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VARIABILITY IN SONIC-BOOM SIGNATURES MEASURED ALONG AN 8000-FOOT LINEAR ARRAY

by

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SUMMARY

Systematic measurement studies designed to minimize all effects other than those of the local atmosphere are presented to document the variability of sonic-boom signatures at ground level. Measurements from an 8000-foot (2438-meter) linear microphone array indicate that wavelike overpressure patterns in which the signature shapes progress from peaked to rounded vary with time. Such variations are believed to be attributable to the atmosphere rather than to the airplane motion. Analyses of data for the same instruments, test array, time period, airplane altitude, and airplane type, and for Mach numbers of 1.3 and 1.6, suggest that less variability in pressure, impulse, period, and rise time exists for the Mach number 1.6 data.

The probability of equaling or exceeding the ratio of measured to calculated overpressure, impulse, and time durations for the F-104 fighter airplane has been determined from a sample of more than 2500 data points for different operating conditions, geographical locations, and climatic conditions. The results suggest that the logarithms of these quantities follow a normal distribution.

INTRODUCTION

In recent years a large amount of experimental information relating to sonic-boom pressure signatures from various flight studies has been accumulated. This information includes measurements for small and large aircraft over a range of Mach numbers and altitudes and thus covers a range of overpressure values. (See refs. 1 to 4.) These results apply mainly to single station measurements for a large number of flights at various geographical locations and at different times of the year.

The current test program was designed to obtain for comparison sonic-boom signatures at multiple measuring stations for airplanes of a given type flown in given Mach number and altitude ranges. The testing procedure minimized all effects other than those

of the local atmosphere. An 8000-foot (2438-meter) linear array of 42 microphones along the airplane ground track was employed. This paper contains results of studies of the variability in overpressure, impulse, duration, and rise time as measured from 34 supersonic flights of the F-104 fighter-type airplane on 8 days extending over a time period of approximately 2 months.

The purpose of the present paper is to present basic information on sonic-boom signature variability which is ascribed mainly to effects of the atmosphere. Sonic-boom signature data are presented in tabular form along with airplane operating conditions and weather data for correlation.

SYMBOLS

I_o impulse of positive phase of sonic-boom ground-pressure signature, pound-second/foot^2 (newton-second/meter^2)

M Mach number

Δp_o pressure rise across bow shock wave at ground level, pounds/foot^2 (newtons/meter^2)

Δt_o time duration of positive phase of sonic-boom ground-pressure signatures, seconds

ΔT total time duration of sonic-boom ground-pressure signatures, seconds

τ rise time of sonic-boom pressure signature (time from onset of bow shock to maximum overpressure value), seconds

Subscripts:

calc calculated

meas measured

APPARATUS AND METHODS

Test Conditions

All the flight tests were made in the vicinity of Edwards Air Force Base, California. The area in which the measurements were taken was generally flat and is at an altitude of about 2300 feet above sea level. Table I summarizes the aircraft operating conditions of the test program. The mission number designation given in the table was established by

other studies during the work of reference 3 (that is, 8K meaning an 8000-foot array, 8KS, subjective evaluation, and 8KV, vortex studies). Figure 1(a) is a schematic diagram which shows the location of the test area with respect to Rogers Dry Lake and also indicates the position of the ground array and aircraft flight direction. The sonic-boom instrumentation was contained in eight mobile measuring stations designated V-1 to V-8 (see fig. 1(b)) positioned along a 245° magnetic heading and extending about 8000 feet (2438 meters). Each measuring station consisted of from 3 to 12 microphones positioned 6 inches above ground level and the spacing between adjacent microphones varied from 50 to 400 feet (15.24 to 121.92 meters). Accurate locations of all the microphone positions were established by means of standard surveying techniques. The photographs of figures 2(a) and 2(b) indicate the locations of the eight mobile measuring stations and illustrate the open flat area in which the measurements were obtained. The terrain had a smooth hard surface which essentially followed the curvature of the earth.

Test Airplanes

A photograph of an F-104 airplane of the type used in these tests is shown in figure 3. The airplanes were flown with and without external fuel tanks on the wing tips. The F-104 airplane had an overall length of 54.5 feet (16.61 meters) and empty gross weights of about 13 500 pounds to 14 910 pounds (60 048 N to 66 320 N). The maximum weight variation for any of the tests was from about 13 850 pounds to 17 000 pounds (61 605 N to 75 616 N) with an average weight of about 15 000 pounds (66 720 N). Although most of the aircraft used during these tests were provided, maintained, and operated by U.S. Air Force personnel, some aircraft were provided and operated by the NASA Flight Research Center.

Airplane Positioning

The airplanes were positioned over the test area by means of ground control procedures with the aid of the radar tracking facilities at Edwards Air Force Base. For all the flights listed in table I, the pilot was provided course corrections by the ground controller to the steady point indicated in figure 1 which is approximately 12 nautical miles east of the 8000-foot (2438-meter) linear array. Changes in airplane heading, speed, and altitude were not made beyond this point in order to minimize possible effects of such changes on the sonic-boom ground-pressure patterns in the test area. Radar plotting board overlays were obtained on all flights. These data were used to provide information on plan position, altitude, and velocity based on the 1-second time-interval markers. Data from the radar plotting board overlays are given in table I at three positions along the ground track: position 1, the steady point; position 2, midway through the run; and position 3, at the west end of the 8000-foot (2438-meter) array. The pilot read out the

aircraft indicated altitude, Mach number, heading, and fuel remaining on board during each run at both the steady point and over the instrumented array.

In order to synchronize the tracking data and the data from ground-pressure measuring stations, a 1000-Hz tone was superimposed on the data records and radar plots at the time the airplane passed over the TACAN station. (See fig. 1(a).)

Atmosphere Soundings

Rawinsonde observations from Edwards Air Force Base weather facility, located approximately 8 miles from the 8000-foot (2438-meter) linear array (fig. 1), were taken within about 3 hours of the times of all flight tests. These rawinsondes were usually scheduled so that two were taken each day covering the time period of the flights between about 1630 and 2000 hours Gmt (Zulu or z-time). Measured values of temperature and pressure along with the calculated speed of sound and wind velocity and direction values were provided at 1000-foot (304.8-meter) intervals to the airplane test altitude. Tabulations of these various parameters are given in table II for the times appropriate for the missions of table I.

Arithmetic averages of the data of table II are plotted in figures 4 and 5. Atmospheric pressure, temperature, and speed of sound from tables II(a), II(b), and II(c) are shown as a function of altitude in figure 4 along with U.S. Standard Atmosphere (ref. 5) values for comparison. It can be seen that the measured averaged values encountered during the test period are greater than the values for a standard atmosphere. The surface temperature varied from about 7° C to 21° C and the surface winds varied up to 13 knots.

The data of table II(d) have been resolved into velocity components parallel to and perpendicular to the 245° magnetic heading flight track and these data are plotted in figure 5. The two components of velocity shown in figure 5 as a function of altitude represent arithmetic averages. It can be seen that the prevailing winds were headwinds and the average wind velocity at the aircraft altitude was approximately 40 knots.

Pressure Instrumentation

The main components of the ground measuring systems used for sonic-boom pressures are the same as those described in detail in reference 6. Each channel of the measuring system used in the experiments consisted of a specially modified microphone, tuning unit, dc amplifier, oscillograph recorder, and magnetic tape recorder. The usable frequency range of the complete system including data reduction was from 0.02 Hz to 5000 Hz. The microphones have a dynamic range from about 70 to 150 dB and the method of measurement provided the capability to measure rise times as short as 50 μsec. The entire sound measurement system was calibrated in the field by means of conventional

discrete frequency calibrators. Prior to field installation, a frequency-response laboratory calibration was made of all microphone systems. The overall accuracy of the instrumentation systems during field use is ±1 dB.

For ease of setup and consistency of measurement with this equipment, which was also used in other tests at other locations in the same time period, each microphone was shock-mounted 6 inches (0.153 meter) above ground level with the sensitive element parallel to the reflecting surface. Previous measurements (ref. 7) indicate that this type of mounting arrangement results in only small differences in waveform compared with those obtained in the ground plane. Wind screens consisting of two layers of cheesecloth were employed to minimize effects of surface winds on the microphone readings and also to provide shade from the sun and protection from blowing sand particles.

Calculation and Definitions

Sonic-boom calculations of the nominal pressure signature were performed by use of the method outlined in reference 6 for the conditions of a standard atmosphere with zero winds. In addition to accounting for lift and volume effects, an attempt was made to account properly for the inlet capture area, jet exhaust wake, and horizontal stabilizer deflection. The small changes in overpressure which were calculated to result from the changes in Mach number, altitude, weight, and configuration (tip tanks) incurred during these tests are shown in the following table:

Mach number	Mean sea-level altitude		Gross weight		Airplane configuration	Bow shock overpressure, Δp_o	
	ft	m	lb	N		lb/ft^2	N/m^2
1.30	30 700	9357	13 850	61 605	No tip tanks	1.273	60.95
1.30	30 700	9357	17 000	75 616	No tip tanks	1.275	61.05
1.30	30 700	9357	17 000	75 616	With tip tanks	1.291	61.81
1.30	32 800	9997	17 000	75 616	No tip tanks	1.165	55.78
1.26	30 700	9357	17 000	75 616	No tip tanks	1.250	59.85
1.45	30 700	9357	17 000	75 616	No tip tanks	1.350	64.64
1.32	30 700	9357	15 000	66 720	No tip tanks	1.280	61.29

The overpressure value given in the last line of the above table represents the average values of the flight conditions listed in table I. The type of signature calculated for the test airplane for these average conditions along with some sample measured signatures are shown in figure 6. This calculated signature provides the nominal values of on-the-track overpressure, period of positive phase, total duration, and positive impulse made use of in later statistical presentations.

The sample measured signatures of figure 6 form the basis for categorizing the wave form data of table III. The measured signature labeled "N" closely represents the calculated signatures whereas the "P" and "R" type signatures deviate in several respects from the calculated signature. When wave shapes did not fall naturally into the categories illustrated, a two-letter designation was assigned; for instance, an NP type was judged to be between type N and type P whereas an NR type was judged to be between type N and type R.

RESULTS AND DISCUSSION

Nature of Variations

The peak overpressures obtained from the microphone systems of the array for each flight are plotted in figure 7 as a function of distance along the 8000-foot (2438-meter) array. (Data-point omissions in table III and in fig. 7 indicate inoperative systems.) Each data point of figure 7 represents the maximum positive peak overpressure reading from a particular microphone of the array which is shown schematically in figure 1(b). Shown in each case is a horizontal dashed line representing the calculated nominal overpressure for the average flight conditions of the test and for a standard atmosphere.

It can be seen from an inspection of figure 7 that a rather small variability in the overpressure values was present in some cases whereas in others considerable variability was observed. For the case of flight 8K-20 (fig. 7(c)), for example, the data plot has a cyclic or wavelike appearance where measured overpressure values included those markedly higher than and lower than the calculated nominal value. The existence of this wavelike spatial pattern has been suggested by a limited number of measurements made during the studies of reference 1.

In order to define better the nature of the variations just noted for flight 8K-20, the signature data of figure 8 are included. The signatures of figure 8 have been traced from the data records corresponding to the data points shown by the solid symbols of figure 7. These solid symbol data points are associated with a group of microphones for which the separation distance was generally 200 feet (60.96 meters). (See fig. 1(b).) It can be seen by comparing the data of figures 7 and 8 that the highest overpressure values are associated with the peaked waveforms whereas the lower overpressure values are associated with the rounded waveforms. In the case of flight 8K-20, there is an orderly progression of the wave shape between the lower overpressure and higher overpressure signatures. The data of figure 7 suggest that the distance between peaks or valleys in the pressure distribution curves can vary from a few hundred feet to several thousand feet and such differences are observed for flights performed within a relatively short time period. Such a result suggests the possible existence of a characteristic structure of the atmosphere

which is changing as a function of time but which has characteristic dimensions of a few hundred to a few thousand feet.

The measurements obtained along the 8000-foot (2438-meter) linear array indicate the existence of wavelike overpressure patterns in which the signature shapes progress from peaked to rounded and vary with time. The results of references 3 and 4 would indicate that these variations are induced by the atmosphere rather than by the effects of airplane motion.

Statistical Variations

Probability distribution diagrams have been made from the data of table III to show the manner in which the values of peak overpressures Δp_o, positive impulse values I_o, time durations Δt_o and ΔT, and rise times τ vary. These distributions include data from 34 supersonic flights at average Mach numbers and altitudes of about 1.3 and 30 700 feet (9357 meters), respectively, and were obtained from the 8000-foot (2438-meter) linear array.

During the same time span and with the same type of airplane, data were also obtained from 16 supersonic flights operating in the altitude range of 29 000 feet to 30 000 feet (8839 meters to 9144 meters) and at Mach numbers of about 1.6. (See missions 17-1, 18-2, 19-1, 20-2, 61-1, 64-2, 62-1, 63-1, 65-2, 66-2, 67-1, 69-1, 70-2, 71-2, 68-1, and 172-2 of ref. 3.) The same microphones were used; however, the arrangement for these data was that of a 1000-foot by 1800-foot (304.8-meter by 548.6-meter) checkerboard and is referred to as site 9 location in figure 1 and figure A4 of reference 3. Figures 9 to 13 compare the variability of the $M = 1.6$ and 1.3 overpressures, durations, impulses, and rise times for which data samples of about 570 and 1330, respectively, were used. The calculated nominal values shown for $M = 1.6$ were obtained by the same procedures as were used for the $M = 1.3$ values.

Peak overpressures.- The probability of equaling or exceeding certain values of the ratio of measured to calculated nominal overpressures and the histograms of the pressure amplitudes are given in figure 9. The data obtained along the 8000-foot (2438-meter) linear microphone array for airplane flights at a Mach number of 1.3 are represented by the circle data points and the data from the checkerboard array for the flights at a Mach number of 1.6 by the diamond data points. It can be seen that the data may be represented by straight lines with the exception of a few points at the extremities and thus they follow generally a logarithmetic normal distribution. Less variability in the overpressure ratios was observed for the higher Mach number data as indicated by the greater slope of the dashed line. This result would be expected since the ray paths along which the shock disturbance travels are shorter for the high Mach number case; thus, the shock wave spends less time in the lower layers of the atmosphere.

Signature durations.- Presentations similar to those of figure 9 are given in figure 10 which shows the variability of the period of the positive portion of the wave Δt_o. The results shown for both the $M = 1.3$ and $M = 1.6$ flights indicate a well-behaved statistical variation of the signature positive duration. The measured positive durations were generally smaller and the variability was slightly less for the Mach number 1.6 flight condition.

The statistical variations in the total periods of the waves are shown in figure 11. The variability is seen to be somewhat less than but very similar to that noted for the positive portions of the waves in figure 10.

Positive impulses.- The variability in the positive impulse function of figure 12 results from variability in both the overpressures and the positive time durations; however, an inspection of figures 9 and 10 suggests that the overpressure variation is the dominant factor. The variability in the impulses is similar for both flight conditions and is either equal to or less than that for the overpressures. This latter result is consistent with the findings of other studies. It should be noted that the measured positive impulse values were generally smaller for the Mach number 1.6 flight conditions compared with the $M = 1.3$ measured data, whereas calculations show the reverse result.

This latter result is not readily explainable except to note that the quantities Δt_o and I_o are both influenced by the position of the intermediate shock from the inlet. (See fig. 6.) Its position is sensitive to some variables not accounted for in the calculations.

Rise times.- The data of figure 13 relate to the rise times of the waves as defined in figure 6. The data are plotted in histogram form by using a time increment of 0.002 second for plotting both the absolute values of rise times (fig. 13(a)) and the rise time per unit overpressure (fig. 13(b)). The solid curves in each case apply to the Mach number 1.3 data and the short-dashed curves to the Mach number 1.6 data. With reference to figure 13(a), it can be seen that there is markedly less variability in the rise times for the Mach number 1.6 data, the largest number of events occurring at about 0.006 second. This lesser variability in the rise times for the Mach number 1.6 data is consistent with the smaller variability of the associated overpressures in figure 9. Similar results are noted for the rise time per unit pressure data for figure 13(b).

Compilation of Measurements for F-104 Airplane

The data presented thus far in the report were measured in the Edwards, California, area during a 3-month period and involved a large number of measurements on each flight. The composite data plots presented in figures 14 to 16 combine all the measured data available for the F-104 airplane. In addition to the Edwards data, the measurements obtained during the Oklahoma City flight program (ref. 1) were also included. The Oklahoma City data were recorded during a different season of the year in a different

geographical location, and were accumulated by means of the single on-track measuring station for a large number of flights of the F-104 airplane over a range of altitudes and Mach numbers. The calculated nominal values of Δp, I_o, and Δt_o have been made by use of the method of reference 6. The variations shown by data of figures 14 to 16 represent a wide range of climatic conditions, airplane operating conditions, and geographic locations, and the results suggest that the logarithms follow a normal distribution.

CONCLUDING REMARKS

Systematic measurement studies designed to minimize all effects other than those of the local atmosphere are presented to document the variability of sonic-boom signatures at ground level. Measurements from an 8000-foot (2438-meter) linear array microphone indicate that wavelike overpressure patterns in which the signature shapes progress from peaked to rounded vary with time. Such variations are believed to be attributable to the atmosphere rather than to aircraft motion. Analyses of data for the same instruments, time period, airplane altitude, and aircraft type, and for Mach numbers of 1.3 and 1.6, suggest that a lesser variability in pressure, impulse, period, and rise time exists for the Mach number 1.6 data.

The probability of equaling or exceeding the ratio of measured to calculated overpressure, impulse, and time durations for the F-104 fighter airplane have been determined from a sample of more than 2500 data points for different operating conditions, geographical locations, and climatic conditions. The results suggest that the logarithms of these quantities follow a normal distribution.

Langley Research Center,
National Aeronautics and Space Administration,
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TABLE I.- SUMMARY OF AIRPLANE OPERATING CONDITIONS

Date	Mission	Time over reading point 3, Zulu	Reading point (a)	Mean sea level altitude ft	Mean sea level altitude m	M	Magnetic heading, deg	Lateral displacement from track, (b) n. mi.	Lateral displacement from track, (b) m	Ground speed (true) ft/sec	Ground speed (true) m/sec
11- 4-66	8K-1	1629:00	1	30 400	9266	1.30	241.5	0.16 L	305	1300	396
			2	30 200	9205	1.35	244.5	.28 L	518	1350	411
			3	30 400	9266	1.38	245.5	.28 L	518	1380	421
	8K-2	1641:51	1	30 400	9266	1.35	245.0	.30 L	549	1330	405
			2	30 400	9266	1.35	248.0	.11 L	213	1330	405
			3	30 200	9205	1.31	250.0	.36 R	671	1340	408
	8K-5	2210:22	1	32 000	9754	1.38	258.5	2.43 L	4511	1390	424
			2	32 500	9906	1.44	258.5	1.25 L	2316	1450	442
			3	32 800	9997	1.45	258.5	.20 R	366	1450	442
11-14-66	8K-6	1659.01	1	31 200	9510	1.32	244.5	.15 R	274	1270	387
			2	31 200	9510	1.32	244.0	0	0	1270	387
			3	31 200	9510	1.30	244.5	.16 L	305	1260	384
	8K-7	1707:52	1	31 200	9510	1.32	244.5	0	0	1270	387
			2	31 100	9479	1.32	245.0	.07 L	122	1270	387
			3	31 200	9510	1.30	245.5	.13 L	244	1260	384
	8K-8	2105:07	1	31 400	9571	1.30	244.5	.28 R	518	1250	381
			2	30 700	9357	1.28	245.0	.18 R	335	1240	378
			3	30 800	9388	1.30	245.0	.13 R	244	1250	381
	8K-9	2114:03	1	30 800	9388	1.28	243.5	.18 R	335	1230	375
			2	30 700	9357	1.29	243.5	0	0	1250	381
			3	30 800	9388	1.30	243.5	.18 L	335	1250	381
11-18-66	8K-10	[c]1651	1	30 500	9296	1.30	243.7	.11 R	213	1250	381
			2	30 700	9357	1.31	246.3	.20 R	366	1260	384
			3	30 700	9357	1.30	247.0	.48 R	884	1240	378
	8K-11	[c]1653	1	30 700	9357	1.29	244.5	.05 R	91	1240	378
			2	30 800	9388	1.30	243.5	.05 R	91	1250	381
			3	30 800	9388	1.30	243.2	.05 L	91	1270	387
11-28-66	8K-15	1645:00	1	30 500	9296	1.38	251.2	.16 R	305	1240	378
			2	30 700	9357	1.37	247.0	.62 R	1158	1230	375
			3	30 000	9235	1.30	240.5	.46 R	853	1230	375
	8K-16	2145:30	1	31 200	9510	1.36	243.3	.21 L	396	1190	363
			2	30 700	9357	1.37	243.5	.35 L	640	1210	369
			3	30 700	9357	1.31	244.7	.36 L	671	1210	369
	8K-17	2145:56	1	31 200	9510	1.34	244.2	.03 R	61	1190	363
			2	31 400	9571	1.35	245.0	.03 R	61	1200	366
			3	31 200	9510	1.30	245.5	.11 R	213	1200	366
12- 1-66	8K-18	1634:46	1	31 000	9449	1.33	242.3	.15 R	274	1240	378
			2	30 700	9357	1.32	244.3	.03 R	61	1230	375
			3	30 600	9327	1.30	244.7	.08 R	152	1230	375
	8K-19	1644.24	1	30 600	9327	1.33	244.0	.30 R	549	1240	378
			2	30 400	9266	1.32	243.7	.21 R	396	1230	375
			3	30 000	9144	1.30	244.5	.15 R	274	1240	378
	8K-20	2151:07	1	30 800	9388	1.31	241.5	.16 R	305	1220	372
			2	30 800	9388	1.31	242.0	.08 L	152	1220	372
			3	30 800	9388	1.30	242.7	.26 L	488	1220	372
	8K-21	2201:07	1	30 800	9388	1.29	241.5	.16 R	305	1200	366
			2	30 700	9357	1.31	244.2	.03 R	61	1220	372
			3	30 200	9205	1.30	245.0	0	0	1220	372

[a]Reading point 1: 12.5 n. mi. east of west end of array (23 165 m).
Reading point 2: 6.25 n. mi. east of west end of array (11 582 m).
Reading point 3: Overhead at west end of array.
[b]R, right; L, left.
[c]Approximate.

