	=	14.42	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	95.1	95.1	95.2	96.4	96.7	97.3	96.9	96.7	102.0
SSPL	94.9	94.9	95.0	96.3	96.6	97.0	96.1	96.5	97.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.5	95.3	95.1	96.1	96.1	96.5	95.9	95.7	100.5
SSPL	95.3	95.0	94.9	95.9	96.0	96.2	95.1	95.4	95.9

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO STND C	OBS CORR
W631	315	05/11/76		-00 000000 XARF 0	3411 3411

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.1	76.5	76.6	77.3	66.8	76.7	82.1	74.3	75.0
125	76.4	74.0	75.7	74.3	68.0	76.0	80.9	75.3	75.0
160	62.6	73.0	63.5	64.7	67.8	75.2	80.0	73.3	73.5
200	66.9	73.9	72.8	69.8	70.2	74.7	78.9	73.6	75.3
250	67.6	74.6	68.7	69.1	71.8	75.3	78.1	75.7	79.4
315	74.3	75.6	70.3	71.7	72.2	75.4	77.6	75.5	80.6
400	75.4	75.8	71.9	73.9	73.9	75.4	77.9	77.1	84.2
500	73.9	74.8	71.9	73.1	74.1	75.9	77.9	79.8	83.2
630	75.0	76.2	74.9	75.8	76.0	77.3	78.2	80.2	83.8
800	78.3	76.9	76.2	77.2	77.6	78.5	79.7	82.3	85.5
1000	78.0	77.7	77.4	78.7	78.4	79.5	80.6	82.9	85.4
1250	78.5	78.7	78.2	79.3	79.7	80.8	81.8	83.6	85.3
1600	78.9	79.2	79.5	80.7	80.8	81.6	82.5	84.0	85.3
2000	80.1	80.0	80.5	81.7	82.2	83.1	83.5	84.9	85.3
2500	80.8	80.6	80.6	82.3	82.7	83.4	83.9	84.8	84.5
3150	80.9	81.2	81.6	82.9	83.0	83.8	84.1	84.2	83.3
4000	81.6	81.5	81.9	83.5	83.9	84.6	84.2	84.2	82.9
5000	82.1	82.3	82.2	84.1	84.3	84.9	84.5	83.7	81.6
6300	82.2	82.5	82.9	84.1	84.1	84.8	83.9	82.5	80.4
8000	83.7	82.9	83.4	84.3	84.9	85.4	83.5	82.3	79.9
10000	83.7	83.3	82.7	84.0	84.4	84.7	82.7	81.3	78.8
12500	82.9	82.5	82.5	83.6	83.7	84.1	82.1	80.3	77.6
16000	83.3	83.0	82.7	83.8	84.2	84.0	81.4	79.4	76.7
20000	83.6	82.9	82.8	84.0	84.0	83.4	80.3	77.8	74.7
25000	83.6	83.4	83.1	83.9	84.0	83.0	79.6	77.2	74.1
31500	83.5	82.9	83.0	82.8	82.9	82.0	78.7	75.8	72.5
40000	83.4	82.9	82.7	82.5	81.9	81.3	77.9	74.9	71.4
50000	83.3	82.5	82.5	83.0	82.1	80.5	77.5	74.5	70.8
63000	81.9	81.3	81.2	81.1	79.8	78.5	75.6	72.9	69.4
80000	79.3	79.3	80.0	80.4	78.7	77.5	75.1	71.8	70.4
TSPL	95.5	95.3	95.2	96.1	96.1	96.5	96.0	95.5	96.1
SSPL	95.3	95.0	95.0	95.9	96.0	96.2	95.3	95.2	95.5

V_∞	=	201	fps
T_a	=	64	°F
RH_a	=	18	%
P_a	=	14.42	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3411 CONDITION 3411

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	23.3	13.4	N	103.7	59.6
TEMP	(R)	694.8	1207.7	(K)	386.0	670.9	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.035	KG/M3	1.038	0.569	AREA (MOD)	SQFT	10.01	0.01	SQM	0.001	0.001
VEL	FPS	975.1	1028.0	M/S	297.2	313.3	W (MODEL)	LB/S	0.8	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.1	76.5	76.6	77.3	66.8	76.7	82.1	74.3	75.0	95.6
.125	76.4	74.0	75.7	74.3	68.0	76.0	80.9	75.3	75.0	94.3
.160	62.6	73.0	63.5	64.7	67.8	75.2	80.0	73.3	73.5	91.8
.200	66.9	73.9	72.8	69.8	70.2	74.7	78.9	73.6	75.3	92.3
.250	67.6	74.6	68.7	69.1	71.8	75.3	78.1	75.7	79.4	92.6
.315	74.3	75.6	70.3	71.7	72.2	75.4	77.6	75.5	80.6	93.3
.400	75.4	75.8	71.9	73.9	73.9	75.4	77.9	77.1	84.2	94.6
.500	73.9	74.8	71.9	73.1	74.1	75.9	77.9	79.8	83.2	94.7
.630	75.0	76.2	74.9	75.8	76.0	77.3	78.2	80.2	83.8	95.8
.800	78.3	76.9	76.2	77.2	77.6	78.5	79.7	82.3	85.5	97.4
1.00	78.0	77.7	77.4	78.7	78.4	79.5	80.6	82.9	85.4	98.1
1.25	78.5	78.7	78.2	79.3	79.7	80.8	81.8	83.6	85.3	98.9
1.60	78.9	79.2	79.5	80.7	80.8	81.6	82.5	84.0	85.3	99.7
2.00	80.1	80.0	80.5	81.7	82.2	83.1	83.5	84.9	85.3	100.7
2.50	80.8	81.6	80.6	82.3	82.7	83.4	83.9	84.8	84.5	100.9
3.15	80.9	81.2	81.6	82.9	83.0	83.8	84.1	84.2	83.3	101.2
4.00	81.6	81.5	81.9	83.5	83.9	84.6	84.2	84.2	82.9	101.6
5.00	82.1	82.3	82.2	84.1	84.3	84.9	84.5	83.7	81.6	101.9
6.30	82.2	82.5	82.9	84.1	84.1	84.8	83.9	82.5	80.4	101.8
8.00	83.7	82.9	83.4	84.3	84.9	85.4	83.5	82.3	79.9	102.2
10.0	83.7	83.3	82.7	84.0	84.4	84.7	82.7	81.3	78.8	101.7
12.5	82.9	82.5	82.5	83.6	83.7	84.1	82.1	80.3	77.6	101.1
16.0	83.3	83.0	82.7	83.8	84.2	84.0	81.4	79.4	76.7	101.2
20.0	83.6	82.9	82.8	84.0	84.0	83.4	80.3	77.8	74.7	101.0
25.0	83.6	83.4	83.1	83.9	84.0	83.0	79.6	77.2	74.1	101.0
31.5	83.5	82.9	83.0	82.8	82.9	82.0	78.7	75.8	72.5	100.3
40.0	83.4	82.9	82.7	82.5	81.9	81.3	77.9	74.9	71.4	99.9
50.0	83.3	82.5	82.5	83.0	82.1	80.5	77.5	74.5	70.8	99.7
63.0	81.9	81.3	81.2	81.1	79.8	78.5	75.6	72.9	69.4	98.1
80.0	79.3	79.3	80.0	80.4	78.7	77.5	75.1	71.8	70.4	96.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.5	95.3	95.2	96.1	96.1	96.5	96.0	95.5	96.1	

V_∞ =	201	fps
T_a =	64	°F
RH_a =	18	%
P_a =	14.42	psia

OAPWL = 114.1

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3412 3412

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	60.8	60.0	65.0	66.4	66.8	67.6	67.6	66.1	73.0
125	63.6	66.4	69.3	68.7	68.2	69.5	70.2	71.4	76.8
160	64.6	68.1	70.3	71.4	70.7	70.9	70.4	74.5	80.0
200	67.5	69.2	70.1	73.7	72.8	73.7	75.6	76.2	80.2
250	69.9	72.8	74.1	73.4	74.6	76.7	76.7	81.7	82.2
315	74.3	75.5	74.9	75.5	76.8	77.6	78.4	81.9	88.5
400	77.1	76.5	76.2	77.8	77.7	78.7	81.3	84.2	91.6
500	75.9	76.5	76.1	77.1	78.6	80.7	83.4	87.2	89.1
630	75.9	77.2	77.9	79.1	80.5	82.1	83.4	87.8	93.3
800	79.7	79.0	79.2	80.8	81.8	83.4	85.9	90.1	93.2
1000	79.5	79.3	80.2	82.2	82.9	84.5	86.6	90.8	93.8
1250	79.3	80.2	80.7	82.6	84.0	85.9	88.1	91.0	93.1
1600	79.8	80.8	81.7	83.9	85.1	86.7	88.7	91.2	92.5
2000	81.2	81.8	82.7	84.9	86.1	88.0	89.5	91.5	91.5
2500	81.4	82.0	82.8	85.3	86.5	88.0	89.6	91.3	90.1
3150	81.6	82.7	83.6	86.0	86.9	88.5	89.6	90.5	89.0
4000	82.1	82.6	83.6	86.2	87.5	89.0	89.6	90.3	87.4
5000	82.7	83.5	84.0	86.9	87.8	89.2	89.8	89.1	86.2
6300	82.4	83.1	84.4	86.5	87.5	88.9	88.8	87.7	84.8
8000	83.3	83.3	84.5	86.5	87.9	89.2	88.1	87.1	83.2
10000	83.4	84.1	84.2	86.3	87.3	88.4	87.3	86.2	82.0
12500	82.6	82.9	83.8	85.8	86.7	88.0	86.4	84.7	80.9
16000	82.9	83.4	83.8	85.8	87.2	87.6	85.3	83.6	79.4
20000	83.1	83.1	83.7	85.9	86.9	86.5	83.8	81.7	77.2
25000	83.0	84.0	84.0	85.6	86.8	86.1	82.7	80.8	76.2
31500	83.3	83.3	84.0	84.8	85.8	84.9	81.6	79.0	74.2
40000	83.3	83.0	83.6	84.6	84.8	84.2	80.7	77.7	73.2
50000	83.3	82.4	83.2	84.7	85.0	83.3	79.9	76.8	71.8
63000	81.9	81.5	82.3	82.9	82.8	81.5	78.5	75.8	70.7
80000	80.5	80.4	80.9	82.0	81.9	80.6	77.6	74.4	69.1
TSPL	95.6	95.9	96.6	98.5	99.5	100.4	100.5	101.7	102.8
SSPL	95.4	95.8	96.4	98.4	99.4	100.3	100.4	101.6	102.2

V_∞	=	101	fps
T_a	=	65	°F
RH_a	=	22	%
P_a	=	14.66	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	96.0	96.1	96.6	98.3	99.1	99.8	99.8	100.9	102.1
SSPL	95.9	96.0	96.5	98.2	99.0	99.8	99.7	100.7	101.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	96.2	96.2	96.6	98.2	98.9	99.5	99.3	100.4	101.4
SSPL	96.1	96.1	96.5	98.1	98.8	99.4	99.2	100.2	100.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76	-00	000000	XARF 0 3412	3412

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	61.4	60.5	65.2	66.2	66.2	66.7	66.5	64.5	68.2
125	64.2	66.9	69.4	68.4	67.6	68.6	68.9	69.4	72.9
160	65.2	68.6	70.4	71.1	70.0	70.1	69.1	71.8	76.4
200	68.1	69.6	70.2	73.5	72.2	72.7	74.2	74.5	77.0
250	70.5	73.3	74.1	73.2	74.0	75.8	75.3	79.3	81.1
315	74.9	75.8	74.9	75.2	76.2	76.7	77.0	79.3	84.3
400	77.7	76.8	76.3	77.5	77.1	77.7	79.8	81.7	87.0
500	76.5	76.8	76.1	76.9	78.1	79.7	81.8	85.0	87.2
630	76.5	77.6	78.0	78.9	80.0	81.2	81.9	85.2	89.8
800	80.4	79.3	79.3	80.6	81.3	82.4	84.3	87.7	90.8
1000	80.2	79.7	80.3	82.0	82.4	83.5	85.1	88.4	91.4
1250	80.0	80.6	80.8	82.4	83.5	84.9	86.6	89.0	91.0
1600	80.5	81.2	81.8	83.7	84.6	85.8	87.3	89.3	90.8
2000	81.9	82.2	82.8	84.7	85.6	87.1	88.1	89.8	90.3
2500	82.1	82.4	82.9	85.1	86.0	87.1	88.3	89.8	89.5
3150	82.2	83.0	83.7	85.7	86.3	87.5	88.3	89.1	88.4
4000	82.7	82.9	83.7	86.0	86.9	88.0	88.3	89.1	87.4
5000	83.3	83.8	84.1	86.7	87.2	88.2	88.6	88.1	86.1
6300	83.1	83.5	84.5	86.3	87.0	88.0	87.7	86.8	84.7
8000	84.0	83.7	84.6	86.3	87.4	88.3	87.1	86.3	83.6
10000	84.1	84.5	84.3	86.1	86.7	87.5	86.3	85.4	82.5
12500	83.2	83.2	83.9	85.5	86.1	87.1	85.4	84.0	81.1
16000	83.6	83.8	83.9	85.6	86.6	86.8	84.4	82.9	79.8
20000	83.7	83.4	83.8	85.7	86.3	85.7	83.0	81.1	77.7
25000	83.6	84.3	84.0	85.3	86.2	85.3	81.9	80.1	76.8
31500	83.9	83.6	84.0	84.5	85.2	84.1	80.8	78.5	74.8
40000	84.0	83.4	83.7	84.4	84.2	83.4	80.0	77.3	73.6
50000	84.0	82.7	83.3	84.5	84.4	82.5	79.2	76.5	72.4
63000	82.5	81.8	82.3	82.6	82.2	80.7	77.7	75.3	71.4
80000	81.1	80.7	81.0	81.7	81.2	79.8	76.8	74.1	69.9
TSPL	96.2	96.2	96.7	98.2	98.9	99.5	99.3	100.1	100.9
SSPL	96.1	96.1	96.5	98.1	98.8	99.4	99.1	100.0	100.5

V_∞	=	101	fps
T_a	=	65	°F
RH_a	=	22	%
P_a	=	14.66	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3412 CONDITION 3412

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	23.3	13.4	N	103.5	59.7
TEMP	(R)	692.3	1206.3	(K)	384.6	670.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.036	KG/M3	1.042	0.569	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	973.4	1029.0	M/S	296.7	313.6	W (MODEL)	LB/S	0.8	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.4	60.5	65.2	66.2	66.2	66.7	66.5	64.5	68.2	83.7
.125	64.2	66.9	69.4	68.4	67.6	68.6	68.9	69.4	72.9	86.9
.160	65.2	68.6	70.4	71.1	70.0	70.1	69.1	71.8	76.4	88.8
.200	68.1	69.6	70.2	73.5	72.2	72.7	74.2	74.5	77.0	91.0
.250	70.5	73.3	74.1	73.2	74.0	75.8	75.3	79.3	81.1	93.8
.315	74.9	75.8	74.9	75.2	76.2	76.7	77.0	79.3	84.3	95.5
.400	77.7	76.8	76.3	77.5	77.1	77.7	79.8	81.7	87.0	97.5
.500	76.5	76.8	76.1	76.9	78.1	79.7	81.8	85.0	87.2	98.7
.630	76.5	77.6	78.0	78.9	80.0	81.2	81.9	85.2	89.8	100.0
.800	80.4	79.3	79.3	80.6	81.3	82.4	84.3	87.7	90.8	101.7
1.00	80.2	79.7	80.3	82.0	82.4	83.5	85.1	88.4	91.4	102.5
1.25	80.0	80.6	80.8	82.4	83.5	84.9	86.6	89.0	91.0	103.2
1.60	80.5	81.2	81.8	83.7	84.6	85.8	87.3	89.3	90.8	103.8
2.00	81.9	82.2	82.8	84.7	85.6	87.1	88.1	89.8	90.3	104.5
2.50	82.1	82.4	82.9	85.1	86.0	87.1	88.3	89.8	89.5	104.6
3.15	82.2	83.0	83.7	85.7	86.3	87.5	88.3	89.1	88.4	104.6
4.00	82.7	82.9	83.7	86.0	86.9	88.0	88.3	89.1	87.4	104.8
5.00	83.3	83.8	84.1	86.7	87.2	88.2	88.6	88.1	86.1	104.9
6.30	83.1	83.5	84.5	86.3	87.0	88.0	87.7	86.8	84.7	104.5
8.00	84.0	83.7	84.6	86.3	87.4	88.3	87.1	86.3	83.6	104.5
10.0	84.1	84.5	84.3	86.1	86.7	87.5	86.3	85.4	82.5	104.0
12.5	83.2	83.2	83.9	85.5	86.1	87.1	85.4	84.0	81.1	103.3
16.0	83.6	83.8	83.9	85.6	86.6	86.8	84.4	82.9	79.8	103.2
20.0	83.7	83.4	83.8	85.7	86.3	85.7	83.0	81.1	77.7	102.7
25.0	83.6	84.3	84.0	85.3	86.2	85.3	81.9	80.1	76.8	102.5
31.5	83.9	83.6	84.0	84.5	85.2	84.1	80.8	78.5	74.8	101.8
40.0	84.0	83.4	83.7	84.4	84.2	83.4	80.0	77.3	73.6	101.3
50.0	84.0	82.7	83.3	84.5	84.4	82.5	79.2	76.5	72.4	101.0
63.0	82.5	81.8	82.3	82.6	82.2	80.7	77.7	75.3	71.4	99.5
80.0	81.1	80.7	81.0	81.7	81.2	79.8	76.8	74.1	69.9	98.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.2	96.2	96.7	98.2	98.9	99.5	99.3	100.1	100.9	

DAPWL = 116.8

V_∞ =	101	fps
T_a =	65	°F
RH_a =	22	%
P_a =	14.66	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3414 3414

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.5	85.8	89.8	78.5	83.9	87.8	94.1	96.7	98.6
125	85.0	77.5	72.9	83.7	85.0	87.8	93.9	95.2	99.8
160	82.0	76.1	85.6	81.3	83.8	87.6	92.2	94.0	97.7
200	83.9	79.5	85.6	84.2	84.1	87.0	91.3	94.2	99.6
250	77.2	82.6	79.7	83.9	86.8	87.0	90.8	94.0	102.9
315	85.2	84.9	83.8	84.8	85.6	87.1	89.6	94.2	106.3
400	85.7	83.0	80.5	84.3	85.9	87.3	75.1	94.7	106.8
500	82.1	81.9	80.7	84.4	86.4	89.2	86.6	97.4	102.6
630	83.0	85.4	85.3	87.1	88.0	90.0	91.6	98.4	102.3
800	86.2	85.9	86.5	88.8	89.8	91.5	94.4	100.9	104.0
1000	85.9	87.4	88.6	90.6	91.2	92.8	96.1	101.3	102.7
1250	87.2	88.1	88.5	90.7	91.9	94.6	98.2	101.9	102.1
1600	88.6	89.0	90.0	93.1	93.5	95.8	99.4	102.7	101.3
2000	89.7	90.3	91.6	93.6	95.3	97.7	101.3	103.5	100.8
2500	90.9	91.1	91.9	94.1	96.0	98.5	102.5	103.6	99.8
3150	91.4	92.2	93.0	95.4	96.9	99.8	103.6	103.3	99.6
4000	92.5	93.0	93.9	96.2	98.6	101.9	104.6	104.1	99.4
5000	93.6	94.2	94.8	97.7	99.9	103.1	105.7	104.3	99.8
6300	94.2	94.7	95.9	98.4	100.6	103.8	105.8	104.3	100.4
8000	96.9	96.3	97.3	99.6	102.0	105.1	106.2	105.3	101.1
10000	103.2	101.5	100.7	101.5	103.3	105.5	106.3	106.0	101.6
12500	110.6	107.1	104.5	103.2	103.6	105.6	106.2	105.4	101.7
16000	111.1	111.2	107.8	104.6	104.1	105.7	106.3	105.4	101.9
20000	106.9	109.0	109.6	107.8	105.6	105.6	105.9	105.2	102.1
25000	107.1	106.5	107.7	109.2	108.2	106.3	105.8	105.9	102.8
31500	108.4	107.8	106.7	108.2	109.2	107.5	106.0	105.1	101.8
40000	107.5	107.7	107.6	108.1	109.2	108.6	106.1	104.4	101.1
50000	106.9	106.9	107.3	108.5	108.9	109.0	106.5	104.2	100.0
63000	106.3	106.6	107.2	107.7	108.3	108.4	106.0	103.9	99.7
80000	106.1	106.5	106.9	107.8	107.7	107.4	105.6	103.4	100.0
TSPL	118.1	117.8	117.3	117.6	117.8	118.1	118.1	117.7	116.6
SSPL	118.1	117.8	117.3	117.5	117.8	118.1	118.0	117.5	115.0

V_∞	=	340	fps
T_a	=	61	°F
RH_a	=	86	%
P_a	=	13.71	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	119.9	119.0	117.8	117.4	117.0	116.7	116.1	115.9	116.4
SSPL	119.9	119.0	117.8	117.4	117.0	116.7	116.0	115.7	114.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.4	119.1	117.6	116.8	116.0	115.3	114.3	113.9	114.2
SSPL	120.4	119.1	117.5	116.7	115.9	115.3	114.3	113.8	112.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF NO 3414 3414

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	89.9	87.3	88.1	77.1	82.1	84.5	88.8	91.6	93.4
125	87.4	77.6	74.4	83.9	83.2	84.5	88.7	90.7	92.2
160	84.4	77.9	85.7	80.1	82.0	84.3	87.4	89.1	90.9
200	86.3	81.0	85.9	83.0	82.2	83.9	86.5	88.5	91.4
250	79.6	83.8	80.2	83.6	85.0	84.1	86.1	87.8	91.6
315	87.6	85.9	83.8	83.9	83.7	84.1	85.1	86.9	92.3
400	88.1	83.7	80.9	83.9	84.0	85.1	73.5	77.1	93.6
500	84.4	82.9	81.2	84.0	84.6	86.4	83.1	86.4	95.0
630	85.4	86.7	85.6	86.3	86.1	87.1	87.2	90.3	95.6
800	88.6	87.1	87.0	88.1	87.9	88.5	89.7	93.2	98.0
1000	88.3	88.7	89.1	89.8	89.4	89.8	91.4	94.5	98.1
1250	89.6	89.3	88.9	90.1	90.0	91.5	93.6	96.1	98.5
1600	90.9	90.2	90.6	92.4	91.7	92.7	94.8	97.3	99.1
2000	92.1	91.7	92.0	93.0	93.4	94.6	96.7	98.8	99.7
2500	93.3	92.3	92.3	93.5	94.2	95.4	97.9	99.7	99.6
3150	93.7	93.5	93.5	94.8	95.1	96.7	99.2	100.2	99.2
4000	94.9	94.2	94.4	95.7	96.8	98.8	100.4	101.0	99.9
5000	96.0	95.5	95.4	97.2	98.1	100.0	101.6	101.7	100.0
6300	96.5	96.0	96.4	97.9	98.8	100.7	101.9	101.7	100.1
8000	99.3	97.5	97.8	99.1	100.2	102.1	102.6	102.4	101.2
10000	105.6	102.4	100.7	100.8	101.5	102.6	102.6	102.6	101.8
12500	112.9	107.7	104.0	102.0	101.7	102.7	102.6	102.2	101.3
16000	113.5	112.0	106.9	103.2	102.2	102.8	102.7	102.3	101.3
20000	109.3	110.4	109.3	106.3	103.6	102.8	102.3	101.9	101.2
25000	109.4	107.7	108.1	108.1	106.2	103.7	102.3	102.1	101.9
31500	110.8	108.8	106.8	107.4	107.2	105.0	102.9	101.8	101.0
40000	109.9	108.9	107.7	107.3	107.3	106.1	103.4	101.5	100.3
50000	109.3	108.1	107.6	107.6	107.0	106.4	103.8	101.8	100.0
63000	108.6	107.8	107.3	106.7	106.3	105.7	103.3	101.3	99.6
80000	108.5	107.7	107.1	106.8	105.8	104.8	102.7	100.9	99.3
TSPL	120.4	118.8	117.3	116.6	115.9	115.4	114.5	114.2	113.8
SSPL	120.4	118.8	117.2	116.6	115.9	115.4	114.5	114.1	113.5

V_∞	=	340	fps
T_a	=	61	°F
RH_a	=	86	%
P_a	=	13.71	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3414 CONDITION 3414

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	20.7	83.5	N	92.1	371.3
TEMP	(R)	725.7	1062.3	(K)	403.2	590.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.051	KG/M3	0.993	0.824	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	995.6	1906.0	M/S	303.5	580.9	W (MODEL)	LB/S	0.7	1.4	KG/S	0.3	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.9	87.3	88.1	77.1	82.1	84.5	88.8	91.6	93.4	106.1
.125	87.4	77.6	74.4	83.9	83.2	84.5	88.7	90.7	92.2	104.4
.160	84.4	77.9	85.7	80.1	82.0	84.3	87.4	89.1	90.9	103.5
.200	86.3	81.0	85.9	83.0	82.2	83.9	86.5	88.5	91.4	103.8
.250	79.6	83.8	80.2	83.6	85.0	84.1	86.1	87.8	91.6	103.4
.315	87.6	85.9	83.8	83.9	83.7	84.1	85.1	86.9	92.3	104.0
.400	88.1	83.7	80.9	83.9	84.0	85.1	73.5	77.1	93.6	103.1
.500	84.4	82.9	81.2	84.0	84.6	86.4	83.1	86.4	95.0	104.1
.630	85.4	86.7	85.6	86.3	86.1	87.1	87.2	90.3	95.6	106.2
.800	88.6	87.1	87.0	88.1	87.9	88.5	89.7	93.2	98.0	108.3
1.00	88.3	88.7	89.1	89.8	89.4	89.8	91.4	94.5	98.1	109.5
1.25	89.6	89.3	88.9	90.1	90.0	91.5	93.6	96.1	98.5	110.5
1.60	90.9	90.2	90.6	92.4	91.7	92.7	94.8	97.3	99.1	111.8
2.00	92.1	91.7	92.0	93.0	93.4	94.6	96.7	98.8	99.7	113.2
2.50	93.3	92.3	92.3	93.5	94.2	95.4	97.9	99.7	99.6	113.9
3.15	93.7	93.5	93.5	94.8	95.1	96.7	99.2	100.2	99.2	114.8
4.00	94.9	94.2	94.4	95.7	96.8	98.8	100.4	101.0	99.9	116.0
5.00	96.0	95.5	95.4	97.2	98.1	100.0	101.6	101.7	100.0	117.1
6.30	96.5	96.0	96.4	97.9	98.8	100.7	101.9	101.7	100.1	117.5
8.00	99.3	97.5	97.8	99.1	100.2	102.1	102.6	102.4	101.2	118.7
10.0	105.6	102.4	100.7	100.8	101.5	102.6	102.6	102.6	101.8	120.6
12.5	112.9	107.7	104.0	102.0	101.7	102.7	102.6	102.2	101.3	123.9
16.0	113.5	112.0	106.9	103.2	102.2	102.8	102.7	102.3	101.3	125.8
20.0	109.3	110.4	109.3	106.3	103.6	102.8	102.3	101.9	101.2	125.2
25.0	109.4	107.7	108.1	108.1	106.2	103.7	102.3	102.1	101.9	124.9
31.5	110.8	108.8	106.8	107.4	107.2	105.0	102.9	101.8	101.0	125.2
40.0	109.9	108.9	107.7	107.3	107.3	106.1	103.4	101.5	100.3	125.3
50.0	109.3	108.1	107.6	107.6	107.0	106.4	103.8	101.8	100.0	125.1
63.0	108.6	107.8	107.3	106.7	106.3	105.7	103.3	101.3	99.6	124.6
80.0	108.5	107.7	107.1	106.8	105.8	104.8	102.7	100.9	99.3	124.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 135.2
OSPL	120.4	118.8	117.3	116.6	115.9	115.4	114.5	114.2	113.8	

V_∞ =	340	fps
T_a =	61	°F
RH_a =	86	%
P_a =	13.71	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3415 3415

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.6	85.8	89.7	81.6	84.4	88.5	94.1	95.5	98.6
125	84.8	85.7	88.8	78.9	84.1	87.3	93.5	94.4	99.8
160	82.1	68.1	85.2	79.2	83.2	86.9	92.0	92.9	97.3
200	83.9	75.7	84.9	81.9	83.2	86.5	90.2	93.0	99.5
250	67.3	78.5	83.7	80.7	84.5	85.5	89.3	93.0	102.9
315	80.8	79.7	73.3	81.5	83.1	85.5	88.3	92.4	106.1
400	81.9	79.5	73.3	81.6	83.3	85.5	89.6	92.4	106.4
500	78.5	78.3	74.6	81.3	83.7	86.5	89.6	94.2	100.5
630	79.6	81.9	81.2	84.1	85.0	87.1	86.9	94.7	98.3
800	83.0	82.8	82.7	85.5	86.6	88.6	90.7	96.9	99.6
1000	82.7	84.1	85.0	87.4	88.1	89.6	92.4	97.1	98.0
1250	84.0	85.1	85.2	87.6	88.8	91.4	94.3	97.8	97.5
1600	85.4	85.9	86.9	89.1	90.3	92.5	95.7	98.3	96.9
2000	86.7	87.6	88.3	90.3	91.7	94.1	97.3	99.0	96.3
2500	87.7	88.0	88.8	91.0	92.5	94.9	98.5	99.1	95.2
3150	88.3	89.2	90.0	92.0	93.5	96.0	99.4	98.6	94.7
4000	89.3	89.8	90.8	93.0	95.3	98.1	100.4	99.2	94.3
5000	90.5	91.3	91.9	94.4	96.7	99.4	101.4	99.4	94.6
6300	90.8	91.5	92.7	95.3	97.2	100.2	101.5	99.3	95.0
8000	91.6	91.9	93.3	95.9	98.4	101.5	101.8	100.0	95.1
10000	91.9	92.7	93.5	96.4	98.8	101.4	101.8	100.1	95.4
12500	93.1	93.3	94.3	97.0	99.1	101.6	101.7	100.2	95.8
16000	98.2	96.4	96.1	97.9	99.8	101.8	101.9	100.3	96.6
20000	103.8	100.6	98.0	98.1	99.7	101.2	101.0	99.5	95.7
25000	105.4	104.5	100.7	99.4	100.0	100.6	100.4	99.4	95.5
31500	102.2	103.7	103.2	101.5	100.3	100.3	99.8	98.0	94.5
40000	101.1	101.0	102.1	102.9	101.6	100.7	99.2	97.0	93.9
50000	101.3	100.8	100.7	102.9	102.8	101.7	99.3	96.6	93.1
63000	100.2	100.6	100.9	101.7	102.4	102.5	99.6	96.8	93.3
80000	100.2	100.4	100.9	101.7	101.6	101.7	100.0	97.6	94.3
TSPL	111.5	111.1	110.6	111.2	111.8	112.9	113.2	112.5	113.7
SSPL	111.5	111.0	110.5	111.2	111.7	112.9	113.0	112.1	109.9

V_∞	=	340	fps
T_a	=	61	°F
RH_a	=	87	%
P_a	=	13.72	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	113.4	112.3	111.1	111.1	111.0	111.5	111.2	110.7	113.4
SSPL	113.3	112.2	111.0	111.1	110.9	111.4	111.0	110.3	109.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	113.9	112.4	110.8	110.4	109.9	110.1	109.5	108.7	111.2
SSPL	113.8	112.4	110.7	110.4	109.9	110.0	109.3	108.3	107.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 0	3415 3415

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.0	87.3	88.6	80.2	82.6	85.2	89.1	91.0	92.3
125	87.2	87.3	87.3	77.6	82.3	84.1	88.4	90.1	91.5
160	84.5	70.1	85.7	78.1	81.4	83.6	87.1	88.6	89.9
200	86.3	77.3	85.2	80.7	81.4	83.3	85.6	87.3	90.4
250	69.7	81.0	83.6	79.9	82.7	82.5	84.5	86.5	90.9
315	83.2	80.1	74.1	81.5	81.2	82.5	83.8	85.3	90.7
400	84.2	79.8	74.2	81.5	81.5	82.5	84.9	86.1	90.7
500	80.9	79.0	75.5	81.2	81.8	83.4	85.0	87.4	91.6
630	81.9	83.1	81.6	83.5	83.2	84.3	82.9	85.8	91.9
800	85.3	83.9	83.1	84.9	84.7	85.6	86.3	89.3	94.0
1000	85.0	85.5	85.5	86.7	86.2	86.6	87.8	90.6	93.8
1250	86.4	86.3	85.6	86.9	87.0	88.3	89.8	92.0	94.3
1600	87.8	87.2	87.4	88.4	88.5	89.5	91.2	93.2	94.6
2000	89.0	88.9	88.7	89.7	89.8	91.1	92.9	94.5	95.2
2500	90.1	89.3	89.2	90.4	90.7	91.8	94.0	95.4	95.1
3150	90.7	90.5	90.5	91.3	91.6	92.9	95.1	95.7	94.5
4000	91.7	91.1	91.3	92.4	93.5	95.1	96.5	96.5	94.9
5000	92.9	92.5	92.4	93.9	94.8	96.3	97.5	97.2	95.1
6300	93.2	92.8	93.3	94.7	95.4	97.2	97.9	97.1	95.1
8000	94.0	93.2	93.9	95.4	96.6	98.6	98.4	97.6	95.7
10000	94.3	94.0	94.0	95.9	97.0	98.5	98.4	97.6	95.8
12500	95.5	94.6	94.9	96.5	97.2	98.7	98.3	97.5	95.9
16000	100.6	97.4	96.4	97.3	97.9	98.9	98.5	97.6	96.1
20000	106.2	101.2	97.7	97.3	97.8	98.4	97.7	96.7	95.3
25000	107.7	105.2	100.1	98.3	98.1	97.8	97.0	96.3	95.2
31500	104.6	104.9	102.8	100.1	98.3	97.6	96.5	95.3	93.9
40000	103.5	102.3	102.4	101.8	99.7	98.2	96.2	94.5	92.9
50000	103.7	101.9	101.1	102.1	100.9	99.2	96.6	94.3	92.4
63000	102.6	101.8	101.0	100.8	100.4	99.9	97.1	94.6	92.7
80000	102.5	101.6	101.1	100.7	99.7	99.1	97.1	95.2	93.4
TSPL	113.9	112.1	110.6	110.3	109.9	110.1	109.7	109.2	108.7
SSPL	113.8	112.1	110.5	110.3	109.9	110.1	109.5	108.9	108.1

V_∞	=	340	fps
T_a	=	61	°F
RH_a	=	87	%
P_a	=	13.72	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3415 CONDITION 3415

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	21.6	57.5	N	96.0	255.9
TEMP	(R)	724.3	1074.0	(K)	402.4	596.7	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.048	KG/M3	0.995	0.763	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	993.2	1731.0	M/S	302.7	527.6	W (MODEL)	LB/S	0.7	1.1	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.0	87.3	88.6	80.2	82.6	85.2	89.1	91.0	92.3	106.1
.125	87.2	87.3	87.3	77.6	82.3	84.1	88.4	90.1	91.5	105.1
.160	84.5	70.1	85.7	76.1	81.4	83.6	87.1	88.6	89.9	103.0
.200	86.3	77.3	85.2	80.7	81.4	83.3	85.6	87.3	90.4	102.8
.250	69.7	81.0	83.6	79.9	82.7	82.5	84.5	86.5	90.9	102.0
.315	83.2	80.1	74.1	81.5	81.2	82.5	83.8	85.3	90.7	101.2
.400	84.2	79.8	74.2	81.5	81.5	82.5	84.9	86.1	90.7	101.6
.500	80.9	79.0	75.5	81.2	81.8	83.4	85.0	87.4	91.6	102.0
.630	81.9	83.1	81.6	83.5	83.2	84.3	82.9	85.8	91.9	102.6
.800	85.3	83.9	83.1	84.9	84.7	85.6	86.3	89.3	94.0	104.7
1.00	85.0	85.5	85.5	86.7	86.2	86.6	87.8	90.6	93.8	105.9
1.25	86.4	86.3	85.6	86.9	87.0	88.3	89.8	92.0	94.3	106.9
1.60	87.8	87.2	87.4	88.4	88.5	89.5	91.2	93.2	94.6	108.1
2.00	89.0	88.9	88.7	89.7	89.8	91.1	92.9	94.5	95.2	109.4
2.50	90.1	89.3	89.2	90.4	90.7	91.8	94.0	95.4	95.1	110.2
3.15	90.7	90.5	90.5	91.3	91.6	92.9	95.1	95.7	94.5	111.0
4.00	91.7	91.1	91.3	92.4	93.5	95.1	96.5	96.5	94.9	112.2
5.00	92.9	92.5	92.4	93.9	94.8	96.3	97.5	97.2	95.1	113.3
6.30	93.2	92.8	93.3	94.7	95.4	97.2	97.9	97.1	95.1	113.8
8.00	94.0	93.2	93.9	95.4	96.6	98.6	98.4	97.6	95.7	114.6
10.0	94.3	94.0	94.0	95.9	97.0	98.5	98.4	97.6	95.8	114.8
12.5	95.5	94.6	94.9	96.5	97.2	98.7	98.3	97.5	95.9	115.1
16.0	100.6	97.4	96.4	97.3	97.9	98.9	98.5	97.6	96.1	116.3
20.0	106.2	101.2	97.7	97.3	97.8	98.4	97.7	96.7	95.3	118.0
25.0	107.7	105.2	100.1	98.3	98.1	97.8	97.0	96.3	95.2	119.7
31.5	104.6	104.9	102.8	100.1	98.3	97.6	96.5	95.3	93.9	119.5
40.0	103.5	102.3	102.4	101.8	99.7	98.2	96.2	94.5	92.9	118.9
50.0	103.7	101.9	101.1	102.1	100.9	99.2	96.6	94.3	92.4	118.9
63.0	102.6	101.8	101.0	100.8	100.4	99.9	97.1	94.6	92.7	118.5
80.0	102.5	101.6	101.1	100.7	99.7	99.1	97.1	95.2	93.4	118.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.9	112.1	110.6	110.3	109.9	110.1	109.7	109.2	108.7	OAPWL = 129.1

V_∞ =	340	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.72	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF LO	3416 3416

DBTF JET NOISE TEST COANNULAR NOZ, AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	86.3	90.1	82.7	87.3	89.3	95.5	97.9	99.7
125	84.4	85.7	88.6	77.6	83.3	88.4	95.8	96.3	101.8
160	81.7	84.4	85.1	79.2	84.4	87.6	92.2	95.1	96.9
200	83.6	74.4	84.7	80.5	81.7	85.9	90.7	94.9	99.5
250	83.3	83.9	83.2	75.6	83.3	84.7	89.4	93.7	102.6
315	72.7	82.3	81.1	77.6	81.6	84.4	87.9	92.5	105.9
400	75.6	73.7	79.4	77.5	81.2	83.5	87.6	91.7	105.5
500	69.6	72.7	79.3	76.2	80.4	83.4	87.1	91.4	98.4
630	72.6	76.9	66.6	79.2	80.8	83.5	87.1	91.1	91.5
800	77.2	77.6	74.8	80.2	81.4	83.8	81.4	91.7	92.0
1000	77.0	79.1	78.4	81.8	82.7	84.6	84.3	91.2	90.4
1250	78.8	80.0	79.5	82.2	83.5	86.1	87.8	91.3	90.1
1600	80.0	80.6	81.2	83.6	85.0	87.0	89.1	91.4	89.5
2000	81.8	82.6	83.0	85.2	86.4	88.5	90.7	91.9	89.0
2500	82.7	83.3	83.6	86.0	87.3	89.3	91.5	91.9	88.0
3150	83.2	84.4	84.9	87.1	88.3	90.3	92.4	91.3	87.4
4000	84.2	85.0	85.9	88.2	89.8	91.9	93.3	91.7	87.0
5000	85.9	86.5	87.1	89.6	91.3	93.0	94.1	91.6	87.1
6300	85.8	86.7	87.8	90.2	91.7	93.5	94.2	91.2	87.0
8000	86.7	87.0	88.2	90.8	92.8	94.6	93.9	91.5	86.8
10000	86.5	87.4	88.2	90.8	92.7	94.3	93.7	91.3	86.5
12500	86.3	87.1	88.3	91.0	92.7	94.2	93.5	90.7	86.3
16000	86.4	87.4	88.6	91.1	92.9	94.1	93.3	90.4	85.8
20000	85.6	86.7	87.7	90.2	92.2	93.2	92.3	89.3	84.6
25000	85.4	86.7	87.6	90.0	92.4	92.5	91.7	89.2	84.4
31500	85.4	86.2	87.3	89.4	91.1	91.8	90.8	87.7	83.4
40000	85.5	86.4	87.5	89.2	90.3	91.0	89.8	87.0	83.1
50000	85.4	86.6	88.2	90.5	90.8	90.9	89.4	86.6	83.0
63000	85.5	85.7	87.1	88.5	89.5	90.0	88.3	86.6	83.4
80000	86.7	86.6	88.0	89.3	89.4	90.1	88.0	87.6	85.3
TSPL	98.9	99.6	100.9	102.2	103.9	105.3	106.4	106.9	111.8
SSPL	98.0	98.8	99.7	102.1	103.6	104.9	104.9	104.2	103.0

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	103.7	100.8	101.4	102.1	103.1	103.9	104.4	105.1	111.5
SSPL	99.8	100.0	100.3	101.9	102.8	103.5	103.0	102.4	102.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	101.3	100.9	101.2	101.4	102.0	102.5	102.6	103.1	109.3
SSPL	100.3	100.1	100.0	101.3	101.7	102.1	101.2	100.4	100.6

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3416 3416

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.2	87.8	89.1	81.5	85.5	86.1	90.2	93.0	94.6
125	86.8	87.3	86.8	76.3	81.6	84.9	90.4	92.3	93.4
160	84.1	85.8	84.1	78.3	82.6	84.4	87.3	89.7	91.9
200	86.0	76.1	84.9	79.2	79.9	82.6	85.7	88.5	92.0
250	85.7	85.1	81.7	74.9	81.5	81.6	84.4	87.0	91.4
315	75.1	84.1	80.9	76.7	79.8	81.3	83.2	85.2	90.8
400	78.0	75.3	79.5	76.8	79.4	80.4	82.8	84.7	90.0
500	71.9	74.8	79.3	75.4	78.6	80.2	82.4	84.7	88.9
630	75.0	77.2	67.9	79.6	79.0	80.4	82.4	85.1	87.8
800	79.5	78.4	75.5	79.8	79.6	81.0	77.9	81.4	88.7
1000	79.3	80.3	78.9	81.2	80.8	81.8	80.5	83.2	87.8
1250	81.2	81.2	80.0	81.6	81.7	83.1	83.7	85.6	87.8
1600	82.4	82.0	81.7	83.2	83.2	84.0	84.9	86.4	87.7
2000	84.[illegible]	83.9	83.4	84.5	84.6	85.5	86.6	87.7	88.0
2500	85.1	84.5	84.0	85.4	85.4	86.3	87.4	88.2	87.9
3150	85.5	85.6	85.3	86.5	86.5	87.3	88.4	88.5	87.1
4000	86.6	86.3	86.4	87.6	88.0	89.0	89.6	89.2	87.4
5000	88.2	87.8	87.6	89.0	89.4	90.1	90.5	89.6	87.3
6300	88.1	88.0	88.3	89.6	89.9	90.6	90.7	89.4	86.9
8000	89.0	88.3	88.7	90.3	90.9	91.8	90.8	89.3	87.2
10000	88.9	88.7	88.7	90.3	90.9	91.5	90.5	89.1	87.0
12500	88.6	88.4	88.9	90.4	90.8	91.4	90.4	88.7	86.4
16000	88.8	88.7	89.2	90.6	91.0	91.3	90.2	88.5	86.1
20000	88.0	88.0	88.2	89.7	90.3	90.4	89.3	87.5	85.0
25000	87.8	88.0	88.1	89.5	90.6	89.9	88.6	87.0	84.9
31500	87.7	87.5	87.8	88.7	89.2	89.0	87.8	85.9	83.4
40000	87.9	87.8	87.9	88.5	88.4	88.3	86.9	84.9	82.8
50000	87.8	88.0	88.7	89.7	88.9	88.2	86.5	84.5	82.4
63000	87.8	87.0	87.5	87.8	87.6	87.3	85.4	83.8	82.5
80000	89.1	87.9	88.3	88.4	87.4	87.4	85.1	83.9	83.7
TSPL	101.3	100.9	101.1	101.6	102.0	102.5	102.5	102.7	103.5
SSPL	100.3	100.1	100.2	101.4	101.7	102.1	101.5	100.8	100.3

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

20034F D8TF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/11/76 SCALE RATIO 0.0/1 RUN NUMBER 3416 CONDITION 3416

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	22.5	32.3	N	100.2	143.8
TEMP	(R)	721.2	1091.3	(K)	400.7	606.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.043	KG/M3	1.000	0.687	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	993.8	1426.0	M/S	302.9	434.6	W (MODEL)	LB/S	0.7	0.7	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	87.8	89.1	81.5	85.5	86.1	90.2	93.0	94.6	107.4
.125	86.8	87.3	86.8	76.3	81.6	84.9	90.4	92.3	93.4	106.1
.160	84.1	85.8	84.1	78.3	82.6	84.4	87.3	89.7	91.9	104.1
.200	86.0	76.1	84.9	79.2	79.9	82.6	85.7	88.5	92.0	103.0
.250	85.7	85.1	81.7	74.9	81.5	81.6	84.4	87.0	91.4	102.5
.315	75.1	84.1	80.9	76.7	79.8	81.3	83.2	85.2	90.8	101.2
.400	78.0	75.3	79.5	76.8	79.4	80.4	82.8	84.7	90.0	99.8
.500	71.9	74.8	79.3	75.4	78.6	80.2	82.4	84.7	88.9	99.2
.630	75.0	77.2	67.9	79.6	79.0	80.4	82.4	85.1	87.8	99.1
.800	79.5	78.4	75.5	79.8	79.6	81.0	77.9	81.4	88.7	98.8
1.00	79.3	80.3	78.9	81.2	80.8	81.8	80.5	83.2	87.8	99.8
1.25	81.2	81.2	80.0	81.6	81.7	83.1	83.7	85.6	87.8	101.1
1.60	82.4	82.0	81.7	83.2	83.2	84.0	84.9	86.4	87.7	102.2
2.00	84.2	83.9	83.4	84.5	84.6	85.5	86.6	87.7	88.0	103.6
2.50	85.1	84.5	84.0	85.4	85.4	86.3	87.4	88.2	87.9	104.3
3.15	85.5	85.6	85.3	86.5	86.5	87.3	88.4	88.5	87.1	105.1
4.00	86.6	86.3	86.4	87.6	88.0	89.0	89.6	89.2	87.4	106.2
5.00	88.2	87.8	87.6	89.0	89.4	90.1	90.5	89.6	87.3	107.3
6.30	88.1	88.0	88.3	89.6	89.9	90.6	90.7	89.4	86.9	107.7
8.00	89.0	88.3	88.7	90.3	90.9	91.8	90.8	89.3	87.2	108.3
10.0	88.9	88.7	88.7	90.3	90.9	91.5	90.5	89.1	87.0	108.2
12.5	88.6	88.4	88.9	90.4	90.8	91.4	90.4	88.7	86.4	108.1
16.0	88.8	88.7	89.2	90.6	91.0	91.3	90.2	88.5	86.1	108.2
20.0	88.0	88.0	88.2	89.7	90.3	90.4	89.3	87.5	85.0	107.3
25.0	87.8	88.0	88.1	89.5	90.6	89.9	88.6	87.0	84.9	107.1
31.5	87.7	87.5	87.8	88.7	89.2	89.0	87.8	85.9	83.4	106.3
40.0	87.9	87.8	87.9	88.5	88.4	88.3	86.9	84.9	82.8	106.0
50.0	87.8	88.0	88.7	89.7	88.9	88.2	86.5	84.5	82.4	106.4
63.0	87.8	87.0	87.5	87.8	87.6	87.3	85.4	83.8	82.5	105.2
80.0	89.1	87.9	88.3	88.4	87.4	87.4	85.1	83.9	83.7	105.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.3	100.9	101.1	101.6	102.0	102.5	102.5	102.7	103.5	DAPWL = 120.2

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF 0 3417 3417

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.5	88.0	90.0	83.5	91.7	89.3	96.9	95.9	100.4
125	85.5	86.0	88.7	78.9	89.5	88.0	98.0	94.8	103.3
160	82.8	84.4	85.3	78.7	88.5	87.8	93.2	94.2	97.7
200	84.3	83.6	84.6	80.1	86.9	85.9	91.1	94.1	99.6
250	73.4	82.3	82.8	75.6	87.0	84.3	89.3	91.9	102.8
315	73.4	81.0	81.2	77.3	85.6	83.9	87.9	91.1	105.8
400	74.6	81.1	79.0	76.7	84.3	83.0	87.0	90.2	105.2
500	65.4	78.5	78.4	75.3	83.0	81.1	85.7	88.8	97.9
630	69.3	79.6	78.1	76.0	81.5	80.7	84.6	88.2	88.2
800	70.2	78.1	77.9	75.3	80.1	79.2	83.9	87.1	86.1
1000	68.9	78.0	78.3	75.9	79.0	79.0	83.4	85.9	84.8
1250	73.6	77.9	69.6	76.4	78.6	79.3	83.3	84.2	83.9
1600	74.8	77.0	73.3	77.3	79.1	79.7	83.4	83.6	83.3
2000	76.4	78.1	75.4	78.3	79.7	81.0	78.3	83.4	83.2
2500	76.2	78.3	76.2	79.3	80.4	81.5	80.0	82.9	81.9
3150	75.2	78.2	77.0	79.4	80.1	81.5	80.2	81.8	81.2
4000	75.2	77.8	77.5	79.9	81.3	82.5	80.4	81.5	79.8
5000	78.7	79.9	79.1	81.5	82.3	82.9	81.5	80.7	79.0
6300	79.7	80.3	80.2	81.7	82.3	82.9	81.1	80.0	77.7
8000	81.4	81.3	81.4	82.6	83.3	83.8	81.3	79.5	76.4
10000	80.9	81.4	80.8	82.2	82.7	83.0	80.6	79.0	74.7
12500	80.4	80.6	80.6	82.0	82.3	82.7	80.0	77.8	74.3
16000	80.7	81.2	80.7	82.2	82.9	82.5	79.9	77.6	73.6
20000	81.2	81.2	81.3	82.5	82.7	82.0	79.3	76.3	72.6
25000	81.8	82.3	81.8	82.8	83.1	81.7	78.9	76.4	72.3
31500	82.0	81.9	82.1	82.3	82.5	81.4	78.3	76.0	75.1
40000	82.5	82.4	82.4	82.6	82.1	81.3	78.1	76.0	75.8
50000	82.5	82.5	82.5	83.0	82.3	81.3	77.4	77.7	77.1
63000	82.7	81.6	83.2	82.4	81.1	81.1	80.3	79.6	78.2
80000	83.7	81.9	84.6	83.2	80.8	82.0	82.7	82.2	81.2
TSPL	95.7	96.5	97.2	95.4	99.1	98.2	103.0	103.1	111.7
SSPL	93.3	94.0	93.9	94.6	95.3	95.3	95.1	96.5	99.6

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.5	97.7	97.7	95.3	98.3	96.7	101.0	101.3	111.4
SSPL	95.1	95.2	94.4	94.4	94.5	93.8	93.1	94.7	99.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.1	97.8	97.5	94.6	97.2	95.3	99.2	99.3	109.2
SSPL	95.6	95.3	94.2	93.8	93.4	92.4	91.3	92.8	97.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO STND C	OBS CORR
W631	315	05/11/76		-00 000000 XARF 0	3417 3417

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.9	89.3	88.9	83.0	89.9	86.4	91.3	92.9	92.8
125	87.9	87.5	87.1	78.4	87.8	84.9	92.0	93.0	92.1
160	85.2	85.8	84.1	78.4	86.7	84.9	88.1	89.9	91.1
200	86.7	84.8	83.8	79.6	85.1	83.0	85.9	88.4	91.3
250	75.8	84.2	81.4	75.5	85.2	81.5	84.2	86.1	89.8
315	75.8	82.7	80.4	77.0	83.8	81.1	83.0	84.5	89.4
400	77.0	82.5	78.3	76.5	82.5	80.2	82.2	83.6	88.6
500	67.8	80.5	77.8	75.0	81.2	78.3	80.7	82.8	86.5
630	71.7	81.3	77.5	75.5	79.7	77.8	79.8	82.5	84.8
800	72.6	79.8	77.4	74.7	78.3	76.4	78.9	81.8	83.5
1000	71.2	79.8	77.9	75.1	77.2	76.1	78.5	81.0	82.3
1250	76.0	78.4	70.1	76.3	76.8	76.3	78.7	80.1	80.6
1600	77.2	77.9	73.6	76.9	77.2	76.8	78.9	79.9	79.9
2000	78.7	79.1	75.7	77.7	77.8	78.3	75.2	76.2	80.0
2500	78.6	79.3	76.5	78.7	78.5	78.7	76.7	77.2	79.3
3150	77.5	79.4	77.4	78.7	78.2	78.8	77.0	76.8	78.2
4000	77.5	79.1	77.9	79.3	79.4	79.8	77.4	76.9	77.8
5000	81.1	81.0	79.5	80.8	80.4	80.2	78.4	77.2	76.8
6300	82.1	81.5	80.5	80.9	80.4	80.2	78.1	76.7	76.1
8000	83.8	82.4	81.6	81.9	81.4	81.1	78.6	76.7	75.5
10000	83.3	82.5	80.9	81.4	80.8	80.4	77.8	76.1	74.8
12500	82.8	81.7	80.8	81.1	80.3	80.1	77.3	75.2	73.7
16000	83.1	82.3	81.0	81.4	80.9	79.9	77.3	75.1	73.4
20000	83.6	82.4	81.5	81.6	80.7	79.4	76.7	74.2	72.1
25000	84.2	83.4	82.0	82.0	81.2	79.2	76.3	74.0	72.1
31500	84.4	83.1	82.2	81.3	80.5	78.9	75.7	73.2	72.1
40000	84.9	83.6	82.4	81.5	80.2	78.8	75.5	73.0	72.3
50000	84.9	83.7	82.6	81.9	80.3	78.9	74.9	73.3	74.1
63000	85.1	82.9	83.2	81.1	79.2	79.0	67.4	67.9	76.4
80000	86.1	83.2	84.6	81.7	78.9	79.2	79.1	78.7	78.4
TSPL	98.1	97.8	96.6	94.6	97.2	95.4	97.7	99.0	100.3
SSPL	95.6	95.2	94.0	93.7	93.4	92.6	91.3	91.7	93.2