TABLE I.- SUMMARY OF AIRPLANE OPERATING CONDITIONS – Concluded

Date	Mission	Time over reading point 3, Zulu	Reading point (a)	Mean sea level altitude ft	Mean sea level altitude m	M	Magnetic heading, deg	Lateral displacement from track (b) n. mi.	Lateral displacement from track (b) m	Ground speed (true) ft/sec	Ground speed (true) m/sec
12-13-66	8KV-1	1648:34	1	30 200	9205	1.33	244.6	0.21 R	396	1300	396
			2	30 300	9235	1.40	245.0	.23 R	427	1370	418
			3	30 200	9205	1.34	245.1	.31 R	579	1370	418
	8KV-2	1658:49	1	30 400	9266	1.30	241.5	.64 R	1189	1270	387
			2	30 400	9266	1.34	240.0	.21 R	396	1310	399
			3	30 300	9235	1.30	239.6	.33 L	610	1320	402
	8KV-3	1707:53	1	30 000	9144	1.33	244.6	.30 R	549	1300	396
			2	30 000	9144	1.33	244.6	.25 R	457	1310	399
			3	30 000	9144	1.30	244.8	.21 R	396	1310	399
	8KV-4	1715:17	1	30 200	9205	1.31	243.0	.82 R	1524	1280	390
			2	30 200	9205	1.33	242.0	.56 R	1036	1300	396
			3	30 500	9296	1.30	241.5	.20 R	366	1310	399
1- 6-67	8KS-1	1724:47	1	30 800	9388	1.26	244.0	.07 R	122	1150	351
			2	30 700	9357	1.28	242.5	.16 L	305	1170	357
			3	30 400	9266	1.30	242.4	.38 L	701	1190	363
	8KS-2	1726:55	1	30 700	9357	1.30	244.5	.25 L	457	1190	363
			2	30 600	9327	1.31	245.0	.16 L	305	1200	366
			3	30 500	9296	1.30	246.0	0	0	1180	360
	8KS-3	1734:35	1	30 800	9388	1.30	244.5	.08 L	152	1190	363
			2	30 900	9418	1.26	244.0	.10 L	183	1150	351
			3	30 400	9266	1.30	243.0	.18 L	335	1160	354
	8KS-4	1736:45	1	30 600	9327	1.29	244.5	0	0	1180	360
			2	30 600	9327	1.29	243.5	.03 L	61	1180	360
			3	30 500	9296	1.30	244.5	.03 L	61	1170	357
	8KS-5	[c]1959:50		30 500	9296	1.30	Pilot readout; no radar coverage				
	8KS-6	[c]2001:20		30 500	9296	1.30					
1- 9-67	8KS-10	1837:31	1	30 600	9327	1.31	245.0	.15 R	274	1300	396
			2	30 600	9327	1.33	244.7	.08 R	152	1320	402
			3	30 900	9418	1.30	244.0	.05 L	91	1300	396
	8KS-11	1840:09	1	30 300	9235	1.33	244.0	.02 L	30	1320	402
			2	30 300	9235	1.33	243.0	.10 L	153	1300	396
			3	30 000	9144	1.30	244.5	.16 L	305	1330	405
	8KS-13	1848:05	1	30 600	9327	1.32	243.7	.02 L	30	1320	402
			2	30 600	9327	---	245.6	.02 R	30	----	---
			3	30 600	9327	1.30	244.5	.16 R	305	1300	396
	8KS-14	1851:07	1	30 500	9296	1.37	246.0	0	0	1360	415
			2	30 600	9327	1.33	244.8	.08 R	152	1320	402
			3	30 100	9174	1.30	246.0	.16 R	305	1350	411
	8KS-16	2008:04	1	31 200	9510	1.31	240.5	0	0	1310	399
			2	32 200	9814	1.31	241.3	.21 L	396	1300	396
			3	31 400	9571	1.30	246.5	.05 L	91	1300	396
	8KS-17	2010:06	1	30 500	9296	1.30	243.0	.31 R	579	1300	396
			2	30 800	9388	1.34	243.0	.20 R	366	1330	405
			3	30 700	9357	1.30	243.5	.10 R	183	1290	393
	8KS-19	2018:21	1	30 600	9327	1.32	245.0	.03 R	61	1310	399
			2	30 600	9327	1.33	244.5	0	0	1320	402
			3	30 000	9144	1.30	245.5	.16 R	305	1300	396
	8KS-20	2020:48	1	30 500	9296	1.30	245.2	.21 R	396	1290	393
			2	30 400	9266	1.33	244.5	.21 R	396	1320	402
			3	30 500	9296	1.30	244.5	.11 R	213	1300	396

[a]Reading point 1: 12.5 n. mi. east of west end of array (23 165 m).
Reading point 2: 6.25 n. mi. east of west end of array (11 582 m).
Reading point 3: Overhead at west end of array.
[b]R, right; L, left.
[c]Approximate.

TABLE II.- SUMMARY OF WEATHER DATA

(a) Atmospheric pressure

Mean sea level altitude		Atmospheric pressure obtained																					
		11-4-66 at –		11-14-66 at –				11-18-66 at –		11-25-66 at –				12-1-66 at –				12-13-66 at –		1-6-67 at –		1-9-67 at –	
		1008 hr, Zulu		1703 hr, Zulu		1903 hr, Zulu		1820 hr, Zulu		1700 hr, Zulu		1905 hr, Zulu		1700 hr, Zulu		2035 hr, Zulu		1830 hr, Zulu		1820 hr, Zulu		1900 hr, Zulu	
ft	m	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb	psf	mb
2 400	732	1941	929	1957	937	1956	937	1964	940	1959	938	1954	936	1947	932	1943	930	1961	939	1967	942	1974	945
3 000	914	1898	909	1913	916	1913	916	1920	919	1915	917	1911	915	1903	911	1900	910	1916	917	1922	920	1929	924
4 000	1 219	1831	877	1845	883	1845	883	1851	886	1846	884	1843	882	1836	879	1833	878	1846	884	1851	886	1859	890
5 000	1 524	1766	846	1780	852	1780	852	1785	855	1780	852	1777	851	1770	847	1768	847	1780	852	1782	853	1791	858
6 000	1 829	1703	815	1717	822	1716	822	1721	824	1716	822	1714	821	1707	817	1704	816	1716	822	1716	822	1725	826
7 000	2 134	1642	786	1655	792	1655	792	1658	794	1655	792	1653	791	1645	788	1643	787	1655	792	1652	791	1662	796
8 000	2 438	1583	758	1596	764	1596	764	1598	765	1596	764	1594	763	1586	759	1583	758	1595	764	1591	762	1601	767
9 000	2 743	1525	730	1538	736	1537	736	1541	738	1539	737	1536	735	1528	732	1526	731	1537	736	1532	734	1542	738
10 000	3 048	1469	703	1482	710	1481	709	1484	711	1483	710	1481	709	1473	705	1470	704	1481	709	1475	706	1485	711
11 000	3 353	1415	677	1427	683	1426	683	1430	685	1429	684	1427	683	1419	679	1416	678	1426	683	1420	680	1430	685
12 000	3 658	1362	652	1374	658	1373	657	1377	659	1377	659	1374	658	1367	655	1364	653	1373	657	1367	655	1377	659
13 000	3 962	1310	627	1323	633	1322	633	1326	635	1326	635	1324	634	1317	631	1314	629	1321	632	1315	630	1326	635
14 000	4 267	1260	603	1273	610	1272	609	1276	611	1276	611	1274	610	1268	607	1265	606	1272	609	1265	606	1276	611
15 000	4 572	1212	580	1225	587	1223	586	1228	588	1228	588	1227	587	1221	585	1217	583	1224	586	1216	582	1227	587
16 000	4 877	1165	558	1178	564	1176	563	1182	566	1182	566	1181	565	1175	563	1171	561	1177	564	1169	560	1180	565
17 000	5 182	1119	536	1133	542	1131	542	1137	544	1137	544	1136	544	1131	542	1127	540	1131	542	1123	538	1135	543
18 000	5 486	1075	515	1087	520	1087	520	1093	523	1093	523	1092	523	1088	521	1084	519	1086	520	1079	517	1091	522
19 000	5 791	1032	494	1046	501	1045	500	1051	503	1051	503	1050	503	1046	501	1042	499	1044	500	1037	497	1048	502
20 000	6 096	991	474	1005	481	1004	481	1010	484	1010	484	1009	483	1005	481	1001	479	1003	480	995	476	1007	482
21 000	6 401	951	455	965	462	964	462	970	464	971	465	970	464	966	463	962	461	963	461	956	458	967	463
22 000	6 706	913	437	927	444	925	443	931	446	933	447	932	446	928	444	924	442	924	442	917	439	928	444
23 000	7 010	875	419	890	426	888	425	894	428	896	429	894	428	891	427	887	425	887	425	880	421	891	427
24 000	7 315	839	402	854	409	852	408	858	411	860	412	859	411	855	409	851	407	850	407	844	404	855	409
25 000	7 620	803	384	819	392	818	392	823	394	826	395	824	395	820	393	816	391	815	390	809	387	820	393
26 000	7 925	770	369	786	376	784	375	789	378	792	379	791	379	786	376	782	374	781	374	775	371	786	376
27 000	8 230	737	353	753	361	752	360	756	362	760	364	758	363	753	361	749	359	748	358	743	356	753	361
28 000	8 534	705	338	721	345	720	345	724	347	728	349	727	348	722	346	717	343	717	343	711	340	722	346
29 000	8 839	674	323	691	331	690	330	694	332	698	334	696	333	691	331	686	328	686	328	680	326	691	331
30 000	9 144	644	308	662	317	660	316	664	318	669	320	666	319	661	316	656	314	656	314	650	311	661	316
31 000	9 449	616	295	633	303	632	303	636	305	640	306	638	305	633	303	627	300	627	300	622	298	633	303
32 000	9 754	588	282	606	290	604	289	608	291	613	294	610	292	605	290	599	287	600	287	594	284	605	290
33 000	10 058	562	269	579	277	578	277	581	278	586	281	584	280	578	277	573	274	572	274	567	271	578	277

TABLE II.- SUMMARY OF WEATHER DATA – Continued

(b) Temperature

Mean sea level altitude		Temperature obtained										
		11-4-66 at –	11-14-66 at –		11-18-66 at –	11-28-66 at –		12-1-66 at –		12-13-66 at –	1-6-67 at –	1-9-67 at –
		1008 hr, Zulu	1703 hr, Zulu	1903 hr, Zulu	1820 hr, Zulu	1700 hr, Zulu	1905 hr, Zulu	1700 hr, Zulu	2035 hr, Zulu	1830 hr, Zulu	1820 hr, Zulu	1900 hr, Zulu
ft	m	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C
2 400	732	7.5	13.3	19.3	14.3	11.3	17.1	10.4	20.5	7.2	7.4	10.0
3 000	914	14.5	11.3	13.3	12.4	10.5	14.8	14.9	16.8	7.0	5.1	6.2
4 000	1 219	15.9	15.6	15.3	11.8	10.0	12.4	13.1	14.4	9.7	2.9	5.1
5 000	1 524	14.8	14.7	14.3	11.0	10.2	13.0	11.6	11.9	11.4	1.7	5.5
6 000	1 829	12.7	13.3	13.2	10.1	13.0	12.6	10.0	9.7	12.6	.9	4.8
7 000	2 134	10.4	11.0	11.1	9.0	12.6	10.5	9.7	9.8	10.5	.4	6.1
8 000	2 438	8.2	8.2	7.8	9.1	11.1	9.2	8.2	8.5	8.3	1.0	5.3
9 000	2 743	5.8	7.4	5.7	7.3	9.4	8.9	8.2	6.8	6.1	2.0	4.3
10 000	3 048	3.1	5.2	3.0	5.4	7.6	7.5	8.8	6.1	3.9	1.5	2.9
11 000	3 353	.4	3.1	1.3	3.5	5.1	4.9	6.9	4.2	1.6	-.4	.9
12 000	3 658	-2.4	.9	-.5	1.5	2.7	3.5	5.0	2.6	-.6	-2.4	-.5
13 000	3 962	-5.1	-1.3	-2.4	-.2	.2	1.3	3.1	1.2	-.5	-5.0	-1.4
14 000	4 267	-7.9	-3.6	-4.3	-1.0	-1.9	-1.3	1.2	-.2	-2.6	-7.4	-3.9
15 000	4 572	-10.1	-5.9	-6.2	-2.4	-3.2	-2.3	-.7	-1.7	-6.1	-9.3	-6.5
16 000	4 877	-11.9	-8.3	-8.1	-4.6	-5.5	-4.1	-2.8	-3.8	-11.1	-11.2	-7.4
17 000	5 182	-13.8	-10.5	-9.9	-6.9	-7.3	-6.4	-5.1	-6.2	-12.8	-13.1	-9.4
18 000	5 486	-16.0	-10.9	-11.5	-9.2	-8.7	-8.4	-7.4	-8.6	-12.9	-15.0	-11.6
19 000	5 791	-17.7	-12.7	-13.8	-11.4	-10.2	-10.5	-9.7	-11.0	-14.1	-16.5	-13.6
20 000	6 096	-19.0	-14.9	-16.1	-13.7	-13.2	-12.3	-12.1	-13.4	-16.5	-17.3	-15.0
21 000	6 401	-21.1	-17.1	-18.4	-15.9	-12.8	-14.6	-14.5	-15.7	-18.7	-19.2	-17.1
22 000	6 706	-23.9	-18.1	-18.5	-18.2	-14.8	-16.6	-17.0	-18.2	-20.7	-21.2	-19.2
23 000	7 010	-26.8	-19.5	-20.1	-20.5	-16.8	-17.9	-19.5	-20.7	-22.9	-23.3	-21.5
24 000	7 315	-29.7	-21.9	-22.0	-22.8	-18.8	-19.9	-22.1	-23.2	-25.5	-25.7	-23.7
25 000	7 620	-32.1	-24.5	-23.9	-25.1	-20.9	-22.1	-24.6	-25.7	-28.1	-28.5	-26.0
26 000	7 925	-34.6	-27.0	-25.7	-27.5	-22.9	-24.1	-27.2	-30.3	-30.8	-31.3	-28.3
27 000	8 230	-37.0	-29.5	-28.9	-29.8	-25.4	-25.9	-29.9	-36.1	-33.5	-34.1	-30.6
28 000	8 534	-39.5	-31.7	-32.1	-32.0	-28.2	-34.1	-32.5	-38.7	-35.5	-36.9	-33.0
29 000	8 839	-41.9	-33.9	-34.8	-34.3	-30.7	-34.8	-35.3	-39.9	-37.7	-39.7	-35.4
30 000	9 144	-43.8	-36.3	-36.1	-36.5	-33.0	-35.5	-37.8	-41.1	-40.6	-42.4	-37.9
31 000	9 449	-46.4	-39.0	-39.4	-38.5	-35.5	-36.2	-39.6	-42.3	-43.3	-45.2	-40.5
32 000	9 754	-48.9	-41.7	-42.8	-40.8	-37.9	-37.2	-42.2	-43.5	-46.1	-47.9	-43.2
33 000	10 058	-51.4	-44.5	-46.2	-43.3	-40.4	-39.8	-44.9	-45.9	-49.0	-50.7	-45.8

TABLE II.- SUMMARY OF WEATHER DATA – Continued

(c) Speed of sound

Mean sea level altitude		Speed of sound obtained																					
		11-4-66 at –		11-14-66 at –				11-18-66 at –		11-28-66 at –				12-1-66 at –				12-13-66 at –		1-6-67 at –		1-9-67 at –	
		1008 hr, Zulu		1703 hr, Zulu		1903 hr, Zulu		1820 hr, Zulu		1700 hr, Zulu		1905 hr, Zulu		1700 hr, Zulu		2035 hr, Zulu		1830 hr, Zulu		1820 hr, Zulu		1900 hr, Zulu	
ft	m	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec	ft/sec	m/sec
2 400	732	1103	336	1115	340	1127	343	1117	340	1111	339	1121	342	1109	342	1128	344	1102	336	1102	336	1107	337
3 000	914	1117	340	1111	339	1114	339	1113	339	1109	338	1117	340	1118	341	1121	342	1102	336	1097	334	1100	335
4 000	1 219	1119	341	1118	341	1118	341	1111	339	1107	337	1113	339	1114	340	1116	340	1107	337	1093	333	1098	335
5 000	1 524	1117	340	1116	340	1116	340	1109	338	1109	338	1115	340	1111	339	1111	339	1110	338	1091	333	1098	335
6 000	1 829	1113	339	1114	339	1114	339	1107	337	1116	340	1115	340	1107	337	1107	337	1112	339	1089	332	1097	334
7 000	2 134	1108	338	1109	338	1110	338	1105	337	1114	339	1110	338	1106	337	1106	337	1108	338	1088	332	1100	335
8 000	2 438	1104	336	1104	336	1104	336	1105	337	1111	339	1107	337	1103	336	1104	336	1104	336	1089	332	1098	335
9 000	2 743	1099	335	1102	336	1099	335	1102	336	1107	337	1106	337	1103	336	1100	335	1099	335	1091	333	1096	334
10 000	3 048	1094	333	1098	335	1093	333	1098	335	1103	336	1103	336	1104	336	1099	335	1095	334	1090	332	1093	333
11 000	3 353	1088	332	1093	333	1090	332	1094	333	1099	335	1099	335	1101	336	1096	334	1094	333	1086	331	1089	332
12 000	3 658	1083	330	1089	332	1086	331	1092	333	1094	333	1095	334	1097	334	1092	333	1086	331	1082	330	1086	331
13 000	3 962	1077	328	1085	331	1082	330	1087	331	1089	332	1091	333	1093	333	1090	332	1086	331	1077	328	1084	330
14 000	4 267	1072	327	1080	329	1079	329	1085	331	1085	331	1086	331	1089	332	1087	331	1082	330	1072	327	1079	329
15 000	4 572	1067	325	1075	328	1075	328	1082	330	1082	330	1084	330	1086	331	1084	330	1075	328	1068	326	1074	327
16 000	4 877	1063	324	1071	326	1071	326	1078	329	1077	328	1080	329	1081	329	1080	329	1065	325	1064	324	1072	327
17 000	5 182	1059	323	1066	325	1067	325	1073	327	1073	327	1075	328	1077	328	1075	328	1061	323	1061	323	1068	326
18 000	5 486	1055	322	1065	325	1064	324	1069	326	1070	326	1071	326	1072	327	1070	326	1061	323	1057	322	1064	324
19 000	5 791	1051	320	1062	324	1059	323	1064	324	1067	325	1066	325	1068	326	1065	325	1059	323	1054	321	1060	323
20 000	6 096	1048	319	1057	322	1055	322	1059	323	1060	323	1062	324	1063	324	1060	323	1054	321	1052	321	1057	322
21 000	6 401	1044	318	1053	321	1050	320	1054	321	1061	323	1058	322	1058	322	1055	322	1049	320	1048	319	1052	321
22 000	6 706	1038	316	1051	320	1050	320	1050	320	1057	322	1054	321	1053	321	1050	320	1045	319	1044	318	1048	319
23 000	7 010	1032	315	1048	319	1046	319	1045	319	1053	321	1051	320	1047	319	1045	319	1040	317	1040	317	1043	318
24 000	7 315	1026	313	1043	318	1043	318	1041	317	1049	320	1049	320	1042	318	1040	317	1035	315	1034	315	1039	317
25 000	7 620	1021	311	1037	316	1039	317	1036	316	1045	319	1042	318	1037	316	1035	315	1029	314	1029	314	1034	315
26 000	7 925	1016	310	1032	315	1035	315	1031	314	1040	317	1038	316	1031	314	1025	312	1024	312	1023	312	1029	314
27 000	8 230	1011	308	1027	313	1028	313	1026	313	1035	315	1034	315	1026	313	1013	309	1018	310	1017	310	1024	312
28 000	8 534	1005	306	1022	311	1021	311	1021	311	1029	314	1017	310	1020	311	1007	307	1014	309	1011	308	1019	311
29 000	8 839	1000	305	1017	310	1015	309	1016	310	1024	312	1015	309	1014	309	1004	306	1009	308	1005	306	1014	309
30 000	9 144	996	304	1012	308	1013	309	1012	308	1019	311	1014	309	1009	308	1002	305	1003	306	999	304	1009	308
31 000	9 449	990	302	1006	307	1005	306	1007	307	1014	309	1012	308	1005	306	999	304	997	304	993	303	1003	306
32 000	9 754	985	300	1000	305	998	304	1002	305	1009	308	1010	308	999	304	997	304	991	302	987	301	997	304
33 000	10 058	979	298	994	303	991	302	997	304	1003	306	1004	306	994	303	991	302	985	300	981	299	992	302

TABLE II.- SUMMARY OF WEATHER DATA – Continued

(d) Wind speed

Mean sea level altitude		Wind speed obtained										
		11-4-66 at –	11-14-66 at –		11-18-66 at –	11-28-66 at –		12-1-66 at –		12-13-66 at –	1-6-67 at –	1-9-67 at –
		1008 hr, Zulu	1703 hr, Zulu	1903 hr, Zulu	1820 hr, Zulu	1700 hr, Zulu	1905 hr, Zulu	1700 hr, Zulu	2035 hr, Zulu	1830 hr, Zulu	1820 hr, Zulu	1900 hr, Zulu
ft	m	knots	knots	knots	knots	knots	knots	knots	knots	knots	knots	knots
2 400	732	0	0	0	5.0	0	6.0	4.0	13.0	3.0	5.0	4.0
3 000	914	.4	2.8	3.9	5.8	3.8	7.2	11.6	17.8	2.1	6.8	7.7
4 000	1 219	2.7	7.2	9.7	7.2	11.4	10.3	20.3	19.8	1.8	10.3	13.7
5 000	1 524	6.7	11.1	14.0	7.5	21.9	80.3	20.4	19.8	7.1	14.2	19.1
6 000	1 829	7.6	15.0	16.8	6.8	31.3	31.0	19.5	19.6	13.3	17.6	19.7
7 000	2 134	3.9	17.4	18.1	3.5	35.5	37.9	20.1	20.4	15.3	20.5	20.2
8 000	2 438	4.1	17.8	18.0	7.1	36.9	40.9	22.8	22.5	16.0	27.1	18.4
9 000	2 743	4.8	18.3	17.8	11.4	36.0	42.1	24.9	26.9	16.4	31.2	14.7
10 000	3 048	5.8	19.2	18.3	13.4	34.8	42.4	27.2	31.8	15.7	32.4	11.5
11 000	3 353	7.0	20.1	19.6	14.8	35.2	42.1	28.3	35.6	13.7	32.8	9.0
12 000	3 658	9.0	21.8	23.1	16.6	37.4	41.2	32.2	37.4	12.8	35.2	11.1
13 000	3 962	11.8	23.4	26.5	17.7	41.0	41.2	33.8	40.2	14.5	35.8	14.9
14 000	4 267	14.9	25.8	29.3	21.3	42.2	39.7	37.3	42.3	16.9	33.2	16.8
15 000	4 572	16.5	28.9	31.8	23.1	45.5	40.2	37.7	41.5	18.2	30.9	17.7
16 000	4 877	16.5	31.0	32.0	22.7	44.8	42.1	38.3	38.7	18.9	28.8	21.1
17 000	5 182	16.8	31.2	31.9	23.4	43.9	42.8	36.4	38.1	19.4	31.1	24.1
18 000	5 486	18.4	31.6	32.4	24.0	40.2	44.1	34.8	39.9	17.8	37.2	26.9
19 000	5 791	17.3	32.4	32.8	24.9	38.9	42.5	33.7	42.3	18.3	46.0	27.8
20 000	6 096	16.8	34.6	37.9	26.0	43.0	44.0	34.5	43.4	19.3	57.5	29.4
21 000	6 401	18.0	35.8	37.3	27.6	47.9	42.7	37.2	44.5	19.3	61.5	30.3
22 000	6 706	19.7	35.5	37.6	29.2	51.0	45.9	39.3	45.8	18.8	64.0	29.2
23 000	7 010	21.7	35.1	35.0	30.8	53.9	47.8	41.2	47.0	17.9	65.7	28.6
24 000	7 315	23.6	34.7	31.3	32.7	58.1	49.0	43.1	48.2	16.7	66.9	29.0
25 000	7 620	25.6	36.2	34.3	34.8	62.4	49.9	44.9	49.5	15.5	67.5	30.8
26 000	7 925	27.1	36.2	34.5	37.1	63.7	49.1	46.7	50.8	15.0	67.7	32.9
27 000	8 230	28.5	36.0	34.9	37.9	65.0	43.0	48.5	51.0	14.9	67.1	36.5
28 000	8 534	28.4	35.5	35.6	38.9	89.7	65.4	49.6	50.8	16.0	66.7	39.9
29 000	8 839	28.2	35.1	36.3	39.9	116.2	70.5	49.0	50.5	17.2	66.3	42.7
30 000	9 144	27.2	34.6	36.7	40.3	118.9	75.6	48.5	51.1	18.6	65.9	45.3
31 000	9 449	26.4	34.1	37.0	41.8	118.3	81.2	48.9	52.8	20.1	65.2	47.4
32 000	9 754	26.0	33.5	37.4	44.3	117.6	86.8	49.2	54.9	21.6	65.0	49.4
33 000	10 058	25.1	32.2	37.9	47.6	117.0	92.2	49.1	57.4	22.0	65.6	51.2