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3417 CONDITION 3417

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	21.5	13.0	N	95.6	57.7
TEMP	(R)	713.3	1073.7	(K)	396.3	596.5	THRUST,MCA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.040	KG/M3	1.011	0.641	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	988.5	970.8	M/S	301.3	295.9	N (MODEL)	LB/S	0.7	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.9	89.3	88.9	83.0	89.9	86.4	91.3	92.9	92.8	108.0
.125	87.9	87.5	87.1	78.4	87.8	84.9	92.0	93.0	92.1	107.0
.160	85.2	85.8	84.1	78.4	86.7	84.9	88.1	89.9	91.1	104.7
.200	86.7	84.8	83.8	79.6	85.1	83.0	85.9	88.4	91.3	103.8
.250	75.8	84.2	81.4	75.5	85.2	81.5	84.2	86.1	89.8	101.9
.315	75.8	82.7	80.4	77.0	83.8	81.1	83.0	84.5	89.4	100.9
.400	77.0	82.5	78.3	76.5	82.5	80.2	82.2	83.6	88.6	100.1
.500	67.8	80.5	77.8	75.0	81.2	78.3	80.7	82.8	86.5	98.5
.630	71.7	81.3	77.5	75.5	79.7	77.8	79.8	82.5	84.8	98.0
.800	72.6	79.8	77.4	74.7	78.3	76.4	78.9	81.8	83.5	96.9
1.00	71.2	79.8	77.9	75.1	77.2	76.1	78.5	81.0	82.3	96.5
1.25	76.0	78.4	70.1	76.3	76.8	76.3	78.7	80.1	80.6	95.6
1.60	77.2	77.9	73.6	76.9	77.2	76.8	78.9	79.9	79.9	95.9
2.00	78.7	79.1	75.7	77.7	77.8	78.3	75.2	76.2	80.0	96.0
2.50	78.6	79.3	76.5	78.7	78.5	78.7	76.7	77.2	79.3	96.5
3.15	77.5	79.4	77.4	78.7	78.2	78.8	77.0	76.8	78.2	96.5
4.00	77.5	79.1	77.9	79.3	79.4	79.8	77.4	76.9	77.8	96.9
5.00	81.1	81.0	79.5	80.8	80.4	80.2	78.4	77.2	76.8	98.3
6.30	82.1	81.5	80.5	80.9	80.4	80.2	78.1	76.7	76.1	98.5
8.00	83.8	82.4	81.6	81.9	81.4	81.1	78.6	76.7	75.5	99.5
10.0	83.3	82.5	80.9	81.4	80.8	80.4	77.8	76.1	74.8	99.1
12.5	82.8	81.7	80.8	81.1	80.3	80.1	77.3	75.2	73.7	98.6
16.0	83.1	82.3	81.0	81.4	80.9	79.9	77.3	75.1	73.4	98.9
20.0	83.6	82.4	81.5	81.6	80.7	79.4	76.7	74.2	72.1	99.0
25.0	84.2	83.4	82.0	82.0	81.2	79.2	76.3	74.0	72.1	99.5
31.5	84.4	83.1	82.2	81.3	80.5	78.9	75.7	73.2	72.1	99.2
40.0	84.9	83.6	82.4	81.5	80.2	78.8	75.5	73.0	72.3	99.4
50.0	84.9	83.7	82.6	81.9	80.3	78.9	74.9	73.3	74.1	99.6
63.0	85.1	82.9	83.2	81.1	79.2	79.0	67.4	67.9	76.4	99.2
80.0	86.1	83.2	84.6	81.7	78.9	79.2	79.1	78.7	78.4	100.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 115.6
OSPL	98.1	97.8	96.6	94.6	97.2	95.4	97.7	99.0	100.3	

V_∞ =	341	fps
T_a =	61	°F
RH_a =	87	%
P_a =	13.71	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF -0	3418 3418

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	93.7	91.9	95.8	98.4	90.5	92.5	106.1	97.7	103.4
125	90.9	92.0	94.8	95.9	87.8	91.7	105.4	95.4	105.9
160	88.0	90.8	74.7	78.6	85.2	89.9	103.1	96.1	101.6
200	89.5	92.0	74.0	83.2	85.2	88.3	100.8	96.9	104.8
250	77.6	90.4	80.0	82.5	88.4	88.4	83.3	95.3	109.0
315	84.4	78.7	83.9	83.1	86.8	88.8	97.3	95.1	110.5
400	84.1	77.0	81.8	83.5	87.3	88.2	91.6	95.7	110.5
500	81.2	77.0	82.1	83.9	86.9	89.0	84.6	97.2	105.1
630	82.7	84.7	85.7	86.5	87.8	90.0	93.3	98.5	102.3
800	84.7	85.8	86.6	88.2	89.8	91.8	96.3	100.6	103.6
1000	84.9	87.4	88.8	90.4	91.1	93.0	97.5	101.1	102.3
1250	86.8	87.9	88.7	90.8	91.6	94.7	99.2	101.7	101.6
1600	88.2	88.8	89.9	92.2	93.5	95.9	100.4	102.4	101.1
2000	89.8	90.6	91.4	93.4	94.9	98.0	102.2	103.2	100.5
2500	91.1	91.3	92.0	94.2	96.0	99.0	103.4	103.2	99.7
3150	91.8	92.6	93.3	95.7	97.2	100.6	104.7	102.9	99.6
4000	92.9	93.3	94.4	96.9	99.4	102.9	105.8	103.8	99.3
5000	94.1	94.9	95.4	98.5	100.7	104.2	106.8	103.9	99.8
6300	94.7	95.5	96.6	99.4	101.6	105.1	107.1	104.2	100.3
8000	97.5	97.3	98.2	100.5	103.2	106.5	107.6	105.2	101.1
10000	102.8	101.2	100.6	102.1	104.2	106.8	107.9	105.9	101.7
12500	109.5	106.1	103.8	103.2	104.7	106.9	107.9	105.9	102.1
16000	111.0	109.9	106.7	104.9	105.4	107.0	108.1	106.2	102.8
20000	107.8	109.1	108.5	107.3	106.1	106.9	107.9	106.3	103.0
25000	107.0	107.2	108.0	109.0	108.4	107.5	108.0	107.3	104.0
31500	108.3	107.5	107.1	108.8	109.3	108.2	108.0	106.3	103.0
40000	107.5	108.0	107.9	108.8	109.6	109.1	107.7	105.6	102.5
50000	106.9	107.3	107.8	109.5	109.8	109.5	108.2	105.3	101.5
63000	106.2	106.9	107.5	108.7	109.1	109.4	107.9	105.4	101.5
80000	106.0	106.6	107.3	108.4	108.7	108.7	107.9	105.3	101.8
TSPL	117.9	117.6	117.3	118.1	118.5	119.1	120.1	118.2	118.9
SSPL	117.9	117.6	117.2	118.0	118.5	119.1	119.6	118.0	115.6

V_∞ =	428	fps
T_a =	69	°F
RH_a =	87	%
P_a =	13.21	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	120.4	119.3	118.1	118.1	117.6	117.4	117.8	116.3	118.8
SSPL	120.4	119.2	118.0	118.0	117.6	117.4	117.3	116.1	115.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	121.0	119.4	117.7	117.1	116.2	115.6	115.7	113.7	116.0
SSPL	120.9	119.3	117.6	117.0	116.2	115.5	115.1	113.5	112.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3418 3418

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	96.7	93.7	96.9	96.2	87.9	88.3	98.2	99.5	93.6
125	93.9	93.9	95.5	93.5	85.2	87.3	97.7	98.0	91.6
160	91.0	90.0	73.8	78.7	83.3	85.6	95.3	96.9	92.0
200	92.5	90.8	74.1	83.0	83.0	84.1	92.9	95.4	93.1
250	80.7	91.4	79.4	82.4	86.3	85.2	79.8	81.4	92.8
315	87.5	80.4	84.2	82.3	84.7	84.8	90.5	91.8	92.2
400	87.2	78.5	82.6	83.0	85.0	84.5	86.0	87.8	92.9
500	84.2	78.8	82.9	83.2	84.7	85.7	80.9	83.3	94.1
630	85.7	86.5	85.9	85.5	85.6	86.3	87.7	90.5	94.8
800	87.7	87.4	87.0	87.3	87.5	88.1	90.3	93.2	96.7
1000	87.9	89.3	89.3	89.4	88.8	89.2	91.6	94.4	97.0
1250	89.8	89.5	89.2	89.8	89.4	90.8	93.4	95.7	97.5
1600	91.2	90.5	90.5	91.3	91.3	92.1	94.6	96.8	98.0
2000	92.8	92.2	91.9	92.5	92.7	94.1	96.6	98.3	98.6
2500	94.1	92.8	92.5	93.4	93.8	95.2	97.9	99.2	98.5
3150	94.9	94.2	93.9	94.9	95.0	96.7	99.4	100.0	98.2
4000	95.9	94.9	95.0	96.2	97.2	99.1	101.0	101.0	99.0
5000	97.1	96.4	96.0	97.8	98.5	100.4	102.0	101.6	99.0
6300	97.7	97.1	97.3	98.7	99.4	101.3	102.6	101.9	99.4
8000	100.5	98.8	98.7	99.8	101.1	102.8	103.4	102.5	100.4
10000	105.8	102.3	100.8	101.2	102.0	103.1	103.6	102.9	101.1
12500	112.5	106.8	103.4	102.1	102.4	103.2	103.6	102.8	101.1
16000	114.0	110.7	106.0	103.5	103.1	103.4	103.7	103.1	101.5
20000	110.8	110.5	108.2	105.7	103.7	103.3	103.5	103.0	101.6
25000	110.0	108.7	108.3	107.7	105.9	104.1	103.6	103.3	102.6
31500	111.3	108.8	107.4	107.8	106.9	104.8	103.9	102.9	101.6
40000	110.5	109.5	108.1	107.8	107.2	105.8	104.1	102.5	100.9
50000	109.9	108.8	108.2	108.5	107.4	106.2	104.6	102.7	100.5
63000	109.3	108.4	107.8	107.6	106.7	106.0	104.4	102.6	100.6
80000	109.0	108.2	107.6	107.3	106.3	105.3	104.1	102.5	100.5
TSPL	121.0	118.9	117.4	117.0	116.1	115.6	115.6	115.0	113.6
SSPL	120.9	118.9	117.3	116.9	116.1	115.6	115.4	114.7	113.4

V_∞ =	428	fps
T_a =	69	°F
RH_a =	87	%
P_a =	13.21	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=428 TEST DATE 05/11/76 SCALE RATIO 2265/1 RUN NUMBER 3418 CONDITION 3418

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	3.20		1.54	3.20	THRUST,IDL	LB	20.4	72.6	N	90.6	323.1
TEMP	(R)	733.5	1270.0	(K)	407.5	705.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.061	0.043	KG/M3	0.984	0.683	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	1009.0	2088.0	M/S	307.5	636.4	W (MODEL)	LB/S	0.6	1.1	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
	MICROPHONE ANGLES IN DEGREES									
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	96.7	93.7	96.9	96.2	87.9	88.3	98.2	99.5	93.6	114.1
.125	93.9	93.9	95.5	93.5	85.2	87.3	97.7	98.0	91.6	112.7
.160	91.0	90.0	73.8	78.7	83.3	85.6	95.3	96.9	92.0	109.1
.200	92.5	90.8	74.1	83.0	83.0	84.1	92.9	95.4	93.1	108.3
.250	80.7	91.4	79.4	82.4	86.3	85.2	79.8	81.4	92.8	106.7
.315	87.5	80.4	84.2	82.3	84.7	84.8	90.5	91.8	92.2	105.5
.400	87.2	78.5	82.6	83.0	85.0	84.5	86.0	87.8	92.9	103.8
.500	84.2	78.8	82.9	83.2	84.7	85.7	80.9	83.3	94.1	103.2
.630	85.7	86.5	85.9	85.5	85.6	86.3	87.7	90.5	94.8	106.0
.800	87.7	87.4	87.0	87.3	87.5	88.1	90.3	93.2	96.7	107.9
1.00	87.9	89.3	89.3	89.4	88.8	89.2	91.6	94.4	97.0	109.2
1.25	89.8	89.5	89.2	89.8	89.4	90.8	93.4	95.7	97.5	110.1
1.60	91.2	90.5	90.5	91.3	91.3	92.1	94.6	96.8	98.0	111.3
2.00	92.8	92.2	91.9	92.5	92.7	94.1	96.6	98.3	98.6	112.8
2.50	94.1	92.8	92.5	93.4	93.8	95.2	97.9	99.2	98.5	113.7
3.15	94.9	94.2	93.9	94.9	95.0	96.7	99.4	100.0	98.2	114.9
4.00	95.9	94.9	95.0	96.2	97.2	99.1	101.0	101.0	99.0	116.3
5.00	97.1	96.4	96.0	97.8	98.5	100.4	102.0	101.6	99.0	117.4
6.30	97.7	97.1	97.3	98.7	99.4	101.3	102.6	101.9	99.4	118.1
8.00	100.5	98.8	98.7	99.8	101.1	102.8	103.4	102.5	100.4	119.4
10.0	105.8	102.3	100.8	101.2	102.0	103.1	103.6	102.9	101.1	120.9
12.5	112.5	106.8	103.4	102.1	102.4	103.2	103.6	102.8	101.1	123.6
16.0	114.0	110.7	106.0	103.5	103.1	103.4	103.7	103.1	101.5	125.6
20.0	110.8	110.5	108.2	105.7	103.7	103.3	103.5	103.0	101.6	125.3
25.0	110.0	108.7	108.3	107.7	105.9	104.1	103.6	103.3	102.6	125.2
31.5	111.3	108.8	107.4	107.8	106.9	104.8	103.9	102.9	101.6	125.5
40.0	110.5	109.5	108.1	107.8	107.2	105.8	104.1	102.5	100.9	125.7
50.0	109.9	108.8	108.2	108.5	107.4	106.2	104.6	102.7	100.5	125.7
63.0	109.3	108.4	107.8	107.6	106.7	106.0	104.4	102.6	100.6	125.2
80.0	109.0	108.2	107.6	107.3	106.3	105.3	104.1	102.5	100.5	124.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.0	118.9	117.4	117.0	116.1	115.6	115.6	115.0	113.6	OAPWL = 135.5

V_∞ =	428	fps
T_a =	69	°F
RH_a =	87	%
P_a =	13.21	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3419 3419

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.9	70.2	90.1	80.3	86.6	89.1	95.1	97.2	100.3
125	85.4	79.4	79.0	83.7	86.1	88.6	96.6	95.7	101.4
160	82.9	79.0	86.2	83.0	85.6	88.4	95.9	95.5	98.0
200	84.2	80.9	69.8	85.5	85.8	88.2	93.3	95.0	100.4
250	80.1	83.7	81.6	85.4	87.6	87.8	92.7	95.2	103.5
315	86.4	85.9	85.0	85.8	86.7	88.0	91.3	95.8	106.6
400	87.3	84.7	82.5	85.7	88.2	88.7	89.6	96.0	107.3
500	83.5	83.4	82.8	85.8	88.1	90.5	90.9	98.9	103.9
630	84.6	86.5	86.8	88.4	89.3	91.3	94.6	100.1	104.1
800	87.7	87.3	88.0	89.9	91.2	93.2	97.0	102.5	105.8
1000	87.2	88.8	90.4	92.3	92.9	94.4	98.5	102.9	104.4
1250	88.8	89.5	90.1	92.2	93.2	96.4	100.3	103.8	103.9
1600	90.0	90.4	91.5	93.9	95.3	97.7	101.9	104.5	102.8
2000	91.2	92.1	93.1	95.1	96.7	99.7	103.6	105.2	102.1
2500	92.4	92.6	93.3	95.9	97.7	100.8	104.9	105.1	101.2
3150	93.1	93.8	94.8	97.1	98.7	102.2	105.9	104.9	101.2
4000	93.9	94.7	95.4	98.1	100.6	104.4	107.0	105.6	101.0
5000	95.2	95.9	96.7	99.7	101.9	105.7	107.8	106.0	101.6
6300	95.7	96.4	97.7	100.5	102.6	106.5	108.2	106.2	102.2
8000	97.6	97.5	98.9	101.5	104.3	107.9	108.6	107.6	102.7
10000	102.2	101.2	101.0	102.8	105.0	108.0	109.1	107.9	103.4
12500	109.4	106.2	104.1	104.3	105.4	108.3	109.1	107.9	104.1
16000	111.4	110.5	106.9	105.2	106.1	108.3	109.4	108.5	104.9
20000	108.2	109.6	109.1	107.4	106.7	107.9	109.2	108.7	104.9
25000	106.9	107.3	108.5	109.3	108.8	108.2	109.1	109.1	105.1
31500	108.4	107.7	107.3	109.2	109.6	108.8	108.8	107.9	103.9
40000	107.7	108.2	108.0	109.0	110.0	109.4	108.1	106.8	102.9
50000	107.2	107.3	107.9	109.5	109.9	109.8	108.2	106.1	101.8
63000	106.6	107.1	107.6	108.9	109.4	109.5	107.8	105.6	101.5
80000	106.3	106.8	107.5	108.7	108.9	108.9	107.8	105.4	101.6
TSPL	118.1	117.9	117.5	118.4	119.0	119.9	120.6	119.9	118.2
SSPL	118.1	117.9	117.5	118.3	118.9	119.9	120.5	119.8	116.9

V_∞ =	340	fps
T_a =	60	°F
RH_a =	88	%
P_a =	13.71	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XAKF 0	3419 3419

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	120.0	119.1	118.1	118.2	118.1	118.5	118.6	118.1	117.9
SSPL	120.0	119.1	118.1	118.2	118.1	118.5	118.5	118.0	116.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.5	119.2	117.8	117.6	117.1	117.1	116.8	116.1	115.7
SSPL	120.5	119.2	117.8	117.5	117.1	117.1	116.8	116.0	114.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3419 3419

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.3	72.2	90.1	79.2	84.9	85.9	89.9	92.3	94.1
125	87.8	80.1	79.8	83.4	84.3	85.3	91.1	92.6	92.8
160	85.3	80.6	86.3	82.0	83.8	85.1	90.5	92.3	92.2
200	86.6	80.6	71.6	86.0	84.0	85.1	88.4	90.1	92.2
250	82.5	84.8	82.0	85.0	85.8	84.8	87.7	89.6	92.8
315	88.8	87.0	85.1	85.0	84.8	85.0	86.6	88.7	93.7
400	89.7	85.4	82.9	85.3	86.3	85.9	85.4	87.5	94.2
500	85.8	84.4	83.2	85.3	86.3	87.6	86.8	89.9	96.3
630	87.0	87.8	87.1	87.6	87.4	88.2	89.8	92.9	97.2
800	90.1	88.5	88.4	89.2	89.4	90.1	92.1	95.4	99.5
1000	89.6	90.2	90.9	91.5	91.0	91.4	93.6	96.6	99.7
1250	91.1	90.7	90.5	91.5	91.4	93.2	95.6	98.1	100.4
1600	92.3	91.7	92.1	93.3	93.4	94.6	97.1	99.5	100.8
2000	93.5	93.4	93.5	94.4	94.9	96.6	99.0	100.9	101.3
2500	94.8	93.9	93.8	95.3	95.9	97.7	100.4	101.7	101.1
3150	95.5	95.0	95.3	96.5	96.9	99.1	101.6	102.2	100.7
4000	96.3	96.0	95.9	97.7	98.8	101.2	103.0	103.0	101.3
5000	97.6	97.2	97.2	99.2	100.1	102.6	103.9	103.6	101.7
6300	98.0	97.7	98.3	100.0	100.8	103.4	104.5	103.9	102.0
8000	100.0	98.8	99.5	101.1	102.5	104.9	105.1	104.7	103.4
10000	104.6	102.2	101.3	102.2	103.2	105.0	105.5	105.1	103.7
12500	111.7	106.9	103.9	103.4	103.5	105.3	105.5	105.0	103.7
16000	113.8	111.2	106.3	104.1	104.2	105.4	105.7	105.5	104.4
20000	110.6	110.8	108.7	106.1	104.8	105.0	105.4	105.5	104.6
25000	109.2	108.6	108.7	108.2	106.8	105.4	105.3	105.5	105.0
31500	110.8	108.7	107.6	108.4	107.7	106.1	105.3	104.8	103.7
40000	110.1	109.4	108.2	108.2	108.1	106.8	105.0	103.9	102.7
50000	109.6	108.5	108.3	108.7	108.0	107.2	105.3	103.6	101.9
63000	108.9	108.3	107.8	108.0	107.4	106.8	104.8	103.1	101.3
80000	108.7	108.1	107.8	107.8	107.0	106.2	104.7	103.1	101.2
TSPL	120.5	119.0	117.6	117.5	117.1	117.1	116.9	116.7	115.9
SSPL	120.5	119.0	117.6	117.5	117.0	117.1	116.9	116.6	115.7

V_∞ =	340	fps
T_a =	60	°F
RH_a =	88	%
P_a =	13.71	psia

20034F DBTF JET NOISE TEST COANNULAR NOZL AR=1.2 CONFL 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3419 CONDITION 3419

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.21		1.53	3.21	THRUST,IDL	LB	20.8	75.1	N	92.4	334.1
TEMP	(R)	724.5	1265.0	(K)	402.5	702.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.043	KG/M3	0.995	0.686	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	999.3	2085.0	M/S	304.3	635.5	W (MODEL)	LB/S	0.7	1.2	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.3	72.2	90.1	79.2	84.9	85.9	89.9	92.3	94.1	106.7
.125	87.8	80.1	79.8	83.4	84.3	85.3	91.1	92.6	92.8	105.8
.160	85.3	80.6	86.3	82.0	83.8	85.1	90.5	92.3	92.2	105.6
.200	86.6	80.6	71.6	86.0	84.0	85.1	88.4	90.1	92.2	104.5
.250	82.5	84.8	82.0	85.0	85.8	84.8	87.7	89.6	92.8	104.7
.315	88.8	87.0	85.1	85.0	84.8	85.0	86.6	88.7	93.7	105.3
.400	89.7	85.4	82.9	85.3	86.3	85.9	85.4	87.5	94.2	105.2
.500	85.8	84.4	83.2	85.3	86.3	87.6	86.8	89.9	96.3	106.0
.630	87.0	87.8	87.1	87.6	87.4	88.2	89.8	92.9	97.2	108.0
.800	90.1	88.5	88.4	89.2	89.4	90.1	92.1	95.4	99.5	110.0
1.00	89.6	90.2	90.9	91.5	91.0	91.4	93.6	96.6	99.7	111.2
1.25	91.1	90.7	90.5	91.5	91.4	93.2	95.6	98.1	100.4	112.3
1.60	92.3	91.7	92.1	93.3	93.4	94.6	97.1	99.5	100.8	113.6
2.00	93.5	93.4	93.5	94.4	94.9	96.6	99.0	100.9	101.3	115.0
2.50	94.8	93.9	93.8	95.3	95.9	97.7	100.4	101.7	101.1	115.9
3.15	95.5	95.0	95.3	96.5	96.9	99.1	101.6	102.2	100.7	116.8
4.00	96.3	96.0	95.9	97.7	98.8	101.2	103.0	103.0	101.3	118.1
5.00	97.6	97.2	97.2	99.2	100.1	102.6	103.9	103.6	101.7	119.1
6.30	98.0	97.7	98.3	100.0	100.8	103.4	104.5	103.9	102.0	119.8
8.00	100.0	98.8	99.5	101.1	102.5	104.9	105.1	104.7	103.4	120.9
10.0	104.6	102.2	101.3	102.2	103.2	105.0	105.5	105.1	103.7	122.0
12.5	111.7	106.9	103.9	103.4	103.5	105.3	105.5	105.0	103.7	124.2
16.0	113.8	111.2	106.3	104.1	104.2	105.4	105.7	105.5	104.4	126.2
20.0	110.6	110.8	108.7	106.1	104.8	105.0	105.4	105.5	104.6	125.9
25.0	109.2	108.6	108.7	108.2	106.0	105.4	105.3	105.5	105.0	125.7
31.5	110.8	108.7	107.6	108.4	107.7	106.1	105.3	104.8	103.7	125.9
40.0	110.1	109.4	108.2	108.2	108.1	106.8	105.0	103.9	102.7	126.1
50.0	109.6	108.5	108.3	108.7	108.0	107.2	105.3	103.6	101.9	125.9
63.0	108.9	108.3	107.8	108.0	107.4	106.8	104.8	103.1	101.3	125.4
80.0	108.7	108.1	107.8	107.8	107.0	106.2	104.7	103.1	101.2	125.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 136.1
OSPL	120.5	119.0	117.6	117.5	117.1	117.1	116.9	116.7	115.9	

V_∞ =	340	fps
T_a =	60	°F
RH_a =	88	%
P_a =	13.71	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF .0 3420 3420

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.6	82.7	89.8	83.5	85.8	88.9	99.2	97.2	99.7
125	78.2	81.2	88.6	80.8	84.4	87.8	100.4	96.1	101.7
160	79.2	79.4	85.0	81.6	84.1	87.1	98.8	94.8	98.2
200	78.9	82.1	85.0	83.3	82.9	86.3	96.5	94.4	100.1
250	80.7	82.8	83.9	81.6	84.9	85.3	88.4	94.0	103.4
315	84.2	83.4	76.5	82.7	83.6	85.7	86.5	93.8	106.0
400	84.2	82.8	75.0	83.0	84.4	86.1	88.8	93.8	106.2
500	80.8	81.5	76.7	82.7	85.4	87.0	89.9	95.4	100.9
630	81.8	83.8	82.4	85.2	86.4	87.7	91.6	95.9	99.4
800	84.3	84.5	83.6	86.5	87.3	89.3	94.2	98.1	100.5
1000	84.4	85.5	86.2	88.4	88.9	90.4	95.1	98.2	99.1
1250	85.8	86.1	86.3	88.5	89.7	92.3	96.4	98.8	98.6
1600	86.8	87.1	88.0	90.0	91.4	93.7	97.5	99.6	97.8
2000	88.1	88.7	89.5	91.4	92.9	95.7	98.8	100.3	96.9
2500	89.1	89.3	89.8	92.2	93.9	96.6	100.0	100.3	96.0
3150	89.7	90.4	91.3	93.5	95.0	97.9	101.0	99.7	95.6
4000	90.6	91.2	92.2	94.6	96.9	100.1	101.9	100.5	95.3
5000	91.8	92.5	93.2	96.1	98.4	101.5	103.0	100.7	95.9
6300	92.2	92.8	94.2	96.9	99.1	102.4	103.1	100.8	96.4
8000	93.1	93.4	94.7	97.6	100.4	103.6	103.4	101.6	96.6
10000	93.3	94.2	95.0	98.2	100.8	103.4	103.5	102.0	97.1
12500	93.9	94.4	95.6	98.9	101.2	103.7	103.7	102.3	97.7
16000	96.5	96.3	96.9	99.5	101.9	103.8	103.9	102.9	99.0
20000	101.2	98.5	97.6	99.3	101.6	103.2	103.1	102.4	98.6
25000	105.0	102.9	99.6	100.0	101.9	102.7	102.5	102.5	98.6
31500	103.7	104.1	102.6	100.9	101.5	102.1	101.9	101.0	97.4
40000	101.1	102.1	102.9	102.7	101.7	101.6	100.7	99.5	96.2
50000	101.2	100.6	101.6	103.6	103.0	102.1	100.5	98.7	95.1
63000	100.4	100.7	101.0	102.3	103.3	102.7	100.3	98.2	94.8
80000	100.0	100.3	101.1	102.1	102.5	102.6	100.8	98.5	95.4
TSPL	111.3	111.0	110.8	111.9	113.1	114.5	115.2	114.3	114.5
SSPL	111.3	110.9	110.7	111.9	113.0	114.4	114.7	113.9	111.3

V_∞ =	341	fps
T_a =	60	°F
RH_a =	88	%
P_a =	13.71	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 0	3420 3420

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	113.2	112.2	111.4	111.8	112.3	113.1	113.2	112.5	114.2
SSPL	113.1	112.1	111.3	111.8	112.2	113.0	112.7	112.1	111.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	113.7	112.3	111.1	111.1	111.2	111.7	111.4	110.5	112.0
SSPL	113.7	112.3	111.0	111.1	111.1	111.6	111.0	110.2	108.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3420 3420

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	81.0	84.9	89.3	82.2	84.0	85.4	93.1	95.2	93.8
125	80.6	83.4	87.8	79.5	82.6	84.2	93.8	95.4	93.0
160	81.5	81.2	84.9	80.5	82.3	83.6	92.5	94.0	91.4
200	81.3	83.7	85.0	82.0	81.0	82.8	90.5	92.2	91.4
250	83.1	84.2	83.5	80.8	83.0	82.4	83.7	86.3	91.8
315	86.6	83.7	76.9	82.3	81.7	82.7	82.3	84.7	92.1
400	86.6	83.0	75.7	82.9	82.6	83.1	84.3	86.2	92.0
500	83.2	82.1	77.3	82.6	83.6	84.0	85.2	88.0	92.8
630	84.2	84.9	82.7	84.6	84.6	84.7	86.8	89.5	93.0
800	86.7	85.6	84.1	85.9	85.4	86.2	89.1	92.1	95.0
1000	86.8	86.8	86.6	87.6	87.0	87.4	90.2	92.8	94.9
1250	88.2	87.3	86.7	87.8	87.8	89.2	91.7	93.8	95.3
1600	89.2	88.4	88.5	89.3	89.5	90.7	92.9	94.9	95.9
2000	90.5	89.9	89.9	90.7	91.1	92.6	94.4	96.0	96.4
2500	91.5	90.5	90.3	91.6	92.0	93.5	95.6	96.8	96.2
3150	92.1	91.7	91.7	92.8	93.2	94.8	96.8	97.1	95.6
4000	93.0	92.5	92.7	94.1	95.1	97.0	98.1	98.0	96.2
5000	94.1	93.8	93.8	95.7	96.5	98.5	99.3	98.6	96.4
6300	94.6	94.2	94.7	96.4	97.3	99.4	99.6	98.6	96.5
8000	95.4	94.7	95.3	97.2	98.6	100.7	100.2	99.1	97.3
10000	95.7	95.4	95.6	97.8	99.0	100.5	100.1	99.3	97.7
12500	96.3	95.7	96.3	98.4	99.3	100.8	100.3	99.5	98.0
16000	98.9	97.5	97.4	99.0	100.1	100.9	100.5	99.9	98.8
20000	103.6	99.3	97.8	98.7	99.7	100.4	99.7	99.1	98.3
25000	107.3	103.5	99.3	99.2	100.0	99.9	99.0	98.8	98.4
31500	106.1	105.1	102.1	99.8	99.6	99.3	98.5	97.8	96.9
40000	103.5	103.4	103.0	101.5	99.8	99.0	97.5	96.5	95.5
50000	103.6	101.8	102.1	102.7	101.1	99.5	97.5	96.0	94.6
63000	102.8	101.9	101.2	101.5	101.3	100.1	97.6	95.6	94.1
80000	102.3	101.5	101.3	101.2	100.6	100.0	97.9	96.0	94.4
TSPL	113.7	112.0	111.0	111.2	111.2	111.7	111.4	111.2	110.4
SSPL	113.7	112.0	110.9	111.1	111.2	111.6	111.2	110.7	109.9

V_∞ =	341	fps
T_a =	60	°F
RH_a =	88	%
P_a =	1371	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3420 CONDITION 3420

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.47		1.53	2.47	THRUST,IDL	LB	20.8	51.7	N	92.5	230.2
TEMP	(R)	709.5	1273.0	(K)	394.2	707.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.040	KG/M3	1.016	0.637	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	984.3	1872.0	M/S	300.0	570.6	W (MODEL)	LB/S	0.7	0.9	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.0	84.9	89.3	82.2	84.0	85.4	93.1	95.2	93.8	107.9
.125	80.6	83.4	87.8	79.5	82.6	84.2	93.8	95.4	93.0	107.6
.160	81.5	81.2	84.9	80.5	82.3	83.6	92.5	94.0	91.4	106.2
.200	81.3	83.7	85.0	82.0	81.0	82.8	90.5	92.2	91.4	105.1
.250	83.1	84.2	83.5	80.8	83.0	82.4	83.7	86.3	91.8	102.7
.315	86.6	83.7	76.9	82.3	81.7	82.7	82.3	84.7	92.1	102.3
.400	86.6	83.0	75.7	82.9	82.6	83.1	84.3	86.2	92.0	102.7
.500	83.2	82.1	77.3	82.6	83.6	84.0	85.2	88.0	92.8	103.1
.630	84.2	84.9	82.7	84.6	84.6	84.7	86.8	89.5	93.0	104.5
.800	86.7	85.6	84.1	85.9	85.4	86.2	89.1	92.1	95.0	106.3
1.00	86.8	86.8	86.6	87.6	87.0	87.4	90.2	92.8	94.9	107.3
1.25	88.2	87.3	86.7	87.8	87.8	89.2	91.7	93.8	95.3	108.2
1.60	89.2	88.4	88.5	89.3	89.5	90.7	92.9	94.9	95.9	109.4
2.00	90.5	89.9	89.9	90.7	91.1	92.6	94.4	96.0	96.4	110.8
2.50	91.5	90.5	90.3	91.6	92.0	93.5	95.6	96.8	96.2	111.6
3.15	92.1	91.7	91.7	92.8	93.2	94.8	96.8	97.1	95.6	112.5
4.00	93.0	92.5	92.7	94.1	95.1	97.0	98.1	98.0	96.2	113.8
5.00	94.1	93.8	93.8	95.7	96.5	98.5	99.3	98.6	96.4	115.0
6.30	94.6	94.2	94.7	96.4	97.3	99.4	99.6	98.6	96.5	115.5
8.00	95.4	94.7	95.3	97.2	98.6	100.7	100.2	99.1	97.3	116.4
10.0	95.7	95.4	95.6	97.8	99.0	100.5	100.1	99.3	97.7	116.6
12.5	96.3	95.7	96.3	98.4	99.3	100.8	100.3	99.5	98.0	117.0
16.0	98.9	97.5	97.4	99.0	100.1	100.9	100.5	99.9	98.8	117.7
20.0	103.6	99.3	97.8	98.7	99.7	100.4	99.7	99.1	98.3	118.0
25.0	107.3	103.5	99.3	99.2	100.0	99.9	99.0	98.8	98.4	119.7
31.5	106.1	105.1	102.1	99.8	99.6	99.3	98.5	97.8	96.9	120.0
40.0	103.5	103.4	103.0	101.5	99.8	99.0	97.5	96.5	95.5	119.4
50.0	103.6	101.8	102.1	102.7	101.1	99.5	97.5	96.0	94.6	119.3
63.0	102.8	101.9	101.2	101.5	101.3	100.1	97.6	95.6	94.1	118.9
80.0	102.3	101.5	101.3	101.2	100.6	100.0	97.9	96.0	94.4	118.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.7	112.0	111.0	111.2	111.2	111.7	111.4	111.2	110.4	

OAPWL = 129.9

V_∞ =	341	fps
T_a =	60	°F
RH_a =	88	%
P_a =	13.71	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 0	3421 3421

DBTF JET NOISE TEST COANNULAR NOZ. AR
#1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	94.3	77.1	95.9	98.3	90.5	91.0	111.6	98.1	103.4
125	91.8	92.8	95.0	95.9	88.8	91.7	111.3	95.4	105.9
160	89.3	91.5	80.8	81.7	84.4	89.9	104.2	96.1	101.3
200	90.1	82.0	74.0	83.9	84.5	87.9	100.6	97.4	104.6
250	80.0	90.6	79.2	78.6	86.4	86.7	98.7	95.8	109.1
315	83.3	75.5	79.9	80.7	85.6	86.9	96.8	95.6	110.2
400	81.8	78.9	79.3	82.7	85.2	86.3	89.7	95.1	110.3
500	80.6	78.4	79.6	82.7	84.5	86.5	94.4	95.3	103.7
630	80.4	83.2	82.6	84.2	84.6	87.0	93.7	96.1	98.0
800	81.9	83.3	83.0	85.0	85.8	88.2	87.0	97.0	98.4
1000	81.6	84.4	84.8	86.8	87.4	89.3	90.3	96.8	96.0
1250	83.7	85.0	85.1	87.3	87.8	90.9	93.1	97.2	95.9
1600	85.3	85.7	86.5	88.5	89.7	91.8	94.9	97.7	95.6
2000	86.6	87.5	88.0	89.9	91.1	93.9	96.8	98.3	95.2
2500	87.8	88.2	88.6	90.8	92.3	94.9	98.2	98.6	94.8
3150	88.6	89.4	90.2	92.2	93.6	96.4	99.5	98.3	94.4
4000	89.5	90.1	90.9	93.4	95.7	98.6	100.7	99.0	94.5
5000	90.7	91.6	92.1	95.1	97.2	100.1	101.6	99.1	94.7
6300	91.3	92.1	93.3	96.0	98.1	101.1	101.8	99.1	95.4
8000	92.4	92.8	93.9	96.8	99.4	102.4	102.3	100.1	95.6
10000	92.8	93.6	94.4	97.4	99.8	102.4	102.3	100.5	95.9
12500	94.0	94.2	95.3	98.3	100.4	102.6	102.4	100.7	96.8
16000	97.9	96.8	96.8	99.3	101.2	102.8	102.7	101.3	97.6
20000	102.8	99.9	98.0	99.3	101.0	102.2	101.9	100.6	97.0
25000	105.5	103.9	100.4	100.2	101.3	101.8	101.4	100.6	97.2
31500	103.3	104.1	103.2	101.9	101.4	101.4	101.0	99.4	96.0
40000	101.2	102.0	102.8	103.3	102.2	101.3	100.2	98.5	95.6
50000	101.3	101.2	101.7	103.7	103.2	102.3	100.5	98.0	94.8
63000	100.5	101.0	101.5	102.7	103.4	103.0	100.8	98.3	95.1
80000	99.9	100.6	101.3	102.7	102.9	102.9	101.8	99.2	96.3
TSPL	111.7	111.4	111.1	112.3	112.8	113.8	117.5	113.2	117.1
SSPL	111.5	111.2	110.9	112.0	112.7	113.7	113.7	112.6	110.5

V_∞ =	426	fps
T_a =	59	°F
RH_a =	87	%
P_a =	13.20	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	114.2	113.0	111.9	112.3	111.9	112.1	115.2	111.3	117.0
SSPL	114.0	112.9	111.7	112.0	111.8	112.0	111.4	110.6	110.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	114.7	113.1	111.5	111.3	110.5	110.2	113.0	108.7	114.2
SSPL	114.5	112.9	111.3	111.0	110.4	110.1	109.2	108.1	107.7

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3421 3421

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	97.3	79.8	98.5	96.1	87.8	86.5	101.7	103.9	93.8
125	94.8	94.6	95.5	93.6	86.3	87.2	102.0	102.4	91.4
160	92.3	91.5	79.9	80.9	82.3	85.5	96.2	97.7	92.0
200	93.1	81.4	75.3	83.6	82.3	83.7	92.6	95.5	93.6
250	83.0	91.2	77.7	78.5	84.3	82.8	90.8	93.3	92.7
315	86.3	76.9	80.4	80.3	83.4	83.0	89.5	91.7	92.6
400	84.8	80.1	80.1	82.1	82.9	82.6	83.9	86.2	92.4
500	83.6	79.7	80.3	82.0	82.3	82.6	87.6	90.2	91.9
630	83.4	84.7	82.9	83.1	82.3	83.1	87.2	90.3	92.0
800	84.9	84.8	83.4	84.0	83.5	84.6	82.5	85.5	93.2
1000	84.6	86.1	85.3	85.8	85.1	85.7	85.3	87.9	92.6
1250	86.7	86.5	85.5	86.2	85.6	87.1	88.0	90.1	92.9
1600	88.3	87.2	87.0	87.6	87.4	88.1	89.6	91.6	93.3
2000	89.6	89.1	88.5	88.9	88.9	90.2	91.7	93.1	93.8
2500	90.8	89.7	89.1	89.9	90.1	91.1	93.0	94.2	93.9
3150	91.7	91.0	90.7	91.3	91.3	92.6	94.4	94.9	93.6
4000	92.5	91.7	91.4	92.7	93.5	94.9	96.1	95.9	94.1
5000	93.8	93.1	92.7	94.4	95.0	96.4	97.2	96.5	94.3
6300	94.3	93.7	93.9	95.2	95.9	97.4	97.7	96.6	94.4
8000	95.4	94.4	94.6	96.2	97.2	98.8	98.4	97.2	95.3
10000	95.9	95.2	95.1	96.8	97.7	98.8	98.3	97.3	95.6
12500	97.0	95.8	96.0	97.6	98.2	99.1	98.5	97.4	96.0
16000	101.0	98.1	97.3	98.5	98.9	99.2	98.7	97.8	96.5
20000	105.8	100.7	98.0	98.4	98.7	98.7	97.9	97.0	95.8
25000	108.5	104.6	99.9	99.1	99.0	98.3	97.4	96.7	96.0
31500	106.3	105.4	102.8	100.4	99.0	98.0	97.0	95.9	94.7
40000	104.2	103.6	103.0	102.0	99.7	98.0	96.5	95.1	93.8
50000	104.3	102.7	102.2	102.6	100.8	99.0	97.0	95.0	93.3
63000	103.5	102.6	101.8	101.7	101.1	99.8	97.5	95.3	93.6
80000	102.9	102.1	101.7	101.6	100.5	99.5	98.1	96.3	94.5
TSPL	114.7	112.7	111.4	111.2	110.4	110.3	111.1	111.2	108.8
SSPL	114.5	112.5	111.0	110.9	110.4	110.2	109.6	108.8	107.9

V_∞ =	426	fps
T_a =	59	°F
RH_a =	87	%
P_a =	13.20	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=426 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3421 CONDITION 3421

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	20.0	50.5	N	89.0	224.7
TEMP	(R)	699.7	1276.7	(K)	388.7	709.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.030	0.638	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	976.7	1891.0	M/S	297.7	576.4	W (MODEL)	LB/S	0.7	0.9	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	97.3	79.8	98.5	96.1	87.8	86.5	101.7	103.9	93.8	116.2
.125	94.8	94.6	95.5	93.6	86.3	87.2	102.0	102.4	91.4	115.3
.160	92.3	91.5	79.9	80.9	82.3	85.5	96.2	97.7	92.0	110.0
.200	93.1	81.4	75.3	83.6	82.3	83.7	92.6	95.5	93.6	107.7
.250	83.0	91.2	77.7	78.5	84.3	82.8	90.8	93.3	92.7	106.6
.315	86.3	76.9	80.4	80.3	83.4	83.0	89.5	91.7	92.6	104.6
.400	84.8	80.1	80.1	82.1	82.9	82.6	83.9	86.2	92.4	102.4
.500	83.6	79.7	80.3	82.0	82.3	82.6	87.6	90.2	91.9	103.5
.630	83.4	84.7	82.9	83.1	82.3	83.1	87.2	90.3	92.0	104.1
.800	84.9	84.8	83.4	84.0	83.5	84.6	82.5	85.5	93.2	103.5
1.00	84.6	86.1	85.3	85.8	85.1	85.7	85.3	87.9	92.6	104.7
1.25	86.7	86.5	85.5	86.2	85.6	87.1	88.0	90.1	92.9	105.8
1.60	88.3	87.2	87.0	87.6	87.4	88.1	89.6	91.6	93.3	107.0
2.00	89.6	89.1	88.5	88.9	88.9	90.2	91.7	93.1	93.8	108.6
2.50	90.8	89.7	89.1	89.9	90.1	91.1	93.0	94.2	93.9	109.5
3.15	91.7	91.0	90.7	91.3	91.3	92.6	94.4	94.9	93.6	110.7
4.00	92.5	91.7	91.4	92.7	93.5	94.9	96.1	95.9	94.1	112.1
5.00	93.8	93.1	92.7	94.4	95.0	96.4	97.2	96.5	94.3	113.3
6.30	94.3	93.7	93.9	95.2	95.9	97.4	97.7	96.6	94.4	114.0
8.00	95.4	94.4	94.6	96.2	97.2	98.8	98.4	97.2	95.3	115.0
10.0	95.9	95.2	95.1	96.8	97.7	98.8	98.3	97.3	95.6	115.3
12.5	97.0	95.8	96.0	97.6	98.2	99.1	98.5	97.4	96.0	115.8
16.0	101.0	98.1	97.3	98.5	98.9	99.2	98.7	97.8	96.5	116.9
20.0	105.8	100.7	98.0	98.4	98.7	98.7	97.9	97.0	95.8	118.0
25.0	108.5	104.6	99.9	99.1	99.0	98.3	97.4	96.7	96.0	120.0
31.5	106.3	105.4	102.8	100.4	99.0	98.0	97.0	95.9	94.7	120.1
40.0	104.2	103.6	103.0	102.0	99.7	98.0	96.5	95.1	93.8	119.5
50.0	104.3	102.7	102.2	102.6	100.8	99.0	97.0	95.0	93.3	119.4
63.0	103.5	102.6	101.8	101.7	101.1	99.8	97.5	95.3	93.6	119.2
80.0	102.9	102.1	101.7	101.6	100.5	99.5	98.1	96.3	94.5	119.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	114.7	112.7	111.4	111.2	110.4	110.3	111.1	111.2	108.8	OAPWL = 129.9

V_∞ =	426	fps
T_a =	59	°F
RH_a =	87	%
P_a =	13.20	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000080	XARF 0	3422 3422

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.7	87.2	89.6	80.3	87.0	88.0	101.3	96.8	100.3
125	84.7	84.5	88.4	72.8	84.7	87.1	101.6	96.1	101.8
160	82.4	84.6	84.8	78.7	84.4	87.1	99.1	94.8	97.7
200	83.7	83.3	84.3	82.2	83.2	85.0	96.5	94.9	99.9
250	83.4	82.3	83.0	77.5	83.5	83.8	89.3	94.1	103.0
315	76.0	82.1	81.9	79.5	82.9	84.1	88.1	93.2	105.6
400	77.0	81.5	79.9	79.4	83.7	83.7	85.0	92.8	106.2
500	72.3	80.4	79.9	78.5	84.8	83.5	83.7	92.6	98.8
630	74.1	81.3	73.5	80.5	82.7	84.0	86.9	92.4	93.5
800	78.0	81.2	76.7	81.5	82.9	84.9	88.6	92.7	93.3
1000	78.4	81.5	80.1	83.1	84.5	85.7	89.5	92.7	91.9
1250	80.3	82.4	81.1	83.5	84.9	87.2	91.0	92.7	91.8
1600	81.5	82.9	82.8	85.0	86.2	88.2	91.6	93.0	91.2
2000	83.3	84.4	84.5	86.4	87.5	90.0	92.8	93.6	90.6
2500	84.3	84.8	85.1	87.2	88.6	90.9	93.6	93.5	89.8
3150	85.0	85.8	86.5	88.4	89.7	92.1	94.5	93.2	89.3
4000	86.0	86.7	87.5	89.5	91.5	93.9	95.5	93.5	89.0
5000	87.4	88.0	88.6	91.1	92.9	95.0	96.2	93.3	89.2
6300	87.4	88.1	89.5	91.7	93.3	95.5	96.1	93.0	89.1
8000	88.3	88.4	89.8	92.3	94.5	96.8	96.0	93.5	89.0
10000	88.3	89.0	89.8	92.4	94.6	96.5	95.3	93.4	88.6
12500	87.8	88.7	89.9	92.7	94.5	96.1	95.2	92.3	88.4
16000	88.1	89.0	90.2	92.9	94.8	96.0	95.1	92.1	88.0
20000	87.5	88.3	89.5	92.0	94.3	95.2	94.1	90.9	86.5
25000	87.3	88.3	89.3	91.8	94.1	94.6	93.5	90.9	86.3
31500	87.1	87.7	89.1	91.1	93.0	93.7	92.6	89.4	85.1
40000	86.8	87.6	88.8	90.6	91.9	92.7	91.6	88.4	84.5
50000	87.2	88.1	89.5	91.6	92.0	92.0	91.2	88.1	84.1
63000	86.6	86.9	88.5	90.0	90.9	91.3	90.1	87.5	83.9
80000	87.0	87.0	88.6	90.0	90.4	90.8	90.2	87.9	85.2
TSPL	100.2	101.0	102.0	103.7	105.5	107.0	109.6	107.7	112.2
SSPL	99.5	100.3	101.3	103.5	105.3	106.7	106.9	105.8	104.3

V_∞ =	335	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.74	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	102.1	102.2	102.6	103.5	104.7	105.6	107.6	105.9	112.0
SSPL	101.3	101.5	101.8	103.4	104.5	105.3	104.9	104.0	104.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	102.6	102.3	102.3	102.9	103.6	104.1	105.9	104.0	109.7
SSPL	101.9	101.7	101.5	102.7	103.4	103.9	103.2	102.0	101.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3422 3422

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.1	88.7	88.1	79.3	85.2	84.6	94.6	96.5	93.4
125	87.1	86.1	85.8	71.9	83.1	83.5	94.6	96.3	92.9
160	84.8	85.9	83.7	77.9	82.6	83.6	92.7	94.3	91.3
200	86.1	84.5	84.0	81.1	81.3	81.6	90.1	92.6	91.8
250	85.8	83.5	82.0	76.8	81.7	80.8	84.0	87.2	91.8
315	78.4	83.6	81.4	78.7	81.1	81.1	83.1	85.7	91.4
400	79.4	82.8	79.6	78.9	81.9	80.9	80.6	83.4	91.3
500	74.7	82.1	79.5	78.2	83.0	80.9	79.5	83.0	90.2
630	76.5	82.1	74.0	80.4	80.8	81.0	82.2	85.3	89.2
800	80.4	82.1	77.1	81.1	81.1	81.8	83.9	86.7	89.4
1000	80.7	82.7	80.5	82.6	82.7	82.7	84.7	87.3	89.2
1250	82.7	83.6	81.4	82.8	83.0	84.1	86.4	88.2	89.1
1600	83.9	84.2	83.2	84.3	84.3	85.2	87.1	88.7	89.2
2000	85.6	85.7	84.8	85.6	85.7	87.0	88.6	89.7	89.7
2500	86.6	86.0	85.5	86.5	86.7	87.9	89.4	90.1	89.4
3150	87.4	87.0	86.9	87.7	87.9	89.1	90.5	90.6	89.0
4000	88.4	88.0	87.9	88.9	89.7	90.9	91.8	91.3	89.3
5000	89.8	89.3	89.1	90.5	91.1	92.1	92.6	91.5	89.1
6300	89.7	89.5	90.0	91.1	91.5	92.6	92.7	91.3	88.7
8000	90.7	89.7	90.4	91.8	92.7	94.0	92.9	91.3	89.2
10000	90.7	90.2	90.3	91.9	92.7	93.7	92.3	90.9	89.1
12500	90.2	90.0	90.5	92.2	92.7	93.4	92.2	90.3	88.1
16000	90.5	90.3	90.8	92.3	92.9	93.2	92.0	90.1	87.8
20000	89.9	89.6	90.1	91.5	92.4	92.4	91.1	89.2	86.6
25000	89.6	89.6	89.8	91.4	92.3	91.9	90.5	88.8	86.6
31500	89.5	89.0	89.5	90.5	91.1	91.0	89.6	87.6	85.1
40000	89.2	89.0	89.2	89.9	90.0	90.0	88.6	86.5	84.2
50000	89.6	89.5	90.0	90.8	90.1	89.3	88.1	86.2	83.8
63000	89.0	88.3	88.9	89.2	89.0	88.6	87.1	85.3	83.3
80000	89.3	88.3	89.0	89.1	88.5	88.1	87.0	85.5	83.9
TSPL	102.6	102.3	102.3	103.0	103.7	104.1	105.0	105.2	104.2
SSPL	101.9	101.6	101.8	102.9	103.4	103.9	103.5	102.7	101.9

V_∞ =	335	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.74	psia

C4

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 I0.2049

STAND XARF RIG ID VT=335 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3422 CONDITION 3422

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	1.80		1.51	1.80	THRUST,IDL	LB	21.4	29.8	N	95.3	132.5
TEMP	(R)	685.0	1243.3	(K)	380.6	690.7	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.038	KG/M3	1.050	0.601	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	958.4	1523.0	M/S	292.1	464.2	W (MODEL)	LB/S	0.7	0.6	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.1	88.7	88.1	79.3	85.2	84.6	94.6	96.5	93.4	109.0
.125	87.1	86.1	85.8	71.9	83.1	83.5	94.6	96.3	92.9	108.3
.160	84.8	85.9	83.7	77.9	82.6	83.6	92.7	94.3	91.3	106.6
.200	86.1	84.5	84.0	81.1	81.3	81.6	90.1	92.6	91.8	105.3
.250	85.8	83.5	82.0	76.8	81.7	80.8	84.0	87.2	91.8	102.4
.315	78.4	83.6	81.4	78.7	81.1	81.1	83.1	85.7	91.4	101.6
.400	79.4	82.8	79.6	78.9	81.9	80.9	80.6	83.4	91.3	100.8
.500	74.7	82.1	79.5	78.2	83.0	80.9	79.5	83.0	90.2	100.3
.630	76.5	82.1	74.0	80.4	80.8	81.0	82.2	85.3	89.2	100.3
.800	80.4	82.1	77.1	81.1	81.1	81.8	83.9	86.7	89.4	101.2
1.00	80.7	82.7	80.5	82.6	82.7	82.7	84.7	87.3	89.2	102.1
1.25	82.7	83.6	81.4	82.8	83.0	84.1	86.4	88.2	89.1	103.0
1.60	83.9	84.2	83.2	84.3	84.3	85.2	87.1	88.7	89.2	103.8
2.00	85.6	85.7	84.8	85.6	85.7	87.0	88.6	89.7	89.7	105.2
2.50	86.6	86.0	85.5	86.5	86.7	87.9	89.4	90.1	89.4	105.8
3.15	87.4	87.0	86.9	87.7	87.9	89.1	90.5	90.6	89.0	106.8
4.00	88.4	88.0	87.9	88.9	89.7	90.9	91.8	91.3	89.3	108.0
5.00	89.8	89.3	89.1	90.5	91.1	92.1	92.6	91.5	89.1	109.1
6.30	89.7	89.5	90.0	91.1	91.5	92.6	92.7	91.3	88.7	109.4
8.00	90.7	89.7	90.4	91.8	92.7	94.0	92.9	91.3	89.2	110.1
10.0	90.7	90.2	90.3	91.9	92.7	93.7	92.3	90.9	89.1	110.0
12.5	90.2	90.0	90.5	92.2	92.7	93.4	92.2	90.3	88.1	109.9
16.0	90.5	90.3	90.8	92.3	92.9	93.2	92.0	90.1	87.8	110.0
20.0	89.9	89.6	90.1	91.5	92.4	92.4	91.1	89.2	86.6	109.2
25.0	89.6	89.6	89.8	91.4	92.3	91.9	90.5	88.8	86.6	109.0
31.5	89.5	89.0	89.5	90.5	91.1	91.0	89.6	87.6	85.1	108.1
40.0	89.2	89.0	89.2	89.9	90.0	90.0	88.6	86.5	84.2	107.4
50.0	89.6	89.5	90.0	90.8	90.1	89.3	88.1	86.2	83.8	107.7
63.0	89.0	88.3	88.9	89.2	89.0	88.6	87.1	85.3	83.3	106.6
80.0	89.3	88.3	89.0	89.1	88.5	88.1	87.0	85.5	83.9	106.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	102.6	102.3	102.3	103.1	103.7	104.1	105.0	105.2	104.2	DAPWL = 121.9