TABLE II.- SUMMARY OF WEATHER DATA – Concluded

(e) Wind direction

Mean sea level altitude		Wind direction obtained										
		11-4-66 at –	11-14-66 at –		11-18-66 at –	11-28-66 at –		12-1-66 at –		12-13-66 at –	1-6-67 at –	1-9-67 at –
		1008 hr, Zulu	1703 hr, Zulu	1903 hr, Zulu	1820 hr, Zulu	1700 hr, Zulu	1905 hr, Zulu	1700 hr, Zulu	2035 hr, Zulu	1830 hr, Zulu	1820 hr, Zulu	1900 hr, Zulu
ft	m	deg	deg	deg	deg	deg	deg	deg	deg	deg	deg	deg
2 400	732	0	0	0	30	0	180	180	210	210	10	30
3 000	914	340	312	299	38	290	197	212	230	143	31	41
4 000	1 219	325	235	222	36	218	220	247	259	191	52	57
5 000	1 524	338	223	222	9	216	216	249	267	241	52	63
6 000	1 829	338	223	223	335	216	216	249	273	246	53	69
7 000	2 134	326	221	223	251	218	217	250	270	243	48	76
8 000	2 438	335	219	225	176	219	219	254	265	240	34	79
9 000	2 743	353	219	226	165	221	220	258	259	241	23	78
10 000	3 048	14	221	221	166	226	222	254	255	241	17	76
11 000	3 353	31	218	213	173	230	225	253	254	242	12	61
12 000	3 658	49	217	208	181	231	229	254	257	243	8	37
13 000	3 962	63	214	208	198	232	231	255	259	245	5	23
14 000	4 267	69	215	213	204	234	233	255	256	242	358	16
15 000	4 572	65	217	217	197	237	235	254	253	233	349	10
16 000	4 877	63	215	219	193	238	238	253	252	213	335	8
17 000	5 182	61	214	218	193	236	239	250	252	203	323	6
18 000	5 486	59	213	217	196	229	236	246	251	218	310	1
19 000	5 791	56	215	216	200	227	229	245	247	239	303	355
20 000	6 096	53	219	217	205	225	228	248	246	248	299	349
21 000	6 401	54	224	220	208	226	224	250	246	249	298	348
22 000	6 706	54	228	224	212	227	226	251	247	248	297	348
23 000	7 010	54	232	229	216	228	227	250	248	246	295	348
24 000	7 315	52	234	235	216	229	228	250	249	241	293	348
25 000	7 620	51	235	237	217	230	229	250	250	236	292	348
26 000	7 925	50	237	240	220	231	231	249	251	240	290	347
27 000	8 230	50	238	242	221	232	235	250	252	244	288	345
28 000	8 534	49	239	243	224	231	230	250	254	252	286	344
29 000	8 839	49	239	244	229	230	229	251	256	260	285	342
30 000	9 144	51	239	247	232	229	227	253	258	268	283	341
31 000	9 449	52	238	250	235	229	226	255	259	272	280	341
32 000	9 754	52	238	253	238	228	225	256	259	274	277	342
33 000	10 058	50	238	254	238	228	224	258	258	275	275	343

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE

(a) Peak overpressures

Mission	Peak overpressures Δp_o, lb/sq ft, obtained at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	1.09	1.05	1.01	1.08	1.31	1.11	1.04	1.08	1.02	1.08	1.04	0.991	1.03	1.18	1.05	1.21	1.18	1.06	1.23	----	----
8K-2	1.59	1.38	1.37	1.28	1.34	1.06	1.07	1.19	1.05	1.25	1.21	1.15	1.24	1.19	1.03	1.22	1.19	1.00	1.16	----	----
8K-5	2.81	2.35	1.89	2.41	1.74	----	1.68	----	1.75	1.60	1.39	1.16	1.41	1.37	1.31	1.12	1.01	.958	.944	----	----
8K-6	1.04	1.11	1.11	1.10	1.65	1.48	1.24	1.20	1.09	1.12	1.12	1.12	1.10	.988	----	.907	.959	.906	.974	1.03	0.962
8K-7	1.06	1.09	1.11	1.04	1.62	1.52	1.21	1.40	1.18	1.08	.995	.904	.868	.705	----	.778	.850	.819	.812	.936	.904
8K-8	1.20	.988	.931	.893	.869	.704	.750	.865	----	.905	.939	.874	.988	1.23	.916	.982	1.26	1.04	1.18	1.17	----
8K-9	.988	1.01	.995	1.05	1.24	1.04	1.10	1.18	1.02	1.11	1.13	1.05	1.22	1.23	1.01	1.27	1.42	.965	1.77	1.38	1.27
8K-10	1.08	1.08	1.16	1.08	1.11	.924	.930	.896	1.01	1.05	1.07	1.06	.995	.982	1.02	1.03	1.02	.975	----	1.04	----
8K-11	1.27	1.29	1.34	1.34	1.62	1.33	1.41	1.41	1.50	1.48	1.32	1.20	1.16	1.09	1.13	.999	.946	.897	----	.918	----
8K-15	1.42	1.34	1.24	1.20	1.07	1.16	1.29	1.35	1.56	1.42	1.34	1.48	1.32	.756	.705	.682	.638	.625	1.19	1.10	1.17
8K-16	1.07	1.04	1.14	1.27	1.04	1.17	.926	.985	1.01	1.03	1.24	1.52	1.22	.614	.619	.585	.551	.482	.961	1.07	1.21
8K-17	1.17	1.16	.995	1.10	1.26	1.26	1.34	1.56	1.52	1.33	1.40	1.50	1.44	.741	.581	.565	.570	.535	.879	.844	.896
8K-18	1.17	1.21	1.22	1.17	1.31	1.11	----	1.19	1.19	1.24	1.16	1.15	1.10	1.08	1.21	1.25	1.25	1.36	1.42	1.43	1.31
8K-19	1.13	1.01	1.05	1.14	1.22	1.01	.988	.988	.974	.973	1.01	1.07	1.02	.988	1.15	1.06	1.06	1.04	1.27	1.45	1.35
8K-20	.910	.939	1.04	1.13	1.88	1.87	1.29	.941	.812	.774	.784	.852	1.03	1.53	1.37	1.24	1.32	1.16	.976	1.16	1.17
8K-21	1.76	1.44	1.59	1.83	1.59	1.57	1.34	1.17	1.36	1.37	1.31	1.28	1.36	.967	.902	.981	1.10	1.09	1.23	1.32	1.43
8KV-1	1.39	1.45	1.52	1.35	1.36	1.26	1.64	1.78	1.49	1.19	1.11	1.08	1.06	1.06	1.10	1.10	1.11	1.11	1.26	1.33	1.35
8KV-2	1.15	1.18	1.16	1.05	1.01	.855	1.04	----	1.14	1.07	1.11	1.12	1.27	1.22	1.10	1.09	1.13	1.06	1.14	1.21	1.19
8KV-3	1.34	1.45	1.48	1.26	1.16	.903	1.09	1.08	1.14	1.01	1.05	1.08	1.06	1.10	1.04	1.01	1.03	1.00	1.08	1.11	1.05
8KV-4	.862	.908	.958	.843	.731	.618	.796	.889	.854	.762	.834	.831	.857	.855	.823	.865	.959	.963	1.08	1.11	1.05
8KS-1	1.56	1.89	1.71	1.49	1.22	1.13	1.15	1.08	1.17	1.38	1.38	1.42	1.61	----	1.52	1.50	----	----	1.26	1.40	1.18
8KS-2	1.86	1.74	1.58	1.43	1.35	.967	.889	.688	.774	.723	.715	.806	.959	.944	.867	.813	.741	.702	.685	.711	.728
8KS-3	.980	.964	.946	.887	.884	.864	.815	.723	.730	.741	.817	.741	.806	.793	.795	.795	.799	.858	1.02	1.09	.982
8KS-4	1.14	1.15	1.14	1.04	.995	.946	1.06	.935	1.06	1.13	1.19	1.20	1.24	1.15	1.08	1.05	1.13	1.13	1.02	1.05	1.05
8KS-5	1.08	1.01	.985	.931	.995	.864	.926	.811	.884	.864	.886	1.07	1.20	1.41	1.12	.976	1.05	.897	.889	.928	1.02
8KS-6	1.24	1.13	1.06	1.04	1.24	.988	.944	.811	.862	.917	.903	1.00	1.05	.981	1.05	.976	.916	.858	.852	.869	.914
8KS-10	----	1.15	1.12	1.18	.995	1.11	1.27	1.18	1.28	1.08	----	1.01	1.15	1.07	----	----	1.11	1.03	1.07	1.05	1.17
8KS-11	1.23	1.01	.964	.981	.730	.849	.932	.855	.796	.841	----	.995	.965	.976	----	----	1.02	1.31	1.06	1.08	1.04
8KS-13	1.50	1.25	1.14	----	.973	1.07	1.14	1.03	1.13	1.08	----	1.04	1.10	----	----	----	----	----	1.06	1.12	.988
8KS-14	1.25	1.09	1.02	1.06	.884	.988	.950	.893	.995	1.06	----	1.02	1.03	----	----	----	.897	----	1.02	.954	.938
8KS-16	1.14	1.11	1.12	1.02	1.04	.988	.820	.798	1.02	1.59	----	----	----	----	----	----	.748	----	.630	.710	.708
8KS-17	1.12	1.07	1.18	1.20	.973	.988	.857	.760	.929	1.02	----	1.23	1.34	----	----	----	1.26	----	1.13	1.08	.988
8KS-19	2.18	1.77	1.55	1.42	.995	.948	1.40	1.12	.884	1.04	----	.868	.896	.854	----	----	1.05	.971	.963	.954	.872
8KS-20	1.10	1.13	1.00	1.28	.752	.849	.820	----	1.08	1.22	----	1.14	1.29	----	----	----	----	----	.852	.832	1.40

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(a) Peak overpressures – Concluded

Mission	Peak overpressures Δp_o, lb/sq ft, obtained at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	1.41	----	1.03	1.04	0.942	1.02	1.09	1.08	1.19	1.19	1.06	1.23	1.12	1.15	1.13	1.13	1.06	1.60	1.58	1.54	1.58
8K-2	----	----	1.40	1.50	1.11	1.14	1.19	1.08	1.14	1.15	.966	1.14	1.08	1.11	1.13	1.11	1.16	1.40	1.13	1.06	.864
8K-5	----	----	.851	.675	.641	.876	.880	.861	1.21	1.36	1.26	1.18	1.39	1.29	1.24	1.14	1.26	1.34	1.15	.938	.888
8K-6	1.01	.825	1.04	.974	.943	----	----	----	----	----	----	.823	.933	.858	.911	.886	.868	1.11	1.07	1.08	1.12
8K-7	.988	.881	1.10	1.16	1.13	----	----	----	----	----	----	1.21	1.23	1.12	1.28	1.16	1.13	1.27	1.22	1.15	1.11
8K-8	.948	----	1.06	1.07	1.05	.924	.882	.926	.975	.899	.879	.993	.999	.965	1.00	.921	.910	1.17	1.23	1.21	1.42
8K-9	1.32	----	1.44	1.40	1.26	1.18	1.28	1.52	1.37	1.56	1.47	1.34	1.26	1.16	1.24	1.09	1.08	1.38	1.53	1.49	1.54
8K-10	.968	----	1.00	.974	1.01	.871	.956	.959	.945	1.02	.853	.926	.889	.981	1.06	1.14	1.05	----	----	----	----
8K-11	.909	----	.954	.931	.898	.901	.956	1.00	.971	1.02	.901	.926	.889	1.02	1.06	1.06	1.00	----	----	----	----
8K-15	1.27	.994	1.14	1.08	1.01	.916	.906	.854	.925	.904	.761	.832	.887	.841	.952	.961	.914	1.09	1.16	1.29	1.38
8K-16	1.41	1.65	1.16	1.03	1.10	1.44	1.46	1.50	1.75	1.72	1.58	1.77	1.90	1.88	1.78	1.43	1.39	1.86	1.65	1.66	1.67
8K-17	.998	.938	1.25	1.01	1.06	1.04	1.20	1.15	1.15	1.08	.951	1.07	1.15	1.23	1.38	1.32	1.12	1.53	1.60	1.87	1.56
8K-18	1.22	1.18	1.44	1.19	1.11	.927	1.12	.924	.926	.959	.891	.924	1.20	.908	.943	.924	.857	1.08	1.11	1.19	1.28
8K-19	1.37	1.31	1.26	1.21	1.28	1.36	1.48	1.31	1.26	1.24	1.20	1.31	1.39	1.28	1.34	1.31	1.31	1.32	1.39	1.38	1.29
8K-20	.870	1.06	.968	1.11	1.28	1.65	1.72	1.86	1.73	1.64	1.54	1.38	1.29	1.27	1.37	1.19	1.02	1.28	1.65	1.12	1.07
8K-21	1.26	1.46	1.70	1.99	1.62	1.76	1.57	1.60	1.35	1.43	1.26	1.18	1.08	1.13	1.22	1.11	1.00	.886	.804	.785	.777
8KV-1	1.39	1.39	1.40	1.65	1.47	1.09	1.29	1.29	1.10	1.19	1.11	1.20	1.19	1.25	1.33	1.28	1.16	1.23	1.27	1.35	1.38
8KV-2	1.12	1.15	1.10	1.22	1.09	1.09	1.15	1.03	1.05	1.12	.972	1.07	1.04	1.05	1.08	1.04	.952	1.02	1.06	1.00	1.13
8KV-3	1.06	1.07	1.13	1.26	1.12	.880	.933	.905	.943	.957	.856	.913	.947	.868	.910	.915	.889	1.01	1.07	1.15	1.18
8KV-4	1.06	.987	.966	.992	1.02	.856	.905	.887	.898	.887	.856	.891	.899	.945	1.40	.964	.889	1.00	1.06	1.07	1.25
8KS-1	1.10	.969	.981	1.02	.975	.915	.997	.849	.960	.798	.750	.822	.883	.785	.863	.764	.763	.841	.845	.871	.899
8KS-2	.712	.732	.661	.661	.604	.703	.748	.764	.834	.745	.687	.742	.736	.690	.832	.728	.700	.799	.860	.841	.948
8KS-3	.943	.841	.761	.801	.877	.948	.845	.886	1.00	.837	.760	.887	.765	.906	1.14	1.01	1.03	1.29	1.25	1.31	1.31
8KS-4	1.10	.969	.881	.901	.780	.719	.775	.728	.857	.902	.792	.838	.897	.771	.879	.776	.763	.841	.815	.718	.752
8KS-5	1.08	1.22	1.32	1.60	1.58	1.26	1.26	1.10	----	1.03	.760	1.06	1.29	1.14	1.62	1.71	1.69	1.64	1.27	.856	1.03
8KS-6	1.12	1.26	1.32	1.26	1.31	1.68	2.12	1.65	1.86	1.44	1.33	1.50	1.78	1.30	1.66	1.20	1.02	.953	.875	.764	.801
8KS-10	1.12	1.11	1.21	1.67	1.16	1.30	1.30	1.31	1.44	1.39	1.43	1.38	1.40	1.46	1.57	1.31	1.24	1.48	1.53	1.38	1.41
8KS-11	1.12	1.02	1.09	1.18	1.09	1.06	1.19	1.14	1.19	1.13	1.21	1.27	1.12	1.01	1.17	1.05	1.01	1.29	1.33	1.04	1.36
8KS-13	1.16	1.02	.955	1.11	.938	.900	1.16	.993	1.06	.950	.983	.997	.944	.944	1.06	1.00	1.01	1.21	1.26	.944	1.20
8KS-14	1.00	1.07	.975	.938	.956	.911	.953	.944	.978	.860	.931	.877	.899	.917	1.05	.947	.883	1.03	1.16	1.01	1.20
8KS-16	.861	.817	.702	.713	.656	.865	.685	.760	.750	.679	.701	.696	.622	.657	.708	.660	.637	.749	.707	.635	.723
8KS-17	1.44	1.52	1.40	1.65	.994	.865	1.09	1.40	1.50	1.19	1.09	1.13	1.17	1.22	1.05	.861	.801	.860	.909	.798	.917
8KS-19	1.14	1.29	1.29	1.29	1.48	.888	.894	.981	1.07	1.02	1.01	.997	.933	.985	1.20	1.02	1.01	1.27	1.35	1.24	1.66
8KS-20	.961	.834	.838	.938	.863	1.08	1.27	1.07	1.10	.973	1.00	1.02	.888	1.01	1.21	1.03	1.03	1.23	1.41	1.40	1.45

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(b) Peak overpressures

Mission	Peak overpressure Δp_0, N/m^2, obtained at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	52.19	50.27	48.36	51.71	62.72	53.15	49.80	51.71	48.84	51.71	49.80	47.45	49.32	56.50	50.27	57.94	56.50	50.75	58.89	----	----
8K-2	76.13	66.07	65.60	61.29	64.16	50.75	51.23	56.98	50.27	59.85	57.94	55.06	59.37	56.98	49.32	58.41	56.98	47.88	55.54	----	----
8K-5	134.54	112.52	90.49	115.39	83.31	----	80.44	----	83.79	76.61	66.55	55.54	67.51	65.60	62.72	53.63	48.36	45.87	45.20	----	----
8K-6	49.80	53.15	53.15	52.67	79.00	70.86	59.37	57.46	52.19	53.63	53.63	53.63	52.67	47.31	----	43.43	45.92	43.38	46.64	49.32	46.06
8K-7	50.75	52.19	53.15	49.80	77.57	72.78	57.94	67.03	56.50	51.71	47.64	43.28	41.56	33.76	----	37.25	40.70	39.21	38.88	44.82	43.28
8K-8	57.46	47.31	44.58	42.76	41.61	33.71	35.91	41.42	----	43.33	44.96	41.85	47.31	58.89	43.86	47.02	60.33	49.80	56.50	56.02	----
8K-9	47.31	48.36	47.64	50.27	59.37	49.80	52.67	56.50	48.84	53.15	54.10	50.27	58.41	58.89	48.36	60.81	67.99	46.20	84.75	66.07	60.81
8K-10	51.71	51.71	55.54	51.71	53.15	44.24	44.53	42.90	48.36	50.27	51.23	50.75	47.64	47.02	48.84	49.32	48.84	46.68	----	49.80	----
8K-11	60.81	61.77	64.16	64.16	97.57	63.68	67.51	67.51	71.82	70.86	63.20	57.46	55.54	52.19	54.10	47.83	45.29	42.95	----	43.95	----
8K-15	67.99	64.16	59.37	57.46	51.23	55.54	61.77	64.64	74.69	67.99	64.16	70.86	63.20	36.20	33.76	32.65	30.55	29.93	56.98	52.67	56.02
8K-16	51.23	49.80	54.58	60.81	49.80	56.02	44.34	47.16	48.36	49.32	59.37	72.78	58.41	29.40	29.64	28.01	26.38	23.08	46.01	51.23	57.94
8K-17	56.02	55.54	47.64	52.67	60.33	60.33	64.16	74.69	72.78	63.68	67.03	71.82	68.95	35.48	27.82	27.05	27.29	25.62	42.09	40.41	42.90
8K-18	56.02	57.94	58.41	56.02	62.72	53.15	----	56.98	56.98	59.37	55.54	55.06	52.67	51.71	57.94	59.85	59.85	65.12	67.99	68.67	62.72
8K-19	54.10	48.36	50.27	54.58	58.41	48.36	47.31	47.31	46.64	46.59	48.36	51.23	48.84	47.31	55.06	50.75	50.75	49.80	60.81	69.43	64.64
8K-20	43.57	44.96	49.80	54.10	90.01	89.54	61.77	45.06	38.88	37.06	37.54	40.79	49.32	73.26	65.60	59.37	63.20	55.54	46.73	55.54	56.02
8K-21	84.27	68.95	76.13	87.62	76.13	75.17	64.16	56.02	65.12	65.60	62.72	61.29	65.12	46.30	43.19	46.97	52.67	52.19	58.89	63.20	68.47
8KV-1	66.55	69.43	72.78	64.64	65.12	60.33	78.52	85.23	71.34	56.90	53.15	51.71	50.75	50.75	52.67	52.67	53.15	53.15	60.33	63.68	64.64
8KV-2	55.06	56.50	55.54	50.27	48.36	40.94	49.80	----	54.58	51.23	53.15	53.63	60.81	58.41	52.67	52.19	54.10	50.75	54.58	57.94	56.98
8KV-3	64.16	69.43	70.86	60.33	55.54	43.24	52.19	51.71	54.58	48.36	50.27	51.71	50.75	52.67	49.80	48.36	49.32	47.88	51.71	53.15	50.27
8KV-4	41.27	43.48	45.87	40.36	35.00	29.59	38.11	42.57	40.89	36.48	39.93	39.79	41.03	40.94	39.41	41.42	45.92	46.11	51.71	53.15	50.27
8KS-1	74.69	90.49	81.88	71.34	58.41	54.10	55.06	51.71	56.02	66.07	66.07	67.99	77.09	----	72.78	71.82	----	----	60.33	67.03	56.50
8KS-2	89.06	83.31	75.65	68.47	64.64	46.30	42.57	32.94	37.06	34.62	34.23	38.59	45.92	45.20	41.51	38.93	35.48	33.61	32.80	34.04	34.86
8KS-3	46.92	46.16	45.29	42.47	42.33	41.37	39.02	34.62	34.95	35.48	39.12	35.48	38.59	37.97	38.06	38.06	38.26	41.08	48.84	52.19	47.02
8KS-4	54.58	55.06	54.58	49.80	47.64	45.29	50.75	44.77	50.75	54.10	56.98	57.46	59.37	55.06	51.71	50.27	54.10	54.10	48.84	50.27	50.27
8KS-5	51.71	48.36	47.16	44.58	47.64	41.37	44.34	38.83	42.33	41.37	42.42	51.23	57.46	67.51	53.63	46.73	50.27	42.95	42.57	44.43	48.84
8KS-6	59.37	54.10	50.75	49.80	59.37	47.31	45.20	38.83	41.27	43.91	43.24	47.88	50.27	46.97	50.27	46.73	43.86	41.08	40.79	41.61	43.76
8KS-10	-----	55.06	53.63	56.50	47.64	53.15	60.81	56.50	61.29	51.71	----	48.36	55.06	51.23	----	----	53.15	49.32	51.23	50.27	56.02
8KS-11	58.89	48.36	46.16	46.97	34.95	40.65	44.62	40.94	38.11	40.27	----	47.64	46.20	46.73	----	----	48.84	62.72	50.75	51.71	49.80
8KS-13	71.82	59.85	54.58	-----	46.59	51.23	54.58	49.32	54.10	51.71	----	49.80	52.67	----	----	----	----	----	50.75	53.63	47.31
8KS-14	59.85	52.19	48.84	50.75	42.33	47.31	45.49	42.76	47.64	50.75	----	48.84	49.32	----	----	----	42.95	----	48.84	45.68	44.91
8KS-16	54.58	53.15	53.63	48.84	49.80	47.31	39.26	38.21	48.84	76.13	----	----	----	----	----	----	35.81	----	30.16	33.99	33.90
8KS-17	53.63	51.23	56.50	57.46	46.59	47.31	41.03	36.39	44.48	48.84	----	58.89	64.16	----	----	----	60.33	----	54.10	51.71	47.31
8KS-19	104.38	84.75	74.21	67.99	47.64	45.39	67.03	53.63	42.33	49.80	----	41.56	42.90	40.89	----	----	50.27	46.49	46.11	45.68	41.75
8KS-20	52.67	54.10	47.88	61.29	36.01	40.65	39.26	----	51.71	58.41	----	54.58	61.77	----	----	----	----	----	40.79	39.84	67.03

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(b) Peak overpressures – Concluded

Mission	Peak overpressure Δp_o, N/m^2, obtained at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	67.51	----	49.32	49.80	45.10	48.84	52.19	51.71	56.98	56.98	50.75	58.89	53.63	55.06	54.10	54.10	50.75	76.61	75.65	73.74	75.65
8K-2	----	----	67.03	71.82	53.15	54.58	56.98	51.71	54.58	55.06	46.25	54.58	51.71	53.15	54.10	53.15	55.54	67.03	54.10	50.75	41.37
8K-5	----	----	40.75	32.32	30.69	41.94	42.13	41.22	57.94	65.12	60.33	56.50	66.55	61.77	59.37	54.58	60.33	64.16	55.06	44.91	42.52
8K-6	48.36	39.50	49.80	46.64	45.15	----	----	----	----	----	----	39.41	44.67	41.08	43.62	42.42	41.56	53.15	51.23	51.71	53.63
8K-7	47.31	42.18	52.67	55.54	54.10	----	----	----	----	----	----	57.94	58.89	53.63	61.29	55.54	54.10	60.81	58.41	55.06	53.15
8K-8	45.39	----	50.75	51.23	50.27	44.24	42.23	44.34	46.68	43.04	42.09	47.55	47.83	46.20	47.88	44.10	43.57	56.02	58.89	57.94	67.99
8K-9	63.20	----	68.95	67.03	60.33	56.50	61.29	72.78	65.60	74.69	70.38	64.16	60.33	55.54	59.37	52.19	51.71	66.07	73.26	71.34	73.74
8K-10	46.35	----	47.88	46.64	48.36	41.70	45.77	45.92	45.25	48.84	40.84	44.34	42.57	46.97	50.75	54.58	50.27	----	----	----	----
8K-11	43.52	----	45.68	44.58	43.00	43.14	45.77	47.88	46.49	48.84	43.14	44.34	42.57	48.84	50.75	50.75	47.88	----	----	----	----
8K-15	60.81	47.59	54.58	51.71	48.36	43.86	43.38	40.89	44.29	43.28	36.44	39.84	42.47	40.27	45.58	46.01	43.76	52.19	55.54	61.77	66.07
8K-16	67.51	79.00	55.54	49.32	52.67	68.95	69.91	71.82	83.79	82.35	75.65	84.75	90.97	90.01	85.23	68.47	66.55	89.06	79.00	79.48	79.96
8K-17	47.78	44.91	59.85	48.36	50.75	49.80	57.46	55.06	55.06	51.71	45.53	51.23	55.06	58.89	66.07	63.20	53.63	73.26	76.61	89.54	74.69
8K-18	58.41	56.50	68.95	56.98	53.15	44.38	53.63	44.24	44.34	45.92	42.66	44.24	57.46	43.48	45.15	44.24	41.03	51.71	53.15	56.98	61.29
8K-19	65.60	62.72	60.33	57.94	61.29	65.12	70.86	62.72	60.33	59.37	57.46	62.72	66.55	61.29	64.16	62.72	62.72	63.20	66.55	66.07	61.77
8K-20	41.66	50.75	46.35	53.15	61.29	79.00	82.35	89.06	82.83	78.52	73.74	66.07	61.77	60.81	65.60	56.98	48.84	61.29	79.00	53.63	51.23
8K-21	60.33	69.91	81.40	95.28	77.57	84.27	75.17	76.61	64.64	68.47	60.33	56.50	51.71	54.10	58.41	53.15	47.88	42.42	38.50	37.59	37.20
8KV-1	66.55	66.55	67.03	79.00	70.38	52.19	61.77	61.77	52.67	56.98	53.15	57.46	56.98	59.85	63.68	61.29	55.54	58.89	60.81	64.64	66.07
8KV-2	53.63	55.06	52.67	58.41	52.19	52.19	55.06	49.32	50.27	53.63	46.54	51.23	49.80	50.27	51.71	49.80	45.58	48.84	50.75	47.88	54.10
8KV-3	50.75	51.23	54.10	60.32	53.63	42.13	44.67	43.33	45.15	45.82	40.99	43.71	45.34	41.56	43.57	43.81	42.57	48.36	51.23	55.06	56.50
8KV-4	50.75	47.26	46.25	47.50	48.84	40.99	43.33	42.47	43.00	42.47	40.99	42.66	43.04	45.25	49.80	46.16	42.57	47.88	50.75	51.23	59.85
8KS-1	52.67	46.40	46.97	48.84	46.68	43.81	47.74	40.65	45.97	38.21	35.91	39.36	42.28	37.59	41.32	36.58	36.53	40.27	40.46	41.70	43.04
8KS-2	34.09	35.05	31.65	31.65	28.92	33.66	35.81	36.58	39.93	35.67	32.89	35.53	35.24	33.04	39.84	34.86	33.52	38.26	41.18	40.27	45.39
8KS-3	45.15	40.27	36.44	38.35	41.99	45.39	40.46	42.42	47.88	40.08	36.39	42.47	36.63	43.38	54.58	48.36	49.32	61.77	59.85	62.72	62.72
8KS-4	52.67	46.40	42.18	43.14	37.35	34.43	37.11	34.86	41.03	43.19	37.92	40.12	42.95	36.92	42.09	37.16	36.53	40.27	39.02	34.38	36.01
8KS-5	51.71	58.41	63.20	76.61	75.65	60.33	60.33	52.67	----	49.32	36.39	50.75	61.77	54.58	77.57	81.88	80.92	78.52	60.81	40.99	49.32
8KS-6	53.63	60.33	63.20	60.33	62.72	80.44	101.51	79.00	89.06	68.95	63.68	71.82	85.23	62.24	79.48	57.46	48.84	45.63	41.90	36.58	38.35
8KS-10	53.63	53.15	57.94	79.96	55.54	62.24	62.24	62.72	68.95	66.55	68.47	66.07	67.03	69.91	75.17	62.72	59.37	70.86	73.26	66.07	67.51
8KS-11	53.63	48.84	52.19	56.50	52.19	50.75	56.98	54.58	56.98	54.10	57.94	60.81	53.63	48.36	56.02	50.27	48.36	61.77	63.68	49.80	65.12
8KS-13	55.54	48.84	45.73	53.15	44.91	43.09	55.54	47.55	50.75	45.49	47.07	47.74	45.20	45.20	50.75	47.88	48.36	57.94	60.33	45.20	57.46
8KS-14	47.88	51.23	46.68	44.91	45.77	43.62	45.63	45.20	46.83	41.18	44.58	41.99	43.04	43.91	50.27	45.34	42.28	49.32	55.54	48.36	57.46
8KS-16	41.22	39.12	33.61	34.14	31.41	41.42	32.80	36.39	35.91	32.51	33.56	33.32	29.78	31.46	33.90	31.60	30.50	35.86	33.85	30.40	34.62
8KS-17	68.95	72.78	67.03	79.00	47.59	41.42	52.19	67.03	71.82	56.98	52.19	54.10	56.02	58.41	50.27	41.22	38.35	41.18	43.52	38.21	43.91
8KS-19	54.58	61.77	61.77	61.77	70.86	42.52	42.80	46.97	51.23	48.84	48.36	47.74	44.67	47.16	57.46	48.84	48.36	60.81	64.64	59.37	79.48
8KS-20	46.01	39.93	40.12	44.91	41.32	51.71	60.81	51.23	52.67	46.59	47.88	48.84	42.52	48.36	57.94	49.32	49.32	58.89	67.51	67.03	69.43

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(c) Positive impulse

Mission	Positive impulse I_o, lb-sec/ft^2 obtained at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	0.0327	0.0327	0.0292	0.0301	0.0365	0.0292	0.0299	0.0332	0.0286	0.0335	0.0323	0.0287	0.0331	0.0327	0.0290	0.0363	0.0317	0.0301	0.0344	-----	-----
8K-2	.0397	.0373	.0364	.0352	.0377	.0316	.0318	.0347	.0310	.0335	.0338	.0294	.0339	.0324	.0294	.0346	.0331	.0306	.0364	-----	-----
8K-5	.0402	.0409	.0369	.0426	.0443	-----	.0441	-----	.0398	.0392	.0387	.0351	.0363	.0341	.0326	.0365	.0354	.0297	.0360	-----	-----
8K-6	.0336	.0367	.0362	.0344	.0485	.0430	.0343	.0332	.0354	.0360	.0371	.0356	.0352	.0317	-----	.0333	.0359	.0331	.0311	0.0338	0.0334
8K-7	.0326	.0349	.0352	.0334	.0490	.0402	.0338	.0354	.0332	.0349	.0328	.0327	.0318	.0308	-----	.0333	.0348	.0314	.0304	.0351	.0337
8K-8	.0354	.0356	.0370	.0365	.0395	.0333	.0348	.0344	-----	.0311	.0326	.0280	.0367	.0294	.0254	.0301	.0326	.0250	.0335	.0341	-----
8K-9	.0322	.0306	.0307	.0335	.0395	.0324	.0366	.0392	.0349	.0360	.0386	.0347	.0408	.0372	.0309	.0354	.0391	.0282	.0416	.0429	.0433
8K-10	.0414	.0440	.0400	.0393	.0432	.0363	.0383	.0354	.0394	.0408	.0408	.0376	.0385	.0402	.0427	.0417	.0422	.0400	-----	.0421	-----
8K-11	.0428	.0393	.0427	.0398	.0532	.0452	.0433	.0399	.0449	.0451	.0441	.0410	.0438	.0437	.0436	.0405	.0393	.0380	-----	.0396	-----
8K-15	.0344	.0365	.0370	.0349	.0353	.0370	.0338	.0320	.0357	.0346	.0340	.0352	.0351	.0206	.0187	.0193	.0186	.0211	.0371	.0354	.0364
8K-16	.0290	.0297	.0307	.0324	.0291	.0302	.0341	.0316	.0289	.0309	.0337	.0295	.0302	.0203	.0205	.0213	.0206	.0204	.0329	.0339	.0333
8K-17	.0383	.0379	.0370	.0362	.0370	.0391	.0342	.0369	.0288	.0330	.0326	.0325	.0350	.0222	.0206	.0201	.0199	.0225	.0321	.0322	.0333
8K-18	.0321	.0392	.0362	.0386	.0409	.0375	-----	.0433	.0385	.0417	.0399	.0358	.0393	.0400	.0398	.0376	.0341	.0386	.0424	.0434	.0406
8K-19	.0364	.0344	.0354	.0373	.0349	.0378	.0356	.0381	.0345	.0352	.0356	.0321	.0318	.0320	.0367	.0398	.0341	.0377	.0411	.0402	.0381
8K-20	.0367	.0404	.0372	.0375	.0405	.0382	.0356	.0353	.0375	.0360	.0376	.0349	.0380	.0400	.0397	.0367	.0416	.0344	.0365	.0363	.0348
8K-21	.0451	.0459	.0417	.0486	.0386	.0439	.0402	.0393	.0380	.0428	.0400	.0358	.0362	.0338	.0319	.0350	.0332	.0330	.0365	.0376	.0359
8KV-1	.0536	.0642	.0598	.0515	.0506	.0440	.0492	.0548	.0511	.0423	.0444	.0452	.0458	.0418	.0411	.0430	.0416	.0398	.0474	.0464	.0412
8KV-2	.0483	.0511	.0543	.0476	.0403	.0374	.0429	-----	.0463	.0423	.0440	.0419	.0425	.0422	.0411	.0405	.0479	.0436	.0471	.0484	.0436
8KV-3	.0459	.0518	.0508	.0443	.0402	.0314	.0401	.0459	.0449	.0366	.0383	.0379	.0381	.0393	.0394	.0384	.0392	.0385	.0434	.0413	.0408
8KV-4	.0390	.0389	.0389	.0367	.0330	.0266	.0333	.0361	.0370	.0300	.0349	.0343	.0322	.0317	.0298	.0313	.0337	.0324	.0352	.0421	.0367
8KS-1	.0427	.0464	.0463	.0455	.0450	.0419	.0478	.0443	.0487	.0478	.0482	.0480	.0537	-----	.0439	.0484	-----	-----	.0457	.0464	.0467
8KS-2	.0477	.0496	.0457	.0433	.0387	.0370	.0398	.0388	.0361	.0348	.0321	.0322	.0333	.0312	.0296	.0305	.0302	.0295	.0287	.0294	.0273
8KS-3	.0345	.0375	.0360	.0328	.0298	.0309	.0343	.0293	.0297	.0300	.0306	.0301	.0333	.0312	.0343	.0361	.0329	.0339	.0322	.0356	.0344
8KS-4	.0367	.0406	.0384	.0381	.0329	.0329	.0361	.0344	.0351	.0361	.0332	.0365	.0397	.0365	.0374	.0374	.0375	.0358	.0370	.0376	.0347
8KS-5	.0427	.0416	.0433	.0441	.0379	.0360	.0410	.0370	.0420	.0414	.0392	.0400	.0422	.0409	.0427	.0407	.0416	.0387	.0392	.0415	.0406
8KS-6	.0440	.0451	.0421	.0391	.0373	.0340	.0377	.0362	.0376	.0377	.0375	.0397	.0408	.0387	.0412	.0359	.0380	.0368	.0361	.0373	.0364
8KS-10	-----	.0381	.0366	.0387	.0354	.0326	.0345	.0329	.0362	.0311	-----	.0439	.0390	.0392	-----	-----	.0419	.0360	.0380	.0413	.0343
8KS-11	.0400	.0370	.0313	.0350	.0296	.0294	.0323	.0329	.0326	.0312	-----	.0315	.0339	.0366	-----	-----	.0389	.0388	.0385	.0382	.0361
8KS-13	.0474	.0401	.0380	-----	.0360	.0333	.0379	.0339	.0373	.0359	-----	.0326	.0388	-----	-----	-----	-----	-----	.0380	.0345	.0354
8KS-14	.0440	.0384	.0369	.0357	.0318	.0313	.0351	.0311	.0332	.0354	-----	.0366	.0332	-----	-----	-----	.0415	-----	.0340	.0345	.0342
8KS-16	.0360	.0323	.0306	.0320	.0285	.0264	.0284	.0282	.0282	.0290	-----	-----	-----	-----	-----	-----	.0327	-----	.0220	.0272	.0245
8KS-17	.0381	.0318	.0318	.0300	.0276	.0317	.0307	.0342	.0276	.0281	-----	.0297	.0338	-----	-----	-----	.0341	-----	.0352	.0335	.0318
8KS-19	.0503	.0422	.0393	.0407	.0329	.0359	.0364	.0302	.0354	.0348	-----	.0346	.0367	.0381	-----	-----	.0434	.0329	.0315	.0342	.0321
8KS-20	.0342	.0298	.0324	.0293	.0254	.0284	.0296	-----	.0307	.0314	-----	.0319	.0338	-----	-----	-----	-----	-----	.0297	.0312	.0288

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(c) Positive impulse – Concluded

Mission	Positive impulse I_o, lb-sec/ft^2 obtained at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	0.0415	-----	0.0335	0.0333	0.0321	0.0344	0.0356	0.0345	0.0374	0.0381	0.0327	0.0359	0.0348	0.0364	0.0340	0.0360	0.0343	0.0462	0.0460	0.0400	0.0352
8K-2	-----	-----	.0335	.0333	.0307	.0310	.0342	.0309	.0331	.0343	.0284	.0319	.0313	.0333	.0315	.0324	.0311	.0392	.0326	.0297	.0278
8K-5	-----	-----	.0277	.0251	.0258	.0285	.0265	.0274	.0282	.0289	.0275	.0297	.0278	.0279	.0279	.0280	.0296	.0360	.0302	.0292	.0263
8K-6	.0333	0.0288	.0325	.0294	.0298	-----	-----	-----	-----	-----	-----	.0290	.0327	.0305	.0331	.0296	.0277	.0343	.0335	.0346	.0347
8K-7	.0346	.0298	.0328	.0338	.0330	-----	-----	-----	-----	-----	-----	.0336	.0353	.0319	.0367	.0338	.0333	.0358	.0370	.0376	.0366
8K-8	.0353	-----	.0353	.0369	.0368	.0319	.0325	.0337	.0338	.0301	.0295	.0332	.0312	.0319	.0347	.0318	.0312	.0351	.0391	.0402	.0401
8K-9	.0454	-----	.0390	.0424	.0415	.0331	.0369	.0355	.0397	.0344	.0346	.0364	.0378	.0332	.0383	.0349	.0338	.0389	.0420	.0412	.0422
8K-10	.0388	-----	.0417	.0409	.0431	.0390	.0403	.0414	.0393	.0416	.0382	.0380	.0374	.0414	.0424	.0449	.0416	-----	-----	-----	-----
8K-11	.0365	-----	.0369	.0354	.0363	.0357	.0366	.0359	.0367	.0374	.0316	.0300	.0319	.0359	.0376	.0354	.0340	-----	-----	-----	-----
8K-15	.0384	.0279	.0327	.0309	.0339	.0292	.0350	.0306	.0341	.0320	.0277	.0309	.0332	.0311	.0345	.0339	.0310	.0403	.0388	.0408	.0428
8K-16	.0310	.0281	.0344	.0332	.0381	.0416	.0439	.0402	.0479	.0417	.0393	.0417	.0462	.0433	.0491	.0440	.0391	.0481	.0458	.0458	.0467
8K-17	.0327	.0272	.0302	.0306	.0339	.0345	.0407	.0354	.0382	.0353	.0315	.0381	.0384	.0364	.0420	.0368	.0326	.0441	.0444	.0468	.0463
8K-18	.0373	.0362	.0430	.0400	.0406	.0366	.0447	.0346	.0342	.0340	.0307	.0342	.0503	.0316	.0346	.0313	.0295	.0381	.0369	.0355	.0372
8K-19	.0384	.0353	.0472	.0462	.0439	.0404	.0524	.0378	.0412	.0381	.0343	.0380	.0455	.0360	.0404	.0372	.0359	.0426	.0412	.0415	.0400
8K-20	.0319	.0397	.0356	.0369	.0359	.0379	.0432	.0384	.0387	.0380	.0327	.0401	.0401	.0328	-----	-----	-----	.0357	.0372	.0336	.0341
8K-21	.0367	.0418	.0442	.0404	.0402	.0451	.0426	.0416	.0416	.0539	.0348	.0352	.0314	.0300	-----	.0358	.0357	.0318	.0335	.0343	.0310
8KV-1	.0468	.0449	.0441	.0475	.0472	.0344	.0417	.0413	.0352	.0408	.0342	.0381	.0393	.0385	.0395	.0382	.0350	.0376	.0431	.0408	.0442
8KV-2	.0442	.0448	.0403	.0423	.0421	.0341	.0384	.0354	.0356	.0347	.0304	.0336	.0334	.0342	.0361	.0372	.0343	.0397	.0400	.0413	.0464
8KV-3	.0425	.0427	.0425	.0430	.0430	.0304	.0323	.0340	.0353	.0338	.0296	.0344	.0337	.0336	.0354	.0363	.0351	.0370	.0381	.0387	.0432
8KV-4	.0408	.0394	.0392	.0413	.0361	.0298	.0326	.0328	.0320	.0346	.0301	.0317	.0328	.0323	.0343	.0337	.0317	.0357	.0357	.0364	.0410
8KS-1	.0459	.0427	.0395	.0420	.0419	.0365	.0437	.0353	.0440	.0340	.0323	.0347	.0439	.0354	.0429	.0392	.0381	.0381	.0395	.0374	.0379
8KS-2	.0313	.0280	.0310	.0331	.0310	.0300	.0348	.0319	.0340	.0303	.0271	.0304	.0336	.0300	.0346	.0307	.0292	.0337	.0357	.0386	.0382
8KS-3	.0342	.0338	.0338	.0353	.0358	.0333	.0330	.0313	.0394	.0318	.0289	.0320	.0280	.0312	.0381	.0319	.0292	.0347	.0334	.0333	.0351
8KS-4	.0366	.0342	.0350	.0368	.0351	.0312	.0348	.0311	.0338	.0288	.0271	.0288	.0380	.0282	.0343	.0301	.0284	.0318	.0293	.0288	.0298
8KS-5	.0401	.0390	.0414	.0431	.0439	.0406	.0482	.0391	-----	.0379	.0279	.0386	.0562	.0370	.0466	.0386	.0388	.0412	.0405	.0366	.0421
8KS-6	.0366	.0372	.0370	.0406	.0400	.0422	.0516	.0367	.0460	.0342	.0332	.0385	.0611	.0330	.0462	.0334	.0325	.0364	.0344	.0323	.0361
8KS-10	.0390	.0400	.0396	.0446	.0427	.0400	.0417	.0497	.0422	.0407	.0435	.0400	.0388	.0379	.0438	.0409	.0380	.0482	.0496	.0393	.0476
8KS-11	.0390	.0358	.0377	.0400	.0381	.0358	.0436	.0386	.0395	.0368	.0378	.0393	.0366	.0339	.0400	.0359	.0351	.0442	.0431	.0352	.0419
8KS-13	.0387	.0358	.0377	.0384	.0381	.0332	.0443	.0368	.0383	.0328	.0345	.0357	.0359	.0319	.0385	.0320	.0413	.0416	.0409	.0337	.0380
8KS-14	.0320	.0329	.0351	.0379	.0338	.0303	.0354	.0322	.0338	.0303	.0330	.0318	.0313	.0301	.0343	.0289	.0300	.0377	.0387	.0319	.0400
8KS-16	.0258	.0245	.0239	.0242	.0253	.0236	.0238	.0243	.0248	.0238	.0243	.0286	.0224	.0226	.0233	.0237	.0237	.0281	.0244	.0262	.0258
8KS-17	.0357	.0324	.0331	.0356	.0326	.0301	.0362	.0304	.0338	.0274	.0300	.0315	.0297	.0288	.0328	.0337	.0292	.0337	.0337	.0285	.0316
8KS-19	.0380	.0366	.0406	.0418	.0399	.0325	.0328	.0361	.0372	.0348	.0351	.0319	.0292	.0325	.0358	.0299	.0283	.0379	.0368	.0366	.0395
8KS-20	.0310	.0306	.0324	.0338	.0415	.0303	.0318	.0331	.0352	.0311	.0301	.0292	.0265	.0298	.0338	.0313	.0292	.0356	.0351	.0311	.0327