V_∞ =	335	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.74	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3423 3423

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.6	87.2	90.1	83.5	87.9	89.1	101.4	97.7	101.0
125	85.6	85.2	89.1	78.9	84.7	88.6	102.1	96.3	102.5
160	82.4	82.1	85.1	77.5	83.2	87.6	95.8	94.8	97.5
200	84.3	83.6	84.5	79.2	80.8	85.7	93.2	94.1	100.3
250	73.4	81.8	83.0	72.4	81.8	84.9	91.7	92.9	103.7
315	74.6	79.1	81.1	76.1	80.2	83.9	90.2	92.2	105.5
400	75.0	79.7	79.1	75.0	85.8	83.2	89.7	91.0	106.0
500	62.4	77.9	78.6	73.5	81.2	81.6	87.5	89.3	97.9
630	68.5	78.9	78.0	74.8	76.6	80.7	87.1	88.7	88.2
800	70.2	77.8	78.0	74.8	79.6	79.1	86.2	87.9	86.1
1000	68.9	77.6	78.4	75.7	78.2	78.8	85.4	86.3	83.8
1250	73.6	77.5	69.6	76.0	79.1	79.1	74.5	85.0	83.1
1600	74.5	77.4	73.6	77.7	78.7	79.6	79.0	84.4	83.4
2000	76.8	78.3	76.2	78.5	80.1	81.4	80.5	84.0	82.0
2500	77.2	78.4	76.8	79.3	80.9	81.7	81.8	84.0	81.7
3150	76.0	78.6	77.8	79.9	81.0	82.2	81.9	83.1	80.1
4000	75.8	78.2	78.4	80.7	82.1	83.2	81.5	82.6	79.5
5000	79.2	80.0	79.8	82.0	83.0	83.8	82.5	82.2	78.8
6300	79.8	80.5	81.0	82.3	83.1	83.8	81.9	80.7	77.7
8000	81.8	81.3	81.7	83.3	84.1	84.7	82.6	81.2	77.1
10000	81.5	81.6	81.3	82.8	83.5	83.9	82.1	80.0	76.2
12500	81.1	81.2	81.3	82.6	83.4	83.8	81.4	79.0	75.4
16000	81.7	81.7	81.6	83.1	84.1	83.8	81.0	78.5	74.8
20000	82.0	81.8	81.8	83.3	84.1	83.4	80.3	78.5	74.1
25000	82.1	82.5	82.3	83.4	84.3	83.4	80.4	78.3	72.9
31500	82.1	82.1	82.2	82.6	83.3	82.6	79.7	77.8	75.0
40000	82.7	82.5	82.4	82.8	82.8	82.3	80.1	78.1	75.7
50000	82.5	82.7	82.9	83.6	83.2	82.5	80.0	78.1	77.7
63000	82.6	82.0	82.7	82.6	82.1	81.6	80.5	80.1	79.0
80000	83.7	82.1	83.9	83.6	82.6	82.4	81.9	82.7	81.4
TSPL	95.9	96.2	97.4	95.7	97.6	98.6	106.4	104.1	111.9
SSPL	93.6	94.1	94.1	95.0	95.8	96.1	96.3	97.3	99.5

V_∞ =	342	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.70	psia

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.7	97.4	97.9	95.6	96.8	97.2	104.4	102.3	111.7
SSPL	95.4	95.3	94.7	94.9	95.0	94.6	94.3	95.5	99.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.3	97.5	97.6	94.9	95.7	95.8	102.7	100.4	109.4
SSPL	95.9	95.5	94.4	94.2	94.0	93.2	92.5	93.6	97.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE, ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF 0 3423 3423

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	91.0	88.6	89.1	82.4	86.1	85.7	94.9	96.8	94.3
125	88.0	86.7	87.6	77.7	83.0	84.9	95.5	96.6	93.2
160	84.8	83.6	84.0	76.5	81.5	84.1	90.3	92.0	91.4
200	86.7	84.8	83.6	77.9	79.0	82.2	87.7	89.8	91.3
250	75.8	83.7	81.1	71.7	80.1	81.6	86.4	88.1	90.7
315	77.0	80.8	80.3	75.1	78.5	80.6	85.0	86.7	90.3
400	77.3	81.1	78.2	75.0	84.0	80.4	84.3	85.8	89.4
500	64.8	80.2	77.7	73.1	79.4	78.6	82.3	84.2	86.9
630	70.8	80.7	77.3	73.6	74.8	77.3	81.9	84.4	85.1
800	72.6	79.5	77.4	74.1	77.8	76.1	80.6	83.7	84.2
1000	71.2	79.5	78.0	74.7	76.3	75.7	80.1	82.6	82.4
1250	76.0	78.0	70.0	76.0	77.3	76.7	71.5	74.6	81.7
1600	76.9	78.3	74.0	77.2	76.8	76.8	75.2	77.3	81.0
2000	79.2	79.3	76.4	77.9	78.3	78.7	77.0	78.0	80.3
2500	79.6	79.5	77.1	78.8	79.0	78.9	78.1	79.0	80.2
3150	78.3	79.8	78.1	79.2	79.1	79.4	78.4	78.7	79.2
4000	78.2	79.6	78.8	80.0	80.2	80.5	78.4	78.1	78.7
5000	81.6	81.2	80.2	81.3	81.1	81.1	79.4	78.6	78.1
6300	82.2	81.8	81.3	81.5	81.2	81.2	79.0	77.5	76.7
8000	84.2	82.4	82.1	82.6	82.2	82.0	79.7	78.2	77.0
10000	83.9	82.8	81.6	82.0	81.6	81.2	79.2	77.5	75.8
12500	83.5	82.3	81.6	82.0	81.5	81.2	78.7	76.6	74.8
16000	84.1	82.8	81.9	82.4	82.1	81.2	78.4	76.1	74.3
20000	84.3	82.9	82.1	82.6	82.1	80.8	77.7	75.7	74.2
25000	84.4	83.6	82.4	82.6	82.3	80.9	77.8	75.8	73.9
31500	84.5	83.2	82.3	81.7	81.4	80.1	77.1	74.9	73.8
40000	85.1	83.7	82.5	81.8	80.8	79.7	77.3	75.3	74.1
50000	84.9	83.9	83.0	82.6	81.3	79.9	77.2	75.1	74.3
63000	84.9	83.2	82.8	81.5	80.1	78.9	77.3	76.4	76.3
80000	86.1	83.3	84.0	82.4	80.7	79.7	78.4	78.3	79.0
TSPL	98.3	97.5	96.9	94.8	95.7	95.6	100.4	101.9	101.1
SSPL	95.9	95.4	94.3	94.2	93.9	93.4	92.4	92.9	93.8

V_∞ =	342	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.70	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT#341 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3423 CONDITION 3423

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	21.3	11.7	N	94.6	51.9
TEMP	(R)	667.3	1177.3	(K)	370.7	654.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.036	KG/M3	1.080	0.584	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	951.2	1016.0	M/S	289.9	309.7	W (MODEL)	LB/S	0.7	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.0	88.6	89.1	82.4	86.1	85.7	94.9	96.8	94.3	109.5
.125	88.0	86.7	87.6	77.7	83.0	84.9	95.5	96.6	93.2	109.0
.160	84.8	83.6	84.0	76.5	81.5	84.1	90.3	92.0	91.4	105.0
.200	86.7	84.8	83.6	77.9	79.0	82.2	87.7	89.8	91.3	103.8
.250	75.8	83.7	81.1	71.7	80.1	81.6	86.4	88.1	90.7	102.1
.315	77.0	80.8	80.3	75.1	78.5	80.6	85.0	86.7	90.3	101.0
.400	77.3	81.1	78.2	75.0	84.0	80.4	84.3	85.8	89.4	100.9
.500	64.8	80.2	77.7	73.1	79.4	78.6	82.3	84.2	86.9	98.7
.630	70.8	80.7	77.3	73.6	74.8	77.3	81.9	84.4	85.1	98.1
.800	72.6	79.5	77.4	74.1	77.8	76.1	80.6	83.7	84.2	97.5
1.00	71.2	79.5	78.0	74.7	76.3	75.7	80.1	82.6	82.4	96.9
1.25	76.0	78.0	70.0	76.0	77.3	76.7	71.5	74.6	81.7	94.5
1.60	76.9	78.3	74.0	77.2	76.8	76.8	75.2	77.3	81.0	95.3
2.00	79.2	79.3	76.4	77.9	78.3	78.7	77.0	78.0	80.3	96.6
2.50	79.6	79.5	77.1	78.8	79.0	78.9	78.1	79.0	80.2	97.1
3.15	78.3	79.8	78.1	79.2	79.1	79.4	78.4	78.7	79.2	97.3
4.00	78.2	79.6	78.8	80.0	80.2	80.5	78.4	78.1	78.7	97.7
5.00	81.6	81.2	80.2	81.3	81.1	81.1	79.4	78.6	78.1	98.9
6.30	82.2	81.8	81.3	81.5	81.2	81.2	79.0	77.5	76.7	99.2
8.00	84.2	82.4	82.1	82.6	82.2	82.0	79.7	78.2	77.0	100.1
10.0	83.9	82.8	81.6	82.0	81.6	81.2	79.2	77.5	75.8	99.7
12.5	83.5	82.3	81.6	82.0	81.5	81.2	78.7	76.6	74.8	99.5
16.0	84.1	82.8	81.9	82.4	82.1	81.2	78.4	76.1	74.3	99.8
20.0	84.3	82.9	82.1	82.6	82.1	80.8	77.7	75.7	74.2	99.9
25.0	84.4	83.6	82.4	82.6	82.3	80.9	77.8	75.8	73.9	100.1
31.5	84.5	83.2	82.3	81.7	81.4	80.1	77.1	74.9	73.8	99.6
40.0	85.1	83.7	82.5	81.8	80.8	79.7	77.3	75.3	74.1	99.8
50.0	84.9	83.9	83.0	82.6	81.3	79.9	77.2	75.1	74.3	100.1
63.0	84.9	83.2	82.8	81.5	80.1	78.9	77.3	76.4	76.3	99.6
80.0	86.1	83.3	84.0	82.4	80.7	79.7	78.4	78.3	79.0	100.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.3	97.5	96.9	94.8	95.7	95.6	100.4	101.9	101.1	OAPWL = 116.4

V_∞ =	342	fps
T_a =	60	°F
RH_a =	87	%
P_a =	13.70	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3424 3424

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.4	69.4	79.4	83.1	82.1	79.5	79.9	70.5	86.0
125	72.3	77.3	82.2	82.6	79.6	79.5	81.6	81.5	89.7
160	72.1	78.3	80.8	81.7	81.1	81.4	80.8	84.0	91.7
200	75.4	79.3	80.7	84.5	83.9	86.2	87.6	86.5	92.9
250	79.6	83.2	84.8	85.6	87.4	88.1	88.9	93.6	94.3
315	87.4	88.1	87.4	87.7	87.8	88.8	89.9	93.7	101.5
400	90.1	87.4	86.4	88.1	88.1	89.2	93.3	96.2	105.2
500	86.6	85.5	85.6	87.6	89.2	90.7	94.5	100.3	103.2
630	85.7	87.2	87.6	89.3	91.0	93.5	97.1	101.8	107.0
800	90.0	88.7	90.3	92.3	93.2	94.8	98.7	104.6	108.5
1000	89.6	90.9	92.3	93.5	94.1	96.0	99.9	105.1	108.1
1250	91.1	91.3	92.1	94.4	95.8	98.4	102.0	105.9	107.4
1600	91.4	91.9	92.8	95.5	97.5	99.7	103.2	106.4	106.2
2000	92.1	93.0	94.4	96.8	98.2	101.1	104.9	107.3	105.6
2500	93.5	94.0	94.5	97.5	99.5	102.2	105.8	107.4	104.6
3150	93.8	94.6	95.5	98.3	100.0	103.5	106.7	106.9	104.5
4000	94.7	95.1	96.5	99.3	101.3	104.9	107.3	107.6	104.1
5000	96.0	96.9	97.3	100.3	102.6	106.4	108.4	108.1	104.5
6300	96.2	97.0	98.3	101.0	103.0	106.9	108.6	108.1	105.3
8000	98.3	98.1	99.2	101.5	104.3	107.8	108.8	109.1	106.0
10000	103.2	101.8	101.2	103.0	105.1	108.0	109.0	109.5	106.6
12500	111.1	107.1	103.4	104.1	105.4	108.2	109.0	109.3	107.4
16000	112.3	112.0	108.0	105.5	105.8	108.2	108.9	109.8	108.1
20000	108.3	110.4	110.6	108.4	106.6	108.1	108.5	109.9	107.3
25000	108.2	108.0	109.2	110.8	109.4	108.4	108.3	110.3	107.2
31500	109.8	109.1	107.8	109.9	110.7	109.3	108.3	109.1	105.6
40000	109.0	109.4	109.1	109.3	111.0	110.2	108.1	108.2	104.6
50000	108.7	108.7	109.0	110.0	110.6	110.6	108.2	107.4	103.5
63000	108.0	108.5	108.8	109.4	109.8	110.0	107.5	106.6	102.7
80000	107.5	108.0	108.4	109.2	109.1	109.1	106.9	105.9	101.8
TSPL	119.3	119.1	118.5	119.0	119.5	120.3	120.5	121.4	119.9
SSPL	119.3	119.1	118.5	119.0	119.5	120.3	120.5	121.3	119.6

V_∞ =	201	fps
T_a =	59	°F
RH_a =	26	%
P_a =	14.43	psia

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
H631	315	05/11/76		-00	000000	XARF	0	3424	3424

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	120.2	119.6	118.7	118.8	118.9	119.4	119.2	119.9	119.2
SSPL	120.2	119.6	118.6	118.8	118.9	119.4	119.2	119.8	118.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	120.6	119.8	118.6	118.5	118.3	118.5	118.2	118.8	117.7
SSPL	120.6	119.8	118.6	118.5	118.3	118.5	118.2	118.8	117.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 0	3424 3424

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.7	70.3	80.4	82.5	80.8	77.9	78.2	70.4	72.0
125	73.6	78.5	82.6	81.8	78.3	77.7	79.0	78.3	81.6
160	73.4	79.4	81.1	81.1	79.9	79.6	78.5	79.4	84.2
200	76.7	80.2	81.1	84.0	82.8	84.3	85.2	83.9	86.0
250	80.9	84.2	85.0	85.2	86.3	86.3	86.1	89.1	91.8
315	88.7	88.7	87.4	87.1	86.6	87.0	87.2	88.9	94.0
400	91.4	87.8	86.4	87.5	86.9	87.2	90.1	91.9	96.9
500	88.0	86.1	85.8	87.1	88.1	88.7	91.1	95.3	99.3
630	87.1	87.9	87.7	88.8	89.9	91.5	93.9	97.0	101.4
800	91.3	89.3	90.6	91.8	92.1	92.8	95.3	99.5	103.9
1000	90.9	91.7	92.5	93.0	93.0	94.0	96.6	100.4	104.1
1250	92.4	92.0	92.4	94.0	94.7	96.4	98.9	101.8	104.3
1600	92.7	92.6	93.1	95.1	96.4	97.7	100.1	102.8	104.2
2000	93.4	93.8	94.7	96.4	97.1	99.1	101.9	104.2	104.6
2500	94.9	94.7	94.8	97.2	98.4	100.2	102.9	104.7	104.2
3150	95.1	95.3	95.7	97.9	98.9	101.4	103.9	104.6	103.6
4000	96.0	95.8	96.8	98.9	100.2	102.8	104.6	105.4	104.0
5000	97.3	97.6	97.6	99.9	101.5	104.4	105.9	106.1	104.4
6300	97.5	97.8	98.6	100.6	101.9	104.9	106.2	106.1	104.7
8000	99.7	98.8	99.5	101.2	103.3	105.9	106.5	106.8	105.7
10000	104.5	102.3	101.3	102.6	104.0	106.1	106.6	107.1	106.2
12500	112.4	107.3	103.2	103.6	104.3	106.2	106.6	106.8	106.2
16000	113.6	112.4	107.5	104.8	104.7	106.3	106.5	107.1	106.9
20000	109.6	111.2	110.4	107.6	105.4	106.2	106.1	107.0	106.7
25000	109.5	108.7	109.4	110.1	108.1	106.7	105.9	107.2	107.0
31500	111.1	109.6	107.9	109.4	109.5	107.6	106.2	106.5	105.6
40000	110.3	110.1	109.1	108.8	109.8	108.6	106.3	105.9	104.6
50000	110.0	109.4	109.1	109.5	109.4	108.9	106.5	105.5	103.6
63000	109.3	109.1	108.8	108.8	108.6	108.3	105.8	104.6	102.8
80000	108.8	108.7	108.5	108.6	107.9	107.4	105.2	104.1	102.0
TSPL	120.6	119.7	118.5	118.5	118.3	118.5	118.2	118.7	118.4
SSPL	120.6	119.7	118.5	118.5	118.3	118.5	118.2	118.7	118.3

V_∞ =	201	fps
T_a =	59	°F
RH_a =	26	%
P_a =	1443	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3424 CONDITION 3424

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	23.1	87.9	N	102.8	391.1
TEMP	(R)	683.3	1055.3	(K)	379.6	586.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.052	KG/M3	1.055	0.830	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	966.8	1900.0	M/S	294.7	579.1	W (MODEL)	LB/S	0.8	1.5	KG/S	0.3	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.7	70.3	80.4	82.5	80.8	77.9	78.2	70.4	72.0	97.3
.125	73.6	78.5	82.6	81.8	78.3	77.7	79.0	78.3	81.6	98.1
.160	73.4	79.4	81.1	81.1	79.9	79.6	78.5	79.4	84.2	98.4
.200	76.7	80.2	81.1	84.0	82.8	84.3	85.2	83.9	86.0	101.5
.250	80.9	84.2	85.0	85.2	86.3	86.3	86.1	89.1	91.8	104.6
.315	88.7	88.7	87.4	87.1	86.6	87.0	87.2	88.9	94.0	106.5
.400	91.4	87.8	86.4	87.5	86.9	87.2	90.1	91.9	96.9	107.9
.500	88.0	86.1	85.8	87.1	88.1	88.7	91.1	95.3	99.3	109.1
.630	87.1	87.9	87.7	88.8	89.9	91.5	93.9	97.0	101.4	111.1
.800	91.3	89.3	90.6	91.8	92.1	92.8	95.3	99.5	103.9	113.4
1.00	90.9	91.7	92.5	93.0	93.0	94.0	96.6	100.4	104.1	114.3
1.25	92.4	92.0	92.4	94.0	94.7	96.4	98.9	101.8	104.3	115.5
1.60	92.7	92.6	93.1	95.1	96.4	97.7	100.1	102.8	104.2	116.4
2.00	93.4	93.8	94.7	96.4	97.1	99.1	101.9	104.2	104.6	117.6
2.50	94.9	94.7	94.8	97.2	98.4	100.2	102.9	104.7	104.2	118.3
3.15	95.1	95.3	95.7	97.9	98.9	101.4	103.9	104.6	103.6	118.8
4.00	96.0	95.8	96.8	98.9	100.2	102.8	104.6	105.4	104.0	119.7
5.00	97.3	97.6	97.6	99.9	101.5	104.4	105.9	106.1	104.4	120.8
6.30	97.5	97.8	98.6	100.6	101.9	104.9	106.2	106.1	104.7	121.2
8.00	99.7	98.8	99.5	101.2	103.3	105.9	106.5	106.8	105.7	122.0
10.0	104.5	102.3	101.3	102.6	104.0	106.1	106.6	107.1	106.2	122.9
12.5	112.4	107.3	103.2	103.6	104.3	106.2	106.6	106.8	106.2	124.9
16.0	113.6	112.4	107.5	104.8	104.7	106.3	106.5	107.1	106.9	127.0
20.0	109.6	111.2	110.4	107.6	105.4	106.2	106.1	107.0	106.7	126.7
25.0	109.5	108.7	109.4	110.1	108.1	106.7	105.9	107.2	107.0	126.7
31.5	111.1	109.6	107.9	109.4	109.5	107.6	106.2	106.5	105.6	126.9
40.0	110.3	110.1	109.1	108.8	109.8	108.6	106.3	105.9	104.6	127.1
50.0	110.0	109.4	109.1	109.5	109.4	108.9	106.5	105.5	103.6	127.0
63.0	109.3	109.1	108.8	108.8	108.6	108.3	105.8	104.6	102.8	126.4
80.0	108.8	108.7	108.5	108.6	107.9	107.4	105.2	104.1	102.0	125.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.6	119.7	118.5	118.5	118.3	118.5	118.2	118.7	118.4	OAPWL = 137.1

V_∞ =	201	fps
T_a =	59	°F
RH_a =	26	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3425 3425

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.4	74.3	78.1	80.4	79.6	78.2	80.0	83.7	88.3
125	76.7	79.2	82.4	82.1	79.6	80.5	82.5	85.9	90.9
160	77.4	81.0	82.7	83.6	82.9	83.3	82.9	88.2	93.6
200	79.1	82.1	82.9	86.2	85.8	87.8	89.3	89.9	94.1
250	81.3	84.7	86.4	87.2	89.3	90.3	90.9	96.0	96.2
315	88.6	90.1	89.5	90.1	90.2	91.2	92.7	95.7	103.1
400	93.3	90.5	89.6	90.9	90.2	91.5	95.4	98.7	106.9
500	91.0	89.6	88.8	89.9	91.8	93.7	97.7	102.7	105.0
630	88.0	89.9	90.2	91.7	93.5	96.0	99.4	104.6	110.1
800	92.8	91.3	92.5	94.9	96.2	97.9	101.4	107.2	110.9
1000	92.5	93.3	94.4	96.0	97.4	99.0	102.4	107.9	111.5
1250	92.9	93.2	94.6	96.6	97.7	100.6	104.2	108.7	110.7
1600	93.5	94.1	94.8	97.6	99.3	101.7	105.5	108.9	109.6
2000	94.1	95.0	96.3	98.7	100.1	103.3	107.0	109.5	108.3
2500	95.4	95.5	96.7	99.3	101.4	104.1	107.7	109.2	107.4
3150	95.7	96.7	97.6	100.0	102.0	105.5	108.7	108.9	107.6
4000	96.6	97.2	98.4	101.4	103.2	107.0	109.1	109.8	107.6
5000	97.8	98.6	99.3	102.2	104.4	108.0	110.0	110.1	108.3
6300	98.2	98.7	100.1	102.7	104.8	108.6	110.1	110.4	109.8
8000	99.7	99.5	100.6	103.2	106.0	109.5	110.4	111.2	111.3
10000	103.3	102.1	102.2	104.1	106.4	109.4	110.4	111.5	112.2
12500	111.4	107.0	103.9	105.2	106.7	109.3	110.5	111.6	112.8
16000	113.1	112.3	107.7	105.9	106.9	109.5	110.3	112.4	112.0
20000	109.3	111.1	111.0	108.2	107.5	109.0	109.8	112.0	109.9
25000	108.8	108.5	109.9	110.9	109.7	109.3	109.7	112.0	109.4
31500	110.5	109.5	108.1	110.4	111.1	109.9	109.5	110.6	108.0
40000	109.7	110.3	109.5	109.5	111.5	110.3	109.0	109.8	107.2
50000	109.4	109.3	109.5	110.2	111.2	110.6	109.1	109.2	106.0
63000	108.8	109.3	109.3	109.8	110.5	110.3	108.3	108.7	105.4
80000	108.5	108.8	109.1	109.8	110.0	109.6	108.2	108.0	105.1
TSPL	120.1	119.7	119.0	119.5	120.4	121.3	122.0	123.5	123.3
SSPL	120.0	119.7	119.0	119.5	120.4	121.3	122.0	123.4	123.2

V_∞ =	98	fps
T_a =	63	°F
RH_a =	27	%
P_a =	14.68	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	120.5	119.9	119.1	119.4	120.1	120.8	121.3	122.6	122.6
SSPL	120.5	119.9	119.1	119.4	120.1	120.8	121.3	122.6	122.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	120.7	120.0	119.0	119.3	119.8	120.4	120.8	122.1	121.9
SSPL	120.7	120.0	119.0	119.3	119.8	120.4	120.8	122.1	121.7

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF 0 3425 3425

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.0	74.7	78.3	80.1	79.0	77.3	78.5	81.3	85.1
125	77.3	79.7	82.5	81.7	78.9	79.5	81.0	83.5	87.5
160	78.0	81.5	82.8	83.3	82.3	82.4	81.5	85.3	90.2
200	79.7	82.5	83.0	86.0	85.2	86.8	88.0	88.1	90.7
250	82.0	85.2	86.5	87.0	88.8	89.4	89.4	93.7	95.2
315	89.3	90.5	89.5	89.8	89.6	90.3	91.3	93.2	98.5
400	94.0	90.7	89.6	90.6	89.6	90.5	93.7	96.1	101.9
500	91.7	89.9	88.8	89.7	91.3	92.7	95.9	100.3	103.0
630	88.7	90.3	90.3	91.5	93.0	95.0	97.7	101.8	106.6
800	93.5	91.6	92.6	94.7	95.7	96.9	99.7	104.5	108.4
1000	93.2	93.7	94.5	95.8	96.9	98.0	100.7	105.2	109.0
1250	93.6	93.6	94.7	96.4	97.2	99.6	102.5	106.4	108.8
1600	94.2	94.5	94.9	97.5	98.8	100.7	103.9	106.9	108.2
2000	94.8	95.4	96.4	98.5	99.6	102.3	105.4	107.9	107.8
2500	96.1	95.9	96.9	99.2	101.0	103.1	106.2	107.8	107.1
3150	96.3	97.0	97.7	99.8	101.5	104.4	107.2	107.6	106.8
4000	97.2	97.6	98.5	101.2	102.7	105.9	107.7	108.5	107.3
5000	98.4	99.0	99.4	102.0	103.9	107.0	108.7	108.9	107.7
6300	98.9	99.1	100.2	102.5	104.3	107.6	108.8	109.1	108.7
8000	100.4	99.9	103.7	103.1	105.6	108.5	109.2	109.7	110.0
10000	104.0	102.4	102.3	103.9	105.9	108.4	109.1	109.9	110.6
12500	112.0	107.1	103.8	105.0	106.2	108.3	109.2	109.9	110.9
16000	113.8	112.5	107.6	105.6	106.4	108.5	109.0	110.7	111.0
20000	109.9	111.5	110.9	107.8	106.9	108.0	108.4	110.4	109.7
25000	109.4	108.8	109.9	110.6	109.0	108.4	108.3	110.4	109.4
31500	111.1	109.8	108.1	110.2	110.5	109.0	108.3	109.2	107.9
40000	110.4	110.7	109.5	109.3	110.9	109.5	107.9	108.5	107.1
50000	110.1	109.7	109.6	110.0	110.6	109.8	108.1	108.1	106.1
63000	109.4	109.6	109.3	109.5	109.9	109.4	107.2	107.5	105.6
80000	109.2	109.2	109.1	109.5	109.4	108.8	107.2	106.9	105.1
TSPL	120.7	120.0	119.0	119.3	119.8	120.4	120.7	121.9	122.0
SSPL	120.7	120.0	119.0	119.3	119.8	120.4	120.7	121.9	122.0

V_∞ =	98	fps
T_a =	63	°F
RH_a =	27	%
P_a =	14.68	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONFIG 4 TAPE 4225 FO.2049

STAND XARF RIG ID VT-98 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3425 CONDITION 3425

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.22		1.53	3.22	THRUST,IDL	LB	23.1	89.9	N	103.0	399.9
TEMP	(R)	696.8	1071.7	(K)	387.1	595.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.051	KG/M3	1.036	0.817	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	980.6	1917.0	M/S	298.9	584.3	W (MODEL)	LB/S	0.8	1.5	KG/S	0.3	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.0	74.7	78.3	80.1	79.0	77.3	78.5	81.3	85.1	97.5
.125	77.3	79.7	82.5	81.7	78.9	79.5	81.0	83.5	87.5	99.8
.160	78.0	81.5	82.8	83.3	82.3	82.4	81.5	85.3	90.2	101.6
.200	79.7	82.5	83.0	86.0	85.2	86.8	88.0	88.1	90.7	104.3
.250	82.0	85.2	86.5	87.0	88.8	89.4	89.4	93.7	95.2	107.6
.315	89.3	90.5	89.5	89.8	89.6	90.3	91.3	93.2	98.5	109.6
.400	94.0	90.7	89.6	90.6	89.6	90.5	93.7	96.1	101.9	111.6
.500	91.7	89.9	88.8	89.7	91.3	92.7	95.9	100.3	103.0	113.2
.630	88.7	90.3	90.3	91.5	93.0	95.0	97.7	101.8	106.6	115.3
.800	93.5	91.6	92.6	94.7	95.7	96.9	99.7	104.5	108.4	117.6
1.00	93.2	93.7	94.5	95.8	96.9	98.0	100.7	105.2	109.0	118.4
1.25	93.6	93.6	94.7	96.4	97.2	99.6	102.5	106.4	108.8	119.2
1.60	94.2	94.5	94.9	97.5	98.8	100.7	103.9	106.9	108.2	119.8
2.00	94.8	95.4	96.4	98.5	99.6	102.3	105.4	107.9	107.8	120.8
2.50	96.1	95.9	96.9	99.2	101.0	103.1	106.2	107.8	107.1	121.1
3.15	96.3	97.0	97.7	99.8	101.5	104.4	107.2	107.6	106.8	121.6
4.00	97.2	97.6	98.5	101.2	102.7	105.9	107.7	108.5	107.3	122.6
5.00	98.4	99.0	99.4	102.0	103.9	107.0	108.7	108.9	107.7	123.4
6.30	98.9	99.1	100.2	102.5	104.3	107.6	108.8	109.1	108.7	123.8
8.00	100.4	99.9	100.7	103.1	105.6	108.5	109.2	109.7	110.0	124.6
10.0	104.0	102.4	102.3	103.9	105.9	108.4	109.1	109.9	110.6	125.0
12.5	112.0	107.1	103.8	105.0	106.2	108.3	109.2	109.9	110.9	126.3
16.0	113.8	112.5	107.6	105.6	106.4	108.5	109.0	110.7	111.0	128.1
20.0	109.9	111.5	110.9	107.8	106.9	108.0	108.4	110.4	109.7	127.8
25.0	109.4	108.8	109.9	110.6	109.0	108.4	108.3	110.4	109.4	127.7
31.5	111.1	109.8	108.1	110.2	110.5	109.0	108.3	109.2	107.9	127.8
40.0	110.4	110.7	109.5	109.3	110.9	109.5	107.9	108.5	107.1	128.0
50.0	110.1	109.7	109.6	110.0	110.6	109.8	108.1	108.1	106.1	127.8
63.0	109.4	109.6	109.3	109.5	109.9	109.4	107.2	107.5	105.6	127.4
80.0	109.2	109.2	109.1	109.5	109.4	108.8	107.2	106.9	105.1	127.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.7	120.0	119.0	119.3	119.8	120.4	120.7	121.9	122.0	OAPWL = 138.6

V_∞ =	98	fps
T_a =	63	°F
RH_a =	27	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO STND C	OBS CORR
W631	315	05/11/76		-00 000000 XARF EO	3428 3428

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	73.2	71.2	74.7	77.0	76.7	75.6	76.4	80.3	84.4
125	72.6	75.1	78.4	78.7	76.6	77.6	79.0	82.2	87.1
160	73.4	77.5	79.4	80.4	79.7	80.1	79.9	84.5	90.0
200	75.3	78.8	79.7	83.0	82.1	84.4	85.9	86.4	91.0
250	77.8	81.4	83.4	84.0	85.6	86.8	87.6	92.5	92.8
315	84.8	86.6	86.1	86.9	86.9	87.9	89.4	92.3	99.5
400	89.3	86.8	85.9	87.5	87.1	88.4	92.1	95.0	102.8
500	87.3	86.0	85.7	86.5	88.4	90.4	94.0	98.9	101.0
630	84.7	86.5	86.9	88.6	90.3	92.8	95.8	100.7	106.2
800	88.9	88.2	89.2	91.5	92.8	94.6	97.6	103.0	107.0
1000	89.3	90.0	91.1	92.6	93.7	95.5	98.7	103.9	107.4
1250	89.6	89.9	91.3	93.1	94.3	97.1	100.4	104.7	106.7
1600	90.0	90.9	91.9	94.3	95.7	98.4	101.7	104.9	105.8
2000	91.0	92.1	93.3	95.5	96.9	99.8	102.8	105.5	104.8
2500	92.1	92.5	93.5	95.9	98.1	100.5	103.5	105.4	103.7
3150	92.3	93.5	94.6	96.8	98.7	101.7	104.5	104.9	103.5
4000	93.5	94.1	95.4	98.1	100.0	103.2	105.0	105.6	103.2
5000	94.2	95.3	96.1	99.0	101.0	104.2	105.8	105.7	103.5
6300	94.1	95.0	96.7	99.2	101.1	104.4	105.7	105.6	104.1
8000	94.8	95.3	96.8	99.3	102.0	105.5	105.7	106.4	104.2
10000	95.1	95.9	96.9	99.7	102.1	105.2	105.8	106.5	105.0
12500	95.6	95.8	96.8	99.7	102.1	105.2	105.4	106.4	106.6
16000	97.5	97.0	97.5	100.0	102.3	105.2	105.1	106.4	106.7
20000	103.1	100.0	98.2	99.4	101.6	104.2	104.2	105.8	105.9
25000	105.8	104.8	100.8	100.1	102.1	103.8	103.6	105.9	105.3
31500	103.0	104.8	104.6	102.2	101.7	103.1	102.7	104.5	103.4
40000	101.8	102.5	104.0	104.8	103.1	103.2	102.1	103.3	102.2
50000	102.6	102.5	102.5	104.8	105.0	103.8	101.9	102.3	100.9
63000	101.7	102.7	103.0	103.4	104.8	104.3	101.5	101.6	100.0
80000	100.9	101.5	102.2	103.0	103.0	103.4	101.1	100.6	99.0
TSPL	112.3	112.4	112.4	113.4	114.5	116.4	116.9	118.4	118.5
SSPL	112.3	112.4	112.4	113.4	114.5	116.3	116.9	118.3	118.3

V_∞ =	102	fps
T_a =	73	°F
RH_a =	10	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF C0	3428 3428

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	112.8	112.7	112.4	113.3	114.2	115.8	116.2	117.5	117.8
SSPL	112.7	112.6	112.4	113.3	114.1	115.8	116.2	117.5	117.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	113.0	112.8	112.4	113.2	113.9	115.5	115.7	117.0	117.1
SSPL	113.0	112.8	112.4	113.1	113.9	115.4	115.7	117.0	116.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00	000000	XARF 0	3428 3428

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	73.9	71.6	74.9	76.8	76.1	74.7	75.0	77.9	81.5
125	73.3	75.5	78.5	78.3	75.9	76.7	77.6	79.8	83.7
160	74.1	78.0	79.5	80.1	79.1	79.2	78.5	81.8	86.5
200	75.9	79.2	79.8	82.8	81.5	83.5	84.6	84.6	87.4
250	78.4	81.9	83.5	83.8	85.1	85.9	86.1	90.2	91.8
315	85.5	87.0	86.1	86.6	86.3	86.9	88.0	89.8	95.0
400	90.0	87.0	85.9	87.2	86.5	87.4	90.5	92.5	98.0
500	88.0	86.3	85.7	86.3	87.9	89.4	92.3	96.5	99.1
630	85.4	86.9	87.0	88.4	89.8	91.8	94.1	98.0	102.7
800	89.6	88.6	89.3	91.3	92.3	93.6	95.9	100.3	104.3
1000	90.0	90.4	91.2	92.4	93.2	94.5	97.0	101.3	104.9
1250	90.3	90.3	91.4	92.9	93.8	96.1	98.8	102.4	104.8
1600	90.7	91.3	92.0	94.1	95.2	97.4	100.1	102.9	104.3
2000	91.7	92.5	93.4	95.3	96.4	98.8	101.3	103.8	104.0
2500	92.8	92.9	93.6	95.8	97.6	99.5	102.0	103.9	103.3
3150	92.9	93.8	94.7	96.6	98.2	100.6	103.0	103.6	102.8
4000	94.1	94.5	95.5	97.9	99.5	102.2	103.6	104.4	103.0
5000	94.8	95.7	96.2	98.8	100.5	103.2	104.5	104.6	103.1
6300	94.8	95.4	96.8	99.0	100.6	103.4	104.4	104.4	103.4
8000	95.5	95.7	97.0	99.2	101.6	104.6	104.5	105.2	104.0
10000	95.8	96.3	97.0	99.5	101.6	104.2	104.6	105.2	104.4
12500	96.2	96.1	96.9	99.5	101.6	104.2	104.1	104.8	105.2
16000	98.2	97.3	97.6	99.8	101.8	104.2	103.9	104.8	105.3
20000	103.7	100.2	98.2	99.2	101.1	103.2	102.9	104.1	104.6
25000	106.4	105.0	100.7	99.8	101.5	102.8	102.3	104.1	104.4
31500	103.6	105.2	104.5	101.8	101.1	102.2	101.5	102.9	102.7
40000	102.5	102.9	104.1	104.5	102.5	102.4	101.0	101.8	101.5
50000	103.3	102.8	102.6	104.6	104.4	103.0	100.9	101.0	100.2
63000	102.3	103.0	103.0	103.1	104.2	103.4	100.5	100.3	99.3
80000	101.6	101.9	102.3	102.7	102.4	102.6	100.2	99.5	98.3
TSPL	113.0	112.8	112.4	113.2	113.9	115.4	115.6	116.8	117.1
SSPL	113.0	112.7	112.4	113.2	113.9	115.4	115.6	116.7	117.0

V_∞ =	102	fps
T_a =	73	°F
RH_a =	10	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/11/76 SCALE RATIO 0.0/1 RUN NUMBER 3428 CONDITION 3428

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.51		1.53	2.51	THRUST,IDL	LB	23.1	62.5	N	102.7	278.0
TEMP	(R)	715.7	1061.3	(K)	397.6	589.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.048	KG/M3	1.008	0.772	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	991.1	1720.0	M/S	302.1	524.3	W (MODEL)	LB/S	0.8	1.2	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.9	71.6	74.9	76.8	76.1	74.7	75.0	77.9	81.5	94.2
.125	73.3	75.5	78.5	78.3	75.9	76.7	77.6	79.8	83.7	96.2
.160	74.1	78.0	79.5	80.1	79.1	79.2	78.5	81.8	86.5	98.2
.200	75.9	79.2	79.8	82.8	81.5	83.5	84.6	84.6	87.4	100.9
.250	78.4	81.9	83.5	83.8	85.1	85.9	86.1	90.2	91.8	104.2
.315	85.5	87.0	86.1	86.6	86.3	86.9	88.0	89.8	95.0	106.2
.400	90.0	87.0	85.9	87.2	86.5	87.4	90.5	92.5	98.0	108.0
.500	88.0	86.3	85.7	86.3	87.9	89.4	92.3	96.5	99.1	109.5
.630	85.4	86.9	87.0	88.4	89.8	91.8	94.1	98.0	102.7	111.7
.800	89.6	88.6	89.3	91.3	92.3	93.6	95.9	100.3	104.3	113.7
1.00	90.0	90.4	91.2	92.4	93.2	94.5	97.0	101.3	104.9	114.6
1.25	90.3	90.3	91.4	92.9	93.8	96.1	98.8	102.4	104.8	115.4
1.60	90.7	91.3	92.0	94.1	95.2	97.4	100.1	102.9	104.3	116.1
2.00	91.7	92.5	93.4	95.3	96.4	98.8	101.3	103.8	104.0	117.0
2.50	92.8	92.9	93.6	95.8	97.6	99.5	102.0	103.9	103.3	117.3
3.15	92.9	93.8	94.7	96.6	98.2	100.6	103.0	103.6	102.8	117.8
4.00	94.1	94.5	95.5	97.9	99.5	102.2	103.6	104.4	103.0	118.8
5.00	94.8	95.7	96.2	98.8	100.5	103.2	104.5	104.6	103.1	119.5
6.30	94.8	95.4	96.8	99.0	100.6	103.4	104.4	104.4	103.4	119.5
8.00	95.5	95.7	97.0	99.2	101.6	104.6	104.5	105.2	104.0	120.2
10.0	95.8	96.3	97.0	99.5	101.6	104.2	104.6	105.2	104.4	120.2
12.5	96.2	96.1	96.9	99.5	101.6	104.2	104.1	104.8	105.2	120.1
16.0	98.2	97.3	97.6	99.8	101.6	104.2	103.9	104.8	105.3	120.2
20.0	103.7	100.2	98.2	99.2	101.1	103.2	102.9	104.1	104.6	120.1
25.0	106.4	105.0	100.7	99.8	101.5	102.8	102.3	104.1	104.4	121.3
31.5	103.6	105.2	104.5	101.8	101.1	102.2	101.5	102.9	102.7	121.4
40.0	102.5	102.9	104.1	104.5	102.5	102.4	101.0	101.8	101.5	121.2
50.0	103.3	102.8	102.6	104.6	104.4	103.0	100.9	101.0	100.2	121.3
63.0	102.3	103.0	103.0	103.1	104.2	103.4	100.5	100.3	99.3	121.0
80.0	101.6	101.9	102.3	102.7	102.4	102.6	100.2	99.5	98.3	120.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.0	112.8	112.4	113.2	114.0	115.4	115.6	116.8	117.1	OAPWL = 132.7

V_{∞} =	102	fps
T_a =	73	°F
RH_a =	10	%
P_a =	14.68	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
H631	315	05/11/76		-00	000000	XARF	0 3429	3429

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.2	76.1	73.6	79.1	78.8	73.4	75.9	85.0	93.1
125	75.0	70.3	78.8	79.1	75.9	74.6	78.6	84.4	94.7
160	59.4	73.1	77.6	78.5	78.0	77.6	77.5	76.8	95.6
200	69.7	75.2	77.5	81.7	80.7	82.8	84.3	82.2	97.4
250	75.6	80.0	81.9	82.5	84.3	84.8	85.9	90.7	98.6
315	83.9	84.9	84.2	84.7	84.8	85.9	87.1	90.8	105.0
400	86.6	84.3	83.2	85.2	85.3	86.4	90.5	93.6	108.1
500	83.4	82.5	83.1	84.5	86.4	87.9	91.4	96.8	105.3
630	82.8	84.4	85.0	86.7	88.3	90.6	94.0	98.6	109.1
800	87.0	86.1	87.4	89.5	90.4	92.2	95.6	101.2	110.3
1000	86.7	88.0	89.2	90.6	91.3	93.1	96.5	101.5	109.9
1250	88.1	88.7	89.4	91.7	92.7	95.4	98.7	102.4	109.3
1600	88.4	89.3	90.1	92.6	94.6	96.7	99.7	102.8	108.6
2000	89.4	90.4	91.6	93.9	95.2	98.0	101.2	103.4	107.4
2500	90.4	91.1	91.6	94.6	96.4	98.8	101.7	103.4	106.5
3150	90.7	91.8	93.0	95.4	97.1	100.1	102.6	102.9	106.1
4000	91.9	92.4	93.6	96.3	98.4	101.5	103.3	103.4	105.5
5000	92.8	93.8	94.5	97.5	99.3	102.6	104.3	103.6	105.7
6300	93.0	93.8	95.2	98.0	99.9	103.2	104.3	103.4	106.0
8000	93.7	93.9	95.6	98.2	100.8	103.9	104.3	104.0	106.1
10000	94.0	94.7	95.7	98.6	101.1	103.8	104.3	104.3	106.3
12500	94.6	94.8	95.9	98.9	101.3	104.0	104.0	104.2	107.0
16000	93.0	97.0	97.0	99.3	101.6	104.1	103.9	104.2	107.7
20000	103.9	100.6	97.9	99.0	101.1	103.3	103.1	103.6	107.2
25000	106.1	105.3	101.0	100.0	101.3	102.7	102.3	103.5	106.9
31500	103.1	104.7	104.6	102.3	101.4	102.2	101.6	102.1	105.4
40000	101.9	102.0	103.5	104.5	102.8	102.2	100.9	100.9	104.2
50000	102.5	101.8	101.9	104.3	104.4	102.9	100.4	99.8	102.4
63000	101.5	101.9	102.1	102.6	103.9	103.4	100.2	98.9	101.3
80000	100.8	101.1	101.5	102.2	102.1	102.3	99.8	98.0	100.5
TSPL	112.3	112.1	111.8	112.7	113.6	115.1	115.5	116.2	121.0
SSPL	112.3	112.1	111.7	112.7	113.6	115.1	115.4	116.1	120.5

V_∞ =	200	fps
T_a =	59	°F
RH_a =	11	%
P_a =	1443	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
H631	315	05/11/76		-00	000000	XARF	0	3429	3429

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	113.2	112.6	111.9	112.5	113.0	114.1	114.2	114.7	120.3
SSPL	113.2	112.6	111.9	112.5	113.0	114.1	114.1	114.6	119.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	113.6	112.8	111.8	112.2	112.4	113.3	113.1	113.6	118.8
SSPL	113.6	112.8	111.8	112.1	112.4	113.3	113.1	113.5	118.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3429 3429

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.5	76.5	73.9	78.7	77.4	71.8	72.4	78.1	86.0
125	76.3	71.3	79.4	78.3	74.6	72.7	75.1	78.7	85.8
160	60.7	74.7	77.9	77.9	76.8	75.9	75.3	72.8	80.2
200	71.0	76.2	78.0	81.2	79.5	80.9	82.0	79.2	84.4
250	76.9	81.0	82.0	82.0	83.1	82.9	83.1	85.5	91.2
315	85.2	85.5	84.2	84.1	83.6	84.0	84.4	85.4	93.2
400	88.0	84.8	83.3	84.7	84.1	84.5	87.3	88.7	96.0
500	84.7	83.2	83.2	84.1	85.2	85.9	88.1	91.4	97.5
630	84.1	85.2	85.1	86.2	87.2	88.6	90.8	93.4	99.9
800	88.3	86.8	87.6	89.0	89.3	90.2	92.4	95.7	102.1
1000	88.1	88.8	89.4	90.1	90.2	91.1	93.3	96.3	102.2
1250	89.4	89.4	89.6	91.2	91.6	93.4	95.6	97.9	102.5
1600	89.7	90.0	90.4	92.2	93.5	94.8	96.7	98.6	102.5
2000	90.7	91.2	91.9	93.5	94.1	96.0	98.3	99.8	102.4
2500	91.7	91.8	91.9	94.3	95.3	96.9	98.9	100.1	102.1
3150	92.1	92.6	93.2	94.9	96.0	98.1	100.1	100.1	101.4
4000	93.2	93.1	93.9	95.9	97.3	99.5	100.8	100.7	101.6
5000	94.1	94.5	94.8	97.1	98.2	100.6	101.8	101.2	101.7
6300	94.3	94.6	95.5	97.6	98.8	101.2	102.0	101.1	101.7
8000	95.0	94.7	96.0	97.9	99.8	102.0	102.1	101.5	102.2
10000	95.3	95.4	96.0	98.2	100.0	101.9	102.0	101.6	102.5
12500	95.9	95.5	96.2	98.5	100.2	102.1	101.8	101.3	102.6
16000	99.3	97.6	97.2	98.9	100.5	102.2	101.7	101.2	102.9
20000	105.2	100.9	97.8	98.5	100.0	101.4	100.9	100.5	102.3
25000	107.4	105.6	100.6	99.4	100.1	100.9	100.0	100.1	102.2
31500	104.4	105.4	104.4	101.5	100.2	100.4	99.4	99.0	100.7
40000	103.2	102.8	103.7	103.9	101.6	100.5	98.9	98.0	99.5
50000	103.8	102.4	102.1	103.8	103.2	101.3	98.7	97.2	98.1
63000	102.8	102.5	102.1	102.0	102.7	101.7	98.6	96.5	97.0
80000	102.1	101.8	101.6	101.6	100.9	100.6	98.2	95.8	96.2
TSPL	113.6	112.7	111.8	112.2	112.4	113.2	113.1	113.0	115.1
SSPL	113.6	112.7	111.8	112.2	112.4	113.2	113.1	113.0	115.0

V_{oa} =	200	fps
T_a =	59	°F
RH_a =	11	%
P_a =	14.43	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3429 CONDITION 3429

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.51		1.53	2.51	THRUST,IDL	LB	23.7	61.2	N	105.4	272.4
TEMP	(R)	717.8	1070.0	(K)	398.8	594.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.048	KG/M3	1.004	0.766	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	990.9	1730.0	M/S	302.0	527.3	W (MODEL)	LB/S	0.8	1.1	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.5	76.5	73.9	78.7	77.4	71.8	72.4	78.1	86.0	96.0
.125	76.3	71.3	79.4	78.3	74.6	72.7	75.1	78.7	85.8	96.0
.160	60.7	74.7	77.9	77.9	76.8	75.9	75.3	72.8	80.2	94.6
.200	71.0	76.2	78.0	81.2	79.5	80.9	82.0	79.2	84.4	98.2
.250	76.9	81.0	82.0	82.0	83.1	62.9	83.1	85.5	91.2	101.8
.315	85.2	85.5	84.2	84.1	83.6	84.0	84.4	85.4	93.2	103.8
.400	88.0	84.8	83.3	84.7	84.1	84.5	87.3	88.7	96.0	105.4
.500	84.7	83.2	83.2	84.1	85.2	85.9	88.1	91.4	97.5	106.3
.630	84.1	85.2	85.1	66.2	87.2	88.6	90.8	93.4	99.9	108.5
.800	88.3	86.8	87.6	89.0	89.3	90.2	92.4	95.7	102.1	110.7
1.00	88.1	88.8	89.4	90.1	90.2	91.1	93.3	96.3	102.2	111.3
1.25	89.4	89.4	89.6	91.2	91.6	93.4	95.6	97.9	102.5	112.5
1.60	89.7	90.0	90.4	92.2	93.5	94.8	96.7	98.6	102.5	113.3
2.00	90.7	91.2	91.9	93.5	94.1	96.0	98.3	99.8	102.4	114.3
2.50	91.7	91.8	91.9	94.3	95.3	96.9	98.9	100.1	102.1	114.8
3.15	92.1	92.6	93.2	94.9	96.0	98.1	100.1	100.1	101.4	115.4
4.00	93.2	93.1	93.9	95.9	97.3	99.5	100.8	100.7	101.6	116.2
5.00	94.1	94.5	94.8	97.1	98.2	100.6	101.8	101.2	101.7	117.1
6.30	94.3	94.6	95.5	97.6	98.8	101.2	102.0	101.1	101.7	117.4
8.00	95.0	94.7	96.0	97.9	99.8	102.0	102.1	101.5	102.2	117.9
10.0	95.3	95.4	96.0	98.2	100.0	101.9	102.0	101.6	102.5	118.0
12.5	95.9	95.5	96.2	98.5	100.2	102.1	101.8	101.3	102.6	118.1
16.0	99.3	97.6	97.2	98.9	100.5	102.2	101.7	101.2	102.9	118.5
20.0	105.2	100.9	97.8	98.5	100.0	101.4	100.9	100.5	102.3	119.1
25.0	107.4	105.6	100.6	99.4	100.1	100.9	100.0	100.1	102.2	120.7
31.5	104.4	105.4	104.4	101.5	100.2	100.4	99.4	99.0	100.7	120.8
40.0	103.2	102.8	103.7	103.9	101.6	100.5	98.9	98.0	99.5	120.4
50.0	103.8	102.4	102.1	103.8	103.2	101.3	98.7	97.2	98.1	120.3
63.0	102.8	102.5	102.1	102.0	102.7	101.7	98.6	96.5	97.0	119.8
80.0	102.1	101.8	101.6	101.6	100.9	100.6	98.2	95.8	96.2	119.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 131.1
OSPL	113.6	112.7	111.8	112.2	112.4	113.2	113.1	113.0	115.1	

V_∞ =	200	fps
T_a =	59	°F
RH_a =	11	%
P_a =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF 0 3430 3430