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(d) Positive impulse

Mission	Positive impulse, I_o, N-sec/m^2 at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	1.57	1.57	1.40	1.44	1.75	1.40	1.43	1.59	1.37	1.60	1.55	1.37	1.58	1.57	1.39	1.74	1.52	1.44	1.65	---	---
8K-2	1.90	1.79	1.74	1.68	1.80	1.51	1.52	1.66	1.48	1.60	1.62	1.41	1.62	1.55	1.41	1.66	1.58	1.46	1.74	---	---
8K-5	1.92	1.96	1.77	2.04	2.12	---	2.11	---	1.91	1.88	1.85	1.68	1.74	1.63	1.56	1.75	1.69	1.42	1.72	---	---
8K-6	1.61	1.76	1.73	1.65	2.32	2.06	1.64	1.59	1.69	1.72	1.78	1.70	1.68	1.52	---	1.59	1.72	1.58	1.49	1.62	1.60
8K-7	1.56	1.67	1.68	1.60	2.35	1.92	1.62	1.69	1.59	1.67	1.57	1.57	1.52	1.47	---	1.59	1.67	1.50	1.46	1.68	1.61
8K-8	1.69	1.70	1.77	1.75	1.89	1.59	1.67	1.65	---	1.49	1.56	1.34	1.76	1.41	1.22	1.44	1.56	1.20	1.60	1.63	---
8K-9	1.54	1.46	1.47	1.60	1.89	1.55	1.75	1.88	1.67	1.72	1.85	1.66	1.95	1.78	1.48	1.69	1.87	1.35	1.99	2.05	2.07
8K-10	1.98	2.11	1.91	1.88	2.07	1.74	1.83	1.69	1.89	1.95	1.95	1.80	1.84	1.92	2.04	2.00	2.02	1.91	---	2.02	---
8K-11	2.05	1.88	2.04	1.91	2.55	2.16	2.07	1.91	2.15	2.16	2.11	1.96	2.10	2.09	2.09	1.94	1.88	1.82	---	1.90	---
8K-15	1.65	1.75	1.77	1.67	1.69	1.77	1.62	1.53	1.71	1.66	1.63	1.68	1.68	.986	.895	.924	.891	1.01	1.78	1.69	1.74
8K-16	1.39	1.42	1.47	1.55	1.39	1.45	1.63	1.51	1.38	1.48	1.61	1.41	1.45	.972	.982	1.02	.986	.977	1.57	1.62	1.59
8K-17	1.83	1.81	1.77	1.73	1.77	1.87	1.64	1.77	1.38	1.58	1.56	1.56	1.68	1.06	.986	.962	.953	1.08	1.54	1.54	1.59
8K-18	1.54	1.88	1.73	1.85	1.96	1.80	---	2.07	1.84	2.00	1.91	1.71	1.88	1.91	1.91	1.80	1.63	1.85	2.03	2.08	1.94
8K-19	1.74	1.65	1.69	1.79	1.67	1.81	1.70	1.82	1.65	1.68	1.70	1.54	1.52	1.53	1.76	1.91	1.63	1.80	1.97	1.92	1.82
8K-20	1.76	1.93	1.78	1.80	1.94	1.83	1.70	1.69	1.80	1.72	1.80	1.67	1.82	1.91	1.90	1.76	1.99	1.65	1.75	1.74	1.67
8K-21	2.16	2.20	2.00	2.33	1.85	2.10	1.92	1.88	1.82	2.05	1.91	1.71	1.73	1.62	1.53	1.68	1.59	1.58	1.75	1.80	1.72
8KV-1	2.57	3.07	2.86	2.47	2.42	2.11	2.36	2.62	2.45	2.02	2.13	2.16	2.19	2.00	1.97	2.06	1.99	1.91	2.27	2.22	1.97
8KV-2	2.31	2.45	2.60	2.28	1.93	1.79	2.05	---	2.13	2.02	2.11	2.01	2.03	2.02	1.97	1.94	2.29	2.09	2.25	2.32	2.09
8KV-3	2.20	2.48	2.43	2.12	1.92	1.50	1.92	2.20	2.15	1.75	1.83	1.81	1.82	1.88	1.89	1.84	1.88	1.84	2.08	1.98	1.95
8KV-4	1.87	1.86	1.86	1.76	1.58	1.27	1.59	1.73	1.77	1.44	1.67	1.64	1.54	1.52	1.43	1.50	1.61	1.55	1.68	2.02	1.76
8KS-1	2.04	2.22	2.22	2.18	2.15	2.01	2.29	2.12	2.33	2.29	2.31	2.30	2.57	----	2.10	2.32	----	----	2.19	2.22	2.24
8KS-2	2.28	2.37	2.19	2.07	1.85	1.77	1.91	1.86	1.73	1.67	1.54	1.54	1.59	1.49	1.42	1.46	1.45	1.41	1.37	1.41	1.31
8KS-3	1.65	1.80	1.72	1.57	1.43	1.48	1.64	1.40	1.42	1.44	1.46	1.44	1.59	1.49	1.64	1.73	1.57	1.62	1.54	1.70	1.65
8KS-4	1.76	1.94	1.84	1.82	1.57	1.57	1.73	1.65	1.68	1.73	1.59	1.75	1.90	1.75	1.79	1.79	1.80	1.71	1.77	1.80	1.66
8KS-5	2.04	1.99	2.07	2.11	1.81	1.72	1.96	1.77	2.01	1.98	1.88	1.91	2.02	1.96	2.04	1.95	1.99	1.85	1.88	1.99	1.94
8KS-6	2.11	2.16	2.02	1.87	1.79	1.63	1.80	1.73	1.80	1.80	1.80	1.90	1.95	1.85	1.97	1.72	1.82	1.76	1.73	1.79	1.74
8KS-10	---	1.82	1.75	1.85	1.69	1.56	1.65	1.57	1.73	1.49	---	2.10	1.87	1.88	----	----	2.01	1.72	1.82	1.98	1.64
8KS-11	1.91	1.77	1.50	1.68	1.42	1.41	1.55	1.57	1.56	1.49	---	1.51	1.62	1.75	----	----	1.86	1.86	1.84	1.83	1.73
8KS-13	2.27	1.92	1.82	---	1.72	1.59	1.81	1.62	1.79	1.72	---	1.56	1.86	----	----	----	----	----	1.82	1.65	1.69
8KS-14	2.11	1.84	1.77	1.71	1.52	1.50	1.68	1.49	1.59	1.69	---	1.75	1.59	----	----	----	1.99	----	1.63	1.65	1.64
8KS-16	1.72	1.55	1.46	1.53	1.36	1.26	1.36	1.35	1.35	1.39	---	---	---	----	----	----	1.57	----	1.05	1.30	1.17
8KS-17	1.82	1.52	1.52	1.44	1.32	1.52	1.47	1.64	1.32	1.34	---	1.42	1.62	----	----	----	1.63	----	1.68	1.60	1.52
8KS-19	2.41	2.02	1.88	1.95	1.57	1.72	1.74	1.45	1.69	1.67	---	1.66	1.76	1.82	----	----	2.08	1.57	1.51	1.64	1.54
8KS-20	1.64	1.43	1.55	1.40	1.22	1.36	1.42	---	1.47	1.50	---	1.53	1.62	----	----	----	----	----	1.42	1.49	1.38

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(d) Positive impulse – Concluded

Mission	Positive impulse, I_o, N-sec/m^2 at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	1.99	---	1.60	1.59	1.54	1.65	1.70	1.65	1.79	1.82	1.57	1.72	1.67	1.74	1.63	1.72	1.64	2.21	2.20	1.91	1.68
8K-2	---	---	1.60	1.59	1.47	1.48	1.64	1.48	1.58	1.64	1.36	1.53	1.50	1.59	1.51	1.55	1.49	1.88	1.56	1.42	1.33
8K-5	---	---	1.33	1.20	1.23	1.36	1.27	1.31	1.35	1.38	1.32	1.42	1.33	1.34	1.34	1.34	1.42	1.72	1.45	1.40	1.26
8K-6	1.59	1.38	1.56	1.41	1.43	---	---	---	---	---	---	1.39	1.57	1.46	1.58	1.42	1.33	1.64	1.60	1.66	1.66
8K-7	1.66	1.43	1.57	1.62	1.58	---	---	---	---	---	---	1.61	1.69	1.53	1.76	1.62	1.59	1.71	1.77	1.80	1.75
8K-8	1.69	---	1.69	1.77	1.76	1.53	1.56	1.61	1.62	1.44	1.41	1.59	1.49	1.53	1.66	1.52	1.49	1.68	1.87	1.92	1.92
8K-9	2.17	---	1.87	2.03	1.99	1.58	1.77	1.70	1.90	1.65	1.66	1.74	1.81	1.59	1.83	1.67	1.62	1.86	2.01	1.97	2.02
8K-10	1.86	---	2.00	1.96	2.06	1.87	1.93	1.98	1.88	1.99	1.83	1.82	1.79	1.98	2.03	2.15	1.99	---	---	---	---
8K-11	1.75	---	1.77	1.69	1.74	1.71	1.75	1.72	1.76	1.79	1.51	1.44	1.53	1.72	1.80	1.69	1.63	---	---	---	---
8K-15	1.84	1.34	1.58	1.48	1.62	1.40	1.68	1.46	1.63	1.53	1.33	1.48	1.59	1.49	1.65	1.62	1.48	1.93	1.86	1.95	2.05
8K-16	1.48	1.34	1.65	1.59	1.82	1.99	2.10	1.92	2.29	2.00	1.88	2.00	2.21	2.07	2.35	2.11	1.87	2.30	2.19	2.19	2.24
8K-17	1.57	1.30	1.45	1.46	1.62	1.65	1.95	1.69	1.83	1.69	1.51	1.82	1.84	1.74	2.01	1.76	1.56	2.11	2.13	2.24	2.22
8K-18	1.79	1.73	2.06	1.91	1.94	1.75	2.14	1.66	1.64	1.63	1.47	1.64	2.41	1.51	1.66	1.50	1.41	1.82	1.77	1.70	1.78
8K-19	1.84	1.69	2.26	2.21	2.10	1.93	2.51	1.81	1.97	1.82	1.64	1.82	2.18	1.72	1.93	1.78	1.72	2.04	1.97	1.99	1.91
8K-20	1.53	1.90	1.70	1.77	1.72	1.81	2.07	1.84	1.85	1.82	1.57	1.92	1.92	1.57	---	---	---	1.71	1.78	1.61	1.63
8K-21	1.76	2.00	2.12	1.93	1.92	2.16	2.04	1.99	1.99	2.58	1.67	1.68	1.50	1.44	---	1.71	1.71	1.52	1.60	1.64	1.48
8KV-1	2.24	2.15	2.11	2.27	2.26	1.65	2.00	1.98	1.68	1.95	1.64	1.82	1.88	1.84	1.89	1.83	1.68	1.80	2.06	1.95	2.12
8KV-2	2.12	2.14	1.93	2.02	2.02	1.63	1.84	1.69	1.70	1.66	1.46	1.61	1.60	1.64	1.73	1.78	1.64	1.90	1.91	1.98	2.22
8KV-3	2.03	2.04	2.03	2.06	2.06	1.46	1.55	1.63	1.69	1.62	1.42	1.65	1.61	1.61	1.69	1.74	1.68	1.77	1.82	1.85	2.07
8KV-4	1.95	1.89	1.88	1.98	1.73	1.43	1.56	1.57	1.53	1.66	1.44	1.52	1.57	1.55	1.64	1.78	1.52	1.71	1.71	1.74	1.96
8KS-1	2.20	2.04	1.89	2.01	2.01	1.75	2.09	1.69	2.11	1.63	1.55	1.66	2.10	1.69	2.05	1.88	1.82	1.82	1.89	1.79	1.81
8KS-2	1.50	1.34	1.48	1.58	1.48	1.44	1.67	1.53	1.63	1.45	1.30	1.46	1.61	1.44	1.66	1.47	1.40	1.61	1.71	1.85	1.83
8KS-3	1.64	1.62	1.62	1.69	1.71	1.59	1.58	1.50	1.89	1.52	1.38	1.53	1.34	1.49	1.82	1.53	1.40	1.66	1.60	1.59	1.68
8KS-4	1.75	1.64	1.68	1.76	1.68	1.49	1.67	1.49	1.62	1.38	1.30	1.38	1.82	1.35	1.64	1.44	1.36	1.52	1.40	1.38	1.43
8KS-5	1.92	1.87	1.98	2.06	2.10	1.94	2.31	1.87	---	1.81	1.34	1.85	2.69	1.77	2.23	1.85	1.86	1.97	1.94	1.75	2.02
8KS-6	1.75	1.78	1.77	1.94	1.91	2.02	2.47	1.76	2.20	1.64	1.59	1.84	2.92	1.58	2.21	1.60	1.56	1.74	1.65	1.55	1.73
8KS-10	1.87	1.91	1.90	2.13	2.04	1.91	2.00	2.38	2.02	1.95	2.08	1.91	1.86	1.81	2.10	1.96	1.82	2.31	2.37	1.88	2.28
8KS-11	1.87	1.71	1.80	1.91	1.82	1.71	2.09	1.85	1.89	1.76	1.81	1.88	1.75	1.62	1.91	1.72	1.68	2.12	2.06	1.68	2.01
8KS-13	1.85	1.71	1.80	1.84	1.82	1.59	2.12	1.76	1.83	1.57	1.65	1.71	1.72	1.53	1.84	1.53	1.98	1.99	1.96	1.61	1.82
8KS-14	1.53	1.57	1.68	1.81	1.62	1.45	1.69	1.54	1.62	1.45	1.58	1.52	1.50	1.44	1.64	1.38	1.44	1.80	1.85	1.53	1.91
8KS-16	1.23	1.17	1.14	1.16	1.21	1.13	1.14	1.16	1.19	1.14	1.16	1.37	1.07	1.08	1.12	1.13	1.13	1.34	1.17	1.25	1.23
8KS-17	1.71	1.55	1.58	1.70	1.56	1.44	1.73	1.46	1.62	1.31	1.44	1.51	1.42	1.38	1.57	1.61	1.40	1.61	1.61	1.36	1.51
8KS-19	1.82	1.75	1.94	2.00	1.91	1.56	1.57	1.73	1.78	1.67	1.68	1.53	1.40	1.56	1.71	1.43	1.35	1.81	1.76	1.75	1.89
8KS-20	1.48	1.46	1.55	1.62	1.51	1.45	1.52	1.58	1.68	1.49	1.44	1.40	1.27	1.43	1.62	1.50	1.40	1.70	1.68	1.49	1.57

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(e) Positive time duration

Mission	Positive time duration Δt_o, sec, at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	0.0540	0.0535	0.0530	0.0540	0.0550	0.0555	0.0555	0.0535	0.0530	0.0535	0.0540	0.0540	0.0565	0.0545	0.0540	0.0545	0.0545	0.0555	0.0560	-----	-----
8K-2	.0535	.0550	.0550	.0550	.0545	.0545	.0550	.0550	.0575	.0560	.0560	.0530	.0555	.0560	.0575	.0580	.0565	.0550	.0540	-----	-----
8K-5	.0475	.0470	.0490	.0495	.0550	-----	.0545	-----	.0490	.0565	.0570	.0570	.0580	.0530	.0580	.0580	.0580	.0555	.0595	-----	-----
8K-6	.0575	.0585	.0570	.0570	.0560	.0570	.0565	.0560	.0590	.0595	.0590	.0580	.0590	.0605	-----	.0610	.0635	.0600	.0565	0.0565	0.0575
8K-7	.0605	.0600	.0595	.0590	.0585	.0565	.0570	.0565	.0570	.0595	.0615	.0615	.0620	.0630	-----	.0620	.0620	.0610	.0600	.0620	.0630
8K-8	.0600	.0610	.0620	.0650	.0650	.0655	.0650	.0640	-----	.0615	.0610	.0600	.0620	.0560	.0575	.0575	.0580	.0570	.0580	.0570	-----
8K-9	.0590	.0570	.0565	.0580	.0580	.0585	.0590	.0590	.0595	.0590	.0585	.0570	.0580	.0575	.0585	.0550	.0565	.0590	.0580	.0610	.0610
8K-10	.0570	.0580	.0565	.0575	.0595	.0585	.0605	.0585	.0585	.0585	.0580	.0565	.0580	.0600	.0600	.0610	.0610	.0600	-----	.0605	-----
8K-11	.0610	.0600	.0605	.0600	.0635	.0635	.0620	.0615	.0605	.0600	.0615	.0620	.0650	.0660	.0660	.0670	.0675	.0680	-----	.0670	-----
8K-15	.0640	.0670	.0700	.0640	.0580	.0570	.0580	.0570	.0580	.0575	.0590	.0565	.0580	.0570	.0580	.0590	.0600	.0600	.0590	.0600	.0610
8K-16	.0610	.0630	.0590	.0590	.0550	.0550	.0570	.0610	.0600	.0620	.0590	.0550	.0550	.0660	.0640	.0630	.0670	.0660	.0660	.0630	.0600
8K-17	.0580	.0600	.0620	.0620	.0640	.0640	.0610	.0570	.0560	.0580	.0560	.0570	.0600	.0610	.0620	.0650	.0630	.0690	.0680	.0640	.0660
8K-18	.0590	.0600	.0595	.0590	.0635	.0625	-----	.0630	.0605	.0605	.0610	.0610	.0635	.0600	.0610	.0595	.0595	.0590	.0600	.0610	.0600
8K-19	.0610	.0610	.0630	.0615	.0610	.0620	.0655	.0640	.0620	.0610	.0610	.0590	.0600	.0605	.0610	.0620	.0610	.0600	.0600	.0600	.0600
8K-20	.0685	.0670	.0675	.0630	.0590	.0620	.0635	.0680	.0680	.0730	.0675	.0695	.0670	.0610	.0590	.0590	.0565	.0600	.0630	.0645	.0655
8K-21	.0580	.0640	.0630	.0630	.0625	.0640	.0625	.0630	.0640	.0650	.0655	.0655	.0650	.0655	.0635	.0650	.0615	.0660	.0610	.0570	.0540
8KV-1	.0570	.0580	.0585	.0560	.0545	.0535	.0530	.0515	.0515	.0535	.0545	.0560	.0575	.0585	.0580	.0590	.0570	.0570	.0575	.0560	.0545
8KV-2	.0600	.0620	.0610	.0600	.0570	.0600	.0600	-----	.0550	.0555	.0570	.0550	.0550	.0560	.0570	.0560	.0570	.0575	.0570	.0570	.0570
8KV-3	.0550	.0550	.0545	.0535	.0530	.0550	.0555	.0570	.0550	.0555	.0570	.0550	.0540	.0560	.0565	.0560	.0560	.0570	.0560	.0550	.0560
8KV-4	.0600	.0605	.0600	.0610	.0575	.0580	.0595	.0605	.0565	.0545	.0575	.0560	.0540	.0530	.0540	.0545	.0550	.0545	.0550	.0555	.0560
8KS-1	.0690	.0675	.0690	.0700	.0675	.0675	.0685	.0650	.0655	.0680	.0685	.0705	.0675	-----	.0665	.0670	-----	-----	.0665	.0690	.0705
8KS-2	.0715	.0735	.0750	.0750	.0680	.0650	.0675	.0700	.0775	.0720	.0715	.0725	.0730	.0670	.0645	.0655	.0670	.0680	.0665	.0655	.0710
8KS-3	.0630	.0640	.0680	.0680	.0670	.0675	.0700	.0730	.0685	.0670	.0675	.0680	.0695	.0710	.0720	.0715	.0705	.0685	.0645	.0645	.0650
8KS-4	.0645	.0670	.0700	.0690	.0660	.0635	.0670	.0690	.0655	.0645	.0640	.0645	.0640	.0650	.0655	.0670	.0655	.0645	.0640	.0640	.0635
8KS-5	.0690	.0700	.0730	.0730	.0715	.0695	.0730	.0720	.0740	.0720	.0715	.0700	.0690	.0680	.0670	.0700	.0705	.0680	.0705	.0700	.0695
8KS-6	.0650	.0660	.0665	.0670	.0700	.0695	.0720	.0710	.0700	.0705	.0695	.0690	.0690	.0700	.0680	.0675	.0670	.0675	.0690	.0685	.0695
8KS-10	-----	.0545	.0545	.0550	.0540	.0535	.0545	.0520	.0540	.0550	-----	.0550	.0550	.0560	-----	-----	.0580	.0570	.0590	.0580	.0570
8KS-11	.0550	.0545	.0555	.0555	.0580	.0565	.0565	.0590	.0570	.0570	-----	.0550	.0560	.0570	-----	-----	.0590	.0570	.0550	.0550	.0560
8KS-13	.0530	.0550	.0560	-----	.0545	.0550	.0560	.0555	.0560	.0560	-----	.0540	.0550	-----	-----	-----	-----	-----	.0570	.0550	.0560
8KS-14	.0550	.0565	.0560	.0555	.0550	.0555	.0560	.0555	.0550	.0560	-----	.0540	.0540	-----	-----	-----	.0580	-----	.0550	.0550	.0580
8KS-16	.0550	.0545	.0560	.0550	.0550	.0545	.0545	.0585	.0550	.0520	-----	-----	-----	-----	-----	-----	.0620	-----	.0590	.0570	.0570
8KS-17	.0555	.0560	.0555	.0555	.0545	.0550	.0585	.0570	.0580	.0560	-----	.0540	.0520	-----	-----	-----	.0540	-----	.0570	.0570	.0570
8KS-19	.0520	.0545	.0545	.0550	.0560	.0545	.0565	.0570	.0600	.0580	-----	.0590	.0590	.0600	-----	-----	.0580	.0570	.0570	.0570	.0560
8KS-20	.0590	.0580	.0565	.0560	.0550	.0545	.0560	-----	.0550	.0540	-----	.0525	.0530	-----	-----	-----	-----	-----	.0620	.0600	.0590

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(e) Positive time duration – Concluded

Mission	Positive time duration Δt_o, sec, at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	0.0540	-----	0.0595	0.0580	0.0590	0.0575	0.0565	0.0565	0.0565	0.0555	0.0560	0.0560	0.0565	0.0550	0.0545	0.0550	0.0550	0.0540	0.0535	0.0550	0.0540
8K-2	-----	-----	.0555	.0530	.0560	.0555	.0555	.0550	.0545	.0555	.0545	.0545	.0550	.0545	.0540	.0545	.0520	.0540	.0550	.0570	.0570
8K-5	-----	-----	.0580	.0540	.0575	.0560	.0545	.0545	.0535	.0550	.0545	.0540	.0535	.0530	.0505	.0500	.0505	.0505	.0530	.0535	.0540
8K-6	.0605	0.0605	.0600	.0570	.0585	-----	-----	-----	-----	-----	-----	.0600	.0580	.0585	.0580	.0590	.0585	.0590	.0610	.0600	.0610
8K-7	.0650	.0625	.0585	.0570	.0565	-----	-----	-----	-----	-----	-----	.0565	.0570	.0570	.0580	.0600	.0580	.0580	.0570	.0585	.0595
8K-8	.0625	-----	.0605	.0590	.0585	.0600	.0605	.0610	.0610	.0610	.0605	.0595	.0600	.0600	.0620	.0610	.0615	.0610	.0595	.0595	.0560
8K-9	.0590	-----	.0545	.0580	.0615	.0620	.0615	.0600	.0610	.0600	.0595	.0590	.0600	.0595	.0600	.0600	.0590	.0590	.0585	.0585	.0595
8K-10	.0600	-----	.0600	.0585	.0610	.0615	.0615	.0595	.0595	.0600	.0590	.0605	.0605	.0595	.0590	.0600	.0590	-----	-----	-----	-----
8K-11	.0665	-----	.0650	.0650	.0660	.0650	.0645	.0635	.0630	.0640	.0640	.0635	.0630	.0630	.0640	.0625	.0630	-----	-----	-----	-----
8K-15	.0600	.0580	.0580	.0570	.0590	.0610	.0655	.0630	.0640	.0630	.0620	.0630	.0660	.0630	.0650	.0655	.0660	.0640	.0600	.0565	.0550
8K-16	.0560	.0650	.0660	.0640	.0720	.0660	.0625	.0590	.0600	.0580	.0585	.0580	.0600	.0580	.0600	.0590	.0560	.0590	.0580	.0640	.0660
8K-17	.0630	.0600	.0640	.0620	.0630	.0610	.0720	.0690	.0680	.0670	.0665	.0670	.0660	.0640	.0640	.0620	.0610	.0635	.0600	.0570	.0600
8K-18	.0605	.0605	.0610	.0600	.0620	.0610	.0635	.0610	.0615	.0615	.0630	.0620	.0675	.0595	.0620	.0605	.0615	.0620	.0620	.0600	.0595
8K-19	.0605	.0610	.0635	.0630	.0645	.0590	.0640	.0620	.0615	.0615	.0610	.0610	.0630	.0585	.0600	.0605	.0605	.0625	.0620	.0625	.0630
8K-20	.0690	.0745	.0645	.0640	.0620	.0595	.0620	.0575	.0585	.0585	.0550	.0600	.0605	.0590	-----	.0530	.0530	.0565	.0560	.0635	.0650
8K-21	.0600	.0605	.0590	.0555	.0600	.0615	.0615	.0615	.0600	.0750	.0540	.0610	.0590	.0565	-----	.0600	.0620	.0610	.0660	.0660	.0600
8KV-1	.0535	.0525	.0505	.0495	.0510	.0500	.0525	.0525	.0480	.0505	.0515	.0510	.0525	.0525	.0525	.0525	.0520	.0540	.0545	.0550	.0540
8KV-2	.0565	.0570	.0565	.0550	.0570	.0545	.0560	.0545	.0545	.0535	.0555	.0555	.0555	.0545	.0550	.0560	.0555	.0580	.0580	.0570	.0580
8KV-3	.0570	.0560	.0540	.0545	.0560	.0540	.0535	.0545	.0550	.0545	.0550	.0550	.0580	.0560	.0580	.0570	.0565	.0565	.0560	.0565	.0565
8KV-4	.0565	.0560	.0560	.0550	.0560	.0540	.0545	.0550	.0545	.0545	.0545	.0535	.0550	.0535	.0550	.0550	.0545	.0560	.0560	.0560	.0560
8KS-1	.0730	.0735	.0760	.0755	.0755	.0715	.0740	.0735	.0755	.0735	.0760	.0750	.0795	.0755	.0785	.0780	.0785	.0810	.0790	.0800	.0770
8KS-2	.0740	.0715	.0715	.0705	.0695	.0675	.0710	.0675	.0695	.0680	.0675	.0685	.0715	.0665	.0740	.0700	.0700	.0760	.0770	.0780	.0750
8KS-3	.0665	.0695	.0660	.0680	.0660	.0690	.0685	.0680	.0700	.0650	.0645	.0645	.0635	.0620	.0645	.0650	.0655	.0660	.0675	.0670	.0660
8KS-4	.0645	.0660	.0710	.0700	.0710	.0690	.0710	.0660	.0680	.0650	.0650	.0645	.0730	.0620	.0665	.0650	.0655	.0680	.0695	.0700	.0670
8KS-5	.0690	.0670	.0675	.0630	.0655	.0670	.0715	.0650	-----	.0665	.0665	.0680	.0735	.0655	.0665	.0650	.0660	.0680	.0690	.0680	.0700
8KS-6	.0700	.0675	.0620	.0605	.0615	.0640	.0665	.0610	.0650	.0595	.0600	.0625	.0685	.0605	.0655	.0640	.0655	.0670	.0700	.0705	.0690
8KS-10	.0560	.0570	.0560	.0540	.0560	.0540	.0540	.0540	.0530	.0530	.0520	.0520	.0510	.0500	.0530	.0530	.0510	.0520	.0530	.0530	.0550
8KS-11	.0550	.0540	.0540	.0520	.0540	.0550	.0570	.0540	.0540	.0530	.0520	.0530	.0550	.0520	.0550	.0550	.0550	.0550	.0550	.0540	.0550
8KS-13	.0560	.0570	.0580	.0570	.0590	.0570	.0590	.0560	.0560	.0560	.0560	.0570	.0590	.0560	.0580	.0560	.0540	.0550	.0540	.0550	.0560
8KS-14	.0580	.0500	.0570	.0570	.0570	.0530	.0570	.0550	.0550	.0560	.0550	.0550	.0550	.0530	.0560	.0550	.0540	.0560	.0540	.0545	.0540
8KS-16	.0560	.0560	.0580	.0570	.0610	.0590	.0600	.0590	.0590	.0580	.0580	.0570	.0580	.0560	.0580	.0570	.0580	.0590	.0590	.0580	.0590
8KS-17	.0550	.0530	.0530	.0560	.0570	.0590	.0590	.0550	.0540	.0470	.0530	.0540	.0560	.0530	.0560	.0560	.0570	.0580	.0580	.0590	.0580
8KS-19	.0550	.0520	.0540	.0520	.0560	.0560	.0560	.0550	.0570	.0560	.0550	.0560	.0550	.0540	.0540	.0540	.0550	.0530	.0530	.0510	.0480
8KS-20	.0610	.0610	.0600	.0600	.0610	.0570	.0570	.0580	.0590	.0590	.0560	.0540	.0540	.0540	.0550	.0540	.0530	.0545	.0530	.0530	.0550

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(f) Total time duration

Mission	Total time duration DT, sec, at microphone –																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	0.089	0.089	0.089	0.089	0.088	0.088	0.088	0.088	0.088	0.088	0.087	0.088	0.088	0.089	0.088	0.089	0.089	0.088	0.089	----	----
8K-2	.090	.090	.090	.089	.089	.089	.089	.089	.089	.090	.089	.089	.090	.089	.089	.089	.088	.088	.090	----	----
8K-5	.084	.084	.085	.085	.084	----	.084	----	.084	.084	.083	.083	.084	.084	.083	.083	.083	.083	.084	----	----
8K-6	.096	.096	.096	.096	.098	.098	.098	.098	.098	.098	.098	.098	.098	.097	.096	.096	.096	.096	.096	0.096	0.096
8K-7	.096	.096	.097	.097	.098	.098	.098	.098	.096	.096	.096	.096	.095	.095	----	.094	.095	.095	.095	.095	.095
8K-8	.095	.094	.095	.095	.094	.094	.093	.094	----	.094	.094	.095	.095	.095	.096	.096	.096	.097	.096	.096	----
8K-9	.094	.093	.094	.094	.094	.094	.094	.094	.095	.094	.094	.094	.094	.095	.094	.095	.096	.096	.097	.097	.097
8K-10	.099	.099	.099	.099	.100	.099	.099	.099	.098	.098	.098	.098	.098	.100	.100	.100	.100	.100	----	.100	----
8K-11	.098	.098	.098	.098	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	.102	----	.102	----
8K-15	.092	.092	.092	.094	.092	.093	.093	.094	.095	.096	.096	.096	.096	.094	.094	.094	.094	.094	.094	.094	.094
8K-16	.098	.098	.098	.100	.100	.099	.099	.098	.099	.099	.099	.098	.098	.096	.096	.096	.096	.096	.097	.096	.096
8K-17	.098	.098	.099	.099	.099	.098	.099	.100	.100	.101	.101	.100	.100	.099	.098	.098	.097	.097	.098	.098	.097
8K-18	.098	.098	.098	.099	.101	.101	----	.102	.100	.099	.099	.099	.099	.100	.099	.099	.100	.100	.101	.101	.102
8K-19	.099	.098	.099	.099	.100	.100	.101	.101	.099	.099	.099	.099	.099	.100	.099	.100	.100	.100	.100	.100	.100
8K-20	.098	.098	.099	.099	.100	.100	.100	.100	.098	.098	.098	.098	.099	.098	.097	.098	.098	.098	.099	.098	.098
8K-21	.099	.099	.099	.099	.101	.101	.100	.100	.100	.100	.099	.100	.099	.098	.098	.099	.098	.098	.098	.098	.098
8KV-1	.093	.092	.093	.093	.094	.094	.094	.094	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092	.093	.093	.093
8KV-2	.096	.096	.096	.096	.096	.096	.096	----	.094	.094	.094	.094	.094	.097	.097	.096	.097	.096	.096	.096	.096
8KV-3	.096	.097	.096	.096	.096	.096	.096	.096	.094	.094	.094	.094	.094	.095	.095	.095	.095	.094	.095	.095	.095
8KV-4	.095	.095	.094	.094	.095	.095	.094	.094	.093	.092	.093	.093	.093	.095	.095	.095	.095	.095	.096	.096	.096
8KS-1	.110	.111	.111	.112	.112	.111	.111	.109	.108	.108	.108	.108	.108	----	.112	.112	----	----	.112	.112	.112
8KS-2	.105	.104	.104	.103	.104	.104	.104	.104	.103	.103	.103	.102	.103	.104	.104	.104	.104	.104	.102	.102	.102
8KS-3	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.105	.105	.105
8KS-4	.106	.106	.106	.106	.106	.108	.106	.107	.108	.108	.108	.108	.108	.108	.108	.109	.108	.108	.108	.109	.108
8KS-5	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108	.108	.109	.109	.109	.109	.109	.109	.109	.110
8KS-6	.108	.108	.107	.107	.107	.107	.106	.106	.106	.106	.106	.106	.105	.105	.105	.105	.104	.105	.106	.105	.106
8KS-10	----	.093	.092	.094	.094	.094	.094	.094	.093	.093	----	.092	.092	.092	----	----	.092	.091	.092	.091	.091
8KS-11	.095	.094	.094	.094	.094	.094	.094	.094	.094	.094	----	.094	.094	.094	----	----	.094	.094	.094	.095	.095
8KS-13	.094	.094	.094	----	.094	.094	.094	.094	.094	.094	----	.094	.094	----	----	----	----	----	.094	.094	.094
8KS-14	.094	.095	.094	.094	.094	.094	.094	.094	.095	.095	----	.094	.094	----	----	----	.093	----	.093	.093	.094
8KS-16	.100	.099	.100	.100	.100	.100	.100	.099	.099	.100	----	----	----	----	----	----	.097	----	.097	.097	.096
8KS-17	.090	.091	.090	.090	.090	.090	.090	.090	.090	.090	----	.090	.090	----	----	----	.091	----	.091	.091	.090
8KS-19	.097	.096	.096	.096	.095	.094	.095	.094	.094	.094	----	.094	.094	.093	----	----	.094	.094	.094	.094	.094
8KS-20	.090	.090	.090	.090	.090	.090	.090	----	.090	.090	----	.090	.090	----	----	----	----	----	.089	.089	.089

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(f) Total time duration – Concluded

Mission	Total time duration DT, sec, at microphone –																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	0.089	----	0.089	0.089	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.087	0.088	0.088	0.090	0.090	0.090	0.090
8K-2	----	----	.092	.091	.091	.090	.090	.088	.088	.090	.089	.088	.088	.088	.088	.088	.088	.089	.088	.089	.089
8K-5	----	----	.084	.084	.084	.083	.084	.084	.083	.084	.084	.083	.083	.083	.083	.084	.084	.084	.084	.084	.084
8K-6	.095	.095	.095	.095	.096	----	----	----	----	----	----	.096	.096	.096	.096	.096	.095	.096	.096	.096	.096
8K-7	.096	.095	.096	.096	.096	----	----	----	----	----	----	.098	.098	.098	.098	.098	.097	.098	.098	.098	.097
8K-8	.096	----	.096	.096	.095	.095	.095	.095	.094	.094	.094	.095	.095	.095	.095	.095	.094	.095	.096	.095	.096
8K-9	.097	----	.095	.095	.094	.094	.094	.094	.094	.094	.094	.095	.096	.096	.096	.096	.096	.097	.097	.097	.097
8K-10	.101	----	.100	.099	.099	.100	.101	.101	.102	.102	.101	.102	.101	.101	.101	.101	.100	----	----	----	----
8K-11	.101	----	.101	.102	.100	.099	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	----	----	----	----
8K-15	.094	.094	.094	.094	.094	.091	.092	.092	.091	.091	.092	.092	.092	.092	.092	.092	.091	.094	.095	.095	.095
8K-16	.097	.097	.097	.097	.096	.095	.094	.094	.095	.095	.096	.096	.097	.097	.097	.097	.097	.100	.100	.100	.100
8K-17	.098	.098	.098	.098	.098	.097	.097	.098	.097	.097	.097	.097	.096	.098	.098	.097	.098	.100	.100	.100	.099
8K-18	.101	.101	.101	.100	.101	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	.098	.102	.102	.102	.101
8K-19	.100	.100	.101	.101	.101	.099	.099	.098	.098	.099	.098	.099	.099	.098	.098	.099	.099	.102	.102	.102	.102
8K-20	.100	.099	.099	.098	.098	.097	.097	.097	.097	.097	.097	.097	.097	.097	.097	.098	.097	.099	.100	.099	.099
8K-21	.098	.098	.100	.100	.100	.096	.097	.097	.096	.098	.096	.096	.096	.096	.096	.096	.096	.098	.097	.098	.098
8KV-1	.093	.094	.095	.095	.095	.090	.091	.090	.090	.091	.090	.090	.090	.090	.091	.091	.090	.093	.093	.093	.093
8KV-2	.096	.096	.095	.095	.095	.093	.093	.093	.092	.093	.092	.093	.093	.093	.093	.092	.092	.096	.095	.095	.095
8KV-3	.095	.095	.094	.094	.094	.091	.091	.091	.091	.091	.091	.092	.091	.092	.091	.091	.091	.094	.094	.094	.094
8KV-4	.096	.095	.093	.093	.093	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092	.092	.095	.095	.095	.095
8KS-1	.111	.112	.111	.111	.111	.109	.108	.108	.108	.109	.108	.108	.108	.108	.108	.108	.108	.111	.112	.111	.111
8KS-2	.101	.102	.101	.101	.101	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.099	.102	.102	.102	.102
8KS-3	.105	.104	.104	.104	.104	.102	.102	.102	.102	.102	.102	.103	.102	.103	.102	.101	.101	.104	.107	.106	.106
8KS-4	.108	.108	.110	.108	.107	.105	.105	.104	.104	.104	.104	.104	.104	.104	.104	.104	.104	.107	.107	.107	.107
8KS-5	.110	.110	.110	.110	.110	.108	.109	.108	----	.108	.108	.108	.109	.108	.108	.109	.109	.111	.111	.111	.110
8KS-6	.105	.106	.106	.106	.107	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.106	.107	.106	.106	.108
8KS-10	.092	.092	.093	.093	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.095	.096	.095	.097
8KS-11	.094	.095	.095	.094	.095	.094	.094	.094	.094	.095	.094	.095	.096	.094	.094	.095	.094	.096	.096	.096	.096
8KS-13	.094	.093	.093	.093	.093	.092	.092	.093	.092	.093	.092	.092	.093	.093	.092	.093	.092	.094	.095	.094	.095
8KS-14	.093	.093	.094	.094	.093	.093	.092	.093	.093	.092	.092	.092	.092	.093	.093	.093	.093	.095	.094	.096	.096
8KS-16	.097	.096	.097	.097	.096	.096	.095	.096	.095	.096	.094	.095	.095	.096	.094	.095	.095	.096	.096	.096	.096
8KS-17	.091	.091	.090	.090	.090	.089	.089	.088	.089	.089	.089	.089	.088	.089	.089	.088	.088	.090	.090	.090	.090
8KS-19	.095	.095	.095	.095	.096	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.094	.096	.096	.096	.096
8KS-20	.089	.089	.089	.089	.089	.089	.088	.090	.089	.089	.089	.089	.090	.090	.090	.090	.089	.092	.092	.093	.094

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(g) Rise time

Mission	Rise time τ, sec, at microphone																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
8K-1	0.0085	0.0080	0.0090	0.0050	0.0060	0.0055	0.0080	0.0095	0.0045	0.0020	0.0060	0.0085	0.0060	0.0040	0.0050	0.0050	0.0060	0.0060	0.0130	-----	-----
8K-2	.0020	.0030	.0070	.0080	.0070	.0070	.0060	.0085	.0055	.0080	.0075	.0060	.0040	.0050	.0070	.0070	.0060	.0075	.0090	-----	-----
8K-5	.0060	.0030	.0075	.0080	.0120	-----	.0090	-----	.0020	.0020	.0035	.0100	.0090	.0050	.0100	.0150	.0150	.0020	.0305	-----	-----
8K-6	.0080	.0050	.0080	.0070	.0055	.0060	.0040	.0050	.0060	.0080	.0070	.0075	.0075	.0080	-----	.0110	.0060	.0055	.0050	0.0090	0.0070
8K-7	.0090	.0075	.0090	.0085	.0060	.0060	.0040	.0045	.0080	.0080	.0100	.0120	.0120	.0045	-----	.0060	.0070	.0065	.0100	.0060	.0090
8K-8	.0110	.0100	.0130	.0160	.0235	.0220	.0040	.0080	-----	.0100	.0130	.0085	.0100	.0050	.0050	.0040	.0020	.0015	.0080	.0100	-----
8K-9	.0070	.0020	.0090	.0070	.0065	.0100	.0055	.0040	.0080	.0090	.0085	.0090	.0100	.0100	.0060	.0055	.0060	.0110	.0045	.0050	.0125
8K-10	.0070	.0040	.0035	.0070	.0070	.0080	.0090	.0085	.0110	.0100	.0100	.0075	.0080	.0190	.0110	.0100	.0100	.0105	-----	.0100	-----
8K-11	.0085	.0075	.0070	.0025	.0110	.0080	.0080	.0075	.0095	.0090	.0105	.0095	.0110	.0135	.0120	.0145	.0090	.0130	-----	.0100	-----
8K-15	.0105	.0120	.0150	.0135	.0055	.0095	.0055	.0040	.0010	.0070	.0040	.0010	.0070	.0050	.0065	.0100	.0030	.0040	.0120	.0100	.0120
8K-16	.0090	.0135	.0085	.0055	.0090	.0020	.0050	.0085	.0040	.0060	.0060	.0030	.0060	.0150	.0180	.0145	.0120	.0080	.0180	.0130	.0080
8K-17	.0080	.0115	.0100	.0055	.0075	.0100	.0030	.0015	.0020	.0070	.0080	.0070	.0085	.0065	.0100	.0120	.0120	.0160	.0200	.0120	.0100
8K-18	.0075	.0075	.0075	.0005	.0075	.0080	-----	.0055	.0085	.0080	.0110	.0065	.0070	.0120	.0060	.0070	.0080	.0055	.0055	.0070	.0075
8K-19	.0080	.0080	.0080	.0090	.0030	.0050	.0020	.0100	.0125	.0085	.0100	.0070	.0090	.0050	.0060	.0060	.0080	.0075	.0080	.0100	.0030
8K-20	.0180	.0120	.0115	.0125	.0065	.0115	.0195	.0255	.0130	.0160	.0380	.0300	.0210	.0085	.0065	.0070	.0100	.0155	.0050	.0065	.0150
8K-21	.0030	.0100	.0115	.0060	.0110	.0090	.0130	.0030	.0025	.0075	.0060	.0090	.0070	.0060	.0050	.0140	.0100	.0115	.0130	.0070	.0075
8KV-1	.0215	.0210	.0210	.0190	.0060	.0050	.0045	.0040	.0050	.0080	.0110	.0070	.0070	.0210	.0190	.0150	.0140	.0150	.0180	.0160	.0125
8KV-2	.0100	.0100	.0070	.0035	.0060	.0050	.0080	-----	.0100	.0110	.0110	.0060	.0025	.0005	.0085	.0095	.0080	.0100	.0215	.0200	.0210
8KV-3	.0020	.0020	.0070	.0090	.0050	.0100	.0095	.0120	.0065	.0080	.0090	.0080	.0060	.0020	.0065	.0065	.0085	.0080	.0050	.0070	.0110
8KV-4	.0100	.0090	.0080	.0100	.0210	.0060	.0070	.0090	.0080	.0090	.0090	.0070	.0065	.0090	.0050	.0105	.0055	.0060	.0030	.0040	.0070
8KS-1	.0060	.0065	.0090	.0120	.0150	.0085	.0290	.0255	.0120	.0150	.0175	.0170	.0130	-----	.0035	.0035	-----	-----	.0100	.0055	.0150
8KS-2	.0180	.0210	.0245	.0300	.0390	.0470	.0525	.0300	.0030	.0230	.0160	.0145	.0150	.0150	.0140	.0120	.0120	.0120	.0040	.0055	.0060
8KS-3	.0105	.0110	.0105	.0100	.0090	.0110	.0115	.0125	.0090	.0100	.0070	.0130	.0115	.0120	.0140	.0085	.0055	.0095	.0090	.0075	.0070
8KS-4	.0090	.0110	.0140	.0160	.0060	.0075	.0100	.0085	.0060	.0055	.0025	.0020	.0020	.0050	.0140	.0130	.0115	.0110	.0080	.0075	.0110
8KS-5	.0160	.0145	.0165	.0130	.0080	.0080	.0070	.0080	.0100	.0080	.0145	.0130	.0105	.0055	.0035	.0040	.0050	.0080	.0125	.0170	.0090
8KS-6	.0100	.0110	.0110	.0155	.0015	.0050	.0080	.0130	.0085	.0125	.0120	.0045	.0085	.0090	.0065	.0075	.0100	.0090	.0100	.0190	.0150
8KS-10	-----	.0020	.0035	.0020	.0040	.0035	.0020	.0010	.0015	.0035	-----	.0030	.0020	.0015	-----	-----	.0020	.0015	.0040	.0020	.0010
8KS-11	.0075	.0070	.0080	.0080	.0070	.0040	.0040	.0060	.0050	.0080	-----	.0010	.0070	.0040	-----	-----	.0060	.0010	.0040	.0045	.0050
8KS-13	.0080	.0025	.0080	-----	.0050	.0055	.0045	.0015	.0065	.0045	-----	.0090	.0070	-----	-----	-----	-----	-----	.0060	.0060	.0090
8KS-14	.0075	.0100	.0095	.0090	.0050	.0015	.0040	.0050	.0040	.0010	-----	.0070	.0060	-----	-----	-----	.0080	-----	.0045	.0020	.0050
8KS-16	.0120	.0100	.0080	.0050	.0010	.0040	.0050	.0090	.0035	.0010	-----	-----	-----	-----	-----	-----	.0160	-----	.0240	.0190	.0210
8KS-17	.0065	.0080	.0025	.0045	.0040	.0035	.0080	.0070	.0030	.0015	-----	.0025	.0040	-----	-----	-----	.0060	-----	.0050	.0130	.0110
8KS-19	.0025	.0020	.0035	.0025	.0090	.0010	.0015	.0045	.0240	.0010	-----	.0255	.0250	.0100	-----	-----	.0090	.0100	.0045	.0050	.0080
8KS-20	.0035	.0020	.0070	.0045	.0060	.0015	.0045	-----	.0140	.0070	-----	.0035	.0085	-----	-----	-----	-----	-----	.0135	.0130	.0015