DBTF JET NOISE TEST COANNULAR NOZ. AR
#1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.2	74.6	77.9	63.4	72.3	77.9	79.6	83.2	89.2
125	72.9	75.2	73.2	72.4	67.7	76.7	72.3	82.0	87.8
160	70.6	74.6	73.2	72.6	71.2	69.6	71.0	82.0	87.3
200	72.4	75.7	71.0	76.3	75.3	77.2	79.3	82.2	90.7
250	65.1	73.9	76.5	76.7	78.9	79.8	80.8	83.9	92.1
315	78.1	79.1	79.0	79.4	79.6	81.1	82.2	84.8	98.6
400	81.1	79.3	78.3	80.2	80.6	81.8	85.6	88.1	101.4
500	78.4	77.7	78.3	79.7	81.5	83.2	86.4	91.3	96.1
630	77.7	79.8	80.5	82.0	83.5	85.8	89.0	93.0	99.3
800	82.4	81.9	82.5	84.5	85.6	87.4	90.6	95.2	100.2
1000	82.1	83.1	84.0	85.6	86.4	88.4	91.3	95.5	99.5
1250	83.3	84.0	84.7	86.7	88.2	90.5	93.2	96.2	99.0
1600	83.8	84.5	85.4	87.8	89.6	91.5	94.0	96.5	98.3
2000	84.6	85.6	87.1	89.1	90.5	92.8	95.1	96.9	97.3
2500	85.7	86.3	87.1	89.6	91.2	93.3	95.6	96.7	96.0
3150	86.0	87.1	88.1	90.5	92.0	94.5	96.3	96.2	95.5
4000	86.8	87.6	88.8	91.3	93.1	95.7	96.7	96.2	94.7
5000	87.8	89.0	89.6	92.3	94.0	96.6	97.4	96.0	94.5
6300	87.6	88.8	90.1	92.7	94.3	96.8	97.3	95.5	94.4
8000	88.3	88.9	90.2	92.7	94.9	97.5	96.9	95.8	93.8
10000	88.2	89.2	90.3	93.1	95.0	97.3	96.7	95.7	93.6
12500	87.6	88.8	90.1	93.1	94.9	97.1	96.3	94.8	93.1
16000	87.5	88.9	90.0	92.9	94.7	96.9	95.7	93.9	92.3
20000	86.6	87.9	88.9	91.9	93.9	95.7	94.6	92.4	90.5
25000	86.2	87.6	88.6	91.7	93.8	94.8	93.5	91.7	89.7
31500	85.9	87.0	88.4	90.8	92.7	94.0	92.4	90.2	88.0
40000	85.8	86.8	88.1	90.4	91.7	93.0	91.2	88.4	86.9
50000	85.7	87.2	89.2	91.4	92.0	92.1	90.0	87.5	85.4
63000	84.6	85.4	86.7	88.8	90.1	90.8	88.3	86.0	84.2
80000	83.9	84.8	86.2	88.6	89.0	89.6	87.5	85.2	83.6
TSPL	99.5	100.5	101.6	104.2	105.8	107.8	108.1	108.2	110.3
SSPL	99.4	100.4	101.6	104.1	105.8	107.8	108.0	108.0	109.1

V_∞ =	198	fps
T_a =	57	°F
RH_a =	12	%
P_a =	14.44	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	100.4	101.1	101.8	104.0	105.3	106.9	106.8	106.7	109.6
SSPL	100.3	100.9	101.7	103.9	105.2	106.8	106.7	106.6	108.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	100.8	101.2	101.7	103.6	104.6	106.0	105.7	105.6	108.1
SSPL	100.7	101.1	101.6	103.6	104.6	106.0	105.7	105.5	106.9

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 10	3430 3430

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	77.5	75.4	76.8	62.6	71.5	75.8	76.9	78.7	83.0
125	74.2	75.8	73.0	71.4	66.6	74.7	70.3	74.7	82.3
160	71.9	75.4	73.1	71.9	70.0	67.8	67.6	74.5	82.2
200	73.7	76.2	71.1	75.8	74.1	75.3	76.5	77.8	82.7
250	66.4	75.1	76.7	76.2	77.7	78.0	78.1	79.3	84.3
315	79.4	79.7	79.0	78.9	78.4	79.2	79.6	80.0	87.0
400	82.4	79.8	78.4	79.7	79.4	79.9	82.5	83.5	90.1
500	79.7	78.3	78.4	79.3	80.4	81.3	83.3	86.5	90.9
630	79.0	80.6	80.6	81.6	82.3	83.8	85.9	88.4	92.9
800	83.7	82.6	82.7	84.0	84.4	85.4	87.5	90.5	94.7
1000	83.4	83.8	84.2	85.1	85.2	86.4	88.3	91.0	94.7
1250	84.6	84.7	84.9	86.2	87.1	88.5	90.3	92.3	94.9
1600	85.1	85.3	85.6	87.4	88.5	89.6	91.2	92.9	94.9
2000	85.9	86.4	87.3	88.7	89.4	90.9	92.4	93.7	94.8
2500	87.0	87.0	87.4	89.2	90.1	91.4	92.9	93.9	94.2
3150	87.3	87.9	88.4	90.0	90.8	92.5	93.7	93.8	93.5
4000	88.2	88.3	89.0	90.9	92.0	93.7	94.3	94.0	93.2
5000	89.1	89.7	89.8	91.9	92.9	94.7	95.2	94.2	92.9
6300	88.9	89.6	90.4	92.3	93.2	94.9	95.2	93.9	92.5
8000	89.6	89.7	90.5	92.3	93.8	95.7	94.9	93.9	92.6
10000	89.5	89.9	90.6	92.7	93.9	95.5	94.7	93.8	92.5
12500	88.9	89.5	90.4	92.7	93.7	95.2	94.3	93.0	91.6
16000	88.8	89.7	90.3	92.5	93.6	95.1	93.9	92.2	90.8
20000	87.9	88.6	89.2	91.5	92.8	93.9	92.8	90.9	89.1
25000	87.5	88.4	88.9	91.3	92.6	93.0	91.6	90.0	88.4
31500	87.2	87.7	88.7	90.4	91.6	92.2	90.6	88.7	86.8
40000	87.1	87.6	88.4	90.0	90.6	91.3	89.6	87.1	85.2
50000	87.0	88.0	89.5	90.9	90.8	90.4	88.4	86.1	84.1
63000	85.9	86.2	87.0	88.4	89.0	89.1	86.8	84.5	82.8
80000	85.2	85.5	86.5	88.1	87.8	87.9	85.9	83.7	82.0
TSPL	100.8	101.3	101.9	103.8	104.7	106.0	105.8	105.5	106.1
SSPL	100.7	101.2	101.8	103.7	104.7	105.9	105.8	105.4	105.8

V_∞ =	197	fps
T_a =	57	°F
RH_a =	12	%
P_a =	14.44	psia

ORIGINAL PAGE IS
OF POOR QUALITY

Z0034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3430 CONDITION 3430

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	23.8	34.7	N	106.0	154.4
TEMP	(R)	718.8	1092.7	(K)	399.3	607.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.043	KG/M3	1.004	0.687	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	996.6	1433.0	M/S	303.8	436.8	W (MODEL)	LB/S	0.8	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.5	75.4	76.8	62.6	71.5	75.8	76.9	78.7	83.0	94.6
.125	74.2	75.8	73.0	71.4	66.6	74.7	70.3	74.7	82.3	92.6
.160	71.9	75.4	73.1	71.9	70.0	67.8	67.6	74.5	82.2	91.9
.200	73.7	76.2	71.1	75.8	74.1	75.3	76.5	77.8	82.7	94.3
.250	66.4	75.1	76.7	76.2	77.7	78.0	78.1	79.3	84.3	96.0
.315	79.4	79.7	79.0	78.9	78.4	79.2	79.6	80.0	87.0	98.3
.400	82.4	79.8	78.4	79.7	79.4	79.9	82.5	83.5	90.1	100.1
.500	79.7	78.3	78.4	79.3	80.4	81.3	83.3	86.5	90.9	100.9
.630	79.0	80.6	80.6	81.6	82.3	83.8	85.9	88.4	92.9	103.0
.800	83.7	82.6	82.7	84.0	84.4	85.4	87.5	90.5	94.7	105.0
1.00	83.4	83.8	84.2	85.1	85.2	86.4	88.3	91.0	94.7	105.6
1.25	84.6	84.7	84.9	86.2	87.1	88.5	90.3	92.3	94.9	106.9
1.60	85.1	85.3	85.6	87.4	88.5	89.6	91.2	92.9	94.9	107.6
2.00	85.9	86.4	87.3	88.7	89.4	90.9	92.4	93.7	94.8	108.6
2.50	87.0	87.0	87.4	89.2	90.1	91.4	92.9	93.9	94.2	108.9
3.15	87.3	87.9	88.4	90.0	90.8	92.5	93.7	93.8	93.5	109.5
4.00	88.2	88.3	89.0	90.9	92.0	93.7	94.3	94.0	93.2	110.2
5.00	89.1	89.7	89.8	91.9	92.9	94.7	95.2	94.2	92.9	111.0
6.30	88.9	89.6	90.4	92.3	93.2	94.9	95.2	93.9	92.5	111.1
8.00	89.6	89.7	90.5	92.3	93.8	95.7	94.9	93.9	92.6	111.4
10.0	89.5	89.9	90.6	92.7	93.9	95.5	94.7	93.8	92.5	111.4
12.5	88.9	89.5	90.4	92.7	93.7	95.2	94.3	93.0	91.6	111.0
16.0	88.8	89.7	90.3	92.5	93.6	95.1	93.9	92.2	90.8	110.8
20.0	87.9	88.6	89.2	91.5	92.8	93.9	92.8	90.9	89.1	109.7
25.0	87.5	88.4	88.9	91.3	92.6	93.0	91.6	90.0	88.4	109.1
31.5	87.2	87.7	88.7	90.4	91.6	92.2	90.6	88.7	86.8	108.3
40.0	87.1	87.6	88.4	90.0	90.6	91.3	89.6	87.1	85.2	107.6
50.0	87.0	88.0	89.5	90.9	90.8	90.4	88.4	86.1	84.1	107.6
63.0	85.9	86.2	87.0	88.4	89.0	89.1	86.8	84.5	82.8	105.7
80.0	85.2	85.5	86.5	88.1	87.8	87.9	85.9	83.7	82.0	104.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	100.8	101.3	101.9	103.8	104.7	106.0	105.8	105.5	106.1	OAPWL = 122.5

V_∞ =	198	fps
T_a =	57	°F
RH_a =	12	%
P_a =	14.44	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3431 3431

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.6	68.0	70.6	72.6	72.0	70.6	72.0	75.2	81.8
125	68.9	72.3	75.2	75.2	72.8	73.6	74.9	78.0	84.5
160	68.9	73.6	75.2	76.2	75.9	76.4	75.8	80.3	87.5
200	72.0	75.4	75.6	78.5	78.2	80.3	81.7	82.4	88.2
250	73.8	77.3	78.9	79.1	80.9	82.3	83.0	88.1	90.5
315	79.7	81.3	81.4	81.9	82.4	83.2	84.9	87.8	96.8
400	84.0	82.4	81.4	82.8	83.0	84.1	87.5	91.0	100.4
500	82.2	81.4	81.2	82.1	84.1	86.0	89.3	93.9	97.8
630	80.1	81.9	82.7	84.4	85.9	88.4	91.1	95.9	102.7
800	84.7	84.0	84.9	87.0	88.3	90.2	93.1	97.9	103.0
1000	84.8	85.5	86.2	88.1	89.3	91.2	93.7	98.3	103.1
1250	85.2	86.0	87.0	88.9	90.2	92.7	95.4	99.0	102.5
1600	85.8	86.8	87.8	90.1	91.7	93.9	96.5	99.2	101.6
2000	86.9	87.9	89.0	91.1	92.6	95.1	97.5	99.6	100.4
2500	87.9	88.5	89.3	91.7	93.5	95.4	97.6	99.2	99.0
3150	88.2	89.3	90.3	92.6	94.2	96.5	98.3	98.4	98.7
4000	88.8	89.6	90.7	93.4	95.0	97.6	98.6	98.8	97.8
5000	89.8	90.7	91.4	94.3	96.1	98.4	99.1	98.4	97.6
6300	89.6	90.6	91.9	94.6	96.2	98.6	98.8	97.9	97.6
8000	90.2	90.4	92.0	94.5	96.7	99.2	98.6	98.1	97.1
10000	89.8	90.8	91.7	94.4	96.4	98.6	98.2	97.9	96.7
12500	89.3	90.2	91.5	94.5	96.3	98.6	97.8	97.2	96.2
16000	89.1	90.2	91.4	94.2	96.2	98.2	97.0	96.3	95.5
20000	88.1	89.0	90.4	93.2	95.5	97.0	95.9	94.8	93.9
25000	87.8	88.9	89.9	92.8	95.3	96.2	95.0	93.9	93.3
31500	86.9	88.0	89.5	91.8	94.1	95.1	93.6	92.2	91.0
40000	86.8	87.8	89.1	91.3	93.0	94.1	92.4	90.6	89.5
50000	86.1	87.3	89.3	92.1	92.9	93.0	91.2	89.2	87.5
63000	85.4	86.2	87.9	89.8	91.5	91.8	89.7	87.6	86.2
80000	84.8	85.6	87.0	89.3	90.2	90.6	88.5	86.4	85.2
TSPL	101.2	102.1	103.2	105.8	107.5	109.5	109.8	110.6	112.7
SSPL	101.1	102.0	103.1	105.7	107.5	109.4	109.8	110.5	112.2

V_∞ =	98	fps
T_a =	59	°F
RH_a =	13	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	101.7	102.3	103.3	105.6	107.2	109.0	109.1	109.8	111.9
SSPL	101.5	102.2	103.2	105.6	107.2	108.9	109.1	109.7	111.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	101.9	102.4	103.3	105.5	107.0	108.6	108.6	109.3	111.3
SSPL	101.8	102.3	103.2	105.4	106.9	108.5	108.6	109.2	110.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3431 3431

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	68.2	68.4	70.7	72.4	71.3	69.7	70.5	72.7	77.6
125	69.6	72.8	75.3	74.9	72.2	72.7	73.5	75.5	80.3
160	69.6	74.1	75.3	75.9	75.3	75.5	74.5	77.5	83.1
200	72.7	75.8	75.7	78.2	77.6	79.3	80.4	80.5	84.1
250	74.4	77.7	79.0	78.9	80.4	81.4	81.5	85.6	88.5
315	80.4	81.7	81.4	81.6	81.8	82.2	83.4	85.2	91.4
400	84.7	82.7	81.4	82.5	82.4	83.1	85.9	88.2	94.9
500	82.9	81.7	81.2	81.9	83.6	85.0	87.6	91.4	95.0
630	80.8	82.3	82.8	84.2	85.4	87.4	89.5	93.1	98.6
800	85.4	84.3	85.0	86.8	87.8	89.2	91.5	95.2	99.7
1000	85.5	85.9	86.3	87.9	88.8	90.2	92.1	95.7	99.9
1250	85.9	86.4	87.1	88.7	89.7	91.7	93.8	96.7	99.8
1600	86.5	87.2	87.9	89.9	91.2	92.9	95.0	97.2	99.4
2000	87.6	88.3	89.1	90.9	92.1	94.1	96.1	97.9	98.9
2500	88.6	88.9	89.4	91.6	93.0	94.5	96.2	97.6	97.9
3150	88.8	89.6	90.4	92.4	93.6	95.5	96.9	97.0	97.1
4000	89.4	90.0	90.8	93.2	94.5	96.6	97.3	97.5	96.9
5000	90.4	91.1	91.5	94.1	95.6	97.4	97.9	97.3	96.5
6300	90.3	91.0	92.0	94.4	95.7	97.7	97.7	96.8	96.2
8000	90.9	90.8	92.2	94.4	96.2	98.3	97.6	97.0	96.1
10000	90.5	91.2	91.8	94.2	95.9	97.7	97.1	96.7	95.8
12500	89.9	90.6	91.6	94.3	95.8	97.6	96.7	96.0	95.2
16000	89.8	90.6	91.5	94.0	95.7	97.3	96.0	95.1	94.4
20000	88.7	89.4	90.5	93.0	95.0	96.1	94.9	93.7	92.8
25000	88.4	89.2	90.0	92.6	94.7	95.3	94.0	92.8	92.0
31500	87.5	88.4	89.6	91.6	93.6	94.2	92.6	91.2	90.0
40000	87.5	88.2	89.2	91.1	92.5	93.3	91.5	89.7	88.4
50000	86.8	87.7	89.4	91.9	92.3	92.2	90.3	88.4	86.7
63000	86.1	86.6	88.0	89.6	90.9	91.0	88.8	86.8	85.3
80000	85.5	86.0	87.1	89.1	89.6	89.7	87.6	85.6	84.2
TSPL	101.9	102.5	103.3	105.6	107.0	108.5	108.6	109.0	110.3
SSPL	101.8	102.3	103.2	105.5	107.0	108.5	108.5	108.9	110.0

V_∞ =	98	fps
T_a =	59	°F
RH_a =	13	%
P_a =	14.68	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=98 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3431 CONDITION 3431

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	23.1	35.6	N	102.8	158.4
TEMP	(R)	717.5	1072.0	(K)	398.6	595.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.044	KG/M3	1.005	0.700	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	991.8	1416.0	M/S	302.3	431.6	W (MODEL)	LB/S	0.8	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.2	68.4	70.7	72.4	71.3	69.7	70.5	72.7	77.6	89.7
.125	69.6	72.8	75.3	74.9	72.2	72.7	73.5	75.5	80.3	92.6
.160	69.6	74.1	75.3	75.9	75.3	75.5	74.5	77.5	83.1	94.3
.200	72.7	75.8	75.7	78.2	77.6	79.3	80.4	80.5	84.1	96.9
.250	74.4	77.7	79.0	78.9	80.4	81.4	81.5	85.6	88.5	99.8
.315	80.4	81.7	81.4	81.6	81.8	82.2	83.4	85.2	91.4	101.7
.400	84.7	82.7	81.4	82.5	82.4	83.1	85.9	88.2	94.9	103.9
.500	82.9	81.7	81.2	81.9	83.6	85.0	87.6	91.4	95.0	104.9
.630	80.8	82.3	82.8	84.2	85.4	87.4	89.5	93.1	98.6	107.2
.800	85.4	84.3	85.0	86.8	87.8	89.2	91.5	95.2	99.7	109.0
1.00	85.5	85.9	86.3	87.9	88.8	90.2	92.1	95.7	99.9	109.7
1.25	85.9	86.4	87.1	88.7	89.7	91.7	93.8	96.7	99.8	110.5
1.60	86.5	87.2	87.9	89.9	91.2	92.9	95.0	97.2	99.4	111.2
2.00	87.6	88.3	89.1	90.9	92.1	94.1	96.1	97.9	98.9	111.9
2.50	88.6	88.9	89.4	91.6	93.0	94.5	96.2	97.6	97.9	112.0
3.15	88.8	89.6	90.4	92.4	93.6	95.5	96.9	97.0	97.1	112.4
4.00	89.4	90.0	90.8	93.2	94.5	96.6	97.3	97.5	96.9	113.0
5.00	90.4	91.1	91.5	94.1	95.6	97.4	97.9	97.3	96.5	113.6
6.30	90.3	91.0	92.0	94.4	95.7	97.7	97.7	96.8	96.2	113.6
8.00	90.9	90.8	92.2	94.4	96.2	98.3	97.6	97.0	96.1	113.8
10.0	90.5	91.2	91.8	94.2	95.9	97.7	97.1	96.7	95.8	113.4
12.5	89.9	90.6	91.6	94.3	95.8	97.6	96.7	96.0	95.2	113.2
16.0	89.8	90.6	91.5	94.0	95.7	97.3	96.0	95.1	94.4	112.8
20.0	88.7	89.4	90.5	93.0	95.0	96.1	94.9	93.7	92.8	111.7
25.0	88.4	89.2	90.0	92.6	94.7	95.3	94.0	92.8	92.0	111.1
31.5	87.5	88.4	89.6	91.6	93.6	94.2	92.6	91.2	90.0	110.0
40.0	87.5	88.2	89.2	91.1	92.5	93.3	91.5	89.7	88.4	109.1
50.0	86.8	87.7	89.4	91.9	92.3	92.2	90.3	88.4	86.7	108.7
63.0	86.1	86.6	88.0	89.6	90.9	91.0	88.8	86.8	85.3	107.2
80.0	85.5	86.0	87.1	89.1	89.6	89.7	87.6	85.6	84.2	106.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.9	102.5	103.3	105.6	107.0	108.5	108.6	109.0	110.3	

V_∞ =	98	fps
T_a =	59	°F
RH_a =	13	%
P_a =	14.68	psia

OAPWL = 125.0

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/11/76 -00 000000 XARF 0 3434 3434

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	61.6	60.2	65.1	66.6	66.0	65.8	59.0	61.2	72.1
125	63.5	66.4	70.0	69.8	67.7	68.8	65.9	71.2	76.8
160	63.8	68.3	70.4	71.2	70.4	70.6	66.6	74.7	80.0
200	66.2	69.5	70.1	73.2	72.7	74.2	72.6	76.8	80.5
250	68.2	71.7	73.8	73.7	75.3	76.6	74.6	82.3	82.6
315	73.9	75.6	75.9	76.4	76.8	77.7	76.5	81.7	88.6
400	78.4	76.8	76.0	77.3	77.6	78.5	79.0	84.6	91.7
500	76.8	76.0	75.8	76.6	78.5	80.3	80.9	87.4	89.4
630	74.7	76.5	77.2	78.7	80.4	82.3	82.7	88.6	94.1
800	79.1	78.4	79.1	81.1	82.3	84.0	84.7	90.5	94.2
1000	79.3	79.6	80.4	82.1	83.2	84.7	85.7	90.9	94.5
1250	79.6	80.0	80.9	82.7	84.0	86.1	87.6	91.5	94.1
1600	79.8	80.7	81.5	83.6	85.2	87.2	89.0	91.6	93.4
2000	80.7	81.5	82.6	84.5	85.8	88.1	89.9	91.9	92.4
2500	81.2	81.6	82.4	84.7	86.5	88.0	90.0	91.5	90.9
3150	81.3	82.0	83.1	85.1	86.5	88.4	90.5	90.8	89.8
4000	81.6	82.1	83.0	85.4	86.9	88.8	90.6	90.6	88.0
5000	81.9	82.8	83.2	85.7	87.0	88.7	90.8	89.3	86.6
6300	81.8	82.5	83.5	85.3	86.5	88.2	90.1	87.8	85.1
8000	82.5	82.5	83.5	85.3	86.7	88.2	89.2	87.0	83.1
10000	82.3	82.7	82.9	84.7	85.9	87.0	88.2	85.6	81.5
12500	81.1	81.5	82.2	83.9	85.1	86.3	87.1	83.8	80.0
16000	80.8	81.5	81.9	83.8	85.2	85.6	85.8	82.2	78.3
20000	81.0	81.3	81.8	83.5	84.6	84.4	84.2	80.2	76.0
25000	81.5	82.2	82.0	83.7	84.6	83.9	83.1	79.6	75.0
31500	81.8	81.6	82.7	83.0	83.9	83.0	82.1	78.0	73.2
40000	82.1	82.1	82.6	83.3	83.6	82.7	81.2	77.0	72.5
50000	82.1	81.8	82.2	83.6	83.3	81.9	80.5	76.1	71.5
63000	80.8	80.8	81.6	82.1	81.8	80.6	79.3	75.1	70.3
80000	79.5	79.7	80.1	81.1	80.7	79.7	78.5	73.7	68.6
TSPL	94.7	95.0	95.7	97.4	98.5	99.7	100.9	101.9	103.5
SSPL	94.5	94.8	95.5	97.2	98.4	99.6	100.9	101.8	102.9

V_∞ =	100	fps
T_a =	62	°F
RH_a =	12	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/11/76		-00	000000	XARF	0	3434	3434

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	95.1	95.3	95.7	97.2	98.2	99.2	100.2	101.1	102.7
SSPL	94.9	95.1	95.6	97.1	98.1	99.1	100.2	100.9	102.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	95.3	95.4	95.7	97.1	97.9	98.8	99.7	100.6	102.1
SSPL	95.1	95.2	95.6	97.0	97.8	98.7	99.7	100.4	101.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W031	315	05/11/76		-00 000000	XARF 0	3434 3434

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	62.2	60.6	65.3	66.3	65.4	65.1	58.3	58.3	65.7
125	64.1	66.9	70.1	69.4	67.0	67.9	64.7	68.3	73.3
160	64.4	68.8	70.5	70.9	69.8	69.8	65.4	71.2	76.9
200	66.8	69.9	70.2	73.0	72.1	73.3	71.4	74.3	77.8
250	68.9	72.2	73.9	73.5	74.7	75.7	73.2	79.4	81.8
315	74.5	76.0	75.9	76.1	76.2	76.8	75.2	78.7	84.5
400	79.0	77.0	76.0	77.0	77.0	77.6	77.5	81.6	87.5
500	77.4	76.3	75.8	76.4	78.0	79.4	79.4	84.6	87.7
630	75.3	76.9	77.3	78.5	79.9	81.4	81.2	85.6	90.7
800	79.8	78.7	79.2	80.9	81.8	83.1	83.2	87.7	91.7
1000	80.0	80.0	80.5	81.9	82.7	83.8	84.2	88.3	92.0
1250	80.3	80.4	81.0	82.5	83.5	85.1	86.1	89.2	91.9
1600	80.5	81.1	81.6	83.4	84.7	86.2	87.6	89.7	91.4
2000	81.4	81.9	82.7	84.3	85.3	87.1	88.5	90.2	91.0
2500	81.9	82.0	82.5	84.6	86.0	87.1	88.6	90.0	90.0
3150	81.9	82.3	83.1	84.9	85.9	87.4	89.1	89.5	88.9
4000	82.2	82.4	83.1	85.2	86.3	87.8	89.3	89.5	87.8
5000	82.5	83.1	83.3	85.5	86.4	87.7	89.5	88.5	86.3
6300	82.5	82.9	83.6	85.1	86.0	87.2	88.9	87.2	84.7
8000	83.2	82.9	83.6	85.1	86.2	87.3	88.1	86.5	83.3
10000	83.0	83.0	83.0	84.5	85.3	86.1	87.1	85.1	81.8
12500	81.7	81.8	82.2	83.6	84.5	85.3	86.0	83.4	80.0
16000	81.5	81.9	82.0	83.6	84.6	84.7	84.8	81.9	78.3
20000	81.6	81.6	81.9	83.3	84.0	83.5	83.2	80.0	76.1
25000	82.1	82.5	82.0	83.4	84.0	83.0	82.1	79.3	75.4
31500	82.4	81.9	82.7	82.7	83.3	82.1	81.2	77.8	73.6
40000	82.8	82.5	82.7	83.1	83.0	81.9	80.4	76.9	72.8
50000	82.7	82.1	82.3	83.3	82.7	81.1	79.7	76.0	71.8
63000	81.5	81.1	81.6	81.8	81.2	79.7	78.4	75.0	70.8
80000	80.1	80.1	80.1	80.8	80.1	78.8	77.7	73.7	69.1
TSPL	95.3	95.4	95.8	97.2	97.9	98.8	99.7	100.3	101.4
SSPL	95.1	95.2	95.6	97.0	97.8	98.6	99.6	100.1	101.1

V_∞ =	100	fps
T_a =	62	°F
RH_a =	12	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3434 CONDITION 3434

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	23.2	13.0	N	103.4	57.9
TEMP	(R)	708.2	1077.7	(K)	393.4	598.7	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.018	0.639	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	984.6	975.3	M/S	300.1	297.3	W (MODEL)	LB/S	0.8	0.4	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.2	60.6	65.3	66.3	65.4	65.1	58.3	58.3	65.7	82.3
.125	64.1	66.9	70.1	69.4	67.0	67.9	64.7	68.3	73.3	86.6
.160	64.4	68.8	70.5	70.9	69.8	69.8	65.4	71.2	76.9	88.6
.200	66.8	69.9	70.2	73.0	72.1	73.3	71.4	74.3	77.8	90.7
.250	68.9	72.2	73.9	73.5	74.7	75.7	73.2	79.4	81.8	93.7
.315	74.5	76.0	75.9	76.1	76.2	76.8	75.2	78.7	84.5	95.5
.400	79.0	77.0	76.0	77.0	77.0	77.6	77.5	81.6	87.5	97.4
.500	77.4	76.3	75.8	76.4	78.0	79.4	79.4	84.6	87.7	98.3
.630	75.3	76.9	77.3	78.5	79.9	81.4	81.2	85.6	90.7	100.1
.800	79.8	78.7	79.2	80.9	81.8	83.1	83.2	87.7	91.7	101.9
1.00	80.0	80.0	80.5	81.9	82.7	83.8	84.2	88.3	92.0	102.6
1.25	80.3	80.4	81.0	82.5	83.5	85.1	86.1	89.2	91.9	103.3
1.60	80.5	81.1	81.6	83.4	84.7	86.2	87.6	89.7	91.4	104.0
2.00	81.4	81.9	82.7	84.3	85.3	87.1	88.5	90.2	91.0	104.6
2.50	81.9	82.0	82.5	84.6	86.0	87.1	88.6	90.0	90.0	104.6
3.15	81.9	82.3	83.1	84.9	85.9	87.4	89.1	89.5	88.9	104.7
4.00	82.2	82.4	83.1	85.2	86.3	87.8	89.3	89.5	87.8	104.8
5.00	82.5	83.1	83.3	85.5	86.4	87.7	89.5	88.5	86.3	104.7
6.30	82.5	82.9	83.6	85.1	86.0	87.2	88.9	87.2	84.7	104.1
8.00	83.2	82.9	83.6	85.1	86.2	87.3	88.1	86.5	83.3	103.9
10.0	83.0	83.0	83.0	84.5	85.3	86.1	87.1	85.1	81.8	103.1
12.5	81.7	81.8	82.2	83.6	84.5	85.3	86.0	83.4	80.0	102.0
16.0	81.5	81.9	82.0	83.6	84.6	84.7	84.8	81.9	78.3	101.6
20.0	81.6	81.6	81.9	83.3	84.0	83.5	83.2	80.0	76.1	100.8
25.0	82.1	82.5	82.0	83.4	84.0	83.0	82.1	79.3	75.4	100.8
31.5	82.4	81.9	82.7	82.7	83.3	82.1	81.2	77.8	73.6	100.3
40.0	82.8	82.5	82.7	83.1	83.0	81.9	80.4	76.9	72.8	100.3
50.0	82.7	82.1	82.3	83.3	82.7	81.1	79.7	76.0	71.8	100.0
63.0	81.5	81.1	81.6	81.8	81.2	79.7	78.4	75.0	70.8	98.8
80.0	80.1	80.1	80.1	80.8	80.1	78.8	77.7	73.7	69.1	97.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.3	95.4	95.8	97.2	97.9	98.8	99.7	100.3	101.4	OAPWL = 116.3

V_∞ =	100	fps
T_a =	62	°F
RH_a =	12	%
P_a =	14.68	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/11/76		-00 000000	XARF 0	3435 3435

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.4	75.6	76.2	78.8	78.2	77.1	79.8	81.8	90.7
125	71.3	74.4	74.9	75.2	73.0	75.1	62.9	80.3	93.7
160	68.4	72.9	71.8	72.1	72.6	75.6	77.9	79.8	91.8
200	70.7	74.4	71.9	68.2	65.0	64.9	70.1	79.7	94.7
250	70.5	73.6	67.9	69.0	72.5	72.7	74.5	81.1	95.8
315	70.4	72.0	71.2	72.9	73.3	74.2	76.2	80.6	101.9
400	74.3	73.6	71.5	74.0	74.7	75.8	78.8	78.7	104.7
500	71.4	71.4	71.5	73.5	75.3	77.0	79.8	83.4	94.5
630	71.5	73.3	73.8	75.9	77.5	79.5	81.7	85.0	96.0
800	76.2	75.6	76.3	78.2	79.2	81.0	83.0	87.2	96.6
1000	75.8	76.8	77.7	79.1	79.9	81.6	83.6	87.2	95.9
1250	76.9	77.7	78.2	80.1	81.1	83.2	85.0	87.6	95.2
1600	77.5	78.2	79.0	81.0	82.6	84.2	85.9	87.8	94.9
2000	78.3	79.1	80.2	81.9	83.1	85.1	86.7	88.3	94.1
2500	79.2	79.7	80.4	82.4	83.7	85.3	86.6	88.0	92.8
3150	79.3	80.2	81.0	82.9	83.9	85.5	86.7	87.2	91.7
4000	79.6	80.2	81.1	82.9	84.5	86.2	86.7	87.0	90.3
5000	80.5	81.2	81.5	83.8	85.2	86.4	86.8	85.9	89.1
6300	80.5	81.2	82.2	83.6	84.7	66.1	86.0	84.6	87.8
8000	81.8	81.8	82.8	84.3	85.1	86.4	85.4	84.1	86.5
10000	81.5	82.0	82.2	83.7	84.4	85.4	84.4	83.0	85.0
12500	80.8	81.2	81.6	83.3	84.1	85.1	83.3	81.6	83.9
16000	80.8	81.4	81.7	83.5	84.4	84.5	82.3	80.3	82.5
20000	81.2	81.4	81.9	83.4	83.9	83.5	80.9	78.5	80.6
25000	81.7	82.3	82.2	83.8	84.3	83.3	80.0	78.0	79.9
31500	81.9	81.9	82.6	83.0	83.5	82.6	79.3	76.6	78.5
40000	82.4	82.3	82.4	83.1	82.9	82.2	78.4	75.5	78.2
50000	82.1	81.9	82.2	83.5	82.9	81.6	77.9	75.1	78.0
63000	81.0	80.9	81.4	81.6	81.3	80.0	76.2	74.5	78.4
80000	79.3	79.2	80.3	80.8	80.1	79.3	75.2	74.0	79.2
TSPL	93.8	94.2	94.7	96.1	96.9	97.7	97.7	98.8	109.5
SSPL	93.6	93.9	94.5	95.9	96.7	97.5	97.5	98.3	105.0

V_∞ =	199	fps
T_a =	56	°F
RH_a =	14	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/11/76		-00 000000	XARF 0	3435 3435

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	94.7	94.8	94.9	95.9	96.3	96.7	96.4	97.3	108.8
SSPL	94.5	94.5	94.6	95.7	96.1	96.6	96.2	96.8	104.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.1	94.9	94.8	95.6	95.7	95.9	95.4	96.2	107.3
SSPL	94.9	94.6	94.6	95.4	95.5	95.7	95.2	95.7	102.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/11/76 -00 000000 XARF .0 3435 3435

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4225 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.7	76.3	76.5	78.3	77.0	75.3	76.9	77.8	82.3
125	72.6	75.2	75.0	74.5	71.8	73.7	61.7	68.7	83.7
160	69.7	73.7	71.7	71.5	71.5	73.6	75.2	75.5	81.3
200	72.0	75.1	71.4	67.3	63.7	63.0	66.2	72.1	82.9
250	71.8	74.1	67.6	68.6	71.4	70.8	71.4	74.6	83.9
315	71.7	72.7	71.3	72.4	72.1	72.3	73.3	74.4	85.3
400	75.6	74.1	71.5	73.6	73.5	73.9	76.0	74.0	84.5
500	72.7	72.1	71.7	73.1	74.2	75.1	76.8	78.5	84.8
630	72.8	74.0	74.0	75.4	76.4	77.5	78.8	80.2	86.3
800	77.5	76.3	76.5	77.7	78.0	79.1	80.1	82.2	88.1
1000	77.1	77.6	77.9	78.6	78.7	79.7	80.7	82.4	87.8
1250	78.2	78.4	78.4	79.6	80.0	81.2	82.2	83.4	87.8
1600	78.8	78.9	79.3	80.6	81.4	82.3	83.2	83.9	87.8
2000	79.6	79.8	80.4	81.4	82.0	83.2	84.1	84.7	87.8
2500	80.5	80.4	80.6	81.9	82.6	83.4	84.1	84.5	87.2
3150	80.6	80.9	81.2	82.4	82.8	83.6	84.3	84.1	86.2
4000	80.9	81.0	81.3	82.5	83.4	84.3	84.3	84.0	85.6
5000	81.8	81.9	81.7	83.3	84.0	84.5	84.6	83.4	84.3
6300	81.8	82.0	82.4	83.3	83.5	84.3	83.9	82.3	83.0
8000	83.1	82.5	83.0	83.8	84.0	84.6	83.5	81.8	82.3
10000	82.8	82.7	82.3	83.2	83.2	83.6	82.5	80.8	81.0
12500	82.1	81.9	81.8	82.8	83.0	83.3	81.6	79.5	79.7
16000	82.1	82.1	81.8	83.0	83.2	82.8	80.6	78.2	78.3
20000	82.6	82.1	82.0	82.9	82.7	81.8	79.3	76.6	76.5
25000	83.0	83.0	82.3	83.2	83.0	81.7	78.5	75.9	75.9
31500	83.3	82.6	82.7	82.4	82.3	81.0	77.9	74.8	74.5
40000	83.7	82.9	82.5	82.5	81.7	80.6	77.1	73.7	73.6
50000	83.4	82.5	82.3	82.9	81.6	80.0	76.6	73.3	73.3
63000	82.3	81.6	81.5	81.0	80.0	78.4	74.8	72.1	73.1
80000	80.6	79.9	80.4	80.1	78.9	77.7	73.8	71.3	73.1
TSPL	95.1	94.9	94.8	95.6	95.7	95.9	95.4	95.1	98.9
SSPL	94.9	94.6	94.6	95.4	95.5	95.7	95.2	94.9	97.9

V_∞ =	199	fps
T_a =	56	°F
RH_a =	14	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3435 CONDITION 3435

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.31		1.52	1.31	THRUST,IDL	LB	22.8	14.0	N	101.6	62.4
TEMP	(R)	708.0	1082.7	(K)	393.3	601.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.017	0.636	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	980.6	982.3	M/S	298.9	299.4	W (MODEL)	LB/S	0.8	0.5	KG/S	0.3	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.7	76.3	76.5	78.3	77.0	75.3	76.9	77.8	82.3	95.6
.125	72.6	75.2	75.0	74.5	71.8	73.7	61.7	68.7	83.7	93.0
.160	69.7	73.7	71.7	71.5	71.5	73.6	75.2	75.5	81.3	92.3
.200	72.0	75.1	71.4	67.3	63.7	63.0	66.2	72.1	82.9	91.0
.250	71.8	74.1	67.6	68.6	71.4	70.8	71.4	74.6	83.9	92.0
.315	71.7	72.7	71.3	72.4	72.1	72.3	73.3	74.4	85.3	93.1
.400	75.6	74.1	71.5	73.6	73.5	73.9	76.0	74.0	84.5	93.8
.500	72.7	72.1	71.7	73.1	74.2	75.1	76.8	78.5	84.8	94.3
.630	72.8	74.0	74.0	75.4	76.4	77.5	78.8	80.2	86.3	96.2
.800	77.5	76.3	76.5	77.7	78.0	79.1	80.1	82.2	88.1	98.1
1.00	77.1	77.6	77.9	78.6	78.7	79.7	80.7	82.4	87.8	98.5
1.25	78.2	78.4	78.4	79.6	80.0	81.2	82.2	83.4	87.8	99.4
1.60	78.8	78.9	79.3	80.6	81.4	82.3	83.2	83.9	87.8	100.2
2.00	79.6	79.8	80.4	81.4	82.0	83.2	84.1	84.7	87.8	100.9
2.50	80.5	80.4	80.6	81.9	82.6	83.4	84.1	84.5	87.2	101.1
3.15	80.6	80.9	81.2	82.4	82.8	83.6	84.3	84.1	86.2	101.2
4.00	80.9	81.0	81.3	82.5	83.4	84.3	84.3	84.0	85.6	101.3
5.00	81.8	81.9	81.7	83.3	84.0	84.5	84.6	83.4	84.3	101.6
6.30	81.8	82.0	82.4	83.3	83.5	84.3	83.9	82.3	83.0	101.4
8.00	83.1	82.5	83.0	83.8	84.0	84.6	83.5	81.8	82.3	101.7
10.0	82.8	82.7	82.3	83.2	83.2	83.6	82.5	80.8	81.0	101.0
12.5	82.1	81.9	81.8	82.8	83.0	83.3	81.6	79.5	79.7	100.4
16.0	82.1	82.1	81.8	83.0	83.2	82.8	80.6	78.2	78.3	100.3
20.0	82.6	82.1	82.0	82.9	82.7	81.8	79.3	76.6	76.5	99.9
25.0	83.0	83.0	82.3	83.2	83.0	81.7	78.5	75.9	75.9	100.2
31.5	83.3	82.6	82.7	82.4	82.3	81.0	77.9	74.8	74.5	99.8
40.0	83.7	82.9	82.5	82.5	81.7	80.6	77.1	73.7	73.6	99.7
50.0	83.4	82.5	82.3	82.9	81.6	80.0	76.6	73.3	73.3	99.5
63.0	82.3	81.6	81.5	81.0	80.0	78.4	74.8	72.1	73.1	98.2
80.0	80.6	79.9	80.4	80.1	78.9	77.7	73.8	71.3	73.1	97.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.1	94.9	94.8	95.6	95.7	95.9	95.4	95.1	98.9	

OAPWL = 113.9

V_∞ =	199	fps
T_a =	56	°F
RH_a =	14	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 0	3436 3436

DBTF JET NOISE TEST COAXNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	74.1	68.6	79.6	83.2	82.3	78.2	79.2	86.5	91.8
125	68.2	74.9	80.6	81.1	78.7	78.5	79.6	72.0	94.7
160	68.9	75.7	78.5	80.0	80.3	79.9	79.0	79.4	92.8
200	71.6	76.9	79.0	82.7	82.3	83.3	85.5	84.4	93.2
250	77.0	81.3	82.7	83.4	85.2	86.2	86.1	90.9	95.9
315	85.1	85.9	85.5	85.5	86.0	86.5	88.0	91.0	102.1
400	88.0	85.2	84.3	86.3	86.5	87.2	90.5	93.4	106.8
500	84.2	83.5	83.9	85.7	87.6	88.8	91.8	97.3	102.3
630	83.5	85.3	85.6	87.6	89.0	90.9	93.6	98.6	105.8
800	87.9	86.8	88.2	90.3	91.2	92.3	95.2	101.1	107.0
1000	87.6	89.0	90.0	91.4	92.1	93.0	96.1	101.8	106.9
1250	88.8	89.4	89.8	92.3	93.3	95.0	98.1	102.3	105.8
1600	89.3	90.1	90.7	92.9	94.9	96.2	98.9	102.8	105.3
2000	90.3	91.1	92.0	94.2	95.5	97.2	100.4	103.5	104.5
2500	91.4	91.9	92.0	94.5	96.4	98.1	101.0	103.6	103.4
3150	91.7	92.3	93.1	95.4	96.9	99.3	102.0	103.4	103.3
4000	92.4	93.0	93.9	96.0	98.0	100.4	102.6	103.9	102.8
5000	93.8	94.3	94.7	97.1	99.9	101.5	103.6	104.2	102.7
6300	94.8	95.6	96.1	98.2	99.8	102.0	103.7	104.2	103.8
8000	98.7	97.4	97.6	99.3	101.0	103.2	104.1	105.0	104.6
10000	107.2	103.8	102.2	102.2	102.6	103.8	104.2	105.2	104.7
12500	113.6	110.6	105.4	102.8	102.4	103.6	103.7	104.1	103.8
16000	111.6	113.3	111.0	106.6	103.7	104.1	103.8	103.8	103.5
20000	107.2	108.5	110.9	110.8	106.8	104.9	103.8	103.2	103.0
25000	110.1	106.3	107.1	110.5	110.5	106.8	104.1	103.5	103.0
31500	109.4	110.4	108.5	108.1	111.2	109.9	105.4	103.4	102.5
40000	109.6	109.2	109.6	109.3	110.0	111.3	106.5	103.6	102.5
50000	108.7	108.9	108.9	109.5	108.9	110.1	106.9	103.5	101.8
63000	108.2	108.9	109.0	109.3	109.1	108.6	105.6	103.0	101.1
80000	107.9	108.4	108.5	109.2	108.9	108.2	104.9	102.2	100.5
TSPL	119.9	119.7	118.8	118.8	118.7	118.6	116.8	116.9	118.2
SSPL	119.9	119.7	118.8	118.8	118.7	118.6	116.8	116.8	117.6

V_∞ =	198	fps
T_a =	48	°F
RH_a =	52	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	120.8	120.2	119.0	118.6	118.2	117.6	115.5	115.4	117.5
SSPL	120.8	120.2	119.0	118.6	118.2	117.6	115.5	115.4	116.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	121.2	120.4	118.9	118.3	117.6	116.8	114.5	114.3	116.0
SSPL	121.2	120.4	118.9	118.3	117.5	116.8	114.4	114.3	115.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76	-00	000000 XARF	0 3436	3436

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	75.4	69.6	80.6	82.7	80.9	76.6	76.2	80.5	86.4
125	69.5	76.2	81.0	80.4	77.4	76.7	77.7	70.5	76.0
160	70.2	76.8	78.8	79.4	79.1	78.1	76.9	75.4	81.2
200	72.9	77.9	79.5	82.2	81.1	81.4	82.9	81.6	84.6
250	78.4	82.2	82.9	83.0	84.1	84.4	83.6	86.0	90.5
315	86.4	86.6	85.4	85.0	84.9	84.7	85.3	86.3	92.3
400	89.3	85.7	84.4	85.7	85.3	85.2	87.4	88.6	95.5
500	85.5	84.1	84.1	85.2	86.4	86.9	88.6	92.2	96.9
630	84.8	86.1	65.7	87.1	87.9	88.9	90.5	93.5	98.9
800	89.2	87.5	88.4	89.8	90.0	90.4	92.0	95.7	101.1
1000	88.9	69.8	90.2	90.9	90.9	91.1	92.9	96.6	101.5
1250	90.1	90.1	90.0	91.9	92.2	93.1	95.0	97.9	101.4
1600	90.6	90.8	90.9	92.5	93.8	94.3	95.9	98.6	101.5
2000	91.6	91.8	92.3	93.8	94.4	95.3	97.4	99.8	101.7
2500	92.7	92.6	92.2	94.1	95.3	96.2	98.1	100.2	101.4
3150	93.0	93.1	93.3	94.9	95.7	97.3	99.2	100.4	101.0
4000	93.7	93.7	94.1	95.6	96.9	98.4	99.9	101.0	101.2
5000	95.1	95.0	94.9	96.7	97.8	99.5	101.0	101.7	101.3
6300	96.1	96.3	96.3	97.8	98.7	100.1	101.2	101.6	101.7
8000	100.1	98.0	97.8	98.9	99.9	101.3	101.7	102.2	102.5
10000	108.5	104.2	102.1	101.6	101.4	102.0	101.8	102.3	102.7
12500	114.9	110.8	104.8	102.0	101.2	101.7	101.4	101.4	101.5
16000	112.9	113.9	110.5	105.6	102.4	102.3	101.6	101.3	101.2
20000	108.5	109.3	111.0	110.0	105.4	103.3	101.8	100.9	100.6
25000	111.4	108.7	107.3	110.0	109.2	105.3	102.3	101.1	100.8
31500	110.7	111.0	108.3	107.6	110.0	108.4	104.1	101.5	100.4
40000	110.9	109.9	109.6	108.7	108.9	109.7	105.4	102.1	100.5
50000	110.0	109.6	109.0	108.9	107.7	108.4	105.6	102.4	100.2
63000	109.5	109.5	109.0	108.6	107.8	106.9	104.1	101.5	99.6
80000	109.2	109.1	108.6	108.6	107.7	106.6	103.5	100.8	98.9
TSPL	121.2	120.3	118.8	118.2	117.5	116.9	114.8	114.2	114.7
SSPL	121.2	120.3	118.8	118.2	117.5	116.9	114.8	114.1	114.6

V_∞ =	198	fps
T_a =	48	°F
RH_a =	52	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3436 CONDITION 3436

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.21		1.52	3.21	THRUST,IDL	LB	22.3	90.0	N	99.2	400.5
TEMP	(R)	693.2	720.0	(K)	385.1	400.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.077	KG/M3	1.039	1.231	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	970.8	1567.0	M/S	295.9	477.6	W (MODEL)	LB/S	0.7	1.9	KG/S	0.3	0.8

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.4	69.6	80.6	82.7	80.9	76.6	76.2	80.5	86.4	98.3
.125	69.5	76.2	81.0	80.4	77.4	76.7	77.7	70.5	76.0	96.3
.160	70.2	76.8	78.8	79.4	79.1	78.1	76.9	75.4	81.2	96.3
.200	72.9	77.9	79.5	82.2	81.1	81.4	82.9	81.6	84.6	99.4
.250	78.4	82.2	82.9	83.0	84.1	84.4	83.6	86.0	90.5	102.4
.315	86.4	86.6	85.4	85.0	84.9	84.7	85.3	86.3	92.3	104.4
.400	89.3	85.7	84.4	85.7	85.3	85.2	87.4	88.6	95.5	105.8
.500	85.5	84.1	84.1	85.2	86.4	86.9	88.6	92.2	96.9	106.7
.630	84.8	86.1	85.7	87.1	87.9	88.9	90.5	93.5	98.9	108.4
.800	89.2	87.5	88.4	89.8	90.0	90.4	92.0	95.7	101.1	110.5
1.00	88.9	89.8	90.2	90.9	90.9	91.1	92.9	96.6	101.5	111.4
1.25	90.1	90.1	90.0	91.9	92.2	93.1	95.0	97.9	101.4	112.3
1.60	90.6	90.8	90.9	92.5	93.8	94.3	95.9	98.6	101.5	113.1
2.00	91.6	91.8	92.3	93.8	94.4	95.3	97.4	99.8	101.7	114.1
2.50	92.7	92.6	92.2	94.1	95.3	96.7	98.1	100.2	101.4	114.5
3.15	93.0	93.1	93.3	94.9	95.7	97.3	99.2	100.4	101.0	115.1
4.00	93.7	93.7	94.1	95.6	96.9	98.4	99.9	101.0	101.2	115.8
5.00	95.1	95.0	94.9	96.7	97.8	99.5	101.0	101.7	101.3	116.8
6.30	96.1	96.3	96.3	97.8	98.7	100.1	101.2	101.6	101.7	117.3
8.00	100.1	98.0	97.8	98.9	99.9	101.3	101.7	102.2	102.5	118.5
10.0	108.5	104.2	102.1	101.6	101.4	102.0	101.8	102.3	102.7	121.5
12.5	114.9	110.8	104.8	102.8	101.2	101.7	101.4	101.4	101.5	125.5
16.0	112.9	113.9	110.5	105.6	102.4	102.3	101.6	101.3	101.2	127.2
20.0	108.5	109.3	111.0	110.0	105.4	103.3	101.8	100.9	100.6	126.1
25.0	111.4	108.7	107.3	110.0	109.2	105.3	102.3	101.1	100.8	126.2
31.5	110.7	111.0	108.3	107.6	110.0	108.4	104.1	101.5	100.4	126.8
40.0	110.9	109.9	109.6	108.7	108.9	109.7	105.4	102.1	100.5	127.0
50.0	110.0	109.6	109.0	108.9	107.7	108.4	105.6	102.4	100.2	126.4
63.0	109.5	109.5	109.0	108.6	107.8	106.9	104.1	101.5	99.6	126.0
80.0	109.2	109.1	108.6	108.6	107.7	106.6	103.5	100.8	98.9	125.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.2	120.3	118.8	118.2	117.5	116.9	114.8	114.2	114.7	OAPWL = 136.4

V_∞ =	198	fps
T_a =	48	°F
RH_a =	52	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS	CORR
W631	315	05/13/76		-00 000000	XARF 0	3437	3437

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	74.8	73.8	77.8	80.2	79.3	77.7	78.9	82.7	88.5
125	74.6	77.3	80.5	80.4	78.7	79.4	80.4	83.8	90.4
160	75.0	78.7	80.5	81.9	82.2	81.9	81.0	85.5	93.2
200	77.4	80.7	81.2	84.5	84.3	85.5	87.4	88.1	93.1
250	79.2	83.1	84.8	85.3	86.9	88.5	88.3	93.2	95.9
315	86.6	88.1	87.9	88.1	88.7	89.1	90.4	93.0	103.1
400	91.2	88.6	87.7	88.9	88.9	89.4	92.5	95.9	107.1
500	88.7	87.7	87.2	88.3	90.3	91.8	95.2	99.8	104.3
630	86.1	88.1	88.2	90.0	91.5	93.6	95.8	101.4	108.9
800	90.7	89.3	90.3	92.8	93.8	95.0	97.9	103.8	109.7
1000	90.5	91.4	92.0	93.8	94.9	95.7	98.7	104.5	110.4
1250	90.8	91.3	92.0	94.2	95.2	97.2	100.3	105.1	109.3
1600	91.4	92.2	92.8	94.9	96.7	98.3	101.4	105.3	108.5
2000	92.4	93.1	94.0	96.0	97.6	99.5	102.5	105.7	107.2
2500	93.4	93.6	94.0	96.7	98.4	100.2	103.1	105.9	106.3
3150	93.6	94.4	95.0	97.4	99.0	101.0	104.1	105.4	106.1
4000	94.3	94.8	95.6	98.3	99.7	102.2	104.5	105.8	105.4
5000	95.7	96.1	96.7	99.2	100.8	103.2	105.4	106.2	105.6
6300	96.2	96.8	97.6	99.5	101.4	103.6	105.3	106.1	106.6
8000	99.5	98.2	98.2	100.2	102.3	104.3	105.2	106.5	107.4
10000	106.9	103.6	102.7	102.8	103.4	104.8	105.4	106.6	107.0
12500	113.7	110.2	105.1	103.5	103.2	104.7	105.0	105.8	106.7
16000	112.2	113.2	110.4	106.1	104.1	104.9	104.8	105.7	107.1
20000	107.8	109.0	111.0	110.2	106.4	105.3	104.5	104.9	106.8
25000	110.1	108.4	107.4	110.7	110.3	106.9	104.6	105.2	106.4
31500	109.6	110.5	108.2	108.0	111.3	109.4	105.4	104.8	105.3
40000	109.7	109.1	109.6	108.8	109.8	110.9	106.2	104.7	105.0
50000	108.9	109.1	109.1	109.7	108.8	110.2	106.6	104.4	104.2
63000	108.8	109.4	109.4	109.4	109.4	109.0	105.9	104.2	103.7
80000	108.8	109.1	109.4	109.7	109.4	109.1	105.9	103.9	103.4
TSPL	120.2	119.8	119.0	118.9	119.0	119.0	117.8	118.8	120.9
SSPL	120.2	119.8	119.0	118.9	119.0	119.0	117.7	118.7	120.6

V_∞ =	100	fps
T_a =	52	°F
RH_a =	55	%
P_a =	14.68	psia

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	120.7	120.1	119.0	118.8	118.7	118.5	117.1	117.9	120.1
SSPL	120.7	120.1	119.0	118.8	118.6	118.5	117.0	117.9	119.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	120.9	120.2	119.0	118.6	118.4	118.1	116.6	117.4	119.5
SSPL	120.9	120.2	119.0	118.6	118.4	118.1	116.5	117.3	119.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/13/76 -00 000000 XARF 0 3437 3437