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Continued

(g) Rise time – Concluded

Mission	Rise time τ, sec, at microphone																				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	0.0070	-----	0.0020	0.0090	0.0100	0.0070	0.0050	0.0040	0.0050	0.0015	0.0045	0.0050	0.0025	0.0040	0.0070	0.0050	0.0040	0.0105	0.0100	0.0035	0.0015
8K-2	-----	-----	.0020	.0005	.0050	.0060	.0080	.0095	.0060	.0070	.0070	.0050	.0045	.0030	.0055	.0050	.0045	.0060	.0050	.0035	.0050
8K-5	-----	-----	.0160	.0120	.0085	.0075	.0050	.0020	.0010	.0020	.0025	.0030	.0045	.0045	.0060	.0065	.0055	.0130	.0085	.0020	.0025
8K-6	.0070	0.0090	.0055	.0050	.0075	-----	-----	-----	-----	-----	-----	.0040	.0035	.0045	.0050	.0060	.0050	.0060	.0050	.0050	.0070
8K-7	.0120	.0110	.0090	.0060	.0055	-----	-----	-----	-----	-----	-----	.0040	.0050	.0060	.0050	.0050	.0050	.0100	.0075	.0070	.0060
8K-8	.0070	-----	.0025	.0070	.0105	.0080	.0100	.0085	.0090	.0070	.0100	.0110	.0100	.0130	.0130	.0100	.0050	.0050	.0060	.0090	.0080
8K-9	.0100	-----	.0080	.0100	.0140	.0110	.0085	.0045	.0035	.0020	.0020	.0030	.0045	.0080	.0070	.0090	.0055	.0060	.0070	.0025	.0050
8K-10	.0085	-----	.0115	.0120	.0120	.0140	.0125	.0130	.0090	.0100	.0100	.0075	.0080	.0090	.0070	.0080	.0075	-----	-----	-----	-----
8K-11	.0060	-----	.0110	.0140	.0160	.0120	.0110	.0085	.0080	.0075	.0070	.0070	.0070	.0075	.0075	.0090	.0080	-----	-----	-----	-----
8K-15	.0100	.0080	.0025	.0070	.0090	.0070	.0090	.0110	.0110	.0150	.0140	.0140	.0135	.0120	.0100	.0080	.0075	.0050	.0045	.0050	.0060
8K-16	.0030	.0070	.0185	.0225	.0235	.0105	.0085	.0075	.0060	.0050	.0030	.0035	.0045	.0050	.0080	.0105	.0015	.0030	.0070	.0120	.0150
8K-17	.0070	.0040	.0040	.0080	.0100	.0050	.0045	.0070	.0080	.0040	.0045	.0115	.0130	.0145	.0130	.0110	.0100	.0070	.0060	.0100	.0080
8K-18	.0070	.0055	.0025	.0070	.0080	.0100	.0110	.0100	.0080	.0090	.0070	.0090	.0080	.0080	.0065	.0045	.0050	.0050	.0050	.0025	.0015
8K-19	.0040	.0040	.0110	.0145	.0115	.0035	.0030	.0060	.0100	.0105	.0075	.0055	.0050	.0045	.0040	.0035	.0020	.0050	.0050	.0040	.0025
8K-20	.0150	.0110	.0035	.0190	.0135	.0045	.0050	.0035	.0040	.0080	.0075	.0095	.0080	.0085	.0065	.0070	.0025	.0030	.0050	.0130	.0190
8K-21	.0150	.0120	.0060	.0060	.0060	.0050	.0085	.0100	.0110	.0120	.0100	.0105	.0100	.0120	.0140	.0150	.0170	.0110	.0220	.0190	.0230
8KV-1	.0140	.0150	.0120	.0125	.0100	.0180	.0130	.0125	.0140	.0150	.0150	.0110	.0120	.0120	.0110	.0130	.0110	.0160	.0150	.0130	.0125
8KV-2	.0220	.0060	.0075	.0070	.0050	.0010	.0005	.0040	.0020	.0030	.0035	.0050	.0050	.0060	.0060	.0070	.0070	.0150	.0120	.0100	.0290
8KV-3	.0110	.0050	.0050	.0050	.0070	.0070	.0025	.0030	.0035	.0035	.0035	.0050	.0050	.0050	.0055	.0080	.0080	.0060	.0020	.0020	.0050
8KV-4	.0055	.0060	.0045	.0090	.0060	.0060	.0060	.0100	.0055	.0090	.0070	.0080	.0080	.0080	.0055	.0060	.0040	.0070	.0045	.0050	.0060
8KS-1	.0190	.0150	.0275	.0240	.0250	.0210	.0210	.0220	.0240	.0230	.0240	.0240	.0255	.0250	.0250	.0285	.0170	.0125	.0120	.0100	.0095
8KS-2	.0120	.0135	.0170	.0210	.0110	.0310	.0340	.0400	.0390	.0390	.0380	.0395	.0380	.0370	.0370	.0375	.0370	.0310	.0290	.0280	.0255
8KS-3	.0080	.0100	.0120	.0160	.0200	.0250	.0250	.0205	.0220	.0200	.0230	.0220	.0210	.0200	.0190	.0175	.0135	.0090	.0080	.0060	.0050
8KS-4	.0090	.0110	.0115	.0070	.0080	.0090	.0070	.0050	.0050	.0035	.0055	.0055	.0150	.0160	.0175	.0170	.0155	.0120	.0150	.0110	.0110
8KS-5	.0150	.0165	.0120	.0050	.0060	.0165	.0190	.0140	-----	.0140	.0150	.0140	.0120	.0025	.0030	.0030	.0040	.0030	.0120	.0020	.0030
8KS-6	.0115	.0130	.0015	.0170	.0120	.0035	.0035	.0050	.0055	.0070	.0070	.0075	.0070	.0065	.0055	.0085	.0055	.0080	.0130	.0070	.0090
8KS-10	.0090	.0030	.0015	.0010	.0080	.0020	.0015	.0070	.0045	.0050	.0020	.0040	.0035	.0020	.0055	.0040	.0020	.0080	.0070	.0030	.0070
8KS-11	.0035	.0070	.0050	.0025	.0070	.0060	.0060	.0060	.0055	.0050	.0055	.0010	.0035	.0055	.0060	.0065	.0050	.0060	.0040	.0055	.0020
8KS-13	.0025	.0030	.0090	.0010	.0090	.0025	.0070	.0080	.0090	.0020	.0020	.0055	.0060	.0095	.0060	.0010	.0035	.0090	.0010	.0080	.0060
8KS-14	.0040	.0010	.0060	.0070	.0065	.0075	.0075	.0060	.0070	.0070	.0085	.0075	.0060	.0050	.0055	.0055	.0040	.0060	.0040	.0030	.0045
8KS-16	.0015	.0170	.0185	.0190	.0175	.0015	.0040	.0055	.0035	.0030	.0025	.0050	.0065	.0010	.0075	.0080	.0090	.0155	.0050	.0110	.0160
8KS-17	.0025	.0030	.0020	.0015	.0030	.0040	.0035	.0010	.0015	.0015	.0055	.0030	.0045	.0040	.0060	.0100	.0095	.0140	.0040	.0060	.0110
8KS-19	.0090	.0055	.0050	.0070	.0015	.0085	.0105	.0110	.0100	.0090	.0080	.0070	.0065	.0055	.0070	.0075	.0020	.0050	.0060	.0080	.0040
8KS-20	.0025	.0030	.0090	.0085	.0090	.0030	.0010	.0070	.0065	.0085	.0060	.0050	.0075	.0100	.0050	.0030	.0025	.0060	.0050	.0070	.0010

TABLE III.- SUMMARY OF EDWARDS SONIC-BOOM DATA FOR FIGHTER AIRPLANE – Concluded

(h) Wave shape

Mission	Wave shape* at microphone –																																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
8K-1	NR	NR	NR	NR	NP	NR	NR	R	PP	N	SR	PR	PR	N	N	SR	NR	NR	PR	--	--	NR	--	N	NR	R	NR	NR	NR	NP	NP	NP	PP	NP	NR	NR	NR	NR	PR	NR	NP	NP
8K-2	NP	N	NR	NR	NR	NR	NR	NR	NR	NR	NR	PR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	NP	NP	NR	NR	NR	NR	NR	NR	NR	PR	NR	NR	PP	NR	NP	NR	NR	NP	NP
8K-5	PP	NP	--	--	NP	--	NP	--	NP	P	SP	NR	NR	NP	PP	NR	--	--	--	--	--	--	--	R	R	R	PP	NR	NP	P	P	P	PP	P	NP	NP	NP	NP	--	--	--	P
8K-6	NR	NR	NR	NR	NR	NR	N	NR	NR	SR	NR	NR	NR	NR	--	NR	NR	NR	PP	NR	NR	NR	NR	PR	NR	NR	--	--	--	--	--	--	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
8K-7	R	NR	R	NR	NR	NR	NR	NR	NR	R	R	R	PR	NR	--	NR	NR	NR	NR	PR	NR	R	R	NR	NR	NR	--	--	--	--	--	--	NR	NR	NR	PP	NR	NR	NR	NR	NR	NR
8K-8	R	PR	R	R	R	R	NR	NR	--	R	R	NR	NR	NR	NR	NR	NP	NP	NR	NR	NR	NR	--	NP	SR	NR	NR	NR	NR	NR	NR	NR	PR	NR	NR	NR	NR	PR	NR	NR	NR	NR
8K-9	NR	NP	NR	PR	NR	NR	NR	SP	NR	NR	NR	NR	NR	R	NR	SR	NR	R	PP	NR	NR	NR	--	R	PR	R	NR	NR	NP	NP	NP	NP	NP	NP	NR	NR	NR	NR	NR	NR	NR	NR
8K-10	NR	NR	NP	NP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--
8K-11	NR	NR	NR	NP	NR	NR	NR	NR	NR	PR	NR	NR	NR	NR	NR	NR	NR	NR	--	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--
8K-15	NP	NP	NP	NP	NR	NR	NR	NR	NP	NR	NP	NP	SPR	NR	PR	PR	NR	NR	PR	NR	NR	NR	PR	N	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NP	NP	NP	NP
8K-16	NR	NR	NR	NP	SPR	NP	NR	NR	--	--	--	NP	--	R	R	R	R	R	--	--	--	--	--	R	R	R	--	--	PP	PP	NP	NP	NP	NP	P	NP	NR	--	NP	NP	NP	NP
8K-17	NR	NR	NR	NR	NR	NR	N	NP	NP	NR	NR	NR	NR	NP	NR	NR	NR	NR	R	PR	PR	NP	NP	NP	NR	NR	← No Classification →															
8K-18	NR	NR	NR	NP	NR	NR	--	NR	NR	NR	NR	NR	NR	PR	NR	NR	NR	SP	NR	NR	NR	NR	NR	NP	NR	NR	NR	NR	PR	PR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N	N	NP
8K-19	PR	NR	NR	NR	N	NR	NR	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	PP	NR	NR	N	NP	NP	R	R	R	SP	NR	NR	NR	NR	NR	NR	N	N	NR	SP	NP	SP	N	N	N
8K-20	R	R	R	R	--	--	--	--	NR	NR	--	NR	NR	NP	NR	NR	NR	NR	NP	NP	--	NR	--	--	--	--	NP	NP	NP	NP	NP	NP	NR	NR	NR	NR	NR	NR	NP	NP	R	R
8K-21	NP	NR	--	NP	R	NR	PR	--	NP	NP	NP	NR	NR	NR	NR	R	R	R	NR	NR	NR	R	R	--	NP	NP	← Very distorted – can not classify →															
8KV-1	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	PR	NR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
8KV-2	R	R	NR	N	NR	NR	NR	--	R	R	R	NR	N	SP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N	N	N	N	N	NP	N	NP	NP	NP	NR	NR	NR	R	R	R	R
8KV-3	NP	NP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N	N	N	NP	NP	N	N	NR	NR	NR	NR	NR	N	N	NR
8KV-4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	PR	NP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	NR	NR	NR	N	NR	NR
8KS-1	NP	NP	NP	NR	NR	NR	NR	NR	R	R	R	R	R	--	NP	NP	--	--	NR	NP	NR	NR	NR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	NR	NR	NR	NR
8KS-2	CO	CO	CO	CO	CO	CO	CO	CO	N	NR	NR	R	R	NR	NR	NR	NR	NR	N	N	N	NR	NR	R	R	R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8KS-3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N	N	N	NR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	NP	NP	NP	NP
8KS-4	NR	NR	NR	NR	NR	NR	NR	NR	N	N	NP	NP	NP	NP	NR	NR	PP	PP	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N	N	NP	NP	--	NR	R	R	R	R	NR	NR	NR	NR
8KS-5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NP	N	N	N	NR	NR	NR	NR	NR	NR	NR	NR	NP	R	R	R	--	R	R	PP	PP	PP	P	P	P	P	NP	PR	NP
8KS-6	NR	NR	NR	NR	NP	NP	NR	NR	NR	NR	NR	NR	NR	NR	N	N	NR	NR	NR	NR	NR	NR	NP	NP	NR	NR	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	N	NR	NR	NR	NR
8KS-10	--	N	NP	NP	N	N	NP	NP	NP	NP	--	NP	NP	NP	--	--	NP	NP	PP	NP	NP	NR	NP	NP	P	NR	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NR	NR	NR	NR	NR
8KS-11	NR	NR	NR	NR	PR	N	N	NR	NR	NR	--	NP	N	NP	--	--	NR	NP	PP	NR	NR	N	NR	N	N	N	NR	NR	NR	NR	NR	NP	NP	NP	NR	NR	NR	NR	NP	NP	NP	NP
8KS-13	NR	N	NR	--	N	N	N	N	NR	NR	--	NR	NR	--	--	--	--	--	PR	PR	NR	NP	NP	NR	NP	NR	NR	PR	NR	NR	NP	NP	NR	NR	NR	NR	NR	NP	PP	NP	NR	NR
8KS-14	NR	NR	NR	NR	N	NP	NR	NR	NR	NP	--	NR	NR	--	--	--	NR	--	NP	NP	NP	NP	NP	NR	NR	NR	SPR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NP	NR
8KS-16	NR	NR	NP	N	NP	PP	NR	--	--	--	--	--	--	--	--	--	R	--	R	R	R	--	--	NR	NR	NR	P	NR	NP	NP	NP	NP	--	--	PR	NR	NR	NR	NR	NR	NR	NR
8KS-17	NR	NR	NP	NP	N	NP	NR	NR	NP	NP	--	NP	N	--	--	--	NR	--	NR	R	PR	P	P	NP	P	NP	NP	NP	P	P	P	PP	NP	P	P	NR	R	NR	NR	NR	NR	NR
8KS-19	P	NP	NP	NP	NR	N	P	NP	NR	NP	--	NR	NR	NR	--	--	NR	NR	PP	NR	PR	NR	--	NP	SR	P	NR	NR	NR	NR	NR	NR	NR	NR	PR	PP	NR	SP	NP	NP	NP	NP
8KS-20	N	NP	NR	NP	NR	NP	N	--	PR	PR	--	NR	NR	--	--	--	--	--	R	NR	P	NP	NP	NR	NR	PR	NP	NP	NR	NR	NR	NR	NP	NR	NR	NP	NP	NP	NP	NP	NP	NP

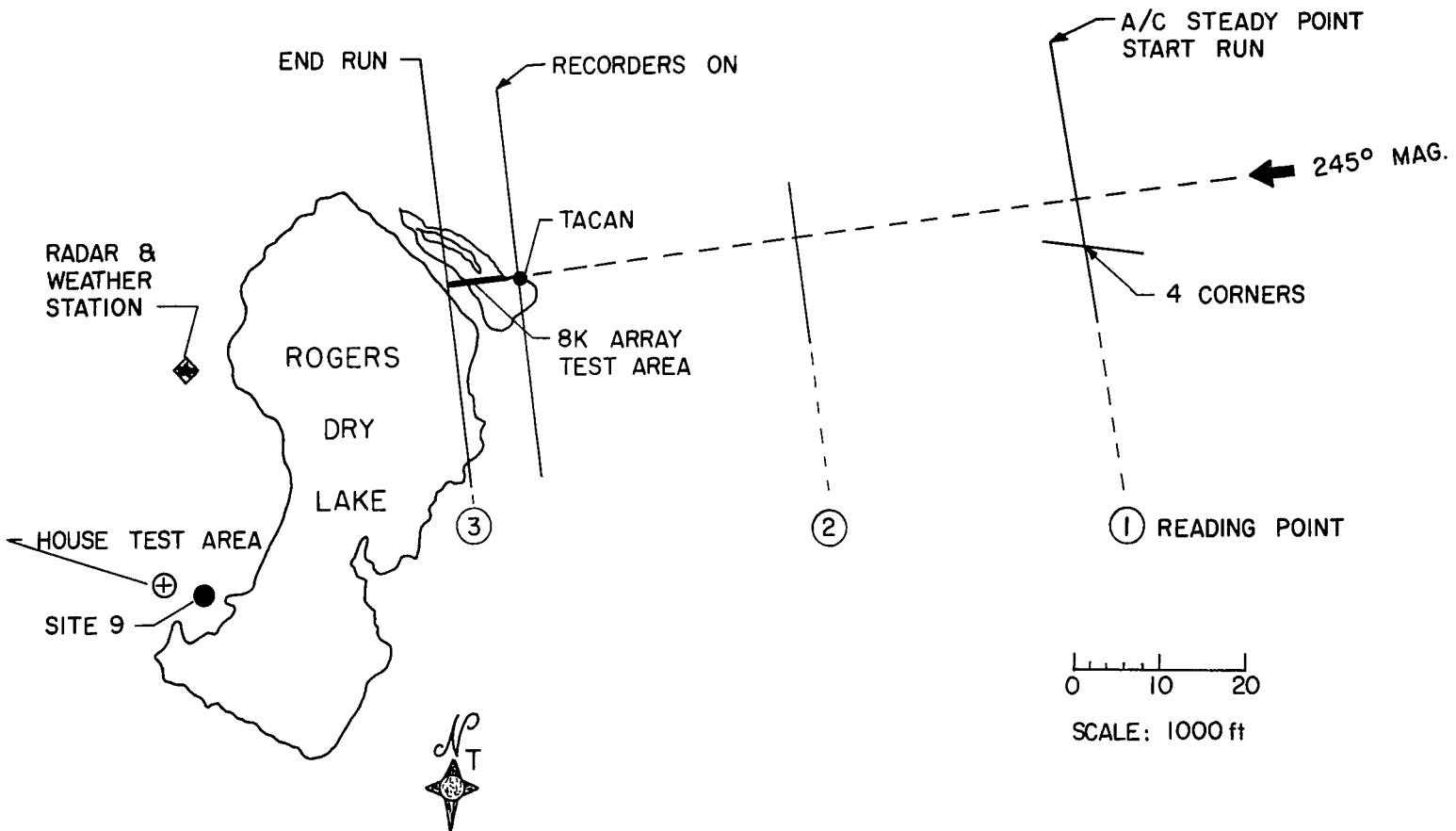
*N denotes N wave.

P denotes peaked wave.

R denotes rounded wave.

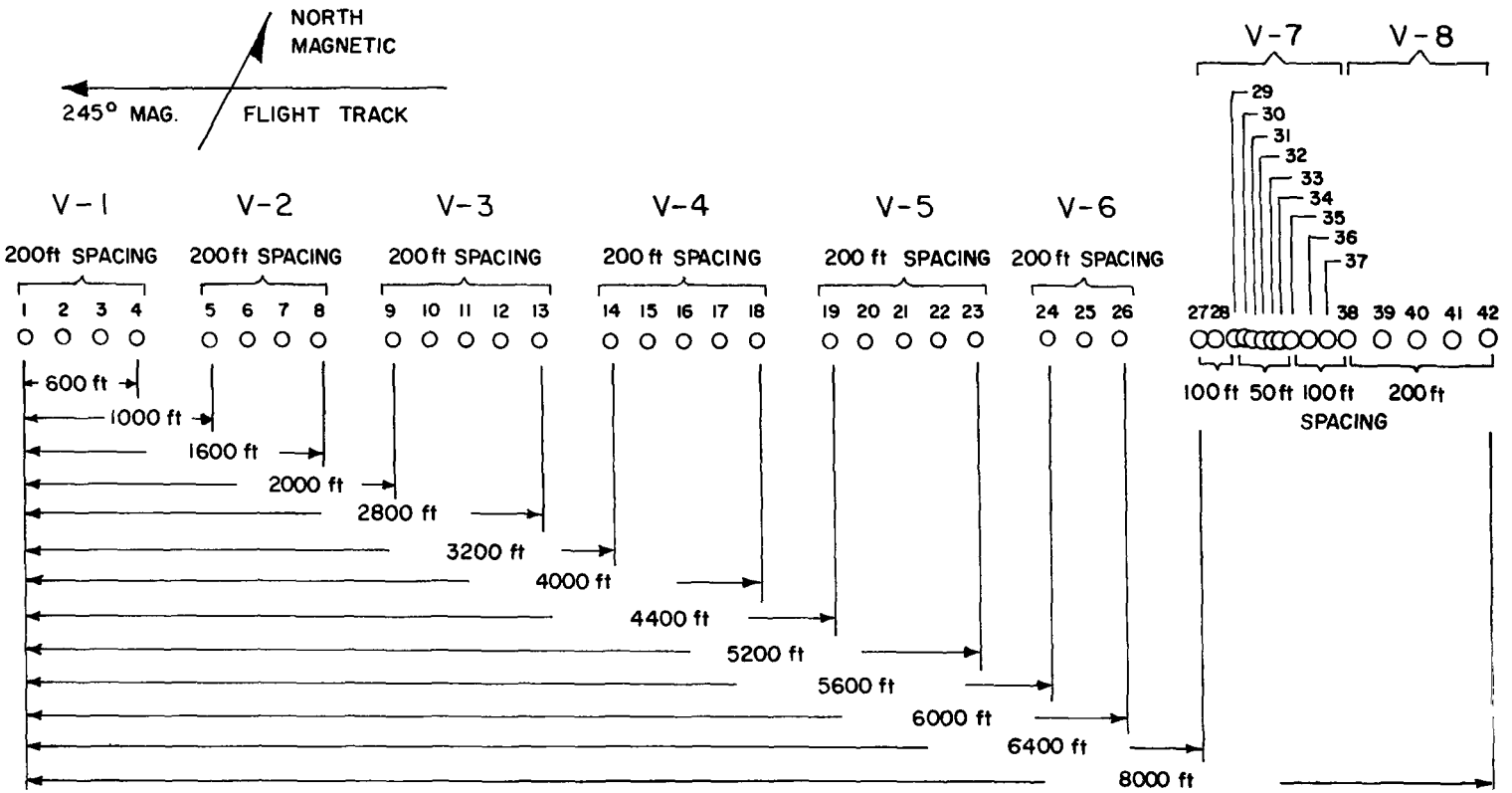
S denotes spike wave.

NR, NP, etc., denotes type between those indicated by letters.



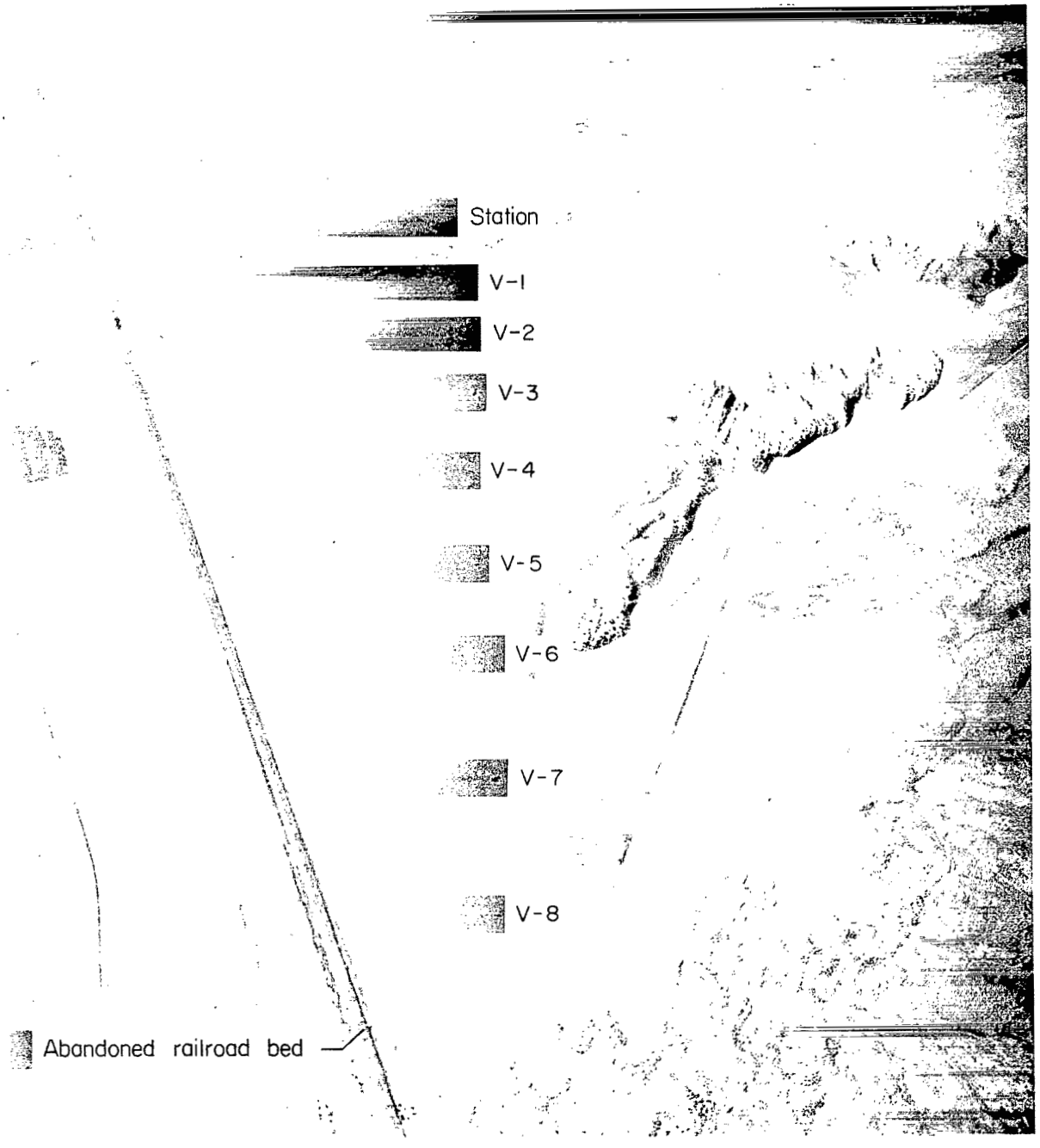
(a) Schematic diagram showing location of test area with respect to Rogers Dry Lake along with an indication of aircraft flight direction, steady point, and end of test run.