DB/TF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	75.5	74.2	78.0	79.9	78.7	76.8	77.4	80.1	84.7
125	75.2	77.8	80.6	80.0	78.0	78.5	78.9	81.2	86.2
160	75.6	79.2	80.6	81.6	81.6	81.1	79.7	82.6	88.6
200	78.0	81.1	81.3	84.3	83.7	84.5	86.0	86.2	89.4
250	79.8	83.6	84.9	85.1	86.4	87.6	86.9	90.7	93.7
315	87.3	88.5	87.9	87.8	88.1	88.2	89.0	90.3	97.2
400	91.9	88.8	87.7	88.6	88.3	88.4	90.9	93.0	100.7
500	89.4	88.0	87.2	88.1	89.8	90.8	93.5	97.2	101.2
630	86.8	88.5	88.3	89.8	91.0	92.6	94.2	98.4	104.5
800	91.4	89.6	90.4	92.6	93.3	94.0	96.2	100.9	106.1
1000	91.2	91.8	92.1	93.6	94.4	94.7	97.0	101.6	106.8
1250	91.5	91.7	92.1	94.0	94.7	96.2	98.6	102.5	106.4
1600	92.1	92.6	92.9	94.7	96.2	97.3	99.8	103.0	106.0
2000	93.1	93.5	94.1	95.8	97.1	98.5	101.0	103.7	105.5
2500	94.1	94.0	94.1	96.6	97.9	99.2	101.6	104.1	105.0
3150	94.2	94.7	95.0	97.2	98.4	100.0	102.6	103.8	104.5
4000	94.9	95.1	95.7	98.1	99.2	101.2	103.1	104.3	104.3
5000	96.3	96.4	96.8	99.0	100.3	102.2	104.0	104.8	104.5
6300	96.9	97.2	97.7	99.3	100.9	102.6	104.0	104.6	105.0
8000	100.2	98.5	98.3	100.1	101.8	103.4	103.9	104.9	105.7
10000	107.6	103.8	102.7	102.5	102.8	103.9	104.1	105.0	105.5
12500	114.3	110.3	104.9	103.1	102.6	103.7	103.7	104.2	104.9
16000	112.9	113.5	110.2	105.7	103.5	104.0	103.6	104.1	105.1
20000	108.4	109.4	111.0	109.8	105.7	104.4	103.4	103.3	104.5
25000	110.7	108.6	107.4	110.4	109.6	106.1	103.6	103.6	104.4
31500	110.2	110.8	108.1	107.8	110.7	108.6	104.6	103.4	103.6
40000	110.4	109.5	109.6	109.6	109.3	110.1	105.5	103.6	103.3
50000	109.6	109.5	109.1	109.4	108.2	109.4	105.9	103.5	102.7
63000	109.4	109.7	109.4	109.1	108.7	108.1	105.0	103.1	102.3
80000	109.5	109.5	109.4	109.4	108.8	108.3	105.1	102.9	102.0
TSPL	120.9	120.1	118.9	118.6	118.4	118.1	116.6	117.0	118.5
SSPL	120.9	120.1	118.9	118.6	118.4	118.1	116.6	117.0	118.3

V_∞ =	100	fps
T_a =	52	°F
RH_a =	55	%
P_a =	14.68	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 13437 CONDITION 3437

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.21		1.53	3.21	THRUST,IDL	LB	23.7	92.3	N	105.3	410.8
TEMP	(R)	694.2	719.0	(K)	385.7	399.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.077	KG/M3	1.039	1.233	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	977.0	1565.0	M/S	297.8	477.0	W (MODEL)	LB/S	0.8	1.9	KG/S	0.4	0.9

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.5	74.2	78.0	79.9	78.7	76.8	77.4	80.1	84.7	96.9
.125	75.2	77.8	80.6	80.0	78.0	78.5	78.9	81.2	86.2	98.1
.160	75.6	79.2	80.6	81.6	81.6	81.1	79.7	82.6	88.6	99.8
.200	78.0	81.1	81.3	84.3	83.7	84.5	86.0	86.2	89.4	102.5
.250	79.8	83.6	84.9	85.1	86.4	87.6	86.9	90.7	93.7	105.4
.315	87.3	88.5	87.9	87.8	88.1	88.2	89.0	90.3	97.2	107.7
.400	91.9	88.8	87.7	88.6	88.3	88.4	90.9	93.0	100.7	109.6
.500	89.4	88.0	87.2	88.1	89.8	90.8	93.5	97.2	101.2	111.0
.630	86.8	88.5	88.3	89.8	91.0	92.6	94.2	98.4	104.5	112.8
.800	91.4	89.6	90.4	92.6	93.3	94.0	96.2	100.9	106.1	114.8
1.00	91.2	91.8	92.1	93.6	94.4	94.7	97.0	101.6	106.8	115.6
1.25	91.5	91.7	92.1	94.0	94.7	96.2	98.6	102.5	106.4	116.1
1.60	92.1	92.6	92.9	94.7	96.2	97.3	99.8	103.0	106.0	116.6
2.00	93.1	93.5	94.1	95.8	97.1	98.5	101.0	103.7	105.5	117.3
2.50	94.1	94.0	94.1	96.6	97.9	99.2	101.6	104.1	105.0	117.7
3.15	94.2	94.7	95.0	97.2	98.4	100.0	102.6	103.8	104.5	118.0
4.00	94.9	95.1	95.7	98.1	99.2	101.2	103.1	104.3	104.3	118.6
5.00	96.3	96.4	96.8	99.0	100.3	102.2	104.0	104.8	104.5	119.4
6.30	96.9	97.2	97.7	99.3	100.9	102.6	104.0	104.6	105.0	119.7
8.00	100.2	98.5	98.3	100.1	101.8	103.4	103.9	104.9	105.7	120.3
10.0	107.6	103.8	102.7	102.5	102.8	103.9	104.1	105.0	105.5	122.3
12.5	114.3	110.3	104.9	103.1	102.6	103.7	103.7	104.2	104.9	125.5
16.0	112.9	113.5	110.2	105.7	103.5	104.0	103.6	104.1	105.1	127.2
20.0	108.4	109.4	111.0	109.8	105.7	104.4	103.4	103.3	104.5	126.3
25.0	110.7	108.6	107.4	110.4	109.6	106.1	103.6	103.6	104.4	126.4
31.5	110.2	110.8	108.1	107.8	110.7	108.6	104.6	103.4	103.6	126.9
40.0	110.4	109.5	109.6	108.6	109.3	110.1	105.5	103.6	103.3	127.0
50.0	109.6	109.5	109.1	109.4	108.2	109.4	105.9	103.5	102.7	126.7
63.0	109.4	109.7	109.4	109.1	108.7	108.1	105.0	103.1	102.3	126.6
80.0	109.5	109.5	109.4	109.4	108.8	108.3	105.1	102.9	102.0	126.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.9	120.1	119.0	118.6	118.4	118.1	116.6	117.0	118.5	OAPWL = 137.0

V_∞ =	100	fps
T_a =	52	°F
RH_a =	55	%
P_a =	14.68	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 0	3440 3440

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	71.8	70.7	74.4	76.8	76.1	74.6	75.4	79.5	84.0
125	71.0	73.9	77.1	76.9	75.2	76.0	77.1	80.3	85.3
160	71.3	75.6	77.3	78.5	78.8	78.8	77.9	82.2	88.1
200	74.4	77.7	78.2	81.2	80.7	82.0	84.0	84.6	88.4
250	76.2	79.9	81.9	81.9	83.6	85.2	84.7	89.9	90.9
315	82.7	84.3	84.5	84.4	85.0	85.8	86.9	89.4	97.2
400	87.4	85.0	84.2	85.4	85.7	86.2	89.2	92.6	100.8
500	85.1	84.2	84.0	84.8	87.0	88.6	91.8	96.0	98.7
630	82.8	84.9	85.3	86.6	88.3	90.4	92.6	97.8	103.4
800	87.2	86.2	87.3	89.4	90.5	91.9	94.4	100.0	104.0
1000	87.2	87.9	88.7	90.6	91.7	92.7	95.3	100.6	104.8
1250	87.5	88.1	89.1	90.9	92.1	94.0	96.8	101.1	103.8
1600	87.9	88.9	89.7	91.6	93.5	95.2	97.7	101.3	102.8
2000	89.1	89.8	90.9	92.8	94.3	96.3	98.8	101.7	101.5
2500	90.0	90.3	91.0	93.3	95.2	97.0	99.2	101.8	100.3
3150	90.2	91.3	92.1	94.2	95.8	97.8	100.1	101.3	100.0
4000	91.2	91.7	92.6	94.9	96.6	99.0	100.6	101.6	99.2
5000	92.3	93.0	93.5	95.9	97.5	99.8	101.5	101.8	99.0
6300	92.4	93.0	94.1	96.1	97.9	100.0	101.2	101.4	99.5
8000	93.4	93.3	94.1	96.4	98.5	100.8	101.2	101.7	99.2
10000	94.9	94.2	94.9	96.5	98.6	100.4	101.1	101.8	99.5
12500	98.9	95.6	97.0	97.5	98.9	101.1	101.2	101.8	100.9
16000	103.7	100.0	97.8	97.9	99.2	101.1	100.8	100.7	99.0
20000	108.2	105.4	101.8	98.4	99.0	100.5	100.1	99.4	97.6
25000	107.1	107.3	106.8	101.6	100.3	100.3	99.6	99.3	97.0
31500	103.5	104.7	105.2	104.5	102.3	100.9	99.4	98.5	95.9
40000	104.7	103.2	103.2	104.7	104.2	102.4	99.4	98.0	95.6
50000	104.1	104.1	103.4	103.4	104.3	103.9	100.0	97.6	94.8
63000	103.3	103.6	103.7	103.3	103.2	103.9	99.9	97.5	94.1
80000	102.7	103.0	103.3	103.2	102.7	102.2	99.2	96.6	93.4
TSPL	114.5	113.8	113.3	112.7	112.9	113.4	113.1	114.0	114.3
SSPL	114.5	113.8	113.3	112.7	112.8	113.4	113.0	114.0	114.0

V_∞ =	102	fps
T_a =	54	°F
RH_a =	41	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	114.9	114.0	113.4	112.6	112.6	112.9	112.4	113.2	113.6
SSPL	114.9	114.0	113.4	112.6	112.5	112.9	112.3	113.1	113.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	115.2	114.1	113.4	112.5	112.3	112.5	111.9	112.6	112.9
SSPL	115.2	114.1	113.3	112.4	112.3	112.5	111.8	112.6	112.6

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3440 3440

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	72.4	71.1	74.6	76.5	75.4	73.7	73.9	77.0	80.9
125	71.7	74.3	77.2	76.5	74.5	75.1	75.7	77.9	81.9
160	72.0	76.1	77.4	78.2	78.2	77.9	76.6	79.5	84.3
200	75.0	78.1	78.3	81.0	80.1	81.0	82.6	82.8	85.2
250	76.8	80.4	82.0	81.7	83.1	84.3	83.3	87.4	89.6
315	83.4	84.7	84.5	84.1	84.4	84.9	85.5	86.9	92.3
400	88.1	85.3	84.2	85.2	85.1	85.2	87.6	89.9	95.9
500	85.8	84.5	84.0	84.6	86.5	87.6	90.2	93.7	96.5
630	83.5	85.3	85.4	86.4	87.8	89.4	91.0	95.0	99.9
800	87.9	86.5	87.4	89.2	90.0	90.9	92.7	97.3	101.3
1000	87.9	88.3	88.8	90.4	91.2	91.7	93.7	97.9	102.0
1250	88.2	88.5	89.2	90.7	91.6	93.0	95.2	98.8	101.6
1600	88.6	89.3	89.8	91.4	93.0	94.2	96.2	99.2	101.1
2000	89.8	90.2	91.0	92.6	93.8	95.3	97.3	99.9	100.5
2500	90.7	90.7	91.1	93.2	94.7	96.1	97.8	100.2	99.9
3150	90.8	91.6	92.1	94.0	95.2	96.8	98.6	99.8	99.3
4000	91.8	92.0	92.7	94.7	96.1	98.0	99.2	100.3	99.0
5000	92.9	93.3	93.6	95.7	97.0	98.8	100.2	100.7	98.9
6300	93.1	93.4	94.2	95.9	97.4	99.0	99.9	100.2	99.0
8000	94.1	93.7	94.2	96.3	98.0	99.9	100.0	100.5	99.1
10000	95.6	94.5	95.0	96.3	98.1	99.5	99.8	100.5	99.3
12500	99.5	95.9	97.0	97.2	98.3	100.1	100.0	100.4	99.9
16000	104.4	100.2	97.8	97.7	98.7	100.2	99.7	99.5	98.4
20000	108.8	105.6	101.6	98.0	98.4	99.6	99.0	98.3	97.0
25000	107.7	107.6	106.6	101.1	99.6	99.4	98.5	98.2	96.6
31500	104.1	105.1	105.2	104.1	101.6	100.1	98.4	97.5	95.6
40000	105.4	103.5	103.3	104.5	103.6	101.6	98.6	97.1	95.2
50000	104.8	104.4	103.4	103.2	103.7	103.1	99.3	96.9	94.5
63000	103.9	103.9	103.7	103.0	102.6	103.0	99.2	96.8	94.0
80000	103.4	103.4	103.3	102.9	102.1	101.4	98.4	96.0	93.2
TSPL	115.2	114.1	113.3	112.5	112.3	112.6	111.9	112.5	112.8
SSPL	115.1	114.1	113.3	112.4	112.3	112.5	111.8	112.4	112.6

V_∞ =	102	fps
T_a =	54	°F
RH_a =	41	%
P_a =	14.68	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZL AR=1.2 CONFL 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3440 CONDITION 3440

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.51		1.53	2.51	THRUST,IDL	LB	22.7	64.7	N	101.2	287.9
TEMP	(R)	693.6	713.7	(K)	385.3	396.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.072	KG/M3	1.040	1.160	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	976.3	1408.0	M/S	297.6	429.2	W (MODEL)	LB/S	0.8	1.5	KG/S	0.3	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	72.4	71.1	74.6	76.5	75.4	73.7	73.9	77.0	80.9	93.5
.125	71.7	74.3	77.2	76.5	74.5	75.1	75.7	77.9	81.9	94.6
.160	72.0	76.1	77.4	78.2	78.2	77.9	76.6	79.5	84.3	96.4
.200	75.0	78.1	78.3	81.0	80.1	81.0	82.6	82.8	85.2	99.1
.250	76.8	80.4	82.0	81.7	83.1	84.3	83.3	87.4	89.6	102.0
.315	83.4	84.7	84.5	84.1	84.4	84.9	85.5	86.9	92.3	103.9
.400	88.1	85.3	84.2	85.2	85.1	85.2	87.6	89.9	95.9	105.8
.500	85.8	84.5	84.0	84.6	86.5	87.6	90.2	93.7	96.5	107.2
.630	83.5	85.3	85.4	86.4	87.8	89.4	91.0	95.0	99.9	109.0
.800	87.9	86.5	87.4	89.2	90.0	90.9	92.7	97.3	101.3	110.9
1.00	87.9	88.3	88.8	90.4	91.2	91.7	93.7	97.9	102.0	111.7
1.25	88.2	88.5	89.2	90.7	91.6	93.0	95.2	98.8	101.6	112.3
1.60	88.6	89.3	89.8	91.4	93.0	94.2	96.2	99.2	101.1	112.8
2.00	89.8	90.2	91.0	92.6	93.8	95.3	97.3	99.9	100.5	113.5
2.50	90.7	90.7	91.1	93.2	94.7	96.1	97.8	100.2	99.9	113.9
3.15	90.8	91.6	92.1	94.0	95.2	96.8	98.6	99.8	99.3	114.3
4.00	91.8	92.0	92.7	94.7	96.1	98.0	99.2	100.3	99.0	114.9
5.00	92.9	93.3	93.6	95.7	97.0	98.8	100.2	100.7	98.9	115.7
6.30	93.1	93.4	94.2	95.9	97.4	99.0	99.9	100.2	99.0	115.7
8.00	94.1	93.7	94.2	96.3	98.0	99.9	100.0	100.5	99.1	116.1
10.0	95.6	94.5	95.0	96.3	98.1	99.5	99.8	100.5	99.3	116.2
12.5	99.5	95.9	97.0	97.2	98.3	100.1	100.0	100.4	99.9	117.0
16.0	104.4	100.2	97.8	97.7	98.7	100.2	99.7	99.5	98.4	118.1
20.0	108.8	105.6	101.6	98.0	98.4	99.6	99.0	98.3	97.0	120.6
25.0	107.7	107.6	106.6	101.1	99.6	99.4	98.5	98.2	96.6	122.2
31.5	104.1	105.1	105.2	104.1	101.6	100.1	98.4	97.5	95.6	121.2
40.0	105.4	103.5	103.3	104.5	103.6	101.6	98.6	97.1	95.2	121.1
50.0	104.8	104.4	103.4	103.2	103.7	103.1	99.3	96.9	94.5	121.2
63.0	103.9	103.9	103.7	103.0	102.6	103.0	99.2	96.8	94.0	120.8
80.0	103.4	103.4	103.3	102.9	102.1	101.4	98.4	96.0	93.2	120.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.2	114.1	113.3	112.5	112.3	112.6	111.9	112.5	112.8	OAPWL = 131.3

V_∞ =	102	fps
T_a =	54	°F
RH_a =	41	%
P_a =	14.68	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/13/76 -00 000000 XARF 0 3441 3441

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.9	76.1	74.8	79.7	79.1	73.4	73.2	84.7	83.3
125	74.4	76.1	77.0	76.9	74.8	73.4	75.0	83.4	88.9
160	71.5	66.6	74.9	76.1	77.1	76.1	73.7	83.1	87.3
200	73.6	69.4	74.9	79.0	78.4	80.0	81.6	75.7	88.9
250	72.1	77.5	79.5	79.9	81.7	82.7	82.3	86.7	91.0
315	81.2	82.1	81.9	82.0	82.5	83.1	84.4	86.8	97.5
400	83.9	81.6	80.9	82.8	83.2	83.9	86.9	89.8	102.3
500	80.7	80.0	80.7	82.4	84.4	85.5	88.3	93.3	96.8
630	80.1	81.8	82.4	84.3	85.9	87.7	90.1	94.9	100.1
800	84.4	83.6	84.9	86.9	87.9	89.1	91.8	97.3	101.2
1000	84.3	85.4	86.6	88.0	88.9	89.8	92.6	97.8	101.1
1250	85.3	86.0	86.7	88.6	90.0	91.7	94.5	98.2	100.0
1600	85.8	86.4	87.3	89.6	91.4	92.6	95.0	98.5	99.5
2000	86.8	87.7	88.8	90.9	92.1	93.8	96.4	99.0	98.3
2500	87.8	88.3	88.8	91.2	92.9	94.5	96.9	99.2	97.4
3150	88.0	88.8	89.7	92.2	93.4	95.5	97.8	99.0	96.8
4000	88.9	89.5	90.4	92.7	94.4	96.6	98.4	99.1	96.1
5000	90.1	90.6	91.2	93.5	95.2	97.5	99.2	99.4	95.8
6300	90.0	90.7	91.7	93.8	95.7	98.0	99.1	99.0	96.0
8000	91.2	90.9	91.9	94.3	96.5	98.8	99.3	99.3	95.8
10000	92.1	92.6	92.7	94.7	96.7	98.5	99.2	99.6	96.0
12500	95.0	93.8	93.7	95.6	97.0	99.1	99.1	99.1	96.6
16000	103.8	100.1	97.1	97.0	98.3	99.8	99.3	98.8	96.6
20000	108.0	105.3	103.4	97.6	97.9	98.9	98.4	97.3	94.2
25000	106.5	107.0	104.8	101.5	99.4	98.8	98.0	97.3	93.4
31500	102.6	103.8	105.0	104.6	101.9	100.1	98.0	96.5	92.9
40000	104.3	102.6	102.4	104.2	104.0	101.7	98.4	96.4	92.7
50000	103.5	103.6	102.7	102.7	103.5	103.3	99.3	96.1	92.2
63000	102.5	102.8	103.0	102.8	102.6	103.3	99.4	96.1	91.8
80000	102.0	102.2	102.4	102.5	101.9	101.4	98.5	95.5	91.6
TSPL	113.9	113.2	112.2	112.0	111.9	112.1	111.3	111.7	111.6
SSPL	113.9	113.2	112.2	112.0	111.8	112.1	111.3	111.6	110.8

V_∞ =	198	fps
T_a =	50	°F
RH_a =	44	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 10	3441 3441

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	114.8	113.7	112.4	111.8	111.3	111.1	110.0	110.2	110.9
SSPL	114.8	113.7	112.4	111.8	111.3	111.1	110.0	110.1	110.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	115.2	113.9	112.3	111.5	110.7	110.3	109.0	109.1	109.4
SSPL	115.2	113.9	112.3	111.4	110.7	110.2	108.9	109.0	108.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF NO 3441	3441

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	79.2	76.6	75.1	79.2	77.8	71.9	70.0	77.5	82.9
125	75.7	76.9	77.0	76.2	73.6	71.6	71.8	77.0	83.4
160	72.8	67.5	75.5	75.6	75.9	74.4	71.2	76.2	82.8
200	74.9	70.2	75.6	78.5	77.3	78.1	79.6	74.5	76.9
250	73.4	78.5	79.7	79.4	80.5	80.9	79.8	82.0	86.0
315	82.5	82.8	81.9	81.4	81.3	81.3	81.8	82.4	87.9
400	85.2	82.1	81.0	82.3	82.0	82.0	83.9	85.1	91.6
500	82.3	80.6	80.9	82.0	83.2	83.5	85.1	88.5	92.4
630	81.4	82.6	82.6	83.8	84.7	85.7	87.1	90.0	94.5
800	85.7	84.3	85.1	86.4	86.7	87.2	88.7	92.3	96.6
1000	85.6	86.2	86.8	87.5	87.7	87.9	89.5	93.0	96.9
1250	86.7	86.7	86.9	88.1	88.9	89.8	91.5	94.1	96.7
1600	87.1	87.1	87.5	89.2	90.3	90.7	92.1	94.6	96.7
2000	88.1	88.4	89.1	90.5	91.0	91.9	93.6	95.6	96.6
2500	89.1	89.0	89.1	90.8	91.8	92.6	94.1	96.1	96.4
3150	89.4	89.6	90.0	91.7	92.2	93.5	95.0	96.3	95.9
4000	90.2	90.2	90.6	92.2	93.3	94.6	95.8	96.6	95.7
5000	91.4	91.3	91.4	93.1	94.1	95.5	96.7	97.2	95.8
6300	91.3	91.4	91.9	93.4	94.6	96.1	96.7	96.9	95.6
8000	92.5	91.6	92.2	93.9	95.4	96.9	97.1	97.2	95.8
10000	93.4	93.3	92.9	94.3	95.6	96.6	96.8	97.3	96.0
12500	96.3	94.3	93.8	95.1	95.8	97.2	96.9	96.8	95.8
16000	105.1	100.4	96.9	96.5	97.2	98.0	97.2	96.7	95.6
20000	109.3	105.5	99.8	96.9	96.7	97.1	96.4	95.5	93.7
25000	107.8	107.5	104.3	100.6	98.1	97.1	95.9	95.4	93.5
31500	103.9	104.6	105.0	103.8	100.6	98.5	96.2	94.8	92.7
40000	105.6	105.2	102.6	103.7	102.8	100.2	96.9	94.9	92.6
50000	104.8	104.2	102.6	102.1	102.3	101.7	98.1	95.1	92.1
63000	103.8	103.4	102.9	102.1	101.4	101.6	98.1	95.1	91.9
80000	103.3	102.9	102.4	101.9	100.7	99.8	97.0	94.4	91.5
TSPL	115.2	113.7	112.1	111.4	110.7	110.3	109.2	109.1	109.0
SSPL	115.2	113.7	112.1	111.4	110.6	110.3	109.1	109.0	108.8

V_∞ =	198	fps
T_a =	50	°F
RH_a =	44	%
P_a =	14.43	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3441 CONDITION 3441

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.52		1.53	2.52	THRUST,IDL	LB	23.3	63.0	N	103.8	280.1
TEMP	(R)	693.0	712.0	(K)	385.0	395.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.073	KG/M3	1.041	1.163	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	975.6	1400.0	M/S	297.4	429.2	W (MODEL)	LB/S	0.0	1.4	KG/S	0.3	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.2	76.6	75.1	79.2	77.8	71.9	70.0	77.5	82.9	95.5
.125	75.7	76.9	77.0	76.2	73.6	71.6	71.8	77.0	83.4	94.6
.160	72.8	67.5	75.5	75.6	75.9	74.4	71.2	76.2	82.8	93.6
.200	74.9	70.2	75.6	78.5	77.3	78.1	79.6	74.5	76.9	95.2
.250	73.4	78.5	79.7	79.4	80.5	80.9	79.8	82.0	86.0	98.7
.315	82.5	82.8	81.9	81.4	81.3	81.3	81.8	82.4	87.9	100.7
.400	85.2	82.1	81.0	82.3	82.0	82.0	83.9	85.1	91.6	102.1
.500	82.0	80.6	80.9	82.0	83.2	83.5	85.1	88.5	92.4	103.0
.630	81.4	82.6	82.6	83.8	84.7	85.7	87.1	90.0	94.5	104.7
.800	85.7	84.3	85.1	86.4	86.7	87.2	88.7	92.3	96.6	106.9
1.00	85.6	86.2	86.8	87.5	87.7	87.9	89.5	93.0	96.9	107.7
1.25	86.7	86.7	86.9	88.1	88.9	89.8	91.5	94.1	96.7	108.6
1.60	87.1	87.1	87.5	89.2	90.3	90.7	92.1	94.6	96.7	109.2
2.00	88.1	88.4	89.1	90.5	91.0	91.9	93.6	95.6	96.6	110.2
2.50	89.1	89.0	89.1	90.8	91.8	92.6	94.1	96.1	96.4	110.7
3.15	89.4	89.6	90.0	91.7	92.2	93.5	95.0	96.3	95.9	111.2
4.00	90.2	90.2	90.6	92.2	93.3	94.6	95.8	96.6	95.7	111.8
5.00	91.4	91.3	91.4	93.1	94.1	95.5	96.7	97.2	95.8	112.6
6.30	91.3	91.4	91.9	93.4	94.6	96.1	96.7	96.9	95.6	112.8
8.00	92.5	91.6	92.2	93.9	95.4	96.9	97.1	97.2	95.8	113.4
10.0	93.4	93.3	92.9	94.3	95.6	96.6	96.8	97.3	96.0	113.6
12.5	96.3	94.3	93.8	95.1	95.8	97.2	96.9	96.8	95.8	114.1
16.0	105.1	100.4	96.9	96.5	97.2	98.0	97.2	96.7	95.6	117.2
20.0	109.3	105.5	99.8	96.9	96.7	97.1	96.4	95.5	93.7	120.1
25.0	107.8	107.5	104.3	100.6	98.1	97.1	95.9	95.4	93.5	121.3
31.5	103.9	104.6	105.0	103.8	100.6	98.5	96.2	94.8	92.7	120.6
40.0	105.6	103.2	102.6	103.7	102.8	100.2	96.9	94.9	92.6	120.4
50.0	104.8	104.2	102.6	102.1	102.3	101.7	98.1	95.1	92.1	120.3
63.0	103.8	103.4	102.9	102.1	101.4	101.6	98.1	95.1	91.9	120.0
80.0	103.3	102.9	102.4	101.9	100.7	99.8	97.0	94.4	91.5	119.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.2	113.7	112.1	111.4	110.7	110.3	109.2	109.1	109.0	OAPWL = 130.0

V_∞ =	198	fps
T_a =	50	°F
RH_a =	44	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	344Z 344Z

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.2	71.8	78.0	69.5	72.8	78.0	80.0	82.6	95.1
125	74.2	71.6	66.2	66.0	60.8	76.1	67.7	81.5	98.1
160	71.4	68.5	68.1	67.6	67.9	76.3	77.8	80.8	93.8
200	72.3	68.9	62.1	73.4	72.2	73.0	75.9	81.4	95.4
250	71.9	73.9	73.7	73.7	76.0	76.8	77.2	78.2	98.3
315	75.0	77.5	76.3	76.4	77.1	78.1	79.6	79.6	102.9
400	78.3	77.8	75.7	77.4	78.4	78.8	82.1	83.9	108.4
500	75.4	76.3	76.0	77.3	79.3	80.3	83.3	87.7	97.8
630	74.7	77.5	77.8	79.2	80.8	82.4	85.2	89.3	100.1
800	79.2	78.9	79.6	81.6	82.7	84.2	86.7	91.5	101.0
1000	78.8	80.4	81.3	82.7	83.8	84.7	87.4	91.7	100.6
1250	80.0	81.0	81.4	83.6	84.8	86.4	88.8	92.0	99.7
1600	80.2	81.2	82.1	84.2	86.1	87.3	89.3	92.1	99.1
2000	81.2	82.2	83.2	85.2	86.8	88.2	90.2	92.2	98.0
2500	82.4	83.0	83.4	85.7	87.4	88.7	90.3	92.3	97.0
3150	82.3	83.2	84.2	86.5	87.8	89.3	90.8	91.8	96.1
4000	82.9	83.7	84.5	86.8	88.6	90.3	91.1	91.7	95.0
5000	83.7	84.6	85.3	87.6	89.1	90.8	91.7	91.5	94.3
6300	83.6	84.7	85.8	87.9	89.4	90.9	91.4	90.6	93.7
8000	84.6	84.7	85.9	88.0	90.0	91.4	91.2	90.6	93.1
10000	84.7	85.6	86.1	88.3	89.9	90.9	91.0	90.3	92.4
12500	84.5	85.2	86.2	88.5	90.0	91.1	90.6	89.5	91.9
16000	84.8	85.4	86.2	88.3	89.9	91.0	90.2	88.8	91.1
20000	84.5	85.1	85.9	87.9	89.4	90.1	89.4	87.7	89.8
25000	84.4	85.3	85.9	87.8	89.8	89.9	88.6	87.5	89.3
31500	84.6	85.2	86.2	87.7	89.3	89.5	88.1	86.3	88.4
40000	85.3	86.4	89.1	90.9	91.6	90.2	87.5	85.7	88.1
50000	84.3	84.8	85.9	87.5	88.1	88.3	86.7	84.6	87.1
63000	83.7	84.5	85.6	86.8	87.8	87.9	85.9	84.1	86.7
80000	83.0	83.5	85.1	86.5	87.3	87.4	85.5	83.7	86.6
TSPL	96.8	97.6	98.6	100.5	101.9	102.8	103.0	103.8	113.1
SSPL	96.6	97.4	98.5	100.4	101.8	102.7	102.9	103.6	109.7

V_∞ =	198	fps
T_a =	50	°F
RH_a =	49	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	97.8	98.1	98.8	100.3	101.3	101.8	101.7	102.3	112.4
SSPL	97.6	98.0	98.7	100.2	101.3	101.7	101.6	102.1	109.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	98.2	98.3	98.7	99.9	100.7	100.9	100.7	101.2	110.9
SSPL	98.0	98.1	98.6	99.9	100.7	100.9	100.5	101.1	107.5

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3442 3442

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	78.5	72.6	77.7	68.8	71.8	75.9	77.3	77.9	84.3
125	75.5	71.8	65.9	65.1	59.8	73.9	66.3	71.3	85.6
160	72.7	69.0	68.0	67.0	66.9	74.1	75.2	75.9	82.7
200	73.6	68.9	62.7	73.2	71.0	71.1	72.7	75.4	83.9
250	73.2	74.6	73.7	73.3	74.9	75.0	74.8	73.4	82.2
315	76.3	78.2	76.2	75.8	75.9	76.2	77.1	74.9	84.5
400	79.6	78.3	75.7	76.9	77.2	76.9	79.1	78.5	89.4
500	76.7	77.0	76.0	76.9	78.2	78.4	80.2	82.6	88.9
630	76.0	78.3	78.0	78.8	79.7	80.5	82.2	84.2	90.6
800	80.5	79.6	79.8	81.1	81.6	82.2	83.6	86.2	92.5
1000	80.2	81.2	81.4	82.2	82.6	82.8	84.3	86.7	92.5
1250	81.3	81.7	81.6	83.1	83.6	84.5	85.9	87.6	92.3
1600	81.5	82.0	82.4	83.8	85.0	85.4	86.5	87.9	92.1
2000	82.5	83.0	83.4	84.7	85.7	86.3	87.5	88.4	91.8
2500	83.7	83.7	83.6	85.3	86.3	86.9	87.7	88.6	91.5
3150	83.6	83.9	84.5	86.1	86.7	87.5	88.2	88.5	90.7
4000	84.2	84.4	84.8	86.3	87.4	88.4	88.7	88.6	90.3
5000	85.1	85.4	85.5	87.1	87.9	88.9	89.3	88.8	89.9
6300	84.9	85.4	86.0	87.5	88.3	89.1	89.2	88.1	89.0
8000	85.9	85.4	86.2	87.6	88.9	89.6	89.1	88.1	88.9
10000	86.0	86.3	86.3	87.9	88.7	89.1	88.8	87.9	88.4
12500	85.9	86.0	86.4	88.0	88.8	89.3	88.5	87.1	87.6
16000	86.1	86.1	86.4	87.9	88.8	89.2	88.2	86.6	86.9
20000	85.8	85.8	86.1	87.4	88.2	88.3	87.4	85.6	85.7
25000	85.8	86.1	86.1	87.3	88.6	88.1	86.7	85.2	85.5
31500	85.9	85.9	86.4	87.2	88.1	87.8	86.3	84.2	84.3
40000	86.6	87.3	89.5	90.4	90.4	88.6	85.9	83.6	83.8
50000	85.6	85.6	86.1	87.0	86.9	86.6	84.9	82.6	82.7
63000	85.0	85.2	85.8	86.3	86.7	86.2	84.2	82.0	82.3
80000	84.4	84.3	85.3	86.0	86.2	85.7	83.8	81.5	81.9
TSPL	98.2	98.3	98.8	100.0	100.7	101.0	100.7	100.4	103.5
SSPL	98.0	98.2	98.7	99.9	100.7	100.9	100.6	100.3	103.0

V_∞ =	198	fps
T_a =	50	°F
RH_a =	49	%
P_a =	1443	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/13/76 SCALE RATIO 0.0/1 RUN NUMBER 3442 CONDITION 3442

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	22.3	36.6	N	99.3	162.6
TEMP	(R)	692.8	712.7	(K)	384.9	395.9	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.066	KG/M3	1.040	1.060	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	971.6	1154.0	M/S	296.1	351.7	W (MODEL)	LB/S	0.7	1.0	KG/S	0.3	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
	MICROPHONE ANGLES IN DEGREES									
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.5	72.6	77.7	68.8	71.8	75.9	77.3	77.9	84.3	94.9
.125	75.5	71.8	65.9	65.1	59.8	73.9	66.3	71.3	85.6	92.2
.160	72.7	69.0	68.0	67.0	66.9	74.1	75.2	75.9	82.7	91.8
.200	73.6	68.9	62.7	73.2	71.0	71.1	72.7	75.4	83.9	92.1
.250	73.2	74.6	73.7	73.3	74.9	75.0	74.8	73.4	82.2	93.3
.315	76.3	78.2	76.2	75.8	75.9	76.2	77.1	74.9	84.5	95.6
.400	79.6	78.3	75.7	76.9	77.2	76.9	79.1	78.5	89.4	97.9
.500	76.7	77.0	76.0	76.9	78.2	78.4	80.2	82.6	88.9	98.3
.630	76.0	78.3	78.0	78.8	79.7	80.5	82.2	84.2	90.6	99.9
.800	80.5	79.6	79.8	81.1	81.6	82.2	83.6	86.2	92.5	101.8
1.00	80.2	81.2	81.4	82.2	82.6	82.8	84.3	86.7	92.5	102.5
1.25	81.3	81.7	81.6	83.1	83.6	84.5	85.9	87.6	92.3	103.2
1.60	81.5	82.0	82.4	83.8	85.0	85.4	86.5	87.9	92.1	103.7
2.00	82.5	83.0	83.4	84.7	85.7	86.3	87.5	88.4	91.8	104.4
2.50	83.7	83.7	83.6	85.3	86.3	86.9	87.7	88.6	91.5	104.7
3.15	83.6	83.9	84.5	86.1	86.7	87.5	88.2	88.5	90.7	105.0
4.00	84.2	84.4	84.8	86.3	87.4	88.4	88.7	88.6	90.3	105.4
5.00	85.1	85.4	85.5	87.1	87.9	88.9	89.3	88.8	89.9	105.9
6.30	84.9	85.4	86.0	87.5	88.3	89.1	89.2	88.1	89.0	106.0
8.00	85.9	85.4	86.2	87.6	88.9	89.6	89.1	88.1	88.9	106.2
10.0	86.0	86.3	86.3	87.9	88.7	89.1	88.8	87.9	88.4	106.1
12.5	85.9	86.0	86.4	88.0	88.8	89.3	88.5	87.1	87.6	106.0
16.0	86.1	86.1	86.4	87.9	88.8	89.2	88.2	86.6	86.9	105.9
20.0	85.8	85.8	86.1	87.4	88.2	88.3	87.4	85.6	85.7	105.3
25.0	85.8	86.1	86.1	87.3	88.6	88.1	86.7	85.2	85.5	105.2
31.5	85.9	85.9	86.4	87.2	88.1	87.8	86.3	84.2	84.3	105.0
40.0	86.6	87.3	89.5	90.4	90.4	88.6	85.9	83.6	83.8	106.8
50.0	85.6	85.6	86.1	87.0	86.9	86.6	84.9	82.6	82.7	104.2
63.0	85.0	85.2	85.8	86.3	86.7	86.2	84.2	82.0	82.3	103.7
80.0	84.4	84.3	85.3	86.0	86.2	85.7	83.8	81.5	81.9	103.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.2	98.3	98.8	100.0	100.7	101.0	100.7	100.4	103.5	OAPWL = 118.4

V_∞ =	198	fps
T_a =	50	°F
RH_a =	49	%
P_a =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/13/76 -00 000000 XARF 0 3443 3443

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	4120.0	130.0	140.0	150.0
100	66.5	66.5	69.9	71.8	71.1	69.5	70.4	73.7	78.8
125	67.0	70.3	73.2	73.1	71.1	71.8	72.8	75.6	81.4
160	66.7	71.3	73.2	74.3	74.4	74.2	73.3	77.7	83.9
200	69.6	73.6	74.0	76.9	76.4	77.5	79.7	80.5	84.3
250	71.6	75.6	77.4	77.3	78.6	80.1	80.2	85.8	87.0
315	77.5	79.1	79.5	79.6	80.4	80.9	82.5	85.0	93.1
400	81.8	80.3	79.4	80.7	81.2	81.5	84.6	88.3	96.9
500	80.1	79.5	79.3	80.3	82.4	83.8	87.1	91.2	94.7
630	77.9	80.1	80.6	82.4	84.0	85.7	88.3	93.0	99.4
800	82.5	81.6	82.6	84.9	86.1	87.5	89.9	94.8	100.1
1000	82.5	83.4	84.0	86.0	87.2	88.3	90.5	95.4	101.3
1250	82.6	83.6	84.5	86.6	87.7	89.6	92.0	95.6	100.7
1600	83.0	84.2	85.1	87.2	88.8	90.3	92.6	95.6	100.6
2000	84.3	85.2	86.2	88.2	89.7	91.4	93.4	95.9	99.7
2500	85.2	85.8	86.4	88.7	90.4	91.6	93.4	95.8	99.0
3150	85.1	86.2	87.1	89.3	90.8	92.3	93.9	95.1	98.7
4000	85.7	86.4	87.4	89.7	91.3	93.1	94.0	95.1	97.8
5000	86.6	87.5	88.0	90.4	92.0	93.7	94.6	94.8	97.4
6300	86.3	87.1	88.2	90.4	92.0	93.6	94.2	93.8	97.2
8000	87.1	87.1	88.1	90.4	92.4	94.0	94.1	93.9	96.7
10000	86.8	87.6	88.2	90.3	92.0	93.2	93.6	93.3	95.9
12500	86.6	87.2	88.2	90.4	92.0	93.3	93.2	92.4	95.5
16000	86.7	87.2	87.9	90.0	91.7	93.0	92.6	91.6	94.3
20000	86.1	86.6	87.4	89.4	91.0	92.0	91.4	90.3	92.6
25000	85.8	86.5	87.3	89.4	91.4	91.6	90.7	90.2	91.9
31500	85.6	86.4	87.3	89.0	90.7	91.0	90.0	88.8	90.6
40000	86.0	87.2	89.3	91.8	91.4	91.1	89.0	87.6	90.0
50000	85.2	85.7	86.8	88.7	89.4	89.8	88.4	86.4	88.9
63000	84.7	85.5	86.6	87.8	89.1	89.3	87.3	85.7	88.0
80000	84.5	84.9	86.1	87.5	88.5	88.7	86.9	84.8	87.6
TSPL	98.9	99.5	100.5	102.5	104.0	105.1	105.7	107.0	111.2
SSPL	98.7	99.4	100.4	102.4	103.9	105.0	105.6	106.9	110.9

V_∞ =	97	fps
T_a =	51	°F
RH_a =	51	%
P_a =	14.68	psia

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	99.3	99.8	100.5	102.4	103.6	104.6	105.0	106.2	110.4
SSPL	99.1	99.7	100.4	102.3	103.6	104.5	104.9	106.1	110.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	99.5	99.9	100.5	102.3	103.4	104.2	104.5	105.7	109.8
SSPL	99.4	99.8	100.4	102.2	103.3	104.1	104.4	105.5	109.5

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3443 3443

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	67.1	66.9	70.0	71.5	70.5	68.6	69.0	71.2	75.3
125	67.6	70.8	73.3	72.8	70.4	70.9	71.4	73.2	77.5
160	67.4	71.8	73.3	74.1	73.8	73.3	72.0	75.0	80.0
200	70.3	74.1	74.1	76.6	75.8	76.6	78.3	78.7	81.1
250	72.3	76.0	77.5	77.0	78.0	79.2	78.7	83.3	85.6
315	78.1	79.5	79.5	79.3	79.8	79.9	81.1	82.5	88.1
400	82.5	80.6	79.4	80.5	80.6	80.5	83.0	85.6	91.8
500	80.8	79.8	79.3	80.1	81.9	82.8	85.5	88.8	92.1
630	78.5	80.5	80.7	82.2	83.5	84.7	86.7	90.2	95.5
800	83.2	81.9	82.7	84.7	85.6	86.5	88.3	92.1	96.7
1000	83.2	83.8	84.1	85.8	86.7	87.4	88.9	92.6	97.6
1250	83.3	84.0	84.6	86.4	87.2	88.6	90.5	93.2	97.3
1600	83.7	84.6	85.2	87.0	88.3	89.4	91.1	93.3	97.2
2000	85.0	85.6	86.3	88.0	89.2	90.5	92.0	93.8	96.8
2500	85.9	86.2	86.5	88.6	89.9	90.7	92.0	93.8	96.4
3150	85.7	86.5	87.1	89.1	90.2	91.3	92.5	93.2	95.7
4000	86.3	86.7	87.5	89.5	90.7	92.1	92.7	93.3	95.2
5000	87.2	87.9	88.1	90.2	91.5	92.7	93.3	93.2	94.8
6300	87.0	87.5	88.3	90.2	91.5	92.7	93.0	92.3	94.1
8000	87.8	87.5	88.2	90.3	91.9	93.1	93.0	92.4	94.0
10000	87.5	88.0	88.3	90.1	91.5	92.3	92.4	91.8	93.2
12500	87.2	87.5	88.3	90.2	91.4	92.3	92.1	90.9	92.5
16000	87.4	87.6	88.0	89.8	91.2	92.1	91.5	90.2	91.5
20000	86.7	87.0	87.5	89.2	90.4	91.1	90.3	89.0	90.0
25000	86.4	86.8	87.3	89.2	90.8	90.7	89.6	88.8	89.6
31500	86.2	86.8	87.4	88.8	90.1	90.1	89.0	87.5	88.2
40000	86.7	87.6	89.5	91.6	90.8	90.3	88.1	86.3	87.3
50000	85.9	86.1	86.9	88.5	88.8	88.9	87.5	85.2	86.1
63000	85.4	85.9	86.7	87.6	88.6	88.5	86.3	84.4	85.4
80000	85.2	85.3	86.2	87.2	87.9	87.8	85.9	83.6	84.6
TSPL	99.5	99.9	100.6	102.3	103.4	104.2	104.4	105.1	108.0
SSPL	99.4	99.8	100.5	102.3	103.3	104.1	104.3	104.9	107.8

V_∞ =	97	fps
T_a =	51	°F
RH_a =	51	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=97 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3443 CONDITION 3443

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.81		1.53	1.81	THRUST,IDL	LB	23.7	37.1	N	105.5	165.1
TEMP	(R)	693.0	716.3	(K)	385.0	397.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.066	KG/M3	1.042	1.055	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	979.4	1160.0	M/S	298.5	353.6	W (MODEL)	LB/S	0.8	1.0	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	67.1	66.9	70.0	71.5	70.5	68.6	69.0	71.2	75.3	88.4
.125	67.6	70.8	73.3	72.8	70.4	70.9	71.4	73.2	77.5	90.5
.160	67.4	71.8	73.3	74.1	73.8	73.3	72.0	75.0	80.0	92.1
.200	70.3	74.1	74.1	76.6	75.8	76.6	78.3	78.7	81.1	94.8
.250	72.3	76.0	77.5	77.0	78.0	79.2	78.7	83.3	85.6	97.5
.315	78.1	79.5	79.5	79.3	79.8	79.9	81.1	82.5	88.1	99.2
.400	82.5	80.6	79.4	80.5	80.6	80.5	83.0	85.6	91.8	101.3
.500	80.8	79.8	79.3	80.1	81.9	82.8	85.5	88.8	92.1	102.5
.630	78.5	80.5	80.7	82.2	83.5	84.7	86.7	90.2	95.5	104.5
.800	83.2	81.9	82.7	84.7	85.6	86.5	88.3	92.1	96.7	106.2
1.00	83.2	83.8	84.1	85.8	86.7	87.4	88.9	92.6	97.6	107.0
1.25	83.3	84.0	84.6	86.4	87.2	88.6	90.5	93.2	97.3	107.6
1.60	83.7	84.6	85.2	87.0	88.3	89.4	91.1	93.3	97.2	107.9
2.00	85.0	85.6	86.3	88.0	89.2	90.5	92.0	93.8	96.8	108.6
2.50	85.9	86.2	86.5	88.6	89.9	90.7	92.0	93.8	96.4	108.7
3.15	85.7	86.5	87.1	89.1	90.2	91.3	92.5	93.2	95.7	108.8
4.00	86.3	86.7	87.5	89.5	90.7	92.1	92.7	93.3	95.2	109.1
5.00	87.2	87.9	88.1	90.2	91.5	92.7	93.3	93.2	94.8	109.6
6.30	87.0	87.5	88.3	90.2	91.5	92.7	93.0	92.3	94.1	109.3
8.00	87.8	87.5	88.2	90.3	91.9	93.1	93.0	92.4	94.0	109.5
10.0	87.5	88.0	88.3	90.1	91.5	92.3	92.4	91.8	93.2	109.0
12.5	87.2	87.5	88.3	90.2	91.4	92.3	92.1	90.9	92.5	108.8
16.0	87.4	87.6	88.0	89.8	91.2	92.1	91.5	90.2	91.5	108.5
20.0	86.7	87.0	87.5	89.2	90.4	91.1	90.3	89.0	90.0	107.6
25.0	86.4	86.8	87.3	89.2	90.8	90.7	89.6	88.8	89.6	107.4
31.5	86.2	86.8	87.4	88.8	90.1	90.1	89.0	87.5	88.2	106.8
40.0	86.7	87.6	89.5	91.6	90.8	90.3	88.1	86.3	87.3	107.7
50.0	85.9	86.1	86.9	88.5	88.8	88.9	87.5	85.2	86.1	105.8
63.0	85.4	85.9	86.7	87.6	88.6	88.5	86.3	84.4	85.4	105.3
80.0	85.2	85.3	86.2	87.2	87.9	87.8	85.9	83.6	84.6	104.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.5	99.9	100.6	102.3	103.4	104.2	104.4	105.1	108.0	OAPWL = 121.5

V_∞ = 97 fps

T_a = 51 °F

RH_a = 51 %

P_a = 14.68 psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND C	OBS	CORR
W631	315	05/13/76		-00	000000	XARF 0	3446	3446

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	63.2	62.4	67.0	68.5	67.9	67.1	67.6	69.4	74.9
125	64.0	67.0	70.4	70.2	68.4	69.2	69.9	71.9	77.5
160	64.0	68.3	70.5	71.3	71.8	71.5	71.0	75.0	80.8
200	67.0	70.5	71.0	73.8	73.9	74.7	76.8	77.5	80.9
250	68.5	72.4	74.6	74.5	75.6	77.5	77.6	82.7	83.4
315	74.7	76.4	77.0	77.0	77.8	78.3	80.0	82.3	89.4
400	79.2	77.4	76.6	78.1	78.7	78.9	81.9	85.3	93.1
500	77.4	76.5	76.5	77.7	79.8	81.1	83.8	88.1	90.5
630	75.3	77.3	77.9	79.6	81.3	83.0	85.0	89.7	94.8
800	79.6	78.7	79.6	81.9	83.2	84.7	86.9	91.5	95.2
1000	79.6	80.5	81.1	82.9	84.5	85.1	87.3	92.0	95.8
1250	79.8	80.5	81.5	83.5	85.0	86.5	88.7	92.3	95.0
1600	80.0	81.1	81.9	84.1	86.0	87.2	89.2	92.3	94.3
2000	80.9	81.9	82.9	85.1	86.8	88.2	89.8	92.3	92.8
2500	81.7	82.1	83.0	85.4	87.2	88.2	89.9	92.3	91.6
3150	81.7	82.7	83.6	85.9	87.4	88.7	90.2	91.7	90.7
4000	82.1	82.8	83.7	85.9	87.6	89.2	90.0	91.3	88.9
5000	82.7	83.5	84.1	86.5	87.9	89.3	90.2	90.6	87.7
6300	82.4	83.3	84.3	86.3	87.9	89.0	89.4	89.4	86.8
8000	82.8	82.8	84.0	86.1	88.0	89.1	89.0	89.0	85.5
10000	82.7	83.6	84.1	86.0	87.5	88.1	88.3	88.0	84.1
12500	82.7	83.2	84.1	85.9	87.3	87.9	87.4	86.8	83.1
16000	83.2	83.5	83.9	86.0	87.2	87.6	86.8	85.9	82.1
20000	82.6	83.0	83.5	85.2	86.5	86.5	85.8	84.3	80.6
25000	82.8	83.3	83.9	85.0	86.8	85.9	84.7	83.8	79.6
31500	82.8	83.7	84.2	85.3	86.5	85.7	83.9	82.6	78.4
40000	83.9	85.1	85.8	86.8	88.9	87.1	83.3	81.5	77.8
50000	83.1	83.2	84.2	85.2	85.3	84.4	82.4	80.5	76.6
63000	81.9	82.4	83.3	83.8	84.4	83.7	81.5	79.7	75.6
80000	81.1	81.2	82.1	82.9	83.6	83.0	81.0	78.9	75.0
TSPL	95.6	96.2	96.9	98.6	100.1	100.7	101.3	103.1	104.5
SSPL	95.4	96.0	96.8	98.5	100.0	100.6	101.2	102.9	104.0

V_∞ =	102	fps
T_a =	54	°F
RH_a =	38	%
P_a =	14.68	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/13/76		-00	000000	XARF	0	3446	3446

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	96.0	96.4	97.0	98.5	99.8	100.2	100.6	102.3	103.8
SSPL	95.8	96.3	96.8	98.4	99.7	100.1	100.5	102.1	103.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	96.2	96.5	97.0	98.4	99.5	99.8	100.1	101.7	103.1
SSPL	96.1	96.4	96.8	98.3	99.4	99.7	100.0	101.6	102.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 0	3446 3446

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	63.9	62.9	67.2	68.2	67.2	66.2	66.3	67.3	71.1
125	64.7	67.5	70.5	69.9	67.8	68.3	68.5	69.6	73.6
160	64.7	68.8	70.6	71.0	71.2	70.6	69.7	72.4	77.1
200	67.7	71.0	71.1	73.6	73.3	73.8	75.4	75.8	78.0
250	69.2	72.9	74.7	74.2	75.0	76.6	76.2	80.3	82.2
315	75.3	76.8	77.0	76.7	77.2	77.4	78.6	79.9	84.9
400	79.8	77.6	76.6	77.8	78.1	77.9	80.3	82.7	88.3
500	78.0	76.8	76.5	77.5	79.3	80.1	82.2	85.8	88.4
630	75.9	77.7	78.0	79.4	80.8	82.0	83.4	87.0	91.5
800	80.3	79.0	79.7	81.7	82.7	83.7	85.3	89.0	92.5
1000	80.3	80.9	81.2	82.7	84.0	84.2	85.7	89.5	93.1
1250	80.5	80.9	81.6	83.3	84.5	85.5	87.2	90.1	92.7
1600	80.7	81.5	82.0	83.9	85.5	86.3	87.7	90.2	92.3
2000	81.6	82.3	83.0	84.9	86.3	87.3	88.4	90.5	91.5
2500	82.4	82.5	83.1	85.3	86.7	87.3	88.5	90.6	90.8
3150	82.3	83.0	83.6	85.7	86.8	87.7	88.8	90.1	89.9
4000	82.7	83.1	83.8	85.7	87.0	88.2	88.7	89.9	88.7
5000	83.3	83.8	84.2	86.3	87.3	88.3	88.9	89.4	87.7
6300	83.1	83.7	84.4	86.1	87.4	88.1	88.2	88.3	86.6
8000	83.5	83.2	84.1	86.0	87.5	88.2	87.9	88.0	85.8
10000	83.4	84.0	84.2	85.8	86.9	87.2	87.1	87.1	84.5
12500	83.3	83.5	84.1	85.7	86.7	87.0	86.3	85.8	83.4
16000	83.9	83.8	84.0	85.8	86.6	86.7	85.8	85.0	82.4
20000	83.2	83.3	83.6	85.0	85.9	85.6	84.8	83.5	80.8
25000	83.4	83.6	83.9	84.7	86.2	85.0	83.6	82.9	80.1
31500	83.4	84.0	84.2	85.1	85.9	84.9	82.9	81.8	78.8
40000	84.6	85.5	85.9	86.6	88.3	86.4	82.6	80.8	78.0
50000	83.7	83.6	84.3	84.9	84.7	83.6	81.5	79.8	76.9
63000	82.5	82.8	83.3	83.6	83.8	82.9	80.6	79.0	76.0
80000	81.8	81.6	82.1	82.7	83.0	82.2	80.1	78.2	75.2
TSPL	96.2	96.5	97.0	98.4	99.6	99.8	100.0	101.4	102.5
SSPL	96.1	96.4	96.9	98.3	99.5	99.7	99.9	101.2	102.1

V_∞ =	102	fps
T_a =	54	°F
RH_a =	38	%
P_a =	14.68	psia

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3446 CONDITION 3446

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.53		1.53	1.53	THRUST,IDL	LB	23.0	25.7	N	102.3	114.3
TEMP	(R)	693.2	707.0	(K)	385.1	392.8	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.064	KG/M3	1.040	1.020	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	974.7	985.2	M/S	297.1	300.3	W (MODEL)	LB/S	0.8	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.9	62.9	67.2	68.2	67.2	66.2	66.3	67.3	71.1	85.2
.125	64.7	67.5	70.5	69.9	67.8	68.3	68.5	69.6	73.6	87.4
.160	64.7	68.8	70.6	71.0	71.2	70.6	69.7	72.4	77.1	89.3
.200	67.7	71.0	71.1	73.6	73.3	73.8	75.4	75.8	78.0	91.9
.250	69.2	72.9	74.7	74.2	75.0	76.6	76.2	80.3	82.2	94.6
.315	75.3	76.8	77.0	76.7	77.2	77.4	78.6	79.9	84.9	96.5
.400	79.8	77.6	76.6	77.8	78.1	77.9	80.3	82.7	88.3	98.4
.500	78.0	76.8	76.5	77.5	79.3	80.1	82.2	85.8	88.4	99.5
.630	75.9	77.7	78.0	79.4	80.8	82.0	83.4	87.0	91.5	101.2
.800	80.3	79.0	79.7	81.7	82.7	83.7	85.3	89.0	92.5	102.9
1.00	80.3	80.9	81.2	82.7	84.0	84.2	85.7	89.5	93.1	103.6
1.25	80.5	80.9	81.6	83.3	84.5	85.5	87.2	90.1	92.7	104.1
1.60	80.7	81.5	82.0	83.9	85.5	86.3	87.7	90.2	92.3	104.5
2.00	81.6	82.3	83.0	84.9	86.3	87.3	88.4	90.5	91.5	105.0
2.50	82.4	82.5	83.1	85.3	86.7	87.3	88.5	90.6	90.8	105.1
3.15	82.3	83.0	83.6	85.7	86.8	87.7	88.8	90.1	89.9	105.1
4.00	82.7	83.1	83.8	85.7	87.0	88.2	88.7	89.9	88.7	105.1
5.00	83.3	83.8	84.2	86.3	87.3	88.3	88.9	89.4	87.7	105.2
6.30	83.1	83.7	84.4	86.1	87.4	88.1	88.2	88.3	86.6	104.9
8.00	83.5	83.2	84.1	86.0	87.5	88.2	87.9	88.0	85.8	104.7
10.0	83.4	84.0	84.2	85.8	86.9	87.2	87.1	87.1	84.5	104.2
12.5	83.3	83.5	84.1	85.7	86.7	87.0	86.3	85.8	83.4	103.8
16.0	83.9	83.8	84.0	85.8	86.6	86.7	85.8	85.0	82.4	103.6
20.0	83.2	83.3	83.6	85.0	85.9	85.6	84.8	83.5	80.8	102.8
25.0	83.4	83.6	83.9	84.7	86.2	85.0	83.6	82.9	80.1	102.6
31.5	83.4	84.0	84.2	85.1	85.9	84.9	82.9	81.8	78.8	102.5
40.0	84.6	85.5	85.9	86.6	88.3	86.4	82.6	80.8	78.0	104.0
50.0	83.7	83.6	84.3	84.9	84.7	83.6	81.5	79.8	76.9	101.8
63.0	82.5	82.8	83.3	83.6	83.8	82.9	80.6	79.0	76.0	100.9
80.0	81.8	81.6	82.1	82.7	83.0	82.2	80.1	78.2	75.2	100.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.2	96.5	97.0	98.4	99.6	99.8	100.0	101.4	102.5	OAPWL = 117.4

V_∞ = 102 fps
T_a = 54 °F
RH_a = 38 %
P_a = 14.68 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3447 3447

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	74.9	73.8	76.9	63.4	71.3	77.9	79.6	82.8	80.1
125	71.2	73.2	75.3	75.7	74.0	76.0	78.6	80.8	88.9
160	68.4	71.8	72.3	59.3	65.0	76.1	77.3	60.1	83.7
200	69.9	73.5	72.3	69.9	69.5	69.2	72.3	80.0	88.6
250	70.4	73.5	69.3	70.0	73.1	73.6	73.5	81.9	91.0
315	70.6	72.2	72.5	73.4	74.5	75.2	76.5	64.6	95.2
400	74.9	73.4	72.4	74.6	75.9	76.0	79.4	80.2	100.8
500	72.1	71.2	72.3	74.4	76.8	77.7	80.2	84.4	89.0
630	71.2	73.7	74.5	76.6	78.5	79.8	82.2	85.9	91.0
800	76.3	75.4	77.0	79.0	80.2	81.3	83.5	88.1	91.8
1000	75.9	77.3	78.2	80.1	81.3	81.8	84.2	88.4	91.2
1250	77.0	77.7	78.5	80.8	82.3	83.5	85.5	88.7	90.3
1600	77.3	78.4	79.3	81.4	83.4	84.3	85.9	88.7	89.8
2000	78.2	79.2	80.3	82.3	83.9	85.1	86.9	89.0	88.7
2500	79.3	79.9	80.6	82.7	84.4	85.4	86.8	88.8	87.4
3150	79.5	80.4	81.2	83.3	84.7	85.8	87.0	88.3	86.5
4000	79.8	80.6	81.6	83.3	85.1	86.6	87.1	88.1	84.9
5000	80.8	81.5	82.0	84.1	85.5	86.9	87.3	87.4	83.9
6300	80.8	81.7	82.6	84.5	85.8	86.8	86.9	86.3	83.1
8000	81.6	81.5	82.6	84.5	86.0	87.1	86.5	85.9	82.0
10000	81.7	82.5	82.9	84.7	85.9	86.3	86.0	85.3	80.8
12500	82.0	82.4	83.1	84.9	86.0	86.5	85.5	84.3	80.2
16000	82.8	83.1	83.2	85.0	86.2	86.2	85.0	83.6	79.4
20000	82.2	82.5	83.1	84.6	85.6	85.2	84.0	82.4	78.3
25000	82.4	83.0	83.3	84.6	86.0	84.8	83.2	82.1	77.4
31500	82.7	83.3	83.7	84.8	85.6	84.7	82.6	80.8	76.4
40000	84.0	85.1	85.8	86.5	87.8	86.3	82.4	80.3	76.3
50000	82.6	82.6	83.4	84.5	84.2	83.4	81.3	79.1	74.9
63000	81.5	81.8	82.6	83.3	83.7	82.7	80.2	78.7	73.7
80000	79.7	79.9	81.5	82.5	82.9	82.0	79.8	78.0	71.6
TSPL	94.4	95.0	95.7	97.1	98.3	98.7	98.8	100.1	104.6
SSPL	94.2	94.8	95.5	97.0	98.2	98.5	98.6	99.7	100.1

V_∞ =	198	fps
T_a =	49	°F
RH_a =	41	%
P_a =	14.43	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	95.3	95.5	95.8	96.9	97.7	97.7	97.5	98.6	103.9
SSPL	95.1	95.3	95.6	96.8	97.6	97.6	97.3	98.2	99.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.7	95.7	95.7	96.6	97.1	96.9	96.5	97.5	102.3
SSPL	95.5	95.5	95.6	96.5	97.0	96.7	96.2	97.1	97.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 0	3447 3447

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.2	74.6	75.9	62.6	70.4	75.8	76.9	79.3	79.8
125	72.5	74.1	75.5	75.0	72.8	74.0	75.8	76.7	81.1
160	69.7	72.7	71.2	56.5	64.2	73.8	74.8	76.1	79.0
200	71.2	74.3	72.0	69.2	68.2	67.4	68.9	73.6	81.0
250	71.7	74.0	69.1	69.6	71.9	72.0	70.7	75.0	83.1
315	71.9	72.9	72.6	72.9	73.4	73.4	74.9	64.2	70.7
400	76.2	74.0	72.5	74.2	74.7	74.1	76.5	75.5	84.3
500	73.5	71.9	72.6	74.0	75.7	75.8	77.2	79.8	83.7
630	72.5	74.5	74.7	76.2	77.4	77.9	79.2	81.5	85.4
800	77.6	76.1	77.2	78.6	79.0	79.4	80.6	83.5	87.2
1000	77.3	76.0	78.4	79.6	80.1	80.0	81.2	84.0	87.2
1250	78.3	78.4	78.7	80.4	81.1	81.6	82.7	84.8	87.0
1600	78.6	79.1	79.5	81.0	82.2	82.4	83.2	85.0	86.8
2000	79.5	79.9	80.6	81.9	82.7	83.2	84.2	85.7	86.6
2500	80.6	80.6	80.8	82.3	83.3	83.6	84.2	85.7	86.1
3150	80.9	81.1	81.4	82.9	83.6	84.0	84.5	85.5	85.4
4000	81.2	81.3	81.8	82.9	83.9	84.7	84.7	85.4	84.7
5000	82.1	82.2	82.2	83.6	84.3	85.0	85.0	85.1	83.8
6300	82.1	82.5	82.8	84.0	84.6	85.0	84.7	84.3	82.8
8000	82.9	82.3	82.8	84.1	84.9	85.3	84.5	84.0	82.1
10000	83.0	83.2	83.0	84.2	84.7	84.5	83.9	83.4	81.3
12500	83.3	83.1	83.3	84.4	84.8	84.7	83.5	82.6	80.5
16000	84.1	83.7	83.3	84.5	85.0	84.5	83.1	82.0	79.6
20000	83.5	83.2	83.2	84.1	84.4	83.5	82.1	80.8	78.5
25000	83.7	83.7	83.4	84.1	84.8	83.1	81.3	80.3	78.0
31500	84.1	84.0	83.8	84.3	84.4	83.0	80.9	79.3	76.8
40000	85.3	85.8	85.9	86.0	86.6	84.8	81.1	78.8	76.4
50000	83.9	83.3	83.6	83.9	83.0	81.7	79.6	77.8	75.1
63000	82.8	82.5	82.7	82.7	82.5	81.1	78.6	77.1	74.5
80000	81.0	80.6	81.7	81.9	81.7	80.3	78.1	76.7	73.3
TSPL	95.7	95.7	95.8	96.6	97.1	96.9	96.5	97.0	98.0
SSPL	95.5	95.5	95.6	96.5	97.0	96.8	96.3	96.7	97.3

V_∞ =	198	fps
T_a =	49	°F
RH_a =	41	%
P_a =	14.43	psia

Z0034F DBTF JET NOISE TEST COANNULAR NOZL AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 13447 CONDITION 3447

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.54		1.53	1.54	THRUST,IDL	LB	23.2	25.5	N	103.0	113.4
TEMP	(R)	697.2	715.3	(K)	387.3	397.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.063	KG/M3	1.035	1.011	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	981.3	1001.0	M/S	299.1	305.1	W (MODEL)	LB/S	0.8	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.2	74.6	75.9	62.6	70.4	75.8	76.9	79.3	79.8	93.9
.125	72.5	74.1	75.5	75.0	72.8	74.0	75.8	76.7	81.1	93.6
.160	69.7	72.7	71.2	58.5	64.2	73.8	74.8	76.1	79.0	91.1
.200	71.2	74.3	72.0	69.2	68.2	67.4	68.9	73.6	81.0	90.8
.250	71.7	74.0	69.1	69.6	71.9	72.0	70.7	75.0	83.1	92.0
.315	71.9	72.9	72.6	72.9	73.4	73.4	74.9	64.2	70.7	91.1
.400	76.2	74.0	72.5	74.2	74.7	74.1	76.5	75.5	84.3	94.2
.500	73.5	71.9	72.6	74.0	75.7	75.8	77.2	79.8	83.7	94.7
.630	72.5	74.5	74.7	76.2	77.4	77.9	79.2	81.5	85.4	96.5
.800	77.6	76.1	77.2	78.6	79.0	79.4	80.6	83.5	87.2	98.4
1.00	77.3	78.0	78.4	79.6	80.1	80.0	81.2	84.0	87.2	99.1
1.25	78.3	78.4	78.7	80.4	81.1	81.6	82.7	84.8	87.0	99.9
1.60	78.6	79.1	79.5	81.0	82.2	82.4	83.2	85.0	86.8	100.4
2.00	79.5	79.9	80.6	81.9	82.7	83.2	84.2	85.7	86.6	101.1
2.50	80.6	80.6	80.8	82.3	83.3	83.6	84.2	85.7	86.1	101.4
3.15	80.9	81.1	81.4	82.9	83.6	84.0	84.5	85.5	85.4	101.6
4.00	81.2	81.3	81.8	82.9	83.9	84.7	84.7	85.4	84.7	101.8
5.00	82.1	82.2	82.2	83.6	84.3	85.0	85.0	85.1	83.8	102.1
6.30	82.1	82.5	82.8	84.0	84.6	85.0	84.7	84.3	82.8	102.2
8.00	82.9	82.3	82.8	84.1	84.9	85.3	84.5	84.0	82.1	102.2
10.0	83.0	83.2	83.0	84.2	84.7	84.5	83.9	83.4	81.3	102.1
12.5	83.3	83.1	83.3	84.4	84.8	84.7	83.5	82.6	80.5	102.1
16.0	84.1	83.7	83.3	84.5	85.0	84.5	83.1	82.0	79.6	102.1
20.0	83.5	83.2	83.2	84.1	84.4	83.5	82.1	80.8	78.5	101.5
25.0	83.7	83.7	83.4	84.1	84.8	83.1	81.3	80.3	78.0	101.5
31.5	84.1	84.0	83.8	84.3	84.4	83.0	80.9	79.3	76.8	101.6
40.0	85.3	85.8	85.9	86.0	86.6	84.8	81.1	78.8	76.4	103.3
50.0	83.9	83.3	83.6	83.9	83.0	81.7	79.6	77.8	75.1	100.8
63.0	82.8	82.5	82.7	82.7	82.5	81.1	78.6	77.1	74.5	99.9
80.0	81.0	80.6	81.7	81.9	81.7	80.3	78.1	76.7	73.3	98.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.7	95.7	95.8	96.6	97.1	96.9	96.5	97.0	98.0	OAPWL = 114.8

V_∞ = 198 fps
T_a = 49 °F
RH_a = 41 %
P_a = 14.43 psia

ORIGINAL PAGE IS OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 1315 05/13/76 -00 000000 XARF 0 3448 3448

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPLCTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.0	73.1	76.3	79.2	64.9	77.4	79.4	82.3	89.8
125	71.0	71.9	74.4	75.0	73.2	74.9	78.8	80.7	93.7
160	68.0	71.5	71.2	71.7	72.9	75.5	77.0	79.5	88.7
200	70.0	73.3	71.2	63.7	60.0	74.9	63.2	79.4	91.0
250	69.2	71.9	62.0	63.0	69.8	69.1	70.3	80.6	93.9
315	65.0	66.8	68.0	70.5	71.5	72.2	73.4	79.9	98.5
400	71.7	70.3	68.9	71.9	73.2	72.9	76.3	72.7	104.9
500	68.3	67.5	68.8	71.6	73.8	74.0	77.7	81.2	89.4
630	67.8	70.5	71.3	73.6	75.8	77.0	79.3	82.9	90.0
800	73.2	72.0	73.7	76.2	77.5	78.4	80.6	85.0	90.9
1000	72.8	74.3	75.3	77.2	78.5	79.0	81.1	85.2	90.6
1250	74.1	74.8	75.5	78.1	79.6	80.8	82.6	85.4	89.5
1600	74.3	75.4	76.3	78.5	80.5	81.3	82.9	85.5	89.2
2000	74.9	75.9	77.2	79.4	81.1	82.1	83.8	85.8	88.3
2500	76.2	76.7	77.5	79.7	81.4	82.3	83.6	85.7	87.2
3150	76.1	77.2	78.0	80.2	81.3	82.5	83.5	85.1	86.3
4000	76.6	77.2	78.3	80.1	81.6	82.7	83.4	84.8	84.8
5000	77.9	78.3	78.7	80.5	81.7	82.7	83.3	84.0	83.4
6300	78.5	79.1	79.5	80.8	82.0	82.4	82.5	82.4	82.0
8000	80.2	79.8	80.4	82.0	82.3	82.3	81.8	81.5	80.2
10000	80.5	80.8	80.7	81.7	81.8	81.5	81.2	80.6	78.7
12500	80.0	80.1	80.4	81.6	82.2	81.6	80.5	79.1	77.3
16000	81.6	81.4	81.3	82.4	82.8	81.1	79.3	77.6	75.7
20000	82.2	81.8	81.2	82.8	82.4	80.0	78.2	76.3	74.4
25000	82.5	82.5	82.8	83.2	83.1	80.5	77.8	76.3	74.0
31500	83.0	83.1	83.1	83.3	83.3	80.2	77.0	75.2	73.1
40000	83.9	83.8	83.2	84.0	83.1	80.4	76.7	74.7	73.6
50000	83.2	82.9	83.0	83.5	82.4	79.8	76.4	74.2	73.0
63000	81.4	81.2	81.6	81.8	81.4	78.9	75.3	73.5	71.9
80000	79.0	78.5	79.9	80.5	80.0	77.6	74.4	72.5	69.5
TSPL	93.3	93.4	93.6	94.8	95.1	94.7	95.0	96.8	107.4
SSPL	93.2	93.2	93.4	94.6	94.9	94.4	94.6	96.1	99.4

V_∞ =	198	fps
T_a =	48	°F
RH_a =	45	%
P_a =	1443	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	94.3	94.0	93.8	94.6	94.5	93.8	93.7	95.3	106.7
SSPL	94.1	93.8	93.6	94.4	94.4	93.5	93.3	94.6	98.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	94.6	94.1	93.7	94.2	93.9	92.9	92.7	94.2	105.2
SSPL	94.5	93.9	93.5	94.0	93.8	92.6	92.3	93.6	97.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/13/76 -00 000000 XARF 0 3448 3448

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	76.3	73.8	76.8	77.9	63.7	74.9	76.8	78.0	82.5
125	72.3	72.7	74.6	74.3	72.0	72.9	75.7	76.4	82.5
160	69.3	72.3	71.2	71.2	71.8	73.6	74.3	75.2	80.2
200	71.3	74.0	70.4	62.5	59.1	72.8	62.2	68.5	82.1
250	70.5	72.1	61.4	62.8	68.7	67.3	67.0	72.6	83.3
315	66.3	67.6	68.3	70.0	70.3	70.4	70.5	73.0	83.9
400	73.0	70.8	69.0	71.5	72.0	71.0	73.7	68.8	80.1
500	69.6	68.2	69.1	71.2	72.7	72.9	74.7	76.6	81.6
630	69.1	71.3	71.5	73.2	74.7	75.1	76.4	78.3	83.0
800	74.5	72.6	74.0	75.7	76.3	76.6	77.6	80.2	84.8
1000	74.1	75.0	75.5	76.8	77.3	77.1	78.2	80.6	84.8
1250	75.4	75.6	75.8	77.7	76.4	76.9	79.9	81.4	84.5
1600	75.6	76.1	76.5	78.1	79.4	79.5	80.2	81.6	84.4
2000	76.2	76.7	77.5	78.9	80.0	80.3	81.1	82.3	84.3
2500	77.5	77.4	77.7	79.3	80.2	80.4	81.0	82.2	83.9
3150	77.4	77.9	78.3	79.7	80.1	80.7	81.0	81.9	83.2
4000	77.9	77.9	78.5	79.6	80.5	80.9	81.0	81.8	82.5
5000	79.2	79.0	78.9	80.0	80.6	80.9	81.0	81.3	81.4
6300	79.8	79.8	79.7	80.3	80.8	80.6	80.2	79.9	79.8
8000	81.5	80.5	80.5	81.5	81.1	80.5	79.7	79.2	78.6
10000	81.8	81.5	80.7	81.1	80.5	79.7	79.1	78.5	77.5
12500	81.3	80.8	80.5	81.1	81.0	79.9	78.6	77.3	75.9
16000	82.9	82.1	81.3	81.8	81.5	79.5	77.5	75.9	74.4
20000	83.5	82.4	81.3	82.2	81.1	78.4	76.4	74.6	73.0
25000	83.8	83.2	82.8	82.6	81.8	78.9	76.1	74.4	72.9
31500	84.3	83.8	83.1	82.7	82.0	78.7	75.4	73.4	71.9
40000	85.2	84.4	83.3	83.4	81.8	78.9	75.3	72.9	71.7
50000	84.5	83.5	83.1	82.8	81.1	78.2	74.9	72.5	71.1
63000	82.7	81.9	81.7	81.2	80.1	77.3	73.8	71.7	70.4
80000	80.3	79.2	80.0	79.8	78.7	76.1	72.9	70.9	68.9
TSPL	94.6	94.1	93.8	94.2	93.9	93.0	92.6	93.2	96.1
SSPL	94.5	93.9	93.5	94.0	93.7	92.7	92.2	92.7	94.7

V_∞ =	198	fps
T_a =	48	°F
RH_a =	45	%
P_a =	14.43	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3448 CONDITION 3448

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	369.6	313.9	KG/S	167.6	142.4
PRES	25.00IN	0.85BAR	P.R.		1.52	1.31		1.52	1.31	THRUST,IDL	LB	11218.9	7781.6	N	49903.7	34613.9
WIND D			TEMP	(R)	700.4	720.0	(K)	389.1	400.0	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.064	0.060	KG/M3	1.029	0.959	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	977.5	798.3	M/S	297.9	243.3	W (MODEL)	LB/S	0.7	0.6	KG/S	0.3	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	78.9	79.1	79.3	81.2	81.9	82.4	83.4	84.9	88.0	127.6
.063	79.1	79.6	80.0	81.6	82.9	83.0	83.7	85.1	87.9	128.0
.080	79.7	80.2	81.0	82.4	83.5	83.8	84.6	85.8	87.8	128.7
.100	81.0	80.9	81.2	82.8	83.7	83.9	84.5	85.7	87.4	128.8
.125	80.9	81.4	81.8	83.2	83.6	84.2	84.5	85.4	86.7	128.9
.160	81.4	81.4	82.0	83.1	84.0	84.4	84.5	85.3	86.0	128.9
.200	82.7	82.5	82.4	83.5	84.1	84.4	84.5	84.8	84.9	129.0
.250	83.3	83.3	83.2	83.8	84.3	84.1	83.7	83.4	83.3	129.0
.315	84.9	83.9	83.9	84.9	84.5	83.9	83.1	82.6	82.0	129.4
.400	85.2	84.9	84.1	84.5	83.9	83.1	82.5	81.9	80.9	129.2
.500	84.7	84.2	83.9	84.5	84.4	83.3	82.0	80.7	79.3	128.9
.630	86.3	85.5	84.7	85.2	84.9	82.9	80.9	79.3	77.8	129.4
.800	86.8	85.7	84.6	85.5	84.4	81.7	79.7	77.9	76.3	129.4
1.00	87.1	86.5	86.1	85.9	85.1	82.2	79.4	77.7	76.2	130.0
1.25	87.5	87.0	86.3	85.9	85.2	81.9	78.6	76.6	75.1	130.2
1.60	88.3	87.5	86.4	86.5	84.9	82.0	78.4	76.0	74.8	130.5
2.00	87.5	86.5	86.1	85.8	84.1	81.2	77.9	75.5	74.1	129.8
2.50	85.5	84.7	84.5	84.0	82.9	80.1	76.6	74.5	73.2	128.2
3.15	82.9	81.8	82.6	82.4	81.3	78.7	75.5	73.5	71.5	126.2
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 141.8
OSPL	97.6	97.0	96.6	97.1	96.8	95.7	95.1	95.3	96.5	
PNL	107.1	106.4	106.1	106.2	105.4	103.4	101.2	100.0	99.5	
200. SIDELINE										
PNL	103.8	103.6	103.5	103.4	102.2	99.4	96.0	93.1	90.1	
370. SIDELINE										
PNL	97.9	97.6	97.5	97.4	96.2	93.4	89.9	87.0	84.0	
800. SIDELINE										
PNL	89.8	89.6	89.5	89.4	88.1	85.1	81.6	78.9	75.8	
2128. SIDELINE										
PNL	77.6	77.6	77.3	77.4	76.0	73.0	70.3	67.5	63.9	

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3449 3449

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	59.8	59.2	64.7	65.5	64.8	64.5	63.7	54.0	76.4
125	61.6	65.0	68.5	68.0	66.2	66.8	67.2	68.6	78.8
160	61.7	66.4	68.4	69.2	69.5	69.3	68.2	72.2	80.6
200	64.6	68.4	68.7	71.5	71.8	72.7	74.7	75.5	80.9
250	66.2	70.2	72.5	72.3	73.7	75.5	75.3	81.1	83.2
315	72.1	73.8	74.4	74.6	75.5	76.0	77.6	80.2	88.9
400	76.9	75.1	74.5	75.6	76.6	76.4	79.7	83.1	92.5
500	75.4	74.3	74.2	75.2	77.6	78.9	81.7	85.8	89.6
630	72.7	74.9	75.4	77.3	79.0	80.8	82.6	87.5	94.0
800	77.6	76.4	77.3	79.6	80.9	82.0	84.2	89.0	94.2
1000	77.4	78.3	78.9	80.7	82.2	82.8	84.7	89.6	95.1
1250	77.4	78.2	79.1	81.3	82.6	83.9	86.0	89.8	94.4
1600	77.8	78.7	79.5	81.6	83.5	84.7	86.6	89.7	93.8
2000	78.4	79.3	80.3	82.4	84.1	85.6	87.3	90.0	93.0
2500	78.9	79.4	80.1	82.4	84.6	85.6	87.1	90.0	91.9
3150	78.6	79.6	80.7	82.8	84.5	85.7	87.3	89.3	90.9
4000	79.5	79.7	80.7	82.7	84.5	86.1	86.9	88.9	89.4
5000	79.8	80.5	81.0	83.0	84.6	85.9	86.8	87.9	87.8
6300	79.9	80.5	81.4	82.8	84.4	85.1	85.8	86.1	86.2
8000	81.1	80.9	81.5	83.1	84.3	84.9	84.8	84.9	84.0
10000	81.3	81.7	81.6	82.9	83.5	83.7	83.9	83.6	82.6
12500	80.7	81.0	81.4	82.7	83.8	83.7	83.0	81.9	81.1
16000	81.7	81.9	81.8	83.1	84.0	82.9	81.6	80.3	79.5
20000	82.4	82.1	81.6	83.5	83.6	81.7	80.4	78.8	78.0
25000	82.7	82.8	83.5	83.8	84.0	82.1	79.5	78.5	77.7
31500	82.9	83.5	83.6	83.8	84.3	81.3	78.7	77.0	76.6
40000	83.5	84.0	83.5	84.8	83.8	81.4	78.0	76.2	76.4
50000	83.2	83.0	83.7	84.0	83.2	80.8	77.6	75.4	75.2
63000	81.2	81.7	82.2	82.8	82.3	79.8	76.7	74.9	74.9
80000	79.9	80.0	80.5	81.1	80.7	78.6	75.5	73.3	73.6
TSPL	94.2	94.5	94.9	96.2	97.1	97.3	98.0	100.3	104.0
SSPL	94.0	94.3	94.7	96.1	97.0	97.1	97.8	100.1	103.4

V_∞ =	97	fps
T_a =	48	°F
RH_a =	49	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	94.6	94.7	94.9	96.1	96.8	96.7	97.3	99.5	103.3
SSPL	94.4	94.6	94.8	95.9	96.6	96.6	97.1	99.3	102.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	94.8	94.8	94.9	95.9	96.5	96.3	96.8	99.0	102.6
SSPL	94.7	94.7	94.8	95.8	96.4	96.2	96.6	98.8	102.0

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/13/76 -00 000000 XARF 0 3449 3449

DBTF JET NOISE TEST COANNULAR NOZ. AR
#1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	60.4	59.7	64.9	65.2	64.2	63.6	63.1	52.6	63.2
125	62.3	65.6	68.6	67.6	65.5	65.9	65.9	66.1	72.6
160	62.4	66.9	68.5	68.9	68.9	68.4	66.9	69.3	75.6
200	65.3	68.8	68.8	71.3	71.2	71.7	73.3	73.6	77.0
250	66.9	70.7	72.6	72.1	73.1	74.6	73.9	78.4	81.4
315	72.8	74.1	74.4	74.3	74.9	75.1	76.2	77.6	83.6
400	77.5	75.3	74.5	75.3	76.0	75.4	78.1	80.4	87.0
500	76.0	74.6	74.2	75.0	77.1	77.9	80.1	83.4	86.8
630	73.4	75.3	75.5	77.1	78.5	79.8	81.0	84.7	90.0
800	78.3	76.7	77.4	79.4	80.4	81.0	82.6	86.3	90.8
1000	78.1	78.7	79.0	80.5	81.7	81.9	83.1	86.9	91.6
1250	78.1	78.6	79.2	81.1	82.1	83.0	84.5	87.4	91.2
1600	78.5	79.1	79.6	81.4	83.0	83.8	85.1	87.5	90.8
2000	79.1	79.7	80.4	82.2	83.6	84.7	85.9	87.9	90.5
2500	79.6	79.8	80.2	82.3	84.1	84.7	85.7	88.0	89.9
3150	79.3	80.0	80.7	82.6	83.9	84.7	85.9	87.4	88.9
4000	80.1	80.0	80.8	82.5	83.9	85.1	85.5	87.1	87.9
5000	80.4	80.8	81.1	82.8	84.0	84.9	85.5	86.4	86.5
6300	80.6	80.9	81.5	82.6	83.9	84.2	84.6	84.7	84.8
8000	81.8	81.3	81.6	82.9	83.8	84.0	83.7	83.7	83.1
10000	82.0	82.0	81.6	82.7	82.9	82.8	82.7	82.4	81.6
12500	81.3	81.3	81.4	82.4	83.2	82.8	81.9	80.8	79.9
16000	82.4	82.2	81.8	82.9	83.4	82.1	80.6	79.3	78.3
20000	83.0	82.4	81.6	83.2	82.9	80.9	79.4	77.8	76.8
25000	83.3	83.1	83.5	83.5	83.3	81.3	78.6	77.3	76.6
31500	83.5	83.8	83.6	83.5	83.6	80.5	77.8	76.0	75.2
40000	84.2	84.4	83.6	84.5	83.1	80.7	77.2	75.2	74.7
50000	83.9	83.3	83.8	83.7	82.5	80.1	76.8	74.5	73.7
63000	81.9	82.0	82.2	82.5	81.6	79.1	75.8	73.8	73.3
80000	80.6	80.3	80.5	80.8	80.1	77.8	74.7	72.3	71.8
TSPL	94.8	94.8	94.9	96.0	96.5	96.3	96.6	98.3	101.0
SSPL	94.7	94.7	94.8	95.8	96.4	96.2	96.5	98.1	100.7

V_∞ =	97	fps
T_a =	48	°F
RH_a =	49	%
P_a =	14.68	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=97 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3449 CONDITION 3449

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	23.1	15.2	N	102.8	67.7
TEMP	(R)	702.8	713.3	(K)	390.4	396.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.060	KG/M3	1.026	0.967	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	979.2	791.0	M/S	298.5	241.1	W (MODEL)	LB/S	0.8	0.6	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	60.4	59.7	64.9	65.2	64.2	63.6	63.1	52.6	63.2	81.5
.125	62.3	65.6	68.6	67.6	65.5	65.9	65.9	66.1	72.6	85.3
.160	62.4	66.9	68.5	68.9	68.9	68.4	66.9	69.3	75.6	87.1
.200	65.3	68.8	68.8	71.3	71.2	71.7	73.3	73.6	77.0	89.9
.250	66.9	70.7	72.6	72.1	73.1	74.6	73.9	78.4	81.4	92.7
.315	72.8	74.1	74.4	74.3	74.9	75.1	76.2	77.6	83.6	94.3
.400	77.5	75.3	74.5	75.3	76.0	75.4	78.1	80.4	87.0	96.4
.500	76.0	74.6	74.2	75.0	77.1	77.9	80.1	83.4	86.8	97.3
.630	73.4	75.3	75.5	77.1	78.5	79.8	81.0	84.7	90.0	99.1
.800	78.3	76.7	77.4	79.4	80.4	81.0	82.6	86.3	90.8	100.6
1.00	78.1	78.7	79.0	80.5	81.7	81.9	83.1	86.9	91.6	101.4
1.25	78.1	78.6	79.2	81.1	82.1	83.0	84.5	87.4	91.2	101.8
1.60	78.5	79.1	79.6	81.4	83.0	83.8	85.1	87.5	90.8	102.1
2.00	79.1	79.7	80.4	82.2	83.6	84.7	85.9	87.9	90.5	102.6
2.50	79.6	79.8	80.2	82.3	84.1	84.7	85.7	88.0	89.9	102.6
3.15	79.3	80.0	80.7	82.6	83.9	84.7	85.9	87.4	88.9	102.4
4.00	80.1	80.0	80.8	82.5	83.9	85.1	85.5	87.1	87.9	102.2
5.00	80.4	80.8	81.1	82.8	84.0	84.9	85.5	86.4	86.5	102.1
6.30	80.6	80.9	81.5	82.6	83.9	84.2	84.6	84.7	84.8	101.5
8.00	81.8	81.3	81.6	82.9	83.8	84.0	83.7	83.7	83.1	101.3
10.0	82.0	82.0	81.6	82.7	82.9	82.8	82.7	82.4	81.6	100.7
12.5	81.3	81.3	81.4	82.4	83.2	82.8	81.9	80.8	79.9	100.3
16.0	82.4	82.2	81.8	82.9	83.4	82.1	80.6	79.3	78.3	100.3
20.0	83.0	82.4	81.6	83.2	82.9	80.9	79.4	77.8	76.8	100.0
25.0	83.3	83.1	83.5	83.5	83.3	81.3	78.6	77.3	76.6	100.6
31.5	83.5	83.8	83.6	83.5	83.6	80.5	77.8	76.0	75.2	100.6
40.0	84.2	84.4	83.6	84.5	83.1	80.7	77.2	75.2	74.7	100.9
50.0	83.9	83.3	83.8	83.7	82.5	80.1	76.8	74.5	73.7	100.4
63.0	81.9	82.0	82.2	82.5	81.6	79.1	75.8	73.8	73.3	99.1
80.0	80.6	80.3	80.5	80.3	80.1	77.8	74.7	72.3	71.8	97.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 114.7
OSPL	94.8	94.8	94.9	96.0	96.5	96.3	96.6	98.3	101.0	

V_∞ = 97 fps
T_a = 48 °F
RH_a = 49 %
P_a = 14.68 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3451 3451

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES 70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.6	85.5	90.2	78.5	90.6	88.6	104.0	94.2	101.5
125	83.4	84.6	88.0	88.6	86.9	88.0	104.9	92.6	102.4
160	80.4	83.5	84.2	84.1	85.4	87.4	95.0	92.4	101.0
200	81.9	85.1	83.8	84.7	85.4	85.2	92.5	86.7	104.3
250	81.1	82.2	81.8	82.2	81.5	83.4	90.1	87.4	106.6
315	79.2	80.2	80.4	79.3	80.2	82.2	87.8	81.3	106.4
400	78.4	76.7	78.6	67.4	79.8	81.4	86.1	85.9	108.0
500	77.6	77.4	78.0	78.4	69.8	68.9	84.2	84.6	98.3
630	76.4	68.0	77.7	69.5	71.5	74.1	82.9	83.6	83.6
800	77.5	68.7	77.8	72.5	72.9	75.6	82.0	67.0	85.4
1000	78.3	70.1	77.9	73.7	75.1	76.8	81.8	76.4	82.2
1250	66.8	71.1	67.8	74.5	76.2	77.6	81.7	79.4	80.6
1600	67.9	71.6	69.5	75.6	76.6	77.7	81.6	80.5	81.3
2000	71.8	73.3	71.4	76.2	77.4	78.5	82.0	81.1	81.3
2500	70.3	73.8	72.5	76.5	77.9	78.7	81.8	81.1	81.3
3150	61.4	72.1	72.7	76.7	77.5	78.7	68.5	80.4	80.1
4000	78.2	71.1	72.9	75.9	77.5	79.0	65.2	80.2	77.7
5000	75.6	76.1	75.9	78.4	79.1	79.8	75.6	79.6	76.8
6300	77.4	78.1	78.1	79.6	80.1	80.0	74.2	78.3	75.9
8000	79.7	79.1	79.4	80.8	80.8	80.2	75.9	77.9	74.4
10000	79.5	80.0	79.5	80.6	80.2	79.4	76.4	77.3	72.7
12500	79.3	79.5	79.4	80.7	80.8	79.9	75.3	76.1	71.9
16000	80.8	80.8	80.3	81.2	81.3	79.4	75.0	75.2	71.6
20000	81.6	81.1	80.3	81.4	80.9	78.6	74.3	74.2	71.9
25000	81.8	81.9	81.4	81.9	81.7	79.1	73.9	74.7	71.2
31500	82.3	82.4	82.0	82.1	81.7	79.1	74.3	74.0	74.7
40000	83.2	83.0	82.4	82.8	81.7	79.7	75.2	74.3	74.9
50000	82.4	82.3	82.0	82.5	81.2	79.0	73.3	73.9	75.0
63000	80.8	80.5	80.9	81.2	80.1	78.3	79.0	73.9	72.2
80000	77.0	75.0	78.9	79.7	77.4	76.0	80.8	69.1	80.2
TSPL	95.0	95.0	96.3	95.6	96.6	96.4	108.1	99.8	113.7
SSPL	92.6	92.2	92.4	93.1	92.8	92.1	92.9	92.4	99.4

V_∞ =	335	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13.83	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	96.9	96.2	96.8	95.5	95.8	95.0	106.2	98.0	113.4
SSPL	94.5	93.4	93.0	93.0	92.0	90.7	90.9	90.6	99.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	80.	98.	110.	122.	134.	148.	159.
TSPL	97.4	96.3	96.6	94.8	94.7	93.6	104.4	96.0	111.2
SSPL	95.0	93.5	92.7	92.3	90.9	89.3	89.1	88.7	96.9

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 10	3451 3451

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.0	87.1	88.4	78.1	88.9	85.3	96.9	96.9	91.0
125	85.8	86.2	88.4	87.4	85.0	84.4	97.8	96.8	89.6
160	82.8	84.9	84.2	83.2	83.5	84.2	89.7	90.1	89.7
200	84.3	86.3	83.8	83.8	83.5	82.1	87.4	85.6	85.0
250	83.5	83.4	81.8	81.1	79.6	80.2	85.0	84.3	86.1
315	81.6	81.5	80.2	78.3	78.3	79.1	83.3	79.9	80.5
400	80.8	78.0	76.6	66.9	70.2	78.4	81.4	80.9	85.0
500	80.0	78.6	78.2	76.2	67.7	65.4	76.5	80.8	82.7
630	78.8	69.6	77.1	68.0	69.7	70.8	77.1	80.0	80.0
800	79.9	70.2	77.7	71.0	71.1	72.3	77.9	71.2	64.9
1000	80.7	71.6	77.9	72.4	73.2	73.7	77.4	75.7	73.3
1250	69.1	72.1	68.7	74.3	74.3	74.6	77.3	77.1	75.8
1600	70.2	72.8	70.4	75.3	74.7	74.7	77.2	77.5	76.9
2000	74.2	74.3	72.0	75.8	75.5	75.5	77.7	78.0	77.4
2500	72.6	75.0	73.1	76.0	76.0	75.8	77.6	77.9	77.5
3150	63.8	74.0	73.5	76.2	75.7	76.4	66.9	68.5	77.3
4000	68.5	71.9	73.6	75.3	75.6	76.9	64.4	66.3	77.0
5000	77.9	77.2	76.4	77.7	77.2	77.2	73.0	73.2	75.9
6300	79.8	79.3	78.3	78.8	78.1	77.6	72.0	71.6	74.6
8000	82.0	80.3	79.7	79.9	78.9	77.8	73.4	72.7	74.0
10000	81.9	81.1	79.7	79.6	78.2	76.9	73.6	72.9	73.2
12500	81.7	80.6	79.6	79.8	78.9	77.5	72.9	71.6	72.0
16000	83.2	81.9	80.4	80.3	79.3	77.0	72.6	71.0	71.2
20000	84.0	82.1	80.4	80.4	78.9	76.3	71.9	70.1	70.3
25000	84.2	83.0	81.5	80.9	79.7	76.8	71.7	70.1	70.7
31500	84.7	83.5	82.0	81.1	79.8	76.9	72.1	69.8	70.5
40000	85.6	84.1	82.4	81.6	79.7	77.3	72.9	70.5	70.7
50000	84.8	83.4	82.1	81.3	79.2	76.7	71.2	69.0	70.5
63000	83.1	81.6	81.0	80.0	78.1	75.6	75.6	73.2	69.8
80000	79.3	76.5	79.4	78.4	75.4	73.2	76.8	71.8	66.3
TSPL	97.4	96.3	96.0	94.6	94.7	93.4	101.4	100.9	97.1
SSPL	95.0	93.3	92.5	92.1	90.9	89.6	88.6	88.5	89.2

V_∞ =	335	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13.83	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=335 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3451 CONDITION 3451

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	22.3	14.4	N	99.3	64.1
TEMP	(R)	708.8	716.7	(K)	393.8	398.2	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.060	KG/M3	1.017	0.964	AREA (MOD)	SQFT	10.01	0.01	SQM	0.001	0.001
VEL	FPS	985.0	799.9	M/S	300.2	243.8	W (MODEL)	LB/S	0.7	0.6	KG/S	0.3	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.0	87.1	88.4	78.1	88.9	85.3	96.9	96.9	91.0	109.9
.125	85.8	86.2	88.4	87.4	85.0	84.4	97.8	96.8	89.6	110.0
.160	82.8	84.9	84.2	83.2	83.5	84.2	89.7	90.1	89.7	104.6
.200	84.3	86.3	83.8	83.8	83.5	82.1	87.4	85.6	85.0	103.1
.250	83.5	83.4	81.8	81.1	79.6	80.2	85.0	84.3	86.1	101.0
.315	81.6	81.5	80.2	78.3	78.3	79.1	83.3	79.9	80.5	98.8
.400	80.8	78.0	76.6	66.9	78.2	78.4	81.4	80.9	85.0	97.4
.500	80.0	78.6	78.2	76.2	67.7	65.4	76.5	80.8	82.7	95.9
.630	78.8	69.6	77.1	68.0	69.7	70.8	77.1	80.0	80.0	93.9
.800	79.9	70.2	77.7	71.0	71.1	72.3	77.9	71.2	64.9	93.1
1.00	80.7	71.6	77.9	72.4	73.2	73.7	77.4	75.7	73.3	94.1
1.25	69.1	72.1	68.7	74.3	74.3	74.6	77.3	77.1	75.8	92.6
1.60	70.2	72.8	70.4	75.3	74.7	74.7	77.2	77.5	76.9	93.1
2.00	74.2	74.3	72.0	75.8	75.5	75.5	77.7	78.0	77.4	94.0
2.50	72.6	75.0	73.1	76.0	76.0	75.8	77.6	77.9	77.5	94.2
3.15	63.8	74.0	73.5	76.2	75.7	76.4	66.9	68.5	77.3	92.6
4.00	80.5	71.9	73.6	75.3	75.6	76.9	64.4	66.3	77.0	93.3
5.00	77.9	77.2	76.4	77.7	77.2	77.2	73.0	73.2	75.9	94.9
6.30	79.8	79.3	78.3	78.8	78.1	77.6	72.0	71.6	74.6	96.0
8.00	82.0	80.3	79.7	79.9	78.9	77.8	73.4	72.7	74.0	97.1
10.0	81.9	81.1	79.7	79.6	78.2	76.9	73.6	72.9	73.2	97.1
12.5	81.7	80.6	79.6	79.8	78.9	77.5	72.9	71.6	72.0	97.0
16.0	83.2	81.9	80.4	80.3	79.3	77.0	72.6	71.0	71.2	97.8
20.0	84.0	82.1	80.4	80.4	78.9	76.3	71.9	70.1	70.3	97.9
25.0	84.2	83.0	81.5	80.9	79.7	76.8	71.7	70.1	70.7	98.6
31.5	84.7	83.5	82.0	81.1	79.8	76.9	72.1	69.8	70.5	98.9
40.0	85.6	84.1	82.4	81.6	79.7	77.3	72.9	70.5	70.7	99.4
50.0	84.8	83.4	82.1	81.3	79.2	76.7	71.2	69.0	70.5	98.9
63.0	83.1	81.6	81.0	80.0	78.1	75.6	75.6	73.2	69.8	97.7
80.0	79.3	76.5	79.4	78.4	75.4	73.2	76.8	71.8	66.3	95.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.4	96.3	96.0	94.6	94.8	93.4	101.4	100.9	97.1	OAPWL = 115.7

V_∞ =	335	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13 83	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3452 3452

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.6	86.1	90.2	81.6	74.5	77.4	106.2	94.0	110.2
125	83.4	84.6	88.0	88.5	86.7	87.9	107.1	92.5	110.3
160	80.3	83.8	84.4	84.0	85.4	87.8	96.4	92.6	109.0
200	82.1	85.2	83.3	84.5	85.3	86.0	94.5	89.2	110.9
250	81.1	82.8	81.8	82.3	81.7	83.7	92.1	88.8	112.3
315	79.2	81.0	80.3	79.4	80.7	82.3	89.3	82.7	113.5
400	78.6	77.6	78.5	70.5	80.1	65.6	88.5	86.4	114.7
500	77.6	61.8	78.1	67.1	72.5	74.9	86.4	85.5	107.9
630	76.8	72.1	77.9	72.1	74.4	76.9	85.3	85.3	103.4
800	64.5	72.4	78.4	75.6	76.2	78.5	85.0	81.0	101.8
1000	78.6	74.2	62.5	76.4	77.6	79.0	84.6	82.0	99.6
1250	71.8	74.6	71.5	77.2	78.6	80.5	84.5	83.4	98.0
1600	71.7	75.0	74.0	78.0	79.7	80.8	75.2	83.7	96.9
2000	74.9	76.4	75.7	79.0	80.6	81.7	80.2	84.2	95.8
2500	75.1	77.0	76.4	79.6	81.2	82.0	81.0	84.4	95.2
3150	74.2	76.8	77.2	80.4	81.3	82.3	81.3	83.8	94.3
4000	73.3	77.0	78.6	80.5	82.0	83.4	82.2	83.9	93.2
5000	78.6	79.5	79.8	81.9	83.0	83.9	83.1	83.4	92.2
6300	79.0	80.0	80.5	82.7	83.7	84.1	82.7	82.4	91.6
8000	80.0	80.2	81.0	83.3	84.1	84.7	83.4	82.4	91.1
10000	80.4	81.3	81.6	83.6	84.1	84.0	82.9	82.1	90.3
12500	80.9	81.5	82.0	84.0	84.4	84.3	82.6	81.1	89.8
16000	82.2	82.2	82.3	84.2	84.7	84.3	82.9	80.9	88.8
20000	82.0	82.1	82.1	83.8	84.3	83.7	81.8	80.1	88.1
25000	81.9	82.7	82.4	83.8	84.7	83.5	81.3	80.2	87.8
31500	82.9	83.1	83.0	84.2	84.5	83.6	81.5	79.7	86.8
40000	84.1	84.7	85.1	86.5	86.8	85.5	81.9	79.9	86.4
50000	82.6	82.7	83.1	84.4	83.7	83.0	80.5	79.1	85.2
63000	81.8	81.9	82.4	83.3	83.1	82.5	78.2	79.1	85.2
80000	79.3	79.0	81.2	82.6	81.8	81.5	83.2	77.8	85.1
TSPL	95.4	96.0	97.1	97.3	97.6	98.0	110.3	100.9	121.0
SSPL	93.3	93.7	94.2	95.7	96.3	96.3	96.4	96.1	111.5

V_∞ =	334	fps
T_a =	45	°F
RH_a =	51	%
P_a =	13.83	psia

ORIGINAL PAGE IS
OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.3	97.2	97.6	97.2	96.8	96.6	108.3	99.1	120.7
SSPL	95.2	94.9	94.7	95.6	95.5	94.9	94.4	94.3	111.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	97.8	97.3	97.4	96.5	95.8	95.2	106.6	97.2	118.5
SSPL	95.7	95.0	94.4	94.9	94.4	93.5	92.7	92.3	109.1

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/13/76		-00 000000	XARF 0 3452	3452

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.0	87.6	89.1	78.8	72.5	73.1	95.8	98.6	91.8
125	85.8	86.2	88.4	87.2	84.8	84.1	99.5	97.6	90.4
160	82.7	85.3	84.4	83.1	83.6	84.5	90.9	90.5	90.9
200	84.5	86.4	83.3	83.7	83.4	82.8	89.1	87.6	88.0
250	83.5	84.0	81.8	81.2	79.8	80.4	86.6	85.9	88.0
315	81.6	82.2	80.1	78.4	78.8	79.1	84.4	81.0	82.6
400	81.0	78.8	77.0	70.2	78.1	62.9	78.6	83.7	86.2
500	80.0	63.6	77.6	65.7	70.8	71.5	79.9	81.5	84.6
630	79.2	73.6	77.4	70.8	72.6	73.6	79.6	80.8	84.0
800	66.9	74.8	78.4	74.3	74.3	75.3	80.1	78.5	79.8
1000	81.0	73.7	63.9	76.8	75.7	75.9	79.8	78.8	80.4
1250	74.2	75.6	72.3	76.9	76.8	77.5	80.1	79.4	81.6
1600	74.0	76.2	74.6	77.6	77.8	78.2	72.6	73.3	82.1
2000	77.3	77.6	76.2	78.5	78.7	79.0	76.8	76.9	82.3
2500	77.5	78.2	76.9	79.1	79.3	79.2	77.5	77.6	82.3
3150	76.6	78.2	77.8	79.7	79.4	79.6	77.9	77.5	81.6
4000	75.6	78.6	79.0	79.9	80.1	80.6	78.9	78.2	81.5
5000	81.0	80.7	80.2	81.2	81.2	81.2	79.8	78.6	80.9
6300	81.4	81.3	80.9	82.0	81.8	81.4	79.6	77.8	79.9
8000	82.4	81.4	81.5	82.6	82.2	82.0	80.3	78.3	79.8
10000	82.8	82.5	82.0	82.8	82.1	81.3	79.7	78.0	79.5
12500	83.3	82.7	82.4	83.2	82.5	81.7	79.6	77.3	78.5
16000	84.5	83.4	82.7	83.4	82.8	81.7	79.9	77.4	78.2
20000	84.3	83.2	82.4	83.0	82.3	81.1	78.9	76.4	77.4
25000	84.3	83.8	82.6	83.0	82.8	81.0	78.4	76.2	77.5
31500	85.2	84.2	83.2	83.3	82.5	81.0	78.6	76.1	76.9
40000	86.4	86.0	85.3	85.6	84.8	83.0	79.5	76.4	77.0
50000	85.0	83.9	83.3	83.4	81.8	80.4	77.8	75.3	76.2
63000	84.2	83.1	82.6	82.3	81.1	80.1	75.8	73.8	76.3
80000	81.6	80.3	81.6	81.6	79.9	78.7	79.6	76.7	74.8
TSPL	97.8	97.3	97.1	96.4	95.7	95.1	102.4	102.3	99.2
SSPL	95.7	94.9	94.5	95.0	94.4	93.7	92.6	91.4	94.1

V_∞ =	334	fps
T_a =	45	°F
RH_a =	51	%
P_a =	13 83	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZL AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3452 CONDITION 3452

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.54		1.52	1.54	THRUST,IDL	LB	22.3	24.5	N	99.2	108.8
TEMP	(R)	710.0	715.3	(K)	394.4	397.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.063	KG/M3	1.015	1.010	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	984.1	996.7	M/S	300.0	303.0	W (MODEL)	LB/S	0.7	0.8	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.0	87.6	89.1	78.8	72.5	73.1	95.8	98.6	91.8	109.9
.125	85.8	86.2	88.4	87.2	84.8	84.1	99.5	97.6	90.4	111.1
.160	82.7	85.3	84.4	83.1	83.6	84.5	90.9	90.5	90.9	105.1
.200	84.5	86.4	83.3	83.7	83.4	82.8	89.1	87.6	88.0	103.9
.250	83.5	84.0	81.8	81.2	79.8	80.4	86.6	85.9	88.0	101.9
.315	81.6	82.2	80.1	78.4	78.8	79.1	84.4	81.0	82.6	99.4
.400	81.0	78.8	77.0	70.2	78.1	62.9	78.6	83.7	86.2	97.5
.500	80.0	63.6	77.6	65.7	70.8	71.5	79.9	81.5	84.6	95.7
.630	79.2	73.6	77.4	70.8	72.6	73.6	79.6	80.8	84.0	95.7
.800	66.9	74.8	78.4	74.3	74.3	75.3	80.1	78.5	79.8	95.1
1.00	81.0	73.7	63.9	76.8	75.7	75.9	79.8	78.8	80.4	95.4
1.25	74.2	75.6	72.3	76.9	76.8	77.5	80.1	79.4	81.6	95.7
1.60	74.0	76.2	74.6	77.6	77.8	78.2	72.6	73.3	82.1	95.0
2.00	77.3	77.6	76.2	78.5	78.7	79.0	76.8	76.9	82.3	96.4
2.50	77.5	78.2	76.9	79.1	79.3	79.2	77.5	77.6	82.3	96.9
3.15	76.6	78.2	77.8	79.7	79.4	79.6	77.9	77.5	81.6	97.1
4.00	75.6	78.6	79.0	79.9	80.1	80.6	78.9	78.2	81.5	97.7
5.00	81.0	80.7	80.2	81.2	81.2	81.2	79.8	78.6	80.9	98.9
6.30	81.4	81.3	80.9	82.0	81.8	81.4	79.6	77.8	79.9	99.3
8.00	82.4	81.4	81.5	82.6	82.2	82.0	80.3	78.3	79.8	99.8
10.0	82.8	82.5	82.0	82.8	82.1	81.3	79.7	78.0	79.5	100.0
12.5	83.3	82.7	82.4	83.2	82.5	81.7	79.6	77.3	78.5	100.2
16.0	84.5	83.4	82.7	83.4	82.8	81.7	79.9	77.4	78.2	100.6
20.0	84.3	83.2	82.4	83.0	82.3	81.1	78.9	76.4	77.4	100.2
25.0	84.3	83.8	82.6	83.0	82.8	81.0	78.4	76.2	77.5	100.4
31.5	85.2	84.2	83.2	83.3	82.5	81.0	78.6	76.1	76.9	100.7
40.0	86.4	86.0	85.3	85.6	84.8	83.0	79.5	76.4	77.0	102.6
50.0	85.0	83.9	83.3	83.4	81.8	80.4	77.8	75.3	76.2	100.5
63.0	84.2	83.1	82.6	82.3	81.1	80.1	75.8	73.8	76.3	99.6
80.0	81.6	80.3	81.6	81.6	79.9	78.7	79.6	76.7	74.8	98.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 116.9
OSPL	97.8	97.3	97.1	96.4	95.7	95.1	102.4	102.3	99.2	

V_∞ =	334	fps
T_a =	45	°F
RH_a =	51	%
P_a =	13.83	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76	.	-00 000000	XARF 0	3453 3453

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.3	85.0	90.2	75.5	90.4	88.5	106.0	93.9	102.1
125	83.1	84.0	88.0	88.1	86.6	87.6	107.1	92.5	101.8
160	80.2	83.4	84.7	84.3	85.7	87.8	96.4	92.5	101.2
200	81.9	84.6	83.5	84.6	85.3	85.4	93.9	87.5	104.1
250	81.1	82.2	81.6	82.7	81.8	83.8	91.9	88.0	106.1
315	79.7	80.6	80.7	79.7	81.0	71.2	89.4	78.2	108.7
400	69.7	77.5	79.4	73.4	72.5	72.8	87.8	86.8	109.3
500	78.0	77.9	78.8	70.9	75.4	76.8	86.2	86.9	101.2
630	77.4	73.3	78.9	75.6	77.9	79.5	86.6	82.7	93.2
800	73.2	74.7	71.4	78.6	79.5	81.0	85.8	86.4	93.2
1000	70.7	76.1	74.2	79.3	80.8	81.9	86.1	86.8	91.7
1250	75.9	77.1	76.6	80.0	81.5	83.3	82.3	87.6	90.7
1600	76.0	77.4	77.8	81.0	83.0	83.8	83.9	87.6	89.9
2000	78.2	79.1	79.2	82.2	83.5	84.7	85.7	88.1	89.4
2500	78.8	79.8	79.9	82.6	84.3	85.4	86.3	88.2	88.8
3150	78.7	79.9	80.9	83.7	84.5	85.8	86.6	87.8	87.8
4000	79.0	80.7	81.8	84.1	85.4	87.1	87.5	87.9	86.7
5000	81.5	82.3	83.0	85.4	86.4	87.7	88.3	87.7	86.1
6300	81.8	82.8	83.5	85.8	87.2	88.3	88.1	87.1	86.0
8000	82.9	83.1	84.1	86.4	87.6	89.1	88.4	87.2	85.5
10000	83.1	84.1	84.6	86.6	87.6	88.7	88.1	87.1	85.1
12500	83.5	83.9	84.9	87.2	88.0	89.1	87.9	86.4	84.7
16000	84.0	84.6	85.0	87.1	88.2	89.0	88.0	86.2	84.7
20000	83.8	84.2	84.7	86.8	87.9	88.3	87.3	85.1	83.7
25000	84.0	84.8	85.1	87.1	88.5	88.2	86.7	85.6	83.7
31500	84.5	84.9	85.5	86.9	87.9	88.1	86.7	85.0	83.5
40000	85.6	86.7	87.8	89.9	89.8	89.0	86.7	84.7	83.6
50000	84.5	84.8	85.5	87.3	87.5	87.6	86.0	84.2	83.4
63000	83.8	84.3	85.4	86.7	87.1	87.2	84.9	84.1	82.9
80000	82.9	82.8	84.6	86.2	86.6	86.7	81.9	83.7	83.4
TSPL	96.8	97.4	98.7	99.7	100.8	101.4	110.5	102.6	114.7
SSPL	95.5	96.1	96.9	98.9	99.8	100.5	100.3	100.1	104.4

V_∞ =	334	fps
T_a =	44	°F
RH_a =	58	%
P_a =	1383	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.6	98.6	99.3	99.6	100.0	99.9	108.5	100.8	114.5
SSPL	97.3	97.3	97.5	98.8	99.0	99.1	98.3	98.3	104.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	99.2	98.8	99.0	98.9	99.0	98.5	106.7	98.8	112.3
SSPL	97.9	97.5	97.2	98.1	97.9	97.7	96.5	96.4	101.9

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/13/76 -00 000000 XARF 0 3453 3453

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	89.7	86.6	87.9	75.1	88.7	85.1	98.6	98.1	90.7
125	85.5	85.6	88.4	86.9	84.7	83.8	99.4	98.3	89.3
160	82.6	84.9	84.7	83.4	83.8	84.5	90.9	91.0	89.8
200	84.3	85.8	83.6	83.8	83.4	82.3	88.5	86.9	85.7
250	83.5	83.4	81.8	81.6	79.9	80.5	86.5	85.8	86.4
315	82.1	81.8	80.5	78.8	78.9	68.3	81.5	80.3	77.8
400	72.0	79.4	78.5	71.7	70.6	69.3	80.3	83.1	86.0
500	80.4	79.2	77.4	69.7	73.6	73.5	80.2	82.3	85.1
630	79.8	74.7	78.8	74.5	76.0	76.3	81.5	81.0	80.2
800	75.6	75.6	72.4	78.3	77.6	77.9	81.0	82.0	83.6
1000	73.1	77.4	75.0	79.0	78.9	78.9	81.4	82.5	83.9
1250	78.3	78.3	77.2	79.5	79.6	80.5	78.7	80.2	84.6
1600	78.3	78.7	78.4	80.5	81.1	81.0	80.1	81.3	84.4
2000	80.5	80.3	79.7	81.6	81.6	81.9	81.8	82.8	84.8
2500	81.1	81.1	80.4	82.0	82.4	82.6	82.5	83.2	84.8
3150	81.1	81.2	81.5	83.0	82.6	83.0	82.9	83.3	84.3
4000	81.4	82.0	82.3	83.4	83.6	84.2	83.9	83.9	84.1
5000	83.9	83.6	83.5	84.7	84.5	84.9	84.7	84.3	83.9
6300	84.2	84.1	83.9	85.2	85.3	85.5	84.8	83.8	83.3
8000	85.3	84.4	84.6	85.7	85.8	86.3	85.2	84.1	83.3
10000	85.5	85.4	85.0	85.9	85.7	85.9	84.9	83.9	83.2
12500	85.9	85.2	85.4	86.5	86.1	86.3	84.8	83.4	82.5
16000	86.4	85.8	85.4	86.4	86.3	86.3	84.9	83.3	82.3
20000	86.1	85.4	85.1	86.1	86.0	85.6	84.2	82.5	81.2
25000	86.3	86.0	85.4	86.4	86.6	85.6	83.7	82.4	81.7
31500	86.9	86.1	85.8	86.2	86.0	85.5	83.7	82.1	81.1
40000	88.0	88.1	88.3	89.1	87.9	86.5	83.9	81.8	80.9
50000	86.8	86.1	85.9	86.5	85.6	84.9	83.0	81.3	80.4
63000	86.1	85.6	85.7	85.8	85.1	84.6	82.1	80.5	80.3
80000	85.3	84.1	85.1	85.4	84.7	84.2	79.6	78.3	80.1
TSPL	99.2	98.7	98.8	98.9	99.0	98.5	103.7	103.0	99.5
SSPL	97.9	97.4	97.3	98.2	97.9	97.8	96.8	96.2	96.7

V_∞ =	334	fps
T_a =	44	°F
RH_a =	58	%
P_a =	13.83	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3453 CONDITION 3453

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	22.3	35.5	N	99.4	158.0
TEMP	(R)	713.6	709.3	(K)	396.4	394.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.067	KG/M3	1.009	1.066	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	985.6	1155.0	M/S	300.4	352.0	W (MODEL)	LB/S	0.7	1.0	KG/S	0.3	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (KHZ)	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.7	86.6	87.9	75.1	88.7	85.1	98.6	98.1	90.7	110.9
.125	85.5	85.6	88.4	86.9	84.7	83.8	99.4	98.3	89.3	111.2
.160	82.6	84.9	84.7	83.4	83.8	84.5	90.9	91.0	89.8	105.2
.200	84.3	85.8	83.6	83.8	83.4	82.3	88.5	86.9	85.7	103.5
.250	83.5	83.4	81.8	81.6	79.9	80.5	86.5	85.8	86.4	101.7
.315	82.1	81.8	80.5	78.8	78.9	68.3	81.5	80.3	77.8	98.3
.400	72.0	79.4	78.5	71.7	70.6	69.3	80.3	83.1	86.0	97.0
.500	80.4	79.2	77.4	69.7	73.6	73.5	80.2	82.3	85.1	97.0
.630	79.8	74.7	78.8	74.5	76.0	76.3	81.5	81.0	80.2	96.6
.800	75.6	75.6	72.4	78.3	77.6	77.9	81.0	82.0	83.6	96.9
1.00	73.1	77.4	75.0	79.0	78.9	78.9	81.4	82.5	83.9	97.7
1.25	78.3	78.3	77.2	79.5	79.6	80.5	78.7	80.2	84.6	97.8
1.60	78.3	78.7	78.4	80.5	81.1	81.0	80.1	81.3	84.4	98.7
2.00	80.5	80.3	79.7	81.6	81.6	81.9	81.8	82.8	84.8	99.8
2.50	81.1	81.1	80.4	82.0	82.4	82.6	82.5	83.2	84.8	100.4
3.15	81.1	81.2	81.5	83.0	82.6	83.0	82.9	83.3	84.3	100.8
4.00	81.4	82.0	82.3	83.4	83.6	84.2	83.9	83.9	84.1	101.6
5.00	83.9	83.6	83.5	84.7	84.5	84.9	84.7	84.3	83.9	102.6
6.30	84.2	84.1	83.9	85.2	85.3	85.5	84.8	83.8	83.3	102.9
8.00	85.3	84.4	84.6	85.7	85.8	86.3	85.2	84.1	83.3	103.5
10.0	85.5	85.4	85.0	85.9	85.7	85.9	84.9	83.9	83.2	103.6
12.5	85.9	85.2	85.4	86.5	86.1	86.3	84.8	83.4	82.5	103.8
16.0	86.4	85.8	85.4	86.4	86.3	86.3	84.9	83.3	82.3	104.0
20.0	86.1	85.4	85.1	86.1	86.0	85.6	84.2	82.5	81.2	103.5
25.0	86.3	86.0	85.4	86.4	86.6	85.6	83.7	82.4	81.7	103.8
31.5	86.9	86.1	85.8	86.2	86.0	85.5	83.7	82.1	81.1	103.7
40.0	88.0	88.1	88.3	89.1	87.9	86.5	83.9	81.8	80.9	105.6
50.0	86.8	86.1	85.9	86.5	85.6	84.9	83.0	81.3	80.4	103.6
63.0	86.1	85.6	85.7	85.8	85.1	84.6	82.1	80.5	80.3	103.1
80.0	85.3	84.1	85.1	85.4	84.7	84.2	79.6	78.3	80.1	102.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.2	98.7	98.8	98.9	99.0	98.5	103.7	103.0	99.5	DAPWL = 118.5

V_∞ = 334 fps

T_a = 44 °F

RH_a = 58 %

P_a = 13.83 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/13/76		-00 000000	XARF 0	3454 3454

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	80.6	91.1	75.5	90.6	88.8	106.0	93.7	111.3
125	84.0	79.4	75.9	88.5	87.2	87.9	107.3	92.7	111.6
160	81.1	79.8	70.1	84.7	86.0	87.7	96.7	92.5	109.4
200	82.9	75.7	85.7	68.8	86.0	86.0	94.9	88.9	110.8
250	82.0	77.5	72.4	83.4	72.7	84.6	93.0	89.3	112.4
315	73.4	75.9	76.5	76.7	74.9	77.6	90.8	86.7	114.2
400	79.0	78.8	76.3	79.2	80.1	80.6	90.3	78.8	115.0
500	73.7	77.7	78.2	78.7	81.3	81.9	89.0	88.1	108.1
630	76.3	80.3	79.9	81.2	83.4	84.7	82.0	90.6	104.0
800	80.4	81.4	82.4	83.9	85.0	86.0	87.6	93.0	104.1
1000	79.6	82.2	83.3	84.8	86.1	87.0	88.4	93.5	103.0
1250	82.1	83.2	83.7	85.5	87.0	89.0	90.7	94.1	101.8
1600	82.6	83.3	84.4	86.6	88.6	89.8	91.3	94.4	101.3
2000	84.0	84.7	85.5	87.7	89.2	90.9	92.6	95.1	100.6
2500	84.6	85.3	86.0	88.0	90.1	91.5	93.2	95.4	99.9
3150	84.9	85.9	86.8	89.1	90.5	92.4	94.0	95.3	99.3
4000	85.7	86.3	87.4	89.4	91.4	93.6	94.7	95.5	98.6
5000	87.2	87.8	88.5	90.8	92.5	94.7	95.7	95.7	98.4
6300	87.7	88.3	89.5	91.3	93.2	95.3	95.5	95.1	98.3
8000	89.7	88.6	89.5	91.9	94.0	95.9	95.8	95.2	98.0
10000	89.8	90.0	90.4	92.5	94.4	95.9	95.8	95.6	97.9
12500	93.2	92.2	92.2	93.7	95.3	96.5	95.9	95.5	99.1
16000	102.6	99.0	96.0	95.6	96.5	97.4	96.4	95.7	99.6
20000	106.9	104.3	99.7	96.9	96.4	96.8	95.7	94.3	97.8
25000	105.6	105.8	104.1	101.2	98.8	97.2	95.4	94.8	97.5
31500	101.6	102.6	103.9	103.6	101.3	98.7	96.2	94.6	97.5
40000	103.2	101.6	101.5	103.1	102.9	100.6	96.8	94.7	97.8
50000	102.7	102.3	102.0	102.2	102.6	102.1	98.4	95.4	98.1
63000	101.5	101.8	102.1	102.1	101.8	102.0	98.8	96.3	98.6
80000	101.1	101.2	101.5	101.8	101.4	100.2	97.9	95.7	98.8
TSPL	112.8	112.0	111.3	111.0	110.7	110.3	112.5	108.9	121.8
SSPL	112.8	112.0	111.2	111.0	110.6	110.2	108.7	108.4	114.6

V_∞ =	334	fps
T_a =	44	°F
RH_a =	64	%
P_a =	1383	psia

ORIGINAL PAGE IS OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	114.7	113.2	111.8	110.9	109.9	108.9	110.5	107.1	121.6
SSPL	114.7	113.2	111.7	110.9	109.8	108.8	106.7	106.6	114.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	115.2	113.3	111.5	110.2	108.8	107.5	108.8	105.1	119.4
SSPL	115.2	113.3	111.5	110.2	108.7	107.4	105.0	104.6	112.2

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/13/76 -00 000000 XARF 0 3454 3454

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.2	82.5	89.1	75.0	88.9	85.4	98.7	97.3	91.7
125	86.4	79.8	77.9	88.5	85.3	84.2	99.6	97.7	90.7
160	83.5	79.8	71.8	85.2	84.1	84.4	91.1	90.6	90.8
200	85.3	77.5	83.4	68.5	84.4	82.9	89.4	87.7	87.7
250	84.4	77.8	74.1	81.8	70.9	80.5	87.8	86.6	88.4
315	75.8	77.3	76.6	75.4	73.0	74.1	84.1	84.4	86.3
400	81.4	79.7	76.6	78.9	78.2	77.4	85.0	79.9	79.1
500	76.1	79.2	78.3	78.1	79.5	78.8	83.7	83.9	87.0
630	78.7	81.7	80.1	80.6	81.6	82.1	78.7	80.4	89.1
800	82.8	82.7	82.7	83.1	83.1	83.2	83.3	85.1	91.0
1000	82.0	83.6	83.7	84.1	84.2	84.1	84.2	86.0	91.3
1250	84.5	84.5	84.0	84.8	85.2	86.0	86.5	87.7	91.6
1600	85.0	84.6	84.8	86.0	86.7	86.9	87.2	88.2	91.8
2000	86.4	85.9	85.9	87.0	87.3	87.9	88.5	89.4	92.3
2500	87.0	86.6	86.4	87.4	88.2	88.6	89.2	90.0	92.5
3150	87.3	87.2	87.3	88.4	88.6	89.5	90.0	90.5	92.3
4000	88.1	87.6	87.9	88.8	89.6	90.6	90.9	91.0	92.4
5000	89.5	89.1	88.9	90.2	90.7	91.8	92.0	91.6	92.4
6300	90.1	89.6	89.9	90.7	91.4	92.4	92.0	91.2	91.9
8000	91.0	89.8	90.0	91.3	92.1	93.1	92.4	91.4	91.9
10000	92.1	91.2	90.8	91.9	92.5	93.0	92.4	91.6	92.2
12500	95.6	93.3	92.5	93.0	93.5	93.8	92.6	91.5	92.4
16000	105.0	99.6	95.6	94.6	94.6	94.7	93.2	91.8	92.5
20000	109.3	104.8	98.8	95.5	94.4	94.1	92.5	90.8	91.0
25000	107.9	106.8	103.4	99.5	96.7	94.6	92.4	90.9	91.4
31500	104.0	103.9	104.0	102.2	99.3	96.3	93.4	91.2	91.3
40000	105.6	102.7	101.8	102.2	101.0	98.3	94.4	91.5	91.4
50000	105.1	103.4	102.0	101.3	100.7	99.6	96.1	92.7	92.0
63000	103.9	103.0	102.1	101.0	99.8	99.4	96.3	93.4	92.9
80000	103.4	102.4	101.6	100.7	99.4	97.7	95.1	92.7	92.4
TSPL	115.2	113.0	111.1	109.9	108.8	107.7	107.5	106.0	106.0
SSPL	115.2	113.0	111.1	109.9	108.7	107.6	105.6	104.2	105.4

V_{∞} =	334	fps
T_a =	44	°F
RH_a =	64	%
P_a =	13.83	psia

ORIGINAL PAGE IS
OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3454 CONDITION 3454

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	21.3	60.7	N	94.9	270.2
TEMP	(R)	702.7	713.7	(K)	390.4	396.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.072	KG/M3	1.026	1.159	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	980.9	1407.0	M/S	299.0	428.9	W (MODEL)	LB/S	0.7	1.4	KG/S	0.3	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	82.5	89.1	75.0	88.9	85.4	98.7	97.3	91.7	110.7
.125	86.4	79.8	77.9	88.5	85.3	84.2	99.6	97.7	90.7	110.9
.160	83.5	79.8	71.8	85.2	84.1	84.4	91.1	90.6	90.8	104.8
.200	85.3	77.5	83.4	68.5	84.4	82.9	89.4	87.7	87.7	103.1
.250	84.4	77.8	74.1	81.8	70.9	80.5	87.8	86.6	88.4	101.4
.315	75.8	77.3	76.6	75.4	73.0	74.1	84.1	84.4	86.3	98.2
.400	81.4	79.7	76.6	78.5	78.2	77.4	85.0	79.9	79.1	98.4
.500	76.1	79.2	78.3	78.1	79.5	78.8	83.7	83.9	87.0	99.2
.630	78.7	81.7	80.1	80.6	81.6	82.1	78.7	80.4	89.1	100.0
.800	82.8	82.7	82.7	83.1	83.1	83.2	83.3	85.1	91.0	102.3
1.00	82.0	83.6	83.7	84.1	84.2	84.1	84.2	86.0	91.3	103.1
1.25	84.5	84.5	84.0	84.8	85.2	86.0	86.5	87.7	91.6	104.2
1.60	85.0	84.6	84.8	86.0	86.7	86.9	87.2	88.2	91.8	105.0
2.00	86.4	85.9	85.9	87.0	87.3	87.9	88.5	89.4	92.3	106.0
2.50	87.0	86.6	86.4	87.4	88.2	88.6	89.2	90.0	92.5	106.6
3.15	87.3	87.2	87.3	88.4	88.6	89.5	90.0	90.5	92.3	107.2
4.00	88.1	87.6	87.9	88.8	89.6	90.6	90.9	91.0	92.4	107.9
5.00	89.5	89.1	88.9	90.2	90.7	91.8	92.0	91.6	92.4	109.0
6.30	90.1	89.6	89.9	90.7	91.4	92.4	92.0	91.2	91.9	109.3
8.00	91.0	89.8	90.0	91.3	92.1	93.1	92.4	91.4	91.9	109.8
10.0	92.1	91.2	90.8	91.9	92.5	93.0	92.4	91.6	92.2	110.3
12.5	95.6	93.3	92.5	93.0	93.5	93.8	92.6	91.5	92.4	111.5
16.0	105.0	99.6	95.6	94.6	94.6	94.7	93.2	91.8	92.5	115.8
20.0	109.3	104.8	98.8	95.5	94.4	94.1	92.5	90.8	91.0	119.4
25.0	107.9	106.8	103.4	99.5	96.7	94.6	92.4	90.9	91.4	120.6
31.5	104.0	103.9	104.0	102.2	99.3	96.3	93.4	91.2	91.3	119.5
40.0	105.6	102.7	101.8	102.2	101.0	98.3	94.4	91.5	91.4	119.3
50.0	105.1	103.4	102.0	101.3	100.7	99.6	96.1	92.7	92.0	119.4
63.0	103.9	103.0	102.1	101.0	99.8	99.4	96.3	93.4	92.9	119.0
80.0	103.4	102.4	101.6	100.7	99.4	97.7	95.1	92.7	92.4	118.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.2	113.0	111.1	109.9	108.8	107.7	107.5	106.0	106.0	OAPWL = 128.8

V_∞ =	334	fps
T_a =	44	°F
RH_a =	64	%
P_a =	13.83	psia

DECK	LD	DATE	ENG	MOD ENG NO STND C	OBS CORR
H631	315	05/13/76		-00 000000 XARF 0	3455 3455

DBTF JET NOISE TEST COANNULAR NOZ. AR =1.2 CONF. 4 TAPE 4226 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.7	85.4	89.9	75.5	90.8	88.4	105.5	93.9	107.3
125	83.7	85.0	88.6	72.8	87.6	87.8	106.6	92.8	108.2
160	80.9	84.2	84.6	71.8	86.6	88.1	96.8	92.9	105.2
200	82.7	85.6	84.1	79.2	86.5	77.8	94.6	89.2	106.6
250	82.3	72.4	83.4	77.5	80.6	79.5	92.8	91.0	108.3
315	80.4	80.0	75.1	81.4	80.2	82.2	91.1	89.2	110.0
400	82.3	80.0	75.5	82.6	83.5	82.8	91.4	88.7	111.3
500	78.1	78.7	76.3	82.3	84.2	84.8	84.2	93.0	104.8
630	80.2	81.9	80.7	84.5	86.3	87.6	89.7	94.7	102.4
800	83.8	83.3	84.4	87.2	88.4	89.1	91.7	97.4	103.4
1000	83.2	84.8	85.8	88.3	89.5	90.0	92.8	97.9	102.7
1250	85.6	86.5	86.3	89.0	90.5	92.3	94.6	98.6	101.9
1600	86.0	86.6	87.5	90.0	92.3	92.9	95.2	99.0	101.6
2000	87.3	88.1	88.7	91.2	92.9	94.1	96.8	99.8	101.0
2500	88.1	88.7	89.1	91.4	94.0	95.1	97.5	100.1	100.0
3150	88.5	89.4	90.2	92.6	94.2	96.1	98.5	99.9	99.6
4000	89.3	89.9	90.8	93.1	95.3	97.4	99.2	100.2	99.0
5000	91.1	91.6	92.0	94.3	96.3	98.7	100.2	100.7	98.9
6300	92.2	92.6	93.5	95.5	97.4	99.4	100.6	100.4	99.7
8000	98.3	96.2	96.7	98.0	99.4	101.1	101.4	101.8	101.4
10000	107.2	103.8	101.7	101.1	101.4	102.0	101.5	101.9	101.3
12500	112.8	110.4	105.6	102.3	101.0	101.3	100.8	100.4	99.8
16000	109.8	112.0	111.0	107.1	103.4	102.3	101.3	100.4	99.6
20000	106.4	107.0	109.6	110.4	106.9	103.7	101.4	100.0	99.2
25000	109.7	108.1	106.7	109.7	110.4	106.5	102.6	101.3	99.6
31500	109.1	109.7	108.8	108.5	110.5	109.6	105.2	102.2	100.2
40000	109.1	108.8	109.2	109.5	110.0	110.5	106.6	103.2	101.1
50000	108.5	108.6	109.0	109.7	108.9	109.4	107.0	103.7	101.5
63000	108.0	108.6	109.1	109.5	108.9	108.2	105.2	103.0	101.0
80000	107.8	108.1	108.9	109.5	109.1	108.0	104.9	102.4	100.9
TSPL	119.3	119.0	118.6	118.7	118.4	117.7	116.3	114.5	119.0
SSPL	119.3	119.0	118.6	118.7	118.4	117.7	115.3	114.3	114.8

V_∞ =	333	fps
T_a =	44	°F
RH_a =	68	%
P_a =	13.83	psia

OF POOR QUALITY

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	121.1	120.2	119.2	118.6	117.6	116.3	114.4	112.7	118.8
SSPL	121.1	120.2	119.2	118.6	117.6	116.2	113.3	112.5	114.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	121.6	120.3	118.9	117.9	116.5	114.9	112.6	110.7	116.6
SSPL	121.6	120.3	118.9	117.9	116.5	114.8	111.5	110.5	112.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
H631 315 05/13/76 -00 000000 XARF 10 3455 3455

DBTF JET NOISE TEST COANNULAR NOZ. AR
=1.2 CONF. 4 TAPE 4226 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	90.1	86.9	87.5	75.2	89.1	85.1	98.1	97.4	91.4
125	86.1	86.7	85.9	72.3	86.0	84.2	99.0	97.6	90.4
160	83.3	85.7	82.2	71.6	85.0	84.9	91.3	91.2	90.6
200	85.1	86.8	83.0	78.8	84.5	74.9	86.7	88.7	87.5
250	84.7	74.1	83.3	76.4	78.7	76.2	85.8	88.0	89.4
315	82.7	80.6	75.8	80.7	78.3	78.9	85.4	85.7	88.1
400	84.7	80.5	76.4	82.4	81.5	79.7	85.8	85.5	87.8
500	80.4	79.6	77.1	82.1	82.3	82.0	80.3	82.9	91.3
630	82.6	83.0	81.2	84.0	84.5	84.7	85.3	87.4	92.3
800	86.2	84.5	85.0	86.6	86.5	86.2	87.1	89.9	94.9
1000	85.6	86.2	86.4	87.6	87.6	87.1	88.2	90.8	95.2
1250	88.0	87.6	86.8	88.4	88.7	89.3	90.2	92.2	95.6
1600	88.4	87.8	88.0	89.5	90.4	90.0	90.9	92.9	95.9
2000	89.7	89.4	89.2	90.6	91.1	91.2	92.4	94.2	96.5
2500	90.5	89.9	89.5	90.9	92.1	92.2	93.2	94.9	96.6
3150	90.9	90.7	90.7	92.0	92.3	93.1	94.3	95.4	96.4
4000	91.7	91.2	91.3	92.5	93.5	94.5	95.2	95.9	96.5
5000	93.4	92.8	92.4	93.8	94.5	95.7	96.3	96.8	96.9
6300	94.6	93.9	93.9	94.9	95.5	96.5	96.8	96.7	96.7
8000	100.7	97.3	97.0	97.3	97.6	98.3	97.8	97.7	98.2
10000	109.6	104.5	101.4	100.0	99.5	99.3	98.1	97.7	98.2
12500	115.1	110.9	104.5	100.7	99.0	98.5	97.5	96.7	96.7
16000	112.2	113.2	110.2	105.2	101.4	99.7	98.1	97.0	96.6
20000	108.8	108.5	110.0	109.0	104.8	101.3	98.5	96.7	96.2
25000	112.0	108.9	107.1	109.0	108.4	104.2	100.1	97.9	97.4
31500	111.5	110.8	108.6	107.7	108.6	107.2	103.0	99.8	98.2
40000	111.5	110.0	109.3	108.6	108.1	108.0	104.4	101.1	99.2
50000	110.9	109.8	109.2	108.6	107.0	106.8	104.4	101.7	99.7
63000	110.3	109.8	109.2	108.4	106.9	105.6	102.7	100.3	99.0
80000	110.2	109.4	109.1	108.5	107.1	105.5	102.3	99.8	98.5
TSPL	121.6	120.1	118.6	117.6	116.5	115.1	112.8	111.3	110.9
SSPL	121.6	120.1	118.6	117.6	116.4	115.1	112.4	110.8	110.6

V_∞ =	333	fps
T_a =	44	°F
RH_a =	68	%
P_a =	13.83	psia

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONFL 4 TAPE 4226 10.2049

STAND XARF RIG ID VT=333 TEST DATE 05/13/76 SCALE RATIO 22.5/1 RUN NUMBER 3455 CONDITION 3455

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.23		1.52	3.23	THRUST,IDL	LB	22.0	86.8	N	98.0	386.0
TEMP	(R)	719.2	712.7	(K)	399.6	395.9	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.078	KG/M3	1.001	1.246	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
VEL	FPS	985.3	1561.0	M/S	300.3	475.8	W (MODEL)	LB/S	0.7	1.8	KG/S	0.3	0.8

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.1	86.9	87.5	75.2	89.1	85.1	98.1	97.4	91.4	110.5
.125	86.1	86.7	85.9	72.3	86.0	84.2	99.0	97.6	90.4	110.6
.160	83.3	85.7	82.2	71.6	85.0	84.9	91.3	91.2	90.6	105.2
.200	85.1	86.8	83.0	78.8	84.5	74.9	86.7	88.7	87.5	103.3
.250	84.7	74.1	83.3	76.4	78.7	76.2	85.8	88.0	89.4	101.5
.315	82.7	80.6	75.8	80.7	78.3	78.9	85.4	85.7	88.1	100.6
.400	84.7	80.5	76.4	82.4	81.5	79.7	85.8	85.5	87.8	101.2
.500	80.4	79.6	77.1	82.1	82.3	82.0	80.3	82.9	91.3	103.8
.630	82.6	83.0	81.2	84.0	84.5	84.7	85.3	87.4	92.3	103.4
.800	86.2	84.5	85.0	86.6	86.5	86.2	87.1	89.9	94.9	105.8
1.00	85.6	86.2	86.4	87.6	87.6	87.1	88.2	90.8	95.2	106.7
1.25	88.0	87.6	86.8	88.4	88.7	89.3	90.2	92.2	95.6	107.9
1.60	88.4	87.8	88.0	89.5	90.4	90.0	90.9	92.9	95.9	108.7
2.00	89.7	89.4	89.2	90.6	91.1	91.2	92.4	94.2	96.5	109.8
2.50	90.5	89.9	89.5	90.9	92.1	92.2	93.2	94.9	96.6	110.5
3.15	90.9	90.7	90.7	92.0	92.3	93.1	94.3	95.4	96.4	111.1
4.00	91.7	91.2	91.3	92.5	93.5	94.5	95.2	95.9	96.5	111.9
5.00	93.4	92.8	92.4	93.8	94.5	95.7	96.3	96.8	96.9	113.0
6.30	94.6	93.9	93.9	94.9	95.5	96.5	96.8	96.7	96.7	113.8
8.00	100.7	97.3	97.0	97.3	97.6	98.3	97.8	97.7	98.2	116.2
10.0	109.6	104.5	101.4	100.0	99.5	99.3	98.1	97.7	98.2	120.7
12.5	115.1	110.9	104.5	100.7	99.0	98.5	97.5	96.7	96.7	125.2
16.0	112.2	113.2	110.2	105.2	101.4	99.7	98.1	97.0	96.6	126.5
20.0	108.8	108.5	110.0	109.0	104.8	101.3	98.5	96.7	96.2	125.1
25.0	112.0	108.9	107.1	109.0	108.4	104.2	100.1	97.9	97.4	125.7
31.5	111.5	110.8	108.6	107.7	108.6	107.2	103.0	99.8	98.2	126.5
40.0	111.5	110.0	109.3	108.6	108.1	108.0	104.4	101.1	99.2	126.6
50.0	110.9	109.8	109.2	108.6	107.0	106.8	104.4	101.7	99.7	126.2
63.0	110.3	109.8	109.2	108.4	106.9	105.6	102.7	100.3	99.0	125.9
80.0	110.2	109.4	109.1	108.5	107.1	105.5	102.3	99.8	98.5	125.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.6	120.1	118.6	117.6	116.5	115.1	112.8	111.3	110.9	OAPWL = 135.9

V_∞ =	333	fps
T_a =	44	°F
RH_a =	68	%
P_a =	13.83	psia

C5

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3404 CONDITION 3404

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	369.6	506.2	KG/S	167.6	229.6
PRES	25.00IN	0.858AR	P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	11268.2	29698.9	N	50123.3	132106.7
WIND D			TEMP	(R)	712.5	1276.0	(K)	395.8	708.9	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.063	0.040	KG/M3	1.010	0.638	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL	H70.0%		VEL	FPS	961.8	1889.0	M/S	299.3	575.8	W (MODEL)	LB/S	0.7	1.0	KG/S	0.3	0.5

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	93.1	92.5	92.8	93.6	94.3	97.0	99.8	101.7	105.0	142.9
.063	94.0	93.4	94.5	95.3	95.8	98.4	100.9	102.5	105.0	143.8
.080	95.6	94.5	95.9	97.1	97.6	100.4	102.8	103.8	105.3	145.2
.100	96.2	95.2	96.0	97.3	98.5	101.0	103.5	104.0	104.5	145.6
.125	96.8	96.4	97.4	98.7	99.3	102.4	104.7	103.9	103.8	146.3
.160	98.0	97.2	98.4	99.8	101.0	104.2	105.6	104.8	104.4	147.5
.200	99.0	98.6	99.3	101.3	102.3	105.8	106.7	105.3	104.7	148.6
.250	99.2	98.9	100.2	101.8	102.9	106.4	107.0	105.3	104.9	149.0
.315	100.3	99.0	100.7	102.2	104.3	107.5	107.3	106.1	105.8	149.8
.400	100.5	99.7	100.8	102.8	104.5	107.5	107.5	106.6	106.4	150.1
.500	100.8	99.9	101.2	103.2	104.8	107.5	107.5	106.7	107.2	150.2
.630	102.8	101.5	101.9	103.6	105.2	107.6	107.5	107.1	108.1	150.6
.800	107.8	103.7	102.4	103.0	104.6	106.6	106.7	106.6	107.5	150.7
1.00	111.2	107.9	103.9	103.1	104.7	106.1	105.9	106.2	107.3	151.7
1.25	109.0	108.3	107.0	104.2	103.9	105.1	104.9	104.8	105.4	151.5
1.60	106.5	106.0	107.1	106.1	104.5	104.6	103.8	103.1	103.7	150.7
2.00	106.7	104.9	105.4	106.7	105.7	104.6	103.1	101.9	102.0	150.4
2.50	105.5	104.5	104.5	104.7	105.2	104.8	102.3	100.7	100.7	149.6
3.15	104.6	103.7	103.7	103.8	103.3	103.6	101.6	99.6	99.4	148.5
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 162.0
OSPL	117.1	115.4	115.1	115.4	116.0	117.9	118.1	117.5	118.1	
PNL	126.4	125.3	125.3	125.6	126.1	126.9	126.0	124.8	125.1	
200. SIDELINE										
PNL	123.1	122.4	122.6	122.8	122.8	122.9	120.8	118.1	115.9	
370. SIDELINE										
PNL	117.2	116.5	116.7	117.0	116.9	117.0	114.8	112.0	109.7	
800. SIDELINE										
PNL	109.0	108.3	108.6	109.0	108.8	108.8	106.6	103.7	101.5	
2128. SIDELINE										
PNL	96.8	95.9	96.6	96.9	96.3	96.7	95.3	92.3	89.3	

ORIGINAL PAGE IS OF POOR QUALITY

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3406 CONDITION 3406

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	379.7	511.3	KG/S	172.2	231.9
PRES	25.00IN	0.85BAR	P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	11553.3	29805.4	N	51391.6	132580.2
WIND D			TEMP	(R)	710.0	1260.0	(K)	394.4	700.0	THRUST,HEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.063	0.040	KG/M3	1.014	0.646	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	979.8	1877.0	M/S	298.6	572.1	W (MODEL)	LB/S	0.8	1.0	KG/S	0.3	0.5

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	94.0	94.6	95.1	96.7	97.9	100.2	103.3	106.8	108.7	146.7
.063	94.5	95.5	96.2	98.2	99.2	101.4	104.6	107.4	108.2	147.4
.080	96.4	96.7	97.6	99.5	100.7	103.2	106.1	108.2	107.9	148.4
.100	97.0	97.0	97.8	100.3	101.5	104.0	106.9	108.1	107.1	148.7
.125	97.5	98.2	99.1	101.5	102.4	105.4	107.9	108.0	106.7	149.4
.160	98.5	99.1	100.0	102.5	104.0	107.0	108.3	108.7	107.0	150.3
.200	99.5	100.3	100.8	103.8	105.2	108.2	109.1	109.0	107.3	151.2
.250	99.7	100.3	101.7	104.1	105.8	108.8	109.4	109.1	107.8	151.5
.315	100.6	100.5	102.1	104.5	107.0	109.9	109.6	109.8	108.6	152.3
.400	100.7	101.3	102.1	105.1	107.1	109.6	109.9	110.4	109.6	152.6
.500	100.8	101.4	102.5	105.4	107.3	109.8	109.9	110.7	110.9	152.8
.630	102.7	102.6	103.1	105.7	107.8	110.0	110.2	111.4	111.6	153.3
.800	107.4	104.3	103.6	105.3	107.4	109.1	109.7	111.2	110.7	153.2
1.00	111.4	109.1	105.0	105.5	107.8	108.5	108.9	111.0	110.1	153.9
1.25	109.6	110.3	108.6	106.1	106.9	107.9	108.0	109.6	108.3	153.8
1.60	107.4	108.3	109.3	108.5	107.2	107.5	107.1	108.3	107.3	153.4
2.00	107.9	107.0	107.5	109.6	108.6	107.6	106.7	107.4	105.9	153.2
2.50	106.9	107.2	106.8	107.9	108.8	107.6	105.8	106.6	104.9	152.7
3.15	106.2	106.2	106.4	107.1	107.2	106.7	105.4	105.6	103.9	151.8
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 164.7

OSPL	117.7	117.3	116.9	118.0	119.0	120.5	120.9	121.9	121.2
PNL	127.5	127.4	127.5	128.5	129.3	129.6	129.2	129.9	128.7

200. SIDELINE

PNL	124.2	124.6	124.8	125.7	126.1	125.6	124.1	123.1	119.5

370. SIDELINE

PNL	118.2	118.7	118.8	119.8	120.2	119.7	118.0	117.1	113.3

800. SIDELINE

PNL	110.0	110.5	110.6	111.8	112.1	111.5	109.7	108.6	104.9

2128. SIDELINE

PNL	97.4	97.9	98.6	99.6	99.4	99.2	98.1	96.7	92.7

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3407 CONDITION 3407

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	379.7	516.4	KG/S	172.2	234.2
PRES	25.00IN	0.85BAR	P.R.		1.53	2.52		1.53	2.52	THRUST,IDL	LB	11605.2	30212.8	N	51622.4	134392.3
WIND D			TEMP	(R)	707.0	1264.3	(K)	392.8	702.4	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.040	KG/M3	1.020	0.645	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	984.2	1884.0	M/S	300.0	574.2	W (MODEL)	LB/S	0.8	1.0	KG/S	0.3	0.5

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	95.0	95.4	96.0	98.1	100.0	102.4	106.1	110.1	112.5	149.6
.063	94.6	95.9	96.7	99.4	100.7	103.2	107.4	110.7	111.6	150.1
.080	96.8	97.6	98.4	100.6	102.2	105.1	108.7	111.1	110.7	150.8
.100	97.7	97.9	98.8	101.4	103.3	106.2	109.6	110.9	109.9	151.2
.125	97.8	98.6	99.7	102.4	104.0	107.1	110.1	110.3	109.6	151.4
.160	99.1	99.8	100.8	103.8	105.7	109.1	110.8	111.3	110.0	152.5
.200	100.0	100.9	101.8	105.0	106.6	110.0	111.2	111.1	110.6	153.0
.250	99.8	100.8	102.2	104.8	106.9	110.3	111.0	111.5	111.7	153.2
.315	100.6	101.1	102.6	105.1	107.9	111.1	111.1	112.1	112.6	153.8
.400	100.9	101.6	102.4	105.7	108.3	111.0	111.3	112.3	113.8	154.1
.500	101.7	101.4	102.7	105.7	108.1	110.6	111.2	113.3	116.5	154.6
.630	101.5	101.7	102.7	105.5	107.9	110.1	110.7	113.3	114.7	154.1
.800	105.6	103.2	102.6	104.6	107.4	109.0	109.7	112.2	112.3	153.3
1.00	109.4	107.5	104.0	104.8	107.4	108.5	109.0	111.9	111.6	153.6
1.25	107.9	108.7	107.1	105.4	106.8	107.6	108.0	110.3	109.9	153.3
1.60	106.4	107.3	108.3	107.8	107.6	107.8	107.6	109.7	109.6	153.3
2.00	107.6	107.1	107.6	109.7	109.5	108.7	107.9	109.7	109.4	154.0
2.50	107.9	108.5	108.2	109.4	110.7	109.9	108.3	110.1	109.7	154.7
3.15	109.1	109.4	109.6	110.5	111.3	111.1	110.0	111.2	111.1	155.7
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 166.0

OSPL	117.3	117.3	117.2	118.6	120.1	121.7	122.5	124.1	124.7
PNL	128.7	128.9	129.1	130.4	131.5	132.2	132.0	133.5	133.6

200. SIDELINE

PNL	125.5	126.1	126.4	127.5	128.3	128.1	126.8	126.6	124.2

370. SIDELINE

PNL	119.4	120.1	120.4	121.5	122.2	122.1	120.7	120.3	117.8

800. SIDELINE

PNL	110.8	111.6	112.0	113.1	113.8	113.6	112.1	111.5	109.0

2128. SIDELINE

PNL	97.3	98.3	98.6	100.0	100.8	100.6	99.7	99.1	97.0

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20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 X0.2049

STAND XARF RIG ID VT=22 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3408 CONDITION 3408

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	379.7	359.4	KG/S	172.2	163.0
PRES	25.00IN	0.85BAR	P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	11509.7	17224.0	N	51197.5	76615.6
WIND D			TEMP	(R)	700.8	1269.2	(K)	389.3	705.1	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.037	KG/M3	1.028	0.589	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	976.1	1543.0	M/S	297.5	470.3	W (MODEL)	LB/S	0.8	0.7	KG/S	0.3	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	90.3	91.0	91.7	93.6	95.2	97.8	100.7	104.4	106.4	144.1
.063	90.5	91.7	92.6	95.2	96.3	98.5	101.8	104.9	105.9	144.7
.080	92.5	93.2	94.0	96.1	97.7	100.3	103.0	105.0	104.9	145.3
.100	93.5	93.8	94.7	97.1	98.6	101.2	103.6	105.2	103.9	145.7
.125	93.5	94.4	95.5	98.0	99.2	101.9	104.2	104.2	103.5	145.9
.160	95.0	95.3	96.5	99.3	100.9	103.7	104.9	105.0	103.5	146.9
.200	95.3	96.1	97.2	100.2	101.3	104.0	104.8	104.0	103.4	146.9
.250	94.9	95.8	97.2	99.8	101.2	104.0	104.3	104.1	103.3	146.8
.315	95.5	95.9	97.6	99.9	102.1	104.0	104.1	104.4	103.1	147.1
.400	95.5	96.0	97.1	100.1	102.2	104.5	104.0	103.7	102.6	147.0
.500	94.6	95.2	96.7	99.8	101.6	103.9	103.3	103.3	102.4	146.4
.630	94.1	95.0	96.6	99.4	101.3	103.4	102.4	102.7	102.5	145.9
.800	93.3	94.1	95.5	98.2	100.5	102.0	101.4	100.8	101.1	144.7
1.00	92.8	93.8	95.4	98.0	100.8	101.5	100.6	100.4	101.0	144.4
1.25	92.3	93.3	94.9	97.3	99.7	100.5	99.5	99.0	99.1	143.4
1.60	93.1	94.1	95.5	97.6	99.4	100.5	99.2	98.5	98.5	143.3
2.00	93.9	95.0	96.9	100.1	100.8	101.2	99.6	98.5	98.2	144.4
2.50	94.8	95.6	97.2	99.2	100.9	101.7	99.5	99.0	98.7	144.5
3.15	96.3	97.0	98.6	100.3	101.5	102.4	100.8	99.8	99.9	145.5
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 158.4

	70	80	90	100	110	120	130	140	150
OSPL	106.8	107.6	108.9	111.5	113.2	115.2	115.4	115.9	115.6
PNL	117.4	118.1	119.6	121.8	123.2	124.6	123.8	123.4	123.2

200. SIDELINE

PNL	114.1	115.3	116.9	118.9	120.0	120.6	118.6	116.5	113.9

370. SIDELINE

PNL	108.0	109.3	110.9	113.0	114.0	114.5	112.5	110.4	107.5

800. SIDELINE

PNL	99.6	100.9	102.6	104.7	105.7	106.2	104.0	101.6	98.2

2128. SIDELINE

PNL	86.4	87.9	89.6	92.1	92.9	93.9	92.2	90.0	86.1

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3409 CONDITION 3409

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	369.6	359.4	KG/S	167.6	163.0
PRES	25.00IN	0.85BAR	P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	11197.0	17201.6	N	49806.7	76516.3
WIND D			TEMP	(R)	699.8	1261.3	(K)	388.8	700.7	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.037	KG/M3	1.030	0.593	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	975.6	1541.0	M/S	297.4	469.7	W (MODEL)	LB/S	0.7	0.7	KG/S	0.3	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	89.5	90.5	90.4	92.1	93.3	95.1	97.7	100.8	102.5	141.1
.063	90.0	91.0	91.7	93.7	94.8	96.3	98.9	101.4	102.4	141.9
.080	91.8	92.3	93.0	94.9	96.1	98.0	100.1	102.2	102.1	142.9
.100	92.5	92.7	93.3	95.8	96.9	98.5	100.9	102.3	101.4	143.3
.125	92.9	93.7	94.6	96.9	97.6	99.7	101.7	101.9	100.8	143.8
.160	93.9	94.5	95.3	97.9	99.2	101.4	102.4	102.5	100.8	144.8
.200	94.3	95.5	96.1	98.9	100.2	102.1	103.1	102.3	100.6	145.4
.250	94.4	95.3	96.6	98.9	100.3	102.4	102.7	102.4	100.8	145.4
.315	95.0	95.3	96.9	99.2	101.3	103.4	102.6	102.5	100.8	145.9
.400	94.9	95.6	96.5	99.4	101.2	103.2	102.5	102.5	100.7	145.8
.500	94.0	95.0	96.3	99.2	101.0	102.8	102.0	101.8	100.2	145.4
.630	93.7	94.8	96.0	99.0	100.8	102.5	101.5	101.1	99.6	145.0
.800	92.4	93.4	94.8	97.7	99.7	101.1	100.0	99.4	97.9	143.6
1.00	91.8	93.0	94.4	97.2	99.5	100.2	99.1	98.5	97.4	142.9
1.25	90.7	92.0	93.4	95.8	98.0	98.8	97.4	96.5	95.0	141.5
1.60	90.4	91.4	92.8	95.1	96.6	97.6	96.1	94.9	93.2	140.3
2.00	89.7	91.0	92.9	95.9	96.5	96.6	94.9	93.2	91.0	139.8
2.50	88.7	89.6	91.4	93.4	94.6	95.1	92.9	91.6	89.4	138.1
3.15	87.7	88.5	90.1	92.2	93.0	93.3	91.4	90.0	87.9	136.6
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 156.3

OSPL	105.3	106.1	107.3	109.8	111.4	113.1	113.2	113.4	112.4
PNL	112.7	113.6	115.0	117.5	118.7	119.8	118.8	118.6	117.1

200. SIDELINE

PNL	109.4	110.8	112.4	114.7	115.5	115.9	113.8	112.0	108.2

370. SIDELINE

PNL	103.5	104.9	106.5	109.0	109.7	110.0	108.2	106.3	102.4

800. SIDELINE

PNL	95.5	97.0	98.6	101.1	101.9	102.3	100.6	98.7	94.6

2128. SIDELINE

PNL	84.6	86.0	87.4	89.9	91.0	91.7	89.9	87.7	82.9

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20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3410 CONDITION 3410

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	394.9	354.4	KG/S	179.1	160.7
PRES	25.00IN	0.85BAR	P.R.		1.52	1.81		1.52	1.81	THRUST,IDL	LB	12029.0	16893.3	N	53507.3	75144.9
WIND D			TEMP	(R)	704.7	1257.3	(K)	391.5	698.5	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.037	KG/M3	1.023	0.595	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	960.9	1535.0	M/S	299.0	467.9	W (MODEL)	LB/S	0.8	0.7	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	88.3	88.9	88.3	89.5	90.3	91.8	93.8	96.1	97.7	137.4
.063	88.9	89.4	89.8	91.0	91.7	92.9	94.9	96.9	97.8	138.3
.080	90.6	90.8	91.1	92.7	93.2	94.8	96.4	98.1	97.8	139.6
.100	91.1	91.2	91.5	93.4	94.1	95.5	97.1	98.2	97.2	140.1
.125	91.8	92.3	92.8	94.6	94.9	96.5	98.0	98.0	96.3	140.7
.160	92.8	93.0	93.8	95.6	96.6	98.4	98.9	98.7	96.6	141.8
.200	93.9	94.4	94.6	96.9	97.7	99.5	100.0	99.1	96.6	142.8
.250	93.8	94.4	95.4	97.3	98.1	99.8	99.8	98.7	96.4	142.9
.315	94.4	94.5	95.5	97.5	99.0	100.8	99.8	99.0	96.7	143.5
.400	94.4	94.8	95.4	97.6	99.1	100.4	99.5	98.9	96.7	143.4
.500	93.9	94.3	95.5	97.7	99.0	100.3	99.2	98.2	96.1	143.1
.630	93.7	94.6	95.4	97.5	98.9	100.2	98.9	97.7	95.3	142.9
.800	92.6	93.2	94.3	96.4	98.0	98.8	97.4	96.2	93.6	141.7
1.00	91.9	92.9	93.8	96.0	97.7	97.9	96.5	95.3	92.9	141.0
1.25	91.2	91.9	93.0	94.8	96.4	96.6	95.1	93.5	90.8	139.8
1.60	90.7	91.1	92.2	93.9	94.9	95.4	93.5	91.7	89.0	138.6
2.00	90.2	90.9	92.7	94.7	94.5	94.1	92.1	90.2	87.3	138.2
2.50	89.0	89.4	90.5	91.9	92.5	92.6	90.4	88.6	85.9	136.3
3.15	87.9	88.4	89.6	91.1	91.0	91.2	89.2	87.3	84.7	135.1
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPHL = 153.8

	70	80	90	100	110	120	130	140	150
OSPL	104.9	105.4	106.2	108.2	109.3	110.5	110.1	109.7	108.1
PNL	112.6	113.1	114.1	116.0	116.6	117.3	116.1	115.1	113.0

200. SIDELINE

PNL	109.4	110.3	111.5	113.3	113.4	113.3	111.0	108.5	104.1

370. SIDELINE

PNL	103.5	104.4	105.7	107.5	107.6	107.4	105.2	102.8	98.3

800. SIDELINE

PNL	95.5	96.5	97.9	99.6	99.7	99.7	97.6	95.1	90.3

2128. SIDELINE

PNL	84.2	85.3	86.3	88.2	88.8	89.0	86.8	83.9	78.6

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3420 CONDITION 3420

				PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	344.2	450.6	KG/S	156.2	204.4
PRES	25.00IN	0.85BAR	P.R.		1.53	2.47		1.53	2.47	THRUST,IDL	LB	10523.1	26194.2	N	46809.0	116517.0
WIND D			TEMP	(R)	709.5	1273.0	(K)	394.2	707.2	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.063	0.040	KG/M3	1.016	0.637	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	984.3	1872.0	M/S	300.0	570.6	W (MODEL)	LB/S	0.7	0.9	KG/S	0.3	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	91.7	90.8	90.2	91.3	91.3	92.7	95.2	97.3	98.8	138.8
.063	92.7	91.9	92.0	92.8	93.0	94.2	96.4	98.4	99.4	140.0
.080	94.0	93.4	93.4	94.2	94.6	96.1	97.9	99.5	99.9	141.3
.100	95.0	94.0	93.8	95.1	95.5	97.0	99.1	100.3	99.7	142.1
.125	95.6	95.2	95.2	96.3	96.7	98.3	100.3	100.6	99.1	143.0
.160	96.5	96.0	96.2	97.6	98.6	100.5	101.6	101.5	99.7	144.3
.200	97.6	97.3	97.3	99.2	100.0	102.0	102.8	102.1	99.9	145.5
.250	98.1	97.7	98.2	99.9	100.8	102.9	103.1	102.1	100.0	146.0
.315	98.8	98.1	98.7	100.6	102.0	104.1	103.6	102.5	100.7	146.9
.400	99.1	98.8	99.0	101.2	102.4	103.9	103.5	102.7	101.1	147.1
.500	99.7	99.1	99.7	101.8	102.7	104.2	103.7	102.9	101.4	147.4
.630	102.3	100.9	100.8	102.4	103.5	104.3	103.9	103.3	102.2	148.1
.800	106.9	102.6	101.1	102.0	103.0	103.7	103.0	102.4	101.6	148.4
1.00	110.6	106.8	102.6	102.5	103.3	103.2	102.3	102.1	101.7	150.0
1.25	109.3	108.3	105.3	103.0	102.8	102.5	101.7	101.0	100.1	150.3
1.60	106.6	106.5	106.1	104.6	102.9	102.1	100.6	99.6	98.6	149.6
2.00	106.6	104.8	105.1	105.7	104.1	102.5	100.5	99.0	97.6	149.3
2.50	105.6	104.7	104.0	104.3	104.1	102.9	100.4	98.4	96.9	148.8
3.15	104.9	104.1	103.9	103.8	103.2	102.6	100.5	98.6	97.0	148.4
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 159.9

USPL	116.8	115.1	114.0	114.2	114.3	114.8	114.4	113.9	112.8
PNL	126.3	125.2	124.7	124.9	124.7	124.7	123.4	122.3	120.9
200. SIDELINE									
PNL	123.0	122.4	122.0	122.1	121.4	120.6	118.2	115.4	111.6
370. SIDELINE									
PNL	116.9	116.3	116.0	116.1	115.5	114.6	112.1	109.2	105.2
800. SIDELINE									
PNL	108.7	108.1	107.7	107.9	107.3	106.2	103.6	100.4	96.2
2128. SIDELINE									
PNL	96.2	95.8	95.4	95.6	94.6	93.4	91.5	88.6	83.9

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20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=426 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3421 CONDITION 3421

				PRIMARY	FAN		PRIMARY	FAN		PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW LB/S	334.1	435.4	KG/S	151.6	197.5
PRES	25.00IN	0.85BAR	P.R.	1.52	2.51		1.52	2.51	THRUST,IDL LB	10134.8	25568.1	N	45081.5	113732.2
WIND D			TEMP (R)	699.7	1276.7	(K)	388.7	709.3	THRUST,MEA LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO LB/FT3	0.064	0.040	KG/M3	1.030	0.638	AREA (MOD) SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL FPS	976.7	1891.0	M/S	297.7	576.4	W (MODEL) LB/S	0.7	0.9	KG/S	0.3	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	90.2	90.0	89.0	89.7	89.1	90.6	91.5	93.6	96.4	136.3
.063	91.8	90.7	90.5	91.1	90.9	91.6	93.1	95.1	96.8	137.6
.080	93.1	92.6	92.0	92.4	92.4	93.7	95.2	96.6	97.3	139.1
.100	94.3	93.2	92.6	93.4	93.6	94.6	96.5	97.7	97.4	140.1
.125	95.2	94.5	94.2	94.8	94.8	96.1	97.9	98.4	97.1	141.2
.160	96.0	95.2	94.9	96.2	97.0	98.4	99.6	99.4	97.6	142.6
.200	97.3	96.6	96.2	97.9	98.5	99.9	100.7	100.0	97.8	143.8
.250	97.8	97.2	97.4	98.7	99.4	100.9	101.2	100.1	97.9	144.5
.315	98.8	97.8	98.0	99.6	100.6	102.2	101.8	100.6	98.7	145.5
.400	99.3	98.6	98.5	100.2	101.1	102.2	101.7	100.7	99.0	145.8
.500	100.4	99.2	99.4	101.0	101.6	102.5	101.9	100.8	99.4	146.2
.630	104.4	101.5	100.7	101.9	102.3	102.6	102.1	101.2	99.9	147.3
.800	109.1	104.0	101.3	101.7	102.0	102.0	101.2	100.3	99.1	148.4
1.00	111.8	107.9	103.2	102.4	102.3	101.6	100.7	100.0	99.3	150.3
1.25	109.5	108.6	106.0	103.6	102.2	101.2	100.2	99.1	97.9	150.3
1.60	107.3	106.7	106.1	105.1	102.8	101.1	99.6	98.2	96.9	149.6
2.00	107.3	105.7	105.2	105.6	103.8	102.0	100.0	98.0	96.3	149.5
2.50	106.3	105.4	104.6	104.5	103.9	102.6	100.3	98.1	96.4	149.1
3.15	105.5	104.7	104.3	104.2	103.1	102.1	100.7	98.9	97.1	148.7
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 159.5

OSPL	117.7	115.6	114.1	114.0	113.5	113.4	112.8	111.9	110.7
PNL	126.9	125.6	124.9	124.9	124.2	123.7	122.7	121.3	119.8
200. SIDELINE									
PNL	123.6	122.8	122.2	122.1	120.9	119.6	117.4	114.4	110.5
370. SIDELINE									
PNL	117.6	116.8	116.2	116.1	114.9	113.5	111.3	108.2	104.0
800. SIDELINE									
PNL	109.4	108.6	107.8	107.7	106.7	105.2	102.6	99.2	94.5
2128. SIDELINE									
PNL	97.0	96.0	95.3	95.3	93.8	92.2	89.8	86.6	81.8

20034F DBTF JET NOISE TEST COANNULAR NOZ. AR=1.2 CONF. 4 TAPE 4225 10.2049

STAND XARF RIG ID VT=335 TEST DATE 05/11/76 SCALE RATIO 22.5/1 RUN NUMBER 3422 CONDITION 3422

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	6.18	7.54	SQM	0.574	0.701	MASS FLOW	LB/S	364.5	318.9	KG/S	165.3	144.7
PRES	25.00IN	0.85BAR	P.R.		1.51	1.80		1.51	1.80	THRUST,IDL	LB	10849.0	15085.1	N	48258.4	67101.7
WIND D			TEMP	(R)	685.0	1243.3	(K)	380.6	690.7	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.066	0.038	KG/M3	1.050	0.601	AREA (MOD)	SQFT	0.01	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	958.4	1523.0	M/S	292.1	464.2	W (MODEL)	LB/S	0.7	0.6	KG/S	0.3	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	86.2	87.1	84.9	86.3	86.5	87.6	89.9	91.7	92.6	133.5
.063	87.4	87.7	86.7	87.8	87.8	88.7	90.6	92.2	92.7	134.4
.080	89.1	89.2	88.3	89.1	89.2	90.5	92.1	93.2	93.2	135.7
.100	90.1	89.5	89.0	90.0	90.2	91.4	92.9	93.6	92.9	136.4
.125	90.9	90.5	90.4	91.2	91.4	92.6	94.0	94.1	92.5	137.3
.160	91.9	91.5	91.4	92.4	93.2	94.4	95.3	94.8	92.8	138.6
.200	93.3	92.8	92.6	94.0	94.6	95.6	96.1	95.0	92.6	139.6
.250	93.2	93.0	93.5	94.6	95.0	96.1	96.2	94.8	92.2	139.9
.315	94.1	93.1	93.8	95.2	96.1	97.4	96.3	94.7	92.6	140.6
.400	94.1	93.6	93.7	95.3	96.1	97.1	95.7	94.3	92.5	140.5
.500	93.6	93.4	93.9	95.6	96.1	96.8	95.6	93.7	91.5	140.3
.630	93.9	93.7	94.2	95.7	96.3	96.6	95.4	93.5	91.2	140.4
.800	93.2	92.9	93.4	94.8	95.7	95.7	94.4	92.5	89.9	139.6
1.00	92.9	92.9	93.1	94.7	95.6	95.2	93.8	92.1	89.9	139.3
1.25	92.7	92.2	92.7	93.7	94.3	94.2	92.8	90.8	88.3	138.4
1.60	92.3	92.1	92.3	93.0	93.1	93.1	91.7	89.6	87.3	137.6
2.00	92.6	92.5	93.0	93.8	93.1	92.3	91.1	89.2	86.8	137.7
2.50	91.8	91.1	91.7	92.0	91.8	91.4	89.9	88.1	86.1	136.5
3.15	91.9	90.9	91.6	91.7	91.1	90.7	89.6	88.1	86.5	136.2
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 151.3

OSPL	105.1	104.7	105.0	106.1	106.6	107.2	106.7	105.7	104.1
PNL	114.5	113.9	114.3	115.0	115.0	115.1	114.2	112.9	111.1

200. SIDELINE

PNL	111.2	111.1	111.6	112.2	111.7	111.0	109.1	106.0	101.7

370. SIDELINE

PNL	105.2	105.1	105.7	106.2	105.7	105.0	103.0	99.8	95.3

800. SIDELINE

PNL	96.9	96.9	97.4	98.2	97.7	96.9	94.6	91.3	86.7

2128. SIDELINE

PNL	84.5	84.9	85.4	86.2	86.1	85.7	83.4	79.9	74.7

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Related Aerodynamic Data

A5-1 EXHAUST PLUME VELOCITY AND TEMPERATURE SURVEYS

Configuration 1 CONVERGENT NOZZLE

Run 3617

R/R Exit	0	.156	.312	.468	.624	.688	.750	.812	.874	.936
T_T Exit (°F)	804	814	786	695	434	333	220	133	74	53
V Exit (fps)	1866	1874	1860	1771	1435	1159	817	557	372	318

Run 3626

R/R Exit	0	.156	.312	.468	.624	.688	.750	.812	.874	.936
T_T Exit (°F)	801	797	777	716	481	375	268	184	104	64
V Exit (fps)	1894	1890	1875	1813	1536	1250	922	640	384	227

Run 3627

R/R Exit	0	.156	.312	.468	.624	.688	.750	.812	.874	.936
T_T Exit (°F)	820	809	790	731	510	399	300	202	141	91
V Exit (fps)	1892	1884	1873	1816	1570	1289	951	620	396	236

Run 3628

R/R Exit	0	.156	.312	.468	.624	.688	.750	.812	.874	.936
T_T Exit (fps)	806	800	786	722	506	410	312	230	160	112
V Exit (fps)	1884	1876	1867	1803	1541	1255	921	619	377	196

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Configuration 2 0.75 AR COANNULAR NOZZLE

Run 3362

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	353	572	688	688	650	585	503	420	275	192
V Exit (fps)	1055	1199	1511	1593	1576	1464	1227	965	532	256

Run 3364

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	998	1097	1332	1476	1555	1484	1282	1012	498	215
V Exit (fps)										

Run 3372

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	443	623	651	610	549	477	350	301	186	146
V Exit (fps)										

Run 3373

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (fps)	402	610	680	654	576	519	442	357	222	166
V Exit (fps)	1064	1281	1586	1601	1509	1339	1121	889	529	353

Configuration 2 0.75 AR COANNULAR NOZZLE
FAN FLOW ONLY

Run 3377

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	704	764	681	613	542	464	380	305	201	169
V Exit (fps)	1115	1489	1603	1502	1353	1157	932	732	439	353

Run 3382

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	818	815	687	618	538	460	382	315	218	183
V Exit (fps)	1376	1640	1623	1478	1274	1056	816	624	336	208

Run 3383

R/R Exit	0	.250	.438	.500	.563	.625	.688	.750	.874	1.00
T_T Exit (°F)	781	778	651	558	510	434	372	308	239	201
V Exit (fps)	1336	1550	1552	1379	1156	879	661	474	218	82

Run

R/R Exit										
T_T Exit (fps)										
V Exit (fps)										

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Configuration 4 1.2 AR COANNULAR NOZZLE

Run 3404

R/R Exit	0	.313	.375	.438	.500	.563	.625	.689	.812	1.00
T_T Exit (°F)	360	665	683	720	716	679	597	576	346	194
V Exit (fps)	1047	1289	1412	1566	1675	1672	1495	1254	1085	256

Run 3407

R/R Exit	0	.313	.375	.438	.500	.563	.625	.689	.812	1.00
T_T Exit (°F)	335	570	623	662	668	629	567	458	343	209
V Exit (fps)	1021	1208	1332	1480	1615	1626	1477	1181	666	171

Run 3420

R/R Exit	0	.313	.375	.438	.500	.563	.625	.689	.812	1.00
T_T Exit (°F)	450	702	729	721	677	613	536	438	286	178
V Exit (fps)	1101	1472	1604	1671	1660	1532	1333	1187	657	356

Run 3421

R/R Exit	0	.313	.375	.438	.500	.563	.625	.689	.812	1.00
T_T Exit (fps)	480	703	718	701	651	584	505	414	253	169
V Exit (fps)	1146	1528	1627	1668	1624	1477	1279	1053	652	415

Configuration 3 0.75 AR COANNULAR NOZZLE WITH EJECTOR

Run 3540

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	201	215	305	448	473	453	345	232	118	56
V Exit (fps)	844	899	1007	1085	1140	1135	799	424	198	60

Run 3542

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	182	192	280	418	454	443	325	200	85	44
V Exit (fps)	847	879	994	1076	1135	1167	870	662	259	188

Run 3543

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	201	209	260	346	367	356	280	185	82	41
V Exit (fps)	869	892	973	945	872	793	571	384	233	184

Run 3545

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (fps)	204	215	273	370	393	379	303	217	112	57
V Exit (fps)	860	907	980	945	859	747	495	282	150	84

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Configuration 3 0.75 AR COANNULAR NOZZLE WITH EJECTOR

Run 3546

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	201	223	393	525	554	530	385	235	68	42
V Exit (fps)	869	899	1066.	1381	1534	1631	1297	798	294	296

Run 3547

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	218	248	435	548	552	513	340	195	56	42
V Exit (fps)	915	935	1118	1459	1596	1627	1192	718	359	390

Run 3548

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	218	280	480	520	482	410	250	120	48	41
V Exit (fps)	891	983	1177	1441	1450	1305	847	738	362	390

Run 3549

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (fps)	215	273	483	529	490	425	268	144	55	43
V Exit (fps)	880	980	1178	1455	1462	1320	849	[illegible]	279	315

Configuration 3 0.75 AR COANNULAR NOZZLE WITH EJECTOR

Run 3550

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	205	225	355	455	452	409	271	144	57	44
V Exit (fps)	869	916	1035	1111	1158	1102	749	584	256	299

Run 3551

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	183	192	257	312	312	295	225	138	58	43
V Exit (fps)	866	902	973	872	794	705	513	371	264	304

Run 3556

R/R Exit	0	188	.375	.500	.563	.625	.750	.875	1.0	1.125
T_T Exit (°F)	194	205	271	310	302	280	205	116	48	42
V Exit (fps)	879	901	972	862	764	672	502	389	342	382

Run 3557

R/R Exit	0	.188	.375	.500	.563	.625	.750	.875	1.0	1125
T_T Exit (fps)	203	223	349	432	421	380	245	128	50	41
V Exit (fps)	886	922	1024	1106	1131	1075	710	475	344	379

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A5-2 EJECTOR INLET TOTAL PRESSURES AND SURFACE STATIC PRESSURES

Ejector Inlet Total Pressures - Pt/Pamb
0.75 AR Coannular Nozzle with Ejector

Run #	13	14	15	16	17	18	← Probe #
↓	.792	.823	.854	.885	.916	.947	← R/R lip
3534	.9980	1.0010	1.0016	1.0016	.9996	.8965	
3536	.9883	.9918	.9945	.9959	.9965	.9972	
3537	.9869	.9904	.9924	.9938	.9952	.9959	
3539	.9993	.9986	.9979	.9979	.9966	.9066	
3540	1.0042	1.0042	1.0042	1.0035	1.0028	.9526	
3542	.9882	.9930	.9951	.9965	.9979	.9986	
3543	.9861	.9902	.9930	.9944	.9958	.9972	
3545	1.0028	1.0021	1.0021	1.0014	1.0014	.9763	
3546	.9579	.9737	.9807	.9834	.9862	.9896	
3547	.9364	.9592	.9703	.9744	.9800	.9855	
3548	.9365	.9579	.9662	.9744	.9793	.9862	
3549	.9599	.9758	.9807	.9841	.9869	.9910	
3550	.9592	.9731	.9793	.9834	.9869	.9903	
3551	.9606	.9710	.9786	.9820	.9855	.9903	
3556	.9351	.9530	.9641	.9710	.9772	.9841	
3557	.9351	.9565	.9662	.9731	.9779	.9841	

Surface Static Pressures - P/Pamb
0.75 AR Coannular Nozzle with Ejector

Run #	1	2	3	4	5 ①	6	7 ①	8 ①	9 ①	10	11 ①	12	Tap #
	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948	X/L
3534	1.006	1.002	1.000	.985	.9275	.8732	.8732	.8752	.8993	.8993	.9171	.9845	
3536	1.0618	.9972	.9937	.9803	.9838	.9248	1.1820	.9965	.9642	.9297	1.2628	1.1229	
3537	1.0358	.9972	.9944	.9852	.9838	.9424	1.0984	.9938	.9726	.9473	1.1476	1.0899	
3539	1.0085	1.0007	.9979	.9863	.9354	.8984	.9464	.9416	1.1813	.9251	1.1477	1.0769	
3540	1.0553	1.0049	1.0035	.9937	1.1559	.9436	1.0272	.9749	.9784	.9575	1.062	1.0571	
3542	1.0062	.9986	.9986	.9929	1.1618	.9729	1.0634	1.005	1.0021	.9722	1.0791	1.0706	
3543	1.0356	.9986	.9986	.9964	1.0756	.9893	1.0228	1.0007	1.000	.9886	1.0221	1.0242	
3545	1.0439	1.0021	1.0014	.9965	1.0439	.9735	.9972	.9875	.9882	.9798	1.0132	1.0188	
3546	1.0954	.9904	.9912	.9845	1.3422	.9513	1.2426	1.0361	1.0243	.9417	1.2942	1.2006	
3547	1.0121	.9908	.9923	.9908	1.3591	.9640	1.2496	1.0559	1.0436	.9548	1.3086	1.2159	
3548	1.0339	.9916	.9931	.9939	1.2557	.9786	1.1593	1.0368	1.0329	.9701	1.1830	1.1462	
3549	1.0431	.9934	.9934	.9904	1.2353	.9661	1.1445	1.0236	1.0213	.9609	1.1667	1.2094	
3550	1.0634	.9956	.9956	.9956	1.1283	.9830	1.0745	1.0140	1.0118	.9808	1.0804	1.0730	
3551	1.0236	.9985	1.0007	1.0022	1.0656	.9985	1.0369	1.0125	1.0103	.9963	1.0310	1.0324	
3556	1.0153	1.0031	1.00	1.0069	1.0691	1.0061	1.0475	1.0191	1.0176	1.0031	1.0352	1.0368	
3557	1.0628	.9923	.9962	.9992	1.1478	.9954	1.0858	1.0207	1.0199	.9862	1.085	1.0781	

① DATA QUESTIONABLE DUE TO INSTRUMENTATION LEAKS

ORIGINAL PAGE IS OF POOR QUALITY

AERODYNAMIC DATA

B-1 " THRUST AND FLOW, COEFFICIENTS

CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VC
1	20/02	1.29		.985	.941		.0
1	20/03	1.29		.987	.942		.0
1	20/04	1.52		.990	.952		.0
1	20/05	1.52		.990	.952		.0
1	20/06	1.81		.990	.965		.0
1	20/07	1.81		.989	.966		.0
1	20/08	2.13		.989	.977		.0
1	20/09	2.13		.988	.976		.0
1	20/10	2.47		.988	.978		.0
1	20/11	2.47		.989	.978		.0
1	20/12	2.80		.986	.978		.0
1	20/13	2.81		.986	.978		.0
1	20/14	3.15		.980	.980		.0
1	20/15	3.15		.980	.979		.0
1	20/16	3.48		.977	.979		.0
1	20/17	3.48		.976	.979		.0
1	22/03	2.69		.982	.977		203.8
1	22/04	1.30		.978	.936		203.6
1	22/05	1.30		.979	.938		203.7
1	22/06	1.46		.982	.945		202.9
1	22/07	1.46		.984	.944		202.3
1	22/08	1.71		.981	.958		202.5
1	22/09	1.71		.980	.957		201.8
1	22/10	2.03		.982	.973		200.2
1	22/11	2.03		.980	.974		199.7
1	22/12	2.44		.983	.977		199.3
1	22/13	2.44		.983	.976		199.6
1	22/14	2.83		.981	.978		200.1
1	22/15	2.83		.980	.978		200.7
1	22/16	3.27		.977	.979		199.4
1	22/17	3.28		.976	.979		199.8
1	22/18	3.45		.975	.978		200.4
1	22/19	3.45		.974	.978		200.7
1	22/20	1.48		.981	.947		201.8
1	22/21	1.48		.977	.947		201.2
1	23/02	1.74		.985	.958		351.1
1	23/03	1.74		.984	.957		347.1
1	23/04	1.74		.983	.956		336.4
1	23/05	3.53		.974	.977		339.1
1	23/06	1.38		.978	.930		338.9
1	23/07	1.38		.980	.933		338.8
1	23/08	1.57		.980	.947		338.7
1	23/09	1.57		.979	.947		338.5
1	23/10	1.81		.982	.962		338.2
1	23/11	1.81		.981	.960		338.3
1	23/12	2.08		.984	.973		339.5
1	23/13	2.08		.982	.975		339.6
1	23/14	2.47		.983	.977		339.0
1	23/15	2.47		.983	.977		338.6
1	23/16	2.75		.981	.978		338.8
1	23/17	2.75		.980	.978		338.5
1	23/18	3.22		.977	.978		337.7
1	23/19	3.22		.977	.978		338.6
1	23/20	3.53		.974	.978		338.6
1	23/21	3.53		.974	.978		339.5
1	24/02	2.02		.984	.971		419.9
1	24/03	3.67		.972	.978		423.4

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CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
1	24/04	1.33		.982	.920		424.9
1	24/05	1.33		.980	.920		424.3
1	24/06	1.52		.988	.939		425.0
1	24/07	1.52		.986	.938		424.4
1	24/08	1.76		.983	.956		424.9
1	24/09	1.76		.981	.955		425.2
1	24/10	2.08		.982	.973		424.1
1	24/11	2.08		.982	.973		424.2
1	24/12	2.49		.984	.975		424.1
1	24/13	2.49		.983	.976		424.5
1	24/15	2.76		.981	.977		424.7
1	24/16	2.75		.980	.977		424.4
1	24/17	3.15		.978	.977		424.6
1	24/18	3.15		.977	.977		424.3
1	24/19	3.50		.973	.979		424.6
1	24/20	3.50		.974	.978		424.6
1	24/21	1.53		.986	.939		425.0
1	24/22	1.53		.985	.939		424.5
1	24/23	1.52		.987	.940		424.8
1	24/24	1.32		.982	.915		424.8
CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
2	39/02	1.54	1.53	.956	1.015	.940	.0
2	39/03	1.54	1.52	.949	1.016	.940	197.7
2	39/04	1.54	1.52	.941	1.015	.941	338.6
2	39/05	1.54	1.52	.940	1.013	.941	421.7
2	39/06	1.54	1.72	.943	1.012	.951	422.3
2	40/02	1.54	1.73	.959	1.012	.953	.0
2	40/03	1.53	1.72	.954	1.014	.953	198.0
2	40/04	1.54	1.72	.947	1.014	.955	339.5
2	40/05	1.54	1.72	.944	1.013	.954	422.1
2	40/06	1.54	2.09	.947	1.015	.971	422.5
2	40/07	1.54	2.09	.947	1.017	.973	339.5
2	40/08	1.54	2.10	.955	1.017	.973	199.7
2	40/09	1.54	2.10	.959	1.017	.973	.0
2	41/02	1.54	2.40	.961	1.014	.973	.0
2	41/03	1.54	2.39	.955	1.013	.972	199.7
2	41/04	1.54	2.39	.949	1.015	.971	340.4
2	41/05	1.54	2.39	.949	1.012	.972	421.7
2	41/06	1.54	2.79	.962	.993	.974	421.7
2	41/07	1.54	2.79	.963	.993	.974	421.2
2	42/02	1.55	2.86	.974	1.009	.974	.0
2	42/03	1.48	2.71	.972	1.015	.973	199.3
2	42/04	1.48	2.69	.965	1.013	.974	340.3
2	42/05	1.48	2.67	.961	1.000	.973	422.6
2	42/06	1.52	3.46	.954	1.012	.974	422.1
2	42/07	1.51	3.20	.961	.991	.973	421.9
2	42/08	1.52	3.28	.962	1.008	.974	339.7
2	42/09	1.52	3.29	.966	1.015	.975	198.8
2	42/10	1.48	3.19	.973	1.017	.975	.0
2	42/11	1.52	3.31	.966	1.015	.974	.0
2	43/02	1.48	2.49	.967	1.028	.974	.0
2	43/03	1.52	2.56	.969	1.016	.973	.0
2	43/04	1.52	2.55	.964	1.017	.973	200.3
2	43/05	1.52	2.55	.959	1.015	.972	340.6
2	43/06	1.52	2.55	.955	1.018	.973	422.5
2	43/07	1.52	2.96	.965	.978	.973	423.2
2	43/08	1.52	3.02	.965	.992	.973	340.5

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CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
2	43/09	1.53	3.06	.970	1.006	.974	199.8
2	43/10	1.53	3.09	.972	1.011	.974	.0
2	46/02	1.54	1.53	.957	1.018	.942	.0
2	46/03	1.53	1.53	.949	1.019	.940	199.3
2	46/04	1.54	1.53	.945	1.016	.944	340.3
2	46/05	1.54	1.53	.941	1.018	.944	423.3
2	47/02	1.53	1.30	.953	1.024	.929	.0
2	47/03	1.53	1.30	.945	1.023	.929	199.2
2	47/04	1.53	1.30	.941	1.022	.935	340.7
2	47/05	1.53	1.30	.936	1.022	.933	423.5
2	64/02	1.52	3.21	.968	1.013	.971	.0
2	64/03	1.52	3.19	.967	1.009	.973	199.5
2	64/04	1.52	3.13	.964	.944	.972	341.8
2	64/05	1.52	3.09	.961	.981	.972	424.2
2	64/06	1.52	2.83	.962	.987	.972	423.9
2	65/02	1.52	2.92	.971	1.009	.973	.0
2	65/03	1.52	2.90	.969	1.004	.973	199.7
2	65/04	1.52	2.85	.963	.995	.973	341.5
2	65/06	1.52	2.18	.946	1.022	.972	423.2
2	65/07	1.51	2.18	.950	1.021	.970	341.7
2	65/08	1.52	2.18	.953	1.020	.971	200.1
2	65/09	1.52	2.18	.959	1.021	.971	.0
2	66/02	1.52	1.51	.959	1.023	.938	.0
2	66/03	1.52	1.50	.953	1.021	.937	199.7
2	66/04	1.51	1.50	.946	1.023	.937	341.2
2	66/05	1.51	1.50	.943	1.022	.937	423.5
2	67/02	1.35	1.00	.978	1.001	.000	.0
2	67/03	1.92	1.00	.963	.990	.000	.0
2	67/04	2.49	1.00	.977	.992	.000	.0
2	67/05	3.06	1.00	.980	.995	.000	.0
2	67/06	3.63	1.00	.979	.994	.000	.0
2	67/07	3.36	1.00	.981	.993	.000	.0
2	67/08	2.79	1.00	.979	.993	.000	.0
2	67/09	2.26	1.00	.972	.991	.000	.0
2	67/10	1.63	1.00	.945	1.004	.000	.0
2	67/11	1.45	1.00	.948	1.050	.000	.0
2	68/02	.99	1.12	.892	.000	.909	.0
2	68/03	.98	1.30	.897	.000	.927	.0
2	68/04	.97	1.53	.910	.000	.937	.0
2	68/05	.95	2.13	.919	.000	.971	.0
2	68/06	.94	2.81	.930	.000	.973	.0
2	68/07	.93	3.50	.926	.000	.976	.0
2	68/08	.94	3.17	.929	.000	.976	.0
2	68/09	.92	2.46	.916	.000	.973	.0
2	68/10	.96	1.80	.917	.000	.956	.0
2	68/11	.92	2.46	.915	.000	.973	.0
2	68/12	.93	2.64	.921	.000	.973	.0
2	68/13	.94	2.99	.931	.000	.974	.0
CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
3	49/02	1.53	1.28	.953	1.024	.963	.0
3	49/03	1.53	1.29	.946	1.025	.950	200.7
3	49/04	1.54	1.30	.932	1.019	.934	342.8
3	49/05	1.53	1.30	.924	1.021	.973	425.0
3	49/06	1.53	1.53	.928	1.019	.950	426.2
3	50/02	1.53	1.51	.960	1.020	.970	.0
3	50/03	1.52	1.52	.946	1.020	.959	201.3
3	50/04	1.53	1.53	.934	1.018	.953	342.9

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CONFIG NO.	RUN/PT	PTF/PA	PTF/PA	CF	CDP	CDF	VO
3	50/05	1.53	1.53	.930	1.017	.946	425.8
3	50/06	1.53	1.80	.933	1.015	.966	426.2
3	51/02	1.53	1.80	.958	1.018	.976	.0
3	51/03	1.53	1.80	.950	1.017	.973	200.9
3	51/04	1.53	1.81	.929	1.015	.970	343.2
3	51/05	1.53	1.80	.922	1.015	.967	425.7
3	53/02	1.56	2.27	.957	1.014	.982	.0
3	53/03	1.53	2.23	.956	1.022	.981	.0
3	53/04	1.52	2.21	.952	1.021	.981	199.8
3	53/05	1.46	2.12	.946	1.040	.982	341.3
3	53/06	1.52	2.21	.936	1.020	.981	424.3
3	53/07	1.52	2.21	.944	1.021	.981	342.2
3	53/08	1.52	2.45	.943	1.018	.979	342.7
3	54/02	1.52	2.47	.964	1.015	.980	.0
3	54/03	1.52	2.46	.954	1.015	.981	200.2
3	54/04	1.52	2.45	.944	1.019	.980	342.0
3	54/05	1.52	2.45	.940	1.017	.980	426.0
3	54/06	1.52	2.78	.956	1.009	.981	426.3
3	55/02	1.52	2.80	.972	1.014	.981	.0
3	55/03	1.52	2.79	.969	1.017	.981	201.4
3	55/04	1.52	2.78	.961	1.012	.980	342.4
3	55/05	1.52	2.76	.958	1.009	.981	425.5
3	55/06	1.52	3.18	.956	1.007	.981	426.3
3	56/02	1.52	3.20	.965	1.014	.982	.0
3	56/03	1.52	3.21	.960	1.012	.982	199.9
3	56/04	1.52	3.19	.958	1.015	.981	342.5
3	56/05	1.52	3.18	.957	1.011	.981	425.8
3	56/06	1.52	2.87	.958	1.001	.980	425.5
3	56/07	1.52	2.94	.958	.999	.980	427.4
3	57/02	1.52	2.99	.968	1.014	.982	.0
3	57/03	1.52	3.00	.967	1.015	.980	201.2
3	57/04	1.52	2.96	.965	1.006	.980	342.7
3	57/05	1.52	2.93	.959	.998	.980	426.4
3	57/06	1.52	2.61	.948	1.016	.980	426.7
3	58/02	1.52	2.63	.970	1.016	.981	.0
3	58/03	1.52	2.62	.963	1.016	.982	200.7
3	58/04	1.52	2.61	.953	1.017	.982	342.5
3	58/05	1.52	2.61	.948	1.017	.980	426.0
3	58/06	1.52	2.20	.937	1.019	.979	425.7
3	58/07	1.51	2.20	.942	1.023	.981	343.0
3	58/08	1.52	2.21	.950	1.024	.980	200.5
3	58/09	1.52	2.22	.958	1.022	.981	.0
3	58/10	1.51	1.52	.957	1.022	.968	.0
3	60/02	1.52	1.52	.960	1.020	.966	.0
3	60/03	1.52	1.53	.950	1.021	.957	199.2
3	60/04	1.52	1.54	.938	1.022	.952	342.3
3	60/05	1.51	1.53	.936	1.020	.946	424.8
3	61/02	1.52	1.53	.959	1.021	.964	.0
3	61/03	1.51	1.53	.936	1.021	.947	425.1
3	61/04	1.52	2.19	.936	1.020	.980	424.6
3	61/05	1.52	2.19	.943	1.021	.979	343.3
3	61/06	1.51	2.19	.953	1.022	.980	201.1
3	61/07	1.52	2.19	.957	1.022	.980	.0
3	62/02	1.52	2.63	.971	1.017	.982	.0
3	62/03	1.52	2.62	.963	1.019	.982	200.6
3	62/04	1.52	2.62	.954	1.020	.982	342.2
3	62/05	1.52	2.62	.949	1.019	.980	425.0

CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
3	62/06	1.52	3.13	.957	1.008	.982	425.4
3	62/07	1.52	3.16	.960	1.014	.982	342.9
3	62/08	1.52	3.17	.962	1.016	.983	200.5
3	62/09	1.52	3.17	.965	1.016	.983	.0
CONFIG NO.	RUN/PT	PTP/PA	PTF/PA	CF	CDP	CDF	VO
4	27/02	1.52	1.29	.964	1.020	.904	.0
4	27/03	1.52	1.29	.960	1.021	.911	198.7
4	27/04	1.51	1.29	.948	1.022	.906	337.4
4	27/05	1.51	1.28	.938	1.024	.904	423.9
4	29/02	1.53	1.30	.942	1.021	.909	.0
4	29/03	1.51	1.29	.941	1.024	.907	198.8
4	29/04	1.51	1.29	.937	1.023	.909	336.4
4	29/05	1.51	1.29	.932	1.022	.907	419.8
4	29/06	1.51	1.29	.935	1.023	.908	337.3
4	29/07	1.52	1.29	.940	1.022	.906	201.1
4	29/08	1.51	1.29	.931	1.024	.906	419.5
4	29/09	1.51	1.29	.948	1.023	.905	.0
4	29/01	1.00	1.00	.943	.455	.705	.0
4	30/02	1.52	1.30	.949	1.022	.909	.0
4	30/03	1.52	1.29	.942	1.023	.912	200.6
4	30/04	1.52	1.29	.937	1.022	.911	336.3
4	30/05	1.51	1.29	.931	1.026	.911	419.4
4	31/02	1.52	1.54	.963	1.020	.936	.0
4	31/03	1.52	1.54	.952	1.020	.936	200.3
4	31/04	1.54	1.55	.943	1.012	.937	341.7
4	31/05	1.54	1.55	.941	1.011	.936	422.5
4	32/02	1.54	1.84	.967	1.010	.961	.0
4	33/03	1.54	A.84	.962	1.008	.961	199.6
4	33/04	1.54	1.83	.954	1.010	.960	340.9
4	33/05	1.54	1.83	.952	1.009	.959	423.5
4	34/02	1.54	2.57	.969	1.007	.979	.0
4	34/03	1.54	2.57	.968	1.006	.979	200.5
4	34/04	1.54	2.56	.966	1.005	.978	340.3
4	34/05	1.54	2.56	.964	1.003	.978	422.7
4	35/02	1.54	3.21	.960	1.003	.984	.0
4	35/03	1.54	3.20	.955	1.003	.984	200.6
4	35/04	1.54	3.20	.954	1.000	.983	340.2
4	35/05	1.54	3.19	.952	1.003	.983	422.4
4	35/06	1.54	2.26	.967	1.002	.980	422.0
4	35/07	1.54	2.27	.969	1.005	.980	340.2
4	35/08	1.54	2.28	.974	1.008	.981	200.5
4	35/09	1.54	2.28	.976	1.009	.981	.0
4	36/02	1.54	2.28	.975	1.006	.981	.0
4	36/03	1.54	2.27	.975	1.008	.980	199.5
4	36/04	1.54	2.27	.970	1.002	.979	340.0
4	36/05	1.54	2.26	.967	.999	.979	422.0
4	36/06	1.54	3.01	.954	1.002	.982	422.0
4	36/07	1.54	2.77	.959	1.002	.982	422.7
4	36/08	1.54	2.76	.961	1.004	.982	340.7
4	36/09	1.54	2.77	.963	1.004	.982	199.8
4	36/10	1.54	2.78	.968	1.005	.982	.0
4	36/11	1.54	1.30	.955	1.018	.907	.0
4	36/12	1.54	1.29	.940	1.018	.912	339.7
4	36/13	1.53	1.53	.949	1.015	.936	340.4

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B-2 STATIC PRESSURES

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CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/02
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA 1.000 1.000 1.001 1.000 1.000  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/03
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA 1.000 1.000 1.001  .999 1.000 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/04
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999 1.000 1.001 1.000 1.000  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/05
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA 1.000 1.000 1.001 1.000 1.000  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/06
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.001 1.000 1.000  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/07
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999 1.000 1.002 1.000  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/08
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.001  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/09
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999 1.000 1.002  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/10
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA 1.000  .999 1.002  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/11
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA 1.000 1.000 1.003 1.000  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/12
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.002  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/13
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.002  .999  .999  .998
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/14
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.003  .999  .999  .998
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/15
TAP   1      2      3      4      5      6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.004 1.000  .999  .998
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CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/16
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .999  .999 1.003  .998  .999  .998
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   20/17
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .998  .998 1.003  .999  .998  .998
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/03
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.023  .998  .999 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/04
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .998 1.023 1.000 1.001 1.002
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/05
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .998 1.023  .999 1.000 1.002
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/06
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .997 1.022  .999 1.001 1.002
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/07
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .998 1.022  .999 1.000 1.001
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/08
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .998 1.023 1.000 1.000 1.001
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/09
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.023  .999 1.000 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/10
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .997 1.021  .998 1.000 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/11
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .998 1.022  .999 1.000 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/12
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .997 1.022  .999 1.000 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/13
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .997 1.022  .998  .999 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/14
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .998  .999 1.000
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CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/15
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .999  .999 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/16
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .997 1.022  .998  .999 1.000
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/17
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .998  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/18
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/19
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .999  .999  .999
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/20
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .996  .997 1.022  .999 1.000 1.001
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   22/21
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .997  .996 1.023 1.000 1.000 1.001
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/02
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .991  .994 1.069 1.000 1.003 1.007
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/03
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .991  .994 1.068 1.000 1.003 1.007
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/04
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .992  .995 1.064 1.000 1.003 1.006
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/05
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .991  .994 1.065 1.000 1.003 1.006
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/06
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .992  .995 1.065 1.001 1.004 1.008
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/07
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .992  .996 1.066 1.000 1.004 1.008
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   23/08
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .992  .994 1.065  .999 1.003 1.007
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CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/09

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.993	.996	1.066	1.000	1.003	1.008

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/10

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.992	.994	1.065	1.000	1.003	1.007

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/11

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.992	.995	1.065	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/12

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/13

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.995	1.066	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/14

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.002	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/15

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.002	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/16

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.992	.994	1.065	.999	1.002	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/17

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.002	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/18

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.064	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/19

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.002	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/20

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.995	1.066	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 23/21

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.991	.994	1.065	1.000	1.003	1.006

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/02

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.987	.992	1.102	1.000	1.006	1.011

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CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/03
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.104 1.001 1.007 1.013
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/04
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .988  .992 1.105 1.002 1.007 1.014
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/05
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .988  .993 1.105 1.002 1.008 1.014
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/06
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .988  .993 1.105 1.001 1.007 1.013
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/07
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .988  .993 1.105 1.001 1.007 1.013
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/08
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .993 1.105 1.001 1.006 1.013
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/09
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.001 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/10
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.104 1.000 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/11
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.001 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/12
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.104 1.000 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/13
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.001 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/15
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.000 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/16
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.001 1.006 1.012
CONFIG  1,  MIXED FLOW  CONVERGENT NOZZLE          RUN/PT   24/17
TAP   1     2     3     4     5     6
X/L  -.721 -.550 -.413 -.303 -.183 -.061
P/PA  .987  .992 1.105 1.001 1.007 1.012
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CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/18

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.987	.992	1.104	1.001	1.006	1.012

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/19

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.987	.992	1.104	1.001	1.007	1.013

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/20

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.987	.992	1.104	1.001	1.007	1.013

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/21

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.988	.993	1.106	1.002	1.007	1.013

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/22

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.987	.992	1.104	1.000	1.007	1.013

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/23

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.988	.993	1.105	1.001	1.007	1.013

CONFIG 1, MIXED FLOW CONVERGENT NOZZLE RUN/PT 24/24

TAP	1	2	3	4	5	6
X/L	-.721	-.550	-.413	-.303	-.183	-.061
P/PA	.988	.993	1.105	1.002	1.008	1.014

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 39/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	1.000	1.000	1.002	1.000	.998	.999

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 39/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.998	1.022	.998	.995	.994

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 39/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.994	1.006	.998	.994	.992

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 39/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.991	1.103	.997	.994	.992

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 39/06

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.991	1.103	.997	.993	.990

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 40/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	1.000	1.000	1.001	1.000	.998	.998

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 40/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.998	1.022	.998	.994	.993

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CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/04
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .994 1.065  .997  .993  .991
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/05
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .991 1.103  .997  .993  .990
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/06
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .991 1.104  .996  .991  .986
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/07
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .993 1.065  .994  .990  .986
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/08
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .996  .992  .991
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   40/09
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999 1.000 1.001  .998  .997  .997
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/02
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999  .999 1.001  .998  .997  .997
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/03
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .995  .997 1.022  .996  .992  .990
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/04
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .988  .993 1.065  .996  .991  .986
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/05
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .991 1.103  .995  .990  .984
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/06
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .990 1.103  .994  .988  .980
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   41/07
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .990 1.103  .995  .988  .980
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   42/02
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999  .999 1.002  .999  .996  .996
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   42/03
TAP   1      2      3      4      5      6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .996  .992  .990
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CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.988	.993	1.365	.995	.990	.984

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.981	.990	1.104	.995	.989	.981

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/06

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.981	.990	1.104	.994	.988	.978

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/07

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.104	.994	.987	.979

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/08

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.993	1.065	.994	.989	.982

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/09

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.995	.996	1.022	.995	.991	.987

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/10

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.999	1.002	.996	.995	.995

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 42/11

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.999	1.002	.998	.996	.996

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	1.000	1.002	.999	.997	.997

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	1.000	1.000	1.002	.998	.997	.997

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.995	.997	1.023	.997	.993	.990

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.993	1.065	.990	.991	.986

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/06

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.104	.990	.990	.983

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 43/07

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.104	.993	.987	.979

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CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   43/08
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .988  .993 1.065  .993  .989  .982
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   43/09
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .995  .997 1.022  .996  .991  .988
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   43/10
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .999 1.002  .998  .996  .995
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   46/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.001 1.000  .998  .998
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   46/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .998  .995  .994
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   46/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .995 1.066  .998  .994  .992
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   46/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .983  .992 1.104  .998  .994  .992
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   47/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.001 1.000  .999  .998
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   47/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .998 1.022  .999  .997  .996
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   47/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .994 1.065  .998  .996  .995
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   47/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .983  .992 1.103  .998  .996  .996
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   64/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999  .999 1.002 1.000  .996  .995
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   64/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .996  .992  .988
CONFIG  2,  0.75  AF/AP CUANNULAR  NOZZLE          RUN/PT   64/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .994 1.066  .996  .990  .982
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CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   64/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .982  .990 1.003  .995  .986  .978
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   64/06
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .983  .991 1.103  .994  .986  .979
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999  .996 1.002 1.001  .997  .996
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .996  .993  .989
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .993 1.065  .996  .989  .984
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/06
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .983  .991 1.103  .995  .991  .985
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/07
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .994 1.065  .996  .991  .987
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/08
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .998 1.022  .997  .994  .991
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   65/09
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.001  .998  .996  .996
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   66/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.001 1.000  .999  .999
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   66/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .998 1.022  .997  .996  .995
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   66/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .990  .995 1.065  .998  .994  .993
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   66/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .984  .992 1.103  .998  .995  .992
CONFIG  2,  0.75  AF/AP CCANNULAR  NOZZLE          RUN/PT   67/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.000 -.000  .000 -.000 -.001 -.001
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CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.001 -.001  .000 -.001 -.001 -.002
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.002 -.002  .000 -.002 -.003 -.003
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.003 -.003  .000 -.002 -.003 -.003
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/06
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.003 -.003  .000 -.003 -.004 -.004
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/07
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.003 -.003  .000 -.003 -.003 -.004
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/08
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.003 -.[illegible]  .000 -.002 -.003 -.003
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/09
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.002 -.001 -.000 -.002 -.003 -.002
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/10
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.001 -.001  .000 -.001 -.002 -.001
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   67/11
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.000 -.000  .000 -.000 -.001 -.001
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   68/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .000  .000  .000  .000  .000  .000
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   68/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.000  .000  .000  .000 -.001 -.001
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   68/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.001 -.001 -.001 -.001 -.001 -.001
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   68/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.001 -.000  .000 -.003 -.003 -.003
CONFIG  2,  0.75  AF/AP CUANNULAR  NUZZLE          RUN/PT   68/06
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA -.002 -.002  .000 -.002 -.004 -.004
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CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/07

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.002	-.002	-.000	-.003	-.005	-.005

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/08

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.002	-.002	.000	-.002	-.005	-.005

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/09

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.001	-.001	.001	-.002	-.004	-.004

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/10

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.001	-.000	.000	-.001	-.002	-.002

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/11

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.001	-.001	-.000	-.002	-.003	-.003

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/12

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.002	-.002	-.001	-.002	-.004	-.004

CONFIG 2, 0.75 AF/AP COANNULAR NOZZLE RUN/PT 68/13

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	-.001	-.002	.000	-.002	-.004	-.004

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 49/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	1.000	1.000	1.001	.995	.975	.974	.968	.977	.980	.979	.982	.997

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 49/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.996	.996	1.022	.997	.991	.989	.993	.993	.989	.988	.993	1.001

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 49/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.991	.997	1.066	1.005	1.003	1.000	1.004	1.005	1.000	.998	1.004	1.009

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 49/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.987	.996	1.105	1.015	1.015	1.004	1.022	1.014	1.007	1.004	1.012	1.015

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 49/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.986	.995	1.104	1.007	1.002	1.000	1.014	1.006	.998	.994	1.006	1.014

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 50/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	1.000	.999	1.000	.991	.959	.956	.943	.959	.965	.964	.969	.995

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 50/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.996	.997	1.023	.993	.979	.976	.981	.983	.979	.976	.983	.995

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CONFIG 3, 0.75 AF/AP CLANNULAR EJECTOR NOZZLE RUN/PT 50/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.990	.996	1.066	1.001	.993	.990	1.000	.997	.990	.986	.996	1.008

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 50/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.985	.996	1.104	1.009	1.004	1.010	1.014	1.007	.998	.994	1.005	1.014

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 50/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.994	1.104	1.002	.994	.991	1.006	.998	.988	.983	.998	1.012

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 51/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.989	.945	.941	.924	.944	.954	.952	.959	.993

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 51/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.969	.967	.965	.960	.973	.968	.965	.974	.995

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 51/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.995	1.006	.996	.983	.980	.982	.989	.980	.976	.988	1.006

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 51/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.103	1.003	.994	.990	1.006	.998	.988	.983	.998	1.012

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.002	.984	.915	.915	.899	.922	.938	.933	.944	.991

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.002	.984	.914	.914	.898	.921	.937	.932	.943	.991

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.002	.983	.948	.946	.930	.961	.952	.947	.960	.992

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.065	.993	.976	.972	.985	.982	.972	.966	.981	1.004

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.103	.999	.984	.980	.997	.991	.977	.971	.989	1.011

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/07

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.066	.991	.972	.969	.982	.979	.968	.962	.979	1.003

CONFIG 3, 0.75 AF/AP CUANNULAR EJECTOR NOZZLE RUN/PT 53/08

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.066	.990	.988	.965	.974	.977	.964	.957	.974	1.002

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CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 54/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.002	.984	.910	.910	.893	.917	.934	.929	.940	.992

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 54/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.983	.944	.943	.928	.960	.951	.945	.957	.992

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 54/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.065	.991	.968	.965	.979	.977	.964	.956	.974	1.002

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 54/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.985	.993	1.104	.998	.979	.976	.994	.989	.973	.964	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 54/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.104	.995	.973	.969	.990	.986	.971	.964	.985	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 55/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.998	1.002	.982	.908	.906	.886	.909	.928	.926	.939	.988

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 55/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.982	.942	.939	.920	.958	.949	.946	.959	.992

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 55/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.993	1.066	.988	.963	.959	.976	.974	.962	.957	.975	1.003

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 55/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.992	1.103	.995	.973	.969	.990	.985	.970	.964	.985	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 55/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.992	1.104	.994	.969	.964	.986	.980	.962	.955	.979	1.010

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.002	.980	.897	.894	.866	.892	.914	.908	.928	.988

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.995	1.022	.987	.954	.950	.966	.949	.937	.932	.951	.991

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.993	1.065	.987	.959	.954	.971	.969	.952	.947	.969	1.002

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.992	1.103	.995	.969	.964	.986	.980	.961	.955	.979	1.010

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CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.105	.995	.971	.967	.988	.984	.968	.963	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 56/07

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.104	.994	.970	.966	.988	.983	.967	.962	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 57/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.998	1.072	.980	.899	.899	.877	.901	.922	.918	.934	.988

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 57/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.981	.939	.935	.914	.954	.945	.941	.956	.992

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 57/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.993	1.065	.989	.962	.958	.973	.972	.959	.955	.974	1.002

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 57/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.103	.995	.971	.967	.988	.983	.967	.962	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 57/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.104	.997	.976	.972	.993	.989	.975	.966	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.964	.915	.912	.895	.914	.933	.930	.941	.990

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.964	.945	.943	.927	.961	.953	.947	.960	.993

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.066	.990	.966	.965	.979	.978	.967	.959	.975	1.003

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.103	.996	.975	.972	.993	.989	.975	.965	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.985	.994	1.103	.999	.983	.980	.998	.992	.978	.972	.990	1.012

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/07

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.990	.995	1.066	.992	.973	.970	.993	.981	.970	.963	.979	1.004

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/08

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.984	.950	.948	.933	.962	.954	.949	.961	.993

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CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/09

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.985	.916	.915	.898	.921	.937	.933	.943	.996

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 58/10

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.991	.954	.954	.943	.959	.966	.964	.969	.995

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 60/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.992	.957	.955	.944	.959	.966	.964	.970	.995

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 60/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.996	.997	1.022	.992	.978	.976	.980	.983	.978	.976	.983	.998

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 60/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.991	.996	1.066	1.006	.991	.989	1.000	.996	.990	.986	.996	1.008

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 60/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.987	.996	1.104	1.008	1.003	1.000	1.014	1.007	.998	.995	1.006	1.015

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.992	.959	.957	.943	.959	.966	.964	.970	.994

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.987	.996	1.103	1.008	1.003	1.000	1.014	1.007	.999	.994	1.006	1.015

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.985	.994	1.104	1.005	.985	.982	.999	.993	.980	.973	.991	1.012

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.990	.995	1.066	.992	.974	.971	.985	.981	.971	.965	.981	1.005

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.994	.952	.951	.937	.964	.956	.951	.964	.994

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 61/07

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.999	.999	1.001	.983	.917	.917	.901	.923	.938	.934	.945	.991

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/02

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.998	.998	1.001	.983	.910	.910	.893	.915	.933	.930	.941	.995

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/03

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.996	1.022	.983	.945	.943	.927	.961	.953	.948	.966	.993

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CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/04

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.065	.990	.966	.963	.979	.977	.966	.959	.976	1.003

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/05

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.985	.994	1.103	.997	.975	.972	.994	.990	.976	.966	.984	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/06

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.984	.993	1.104	.995	.970	.966	.988	.983	.965	.959	.981	1.011

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/07

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.989	.994	1.066	.987	.960	.955	.972	.971	.956	.951	.971	1.003

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/08

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.995	.995	1.021	.986	.935	.932	.969	.951	.940	.935	.952	.991

CONFIG 3, 0.75 AF/AP COANNULAR EJECTOR NOZZLE RUN/PT 62/09

TAP	1	2	3	4	5	6	7	8	9	10	11	12
X/L	-.444	-.326	-.201	-.069	-.005	.014	.031	.104	.193	.279	.503	.948
P/PA	.998	.998	1.002	.979	.895	.894	.870	.895	.916	.911	.930	.987

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 27/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	1.000	.997	1.001	1.001	.997	1.000

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 27/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.998	1.022	.998	.996	1.005

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 27/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.991	.995	1.065	1.002	.998	1.013

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 27/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.984	.993	1.105	1.000	1.000	1.020

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 29/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	1.000	1.006	.999	.998	.998

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 29/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.998	1.022	.999	.997	.995

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 29/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.990	.995	1.064	.998	.996	.995

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 29/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.985	.993	1.101	.998	.997	.996

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CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   29/06
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .990  .995 1.064  .998  .997  .995
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   29/07
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .998 1.022  .998  .996  .995
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   29/08
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .984  .992 1.101  .999  .997  .995
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   29/09
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000  .999 1.001  .999  .999  .999
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   29/01
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.000 1.000 1.000 1.000
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   30/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000 1.000 1.001  .999  .999  .999
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   30/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .997  .998 1.023  .999  .997  .996
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   30/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .990  .995 1.063  .998  .996  .995
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   30/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .984  .993 1.101  .999  .997  .996
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   31/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA 1.000  .999 1.000  .999  .998  .998
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   31/03
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .996  .997 1.022  .997  .995  .993
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   31/04
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .989  .994 1.066  .997  .994  .991
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   31/05
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .983  .992 1.104  .999  .995  .992
CONFIG  4,  1.20  AF/AP COANNULAR NOZZLE          RUN/PT   33/02
TAP   1     2     3     4     5     6
X/L  -.444 -.326 -.201 -.069 -.005  .014
P/PA  .999 1.000 1.001 1.000  .998  .998
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CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 33/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.997	1.022	.997	.995	.992

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 33/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.988	.994	1.066	.997	.995	.990

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 33/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.991	1.104	.997	.994	.990

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 34/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.994	1.001	.998	.997	.997

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 34/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.995	.997	1.023	.996	.992	.990

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 34/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.993	1.065	.995	.991	.986

CONFIG 4, 1.2 AF/AP COANNULAR NOZZLE RUN/PT 34/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.104	.995	.990	.985

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.999	1.002	.998	.996	.996

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.995	.997	1.022	.997	.992	.989

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.993	1.066	.994	.988	.983

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.103	.995	.988	.982

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/06

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.103	.994	.992	.986

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/07

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.994	1.066	.995	.992	.987

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/08

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.997	1.023	.996	.993	.990

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CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 35/09

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.999	1.001	.998	.996	.996

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/02

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	.999	1.002	.999	.997	.997

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/03

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.996	.998	1.023	.997	.993	.991

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/04

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.994	1.006	.998	.993	.989

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/05

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.991	1.104	.996	.992	.987

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/06

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.989	1.104	.994	.981	.981

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/07

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.982	.990	1.104	.994	.984	.983

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/08

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.993	1.006	.994	.990	.985

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/09

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.995	.997	1.022	.996	.992	.990

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/10

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.999	1.007	1.002	.998	.996	.996

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/11

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.994	1.000	1.001	1.000	.999	.999

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/12

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.994	1.065	.999	.997	.995

CONFIG 4, 1.20 AF/AP COANNULAR NOZZLE RUN/PT 36/13

TAP	1	2	3	4	5	6
X/L	-.444	-.326	-.201	-.069	-.005	.014
P/PA	.989	.994	1.066	.996	.994	.991

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