Figure 1.- Arrangement of test facilities and equipment.



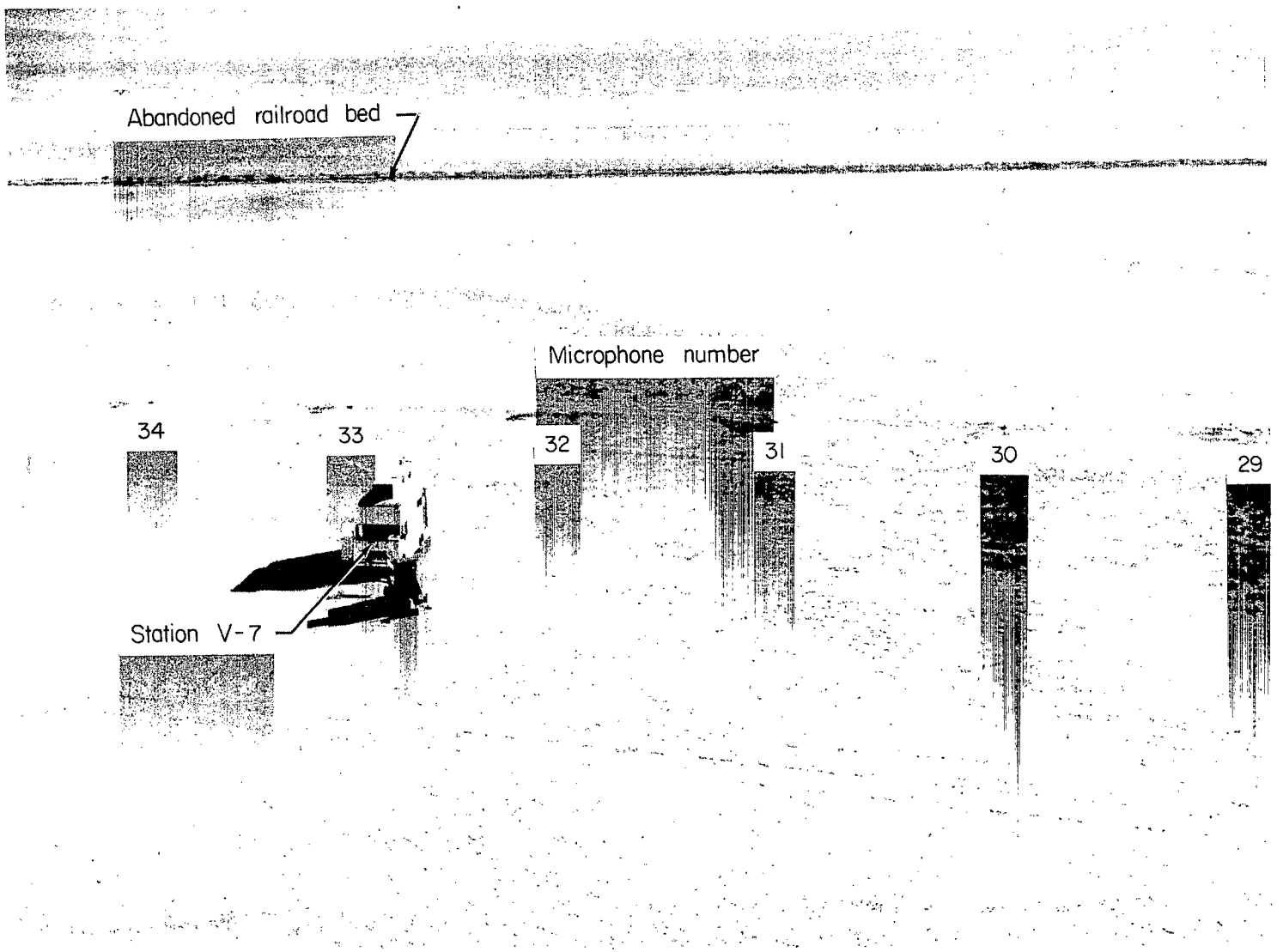
(b) Detail of 8000-foot (2438-meter) linear array showing individual station and microphone numbers.

Figure 1.- Concluded.



(a) View looking west in direction of flight showing position of eight measuring stations. L-68-10,031

Figure 2.- Aerial photograph of 8000-foot (2438-meter) linear microphone array test area.



(b) View looking south showing measuring station V-7 and associated microphone position.

L-68-10,032

Figure 2.- Concluded.

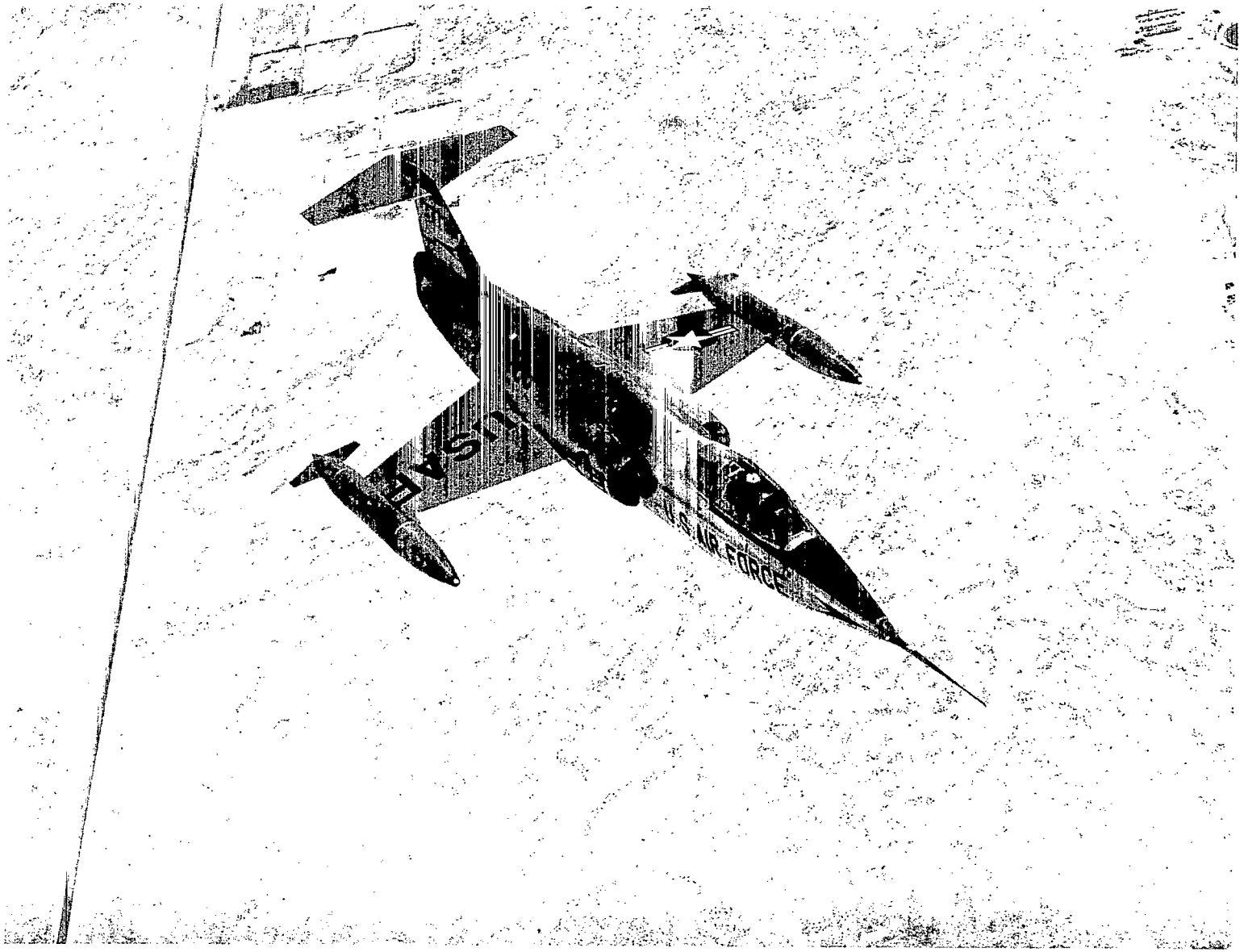


Figure 3.- Photograph of airplane of type used during tests.

L-68-10,033

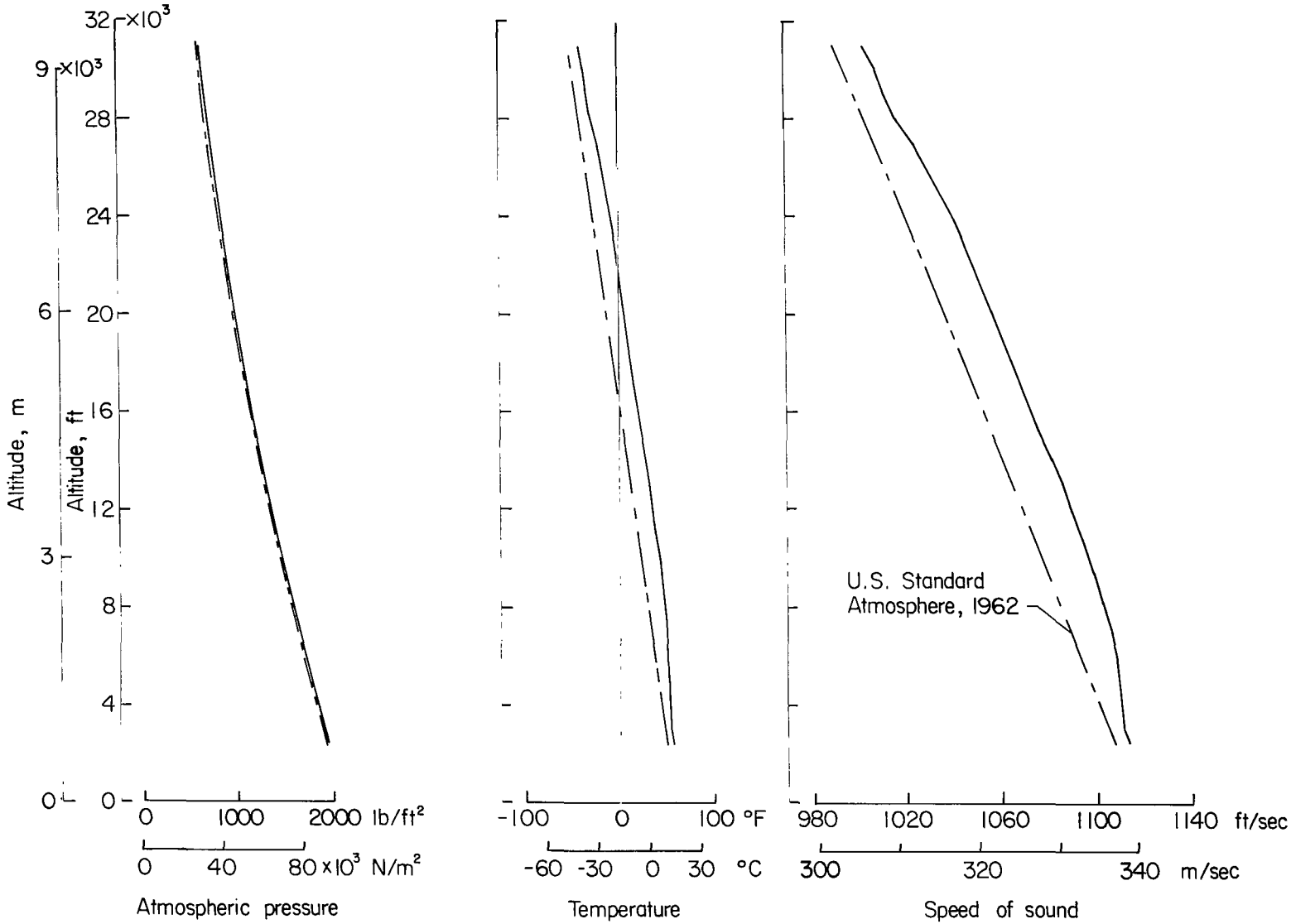


Figure 4.- Results from atmospheric soundings taken during test flights.

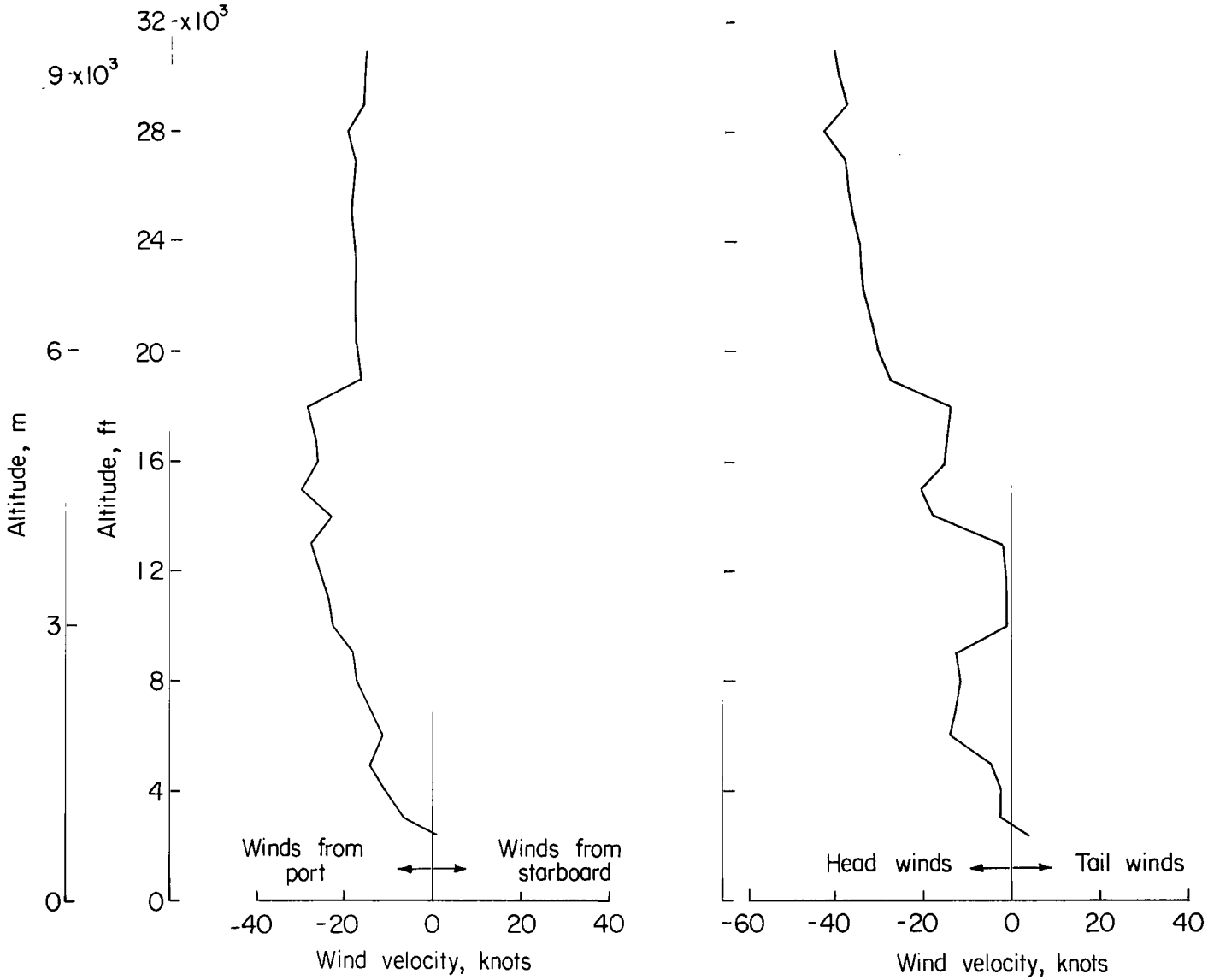


Figure 5.- Arithmetic average of wind data parallel and perpendicular to aircraft flight track. Results obtained from atmospheric soundings taken during test flights.

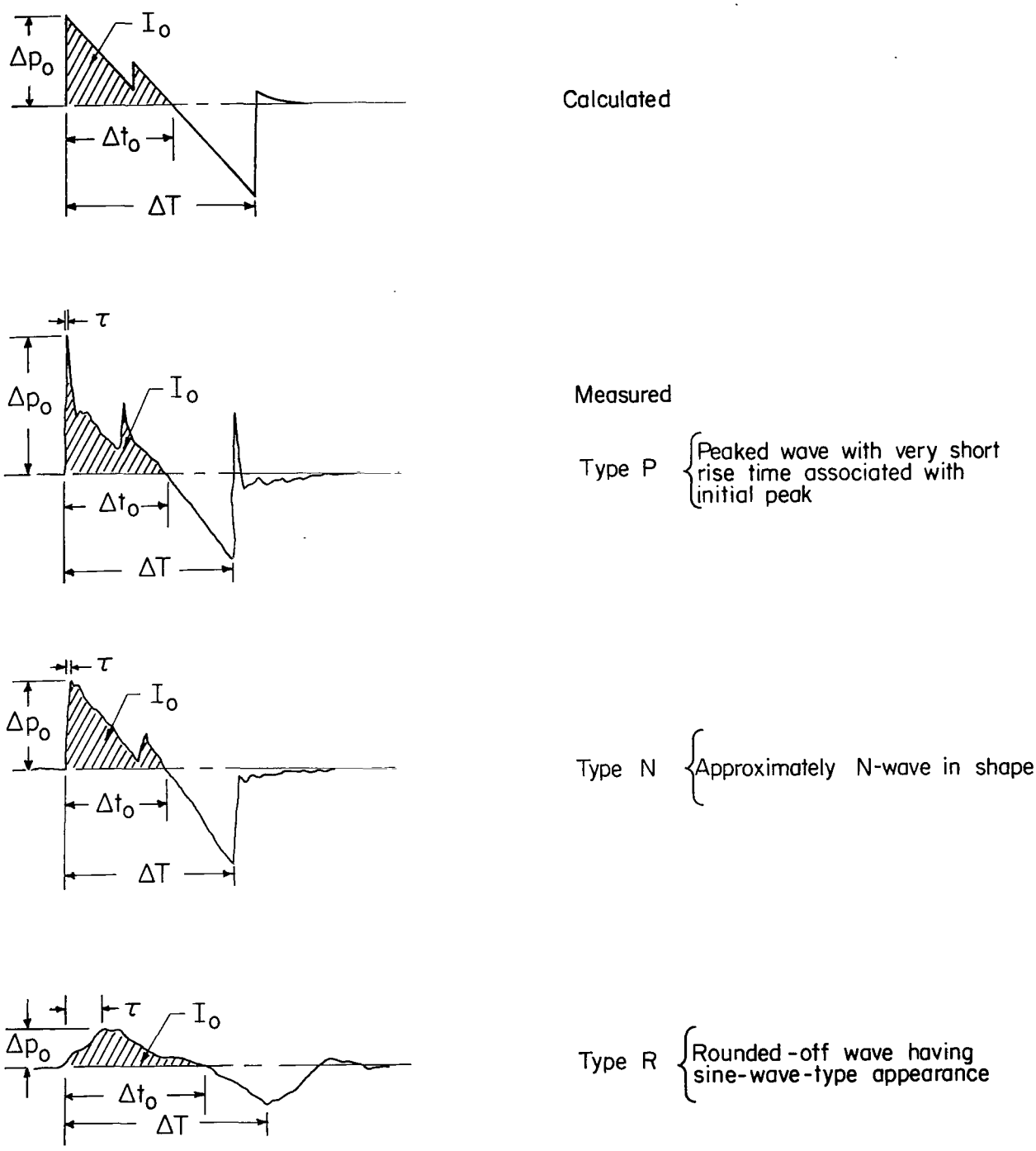
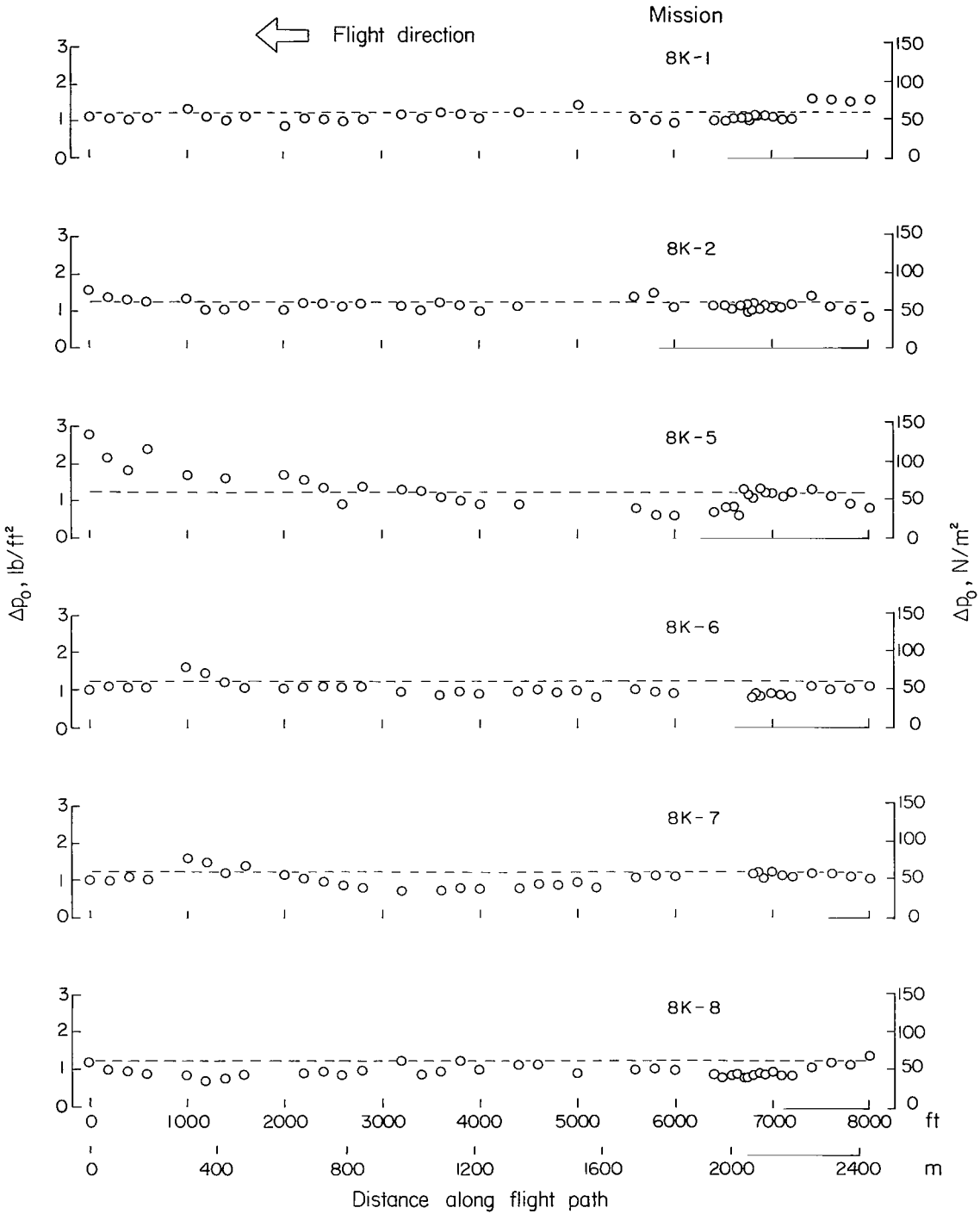
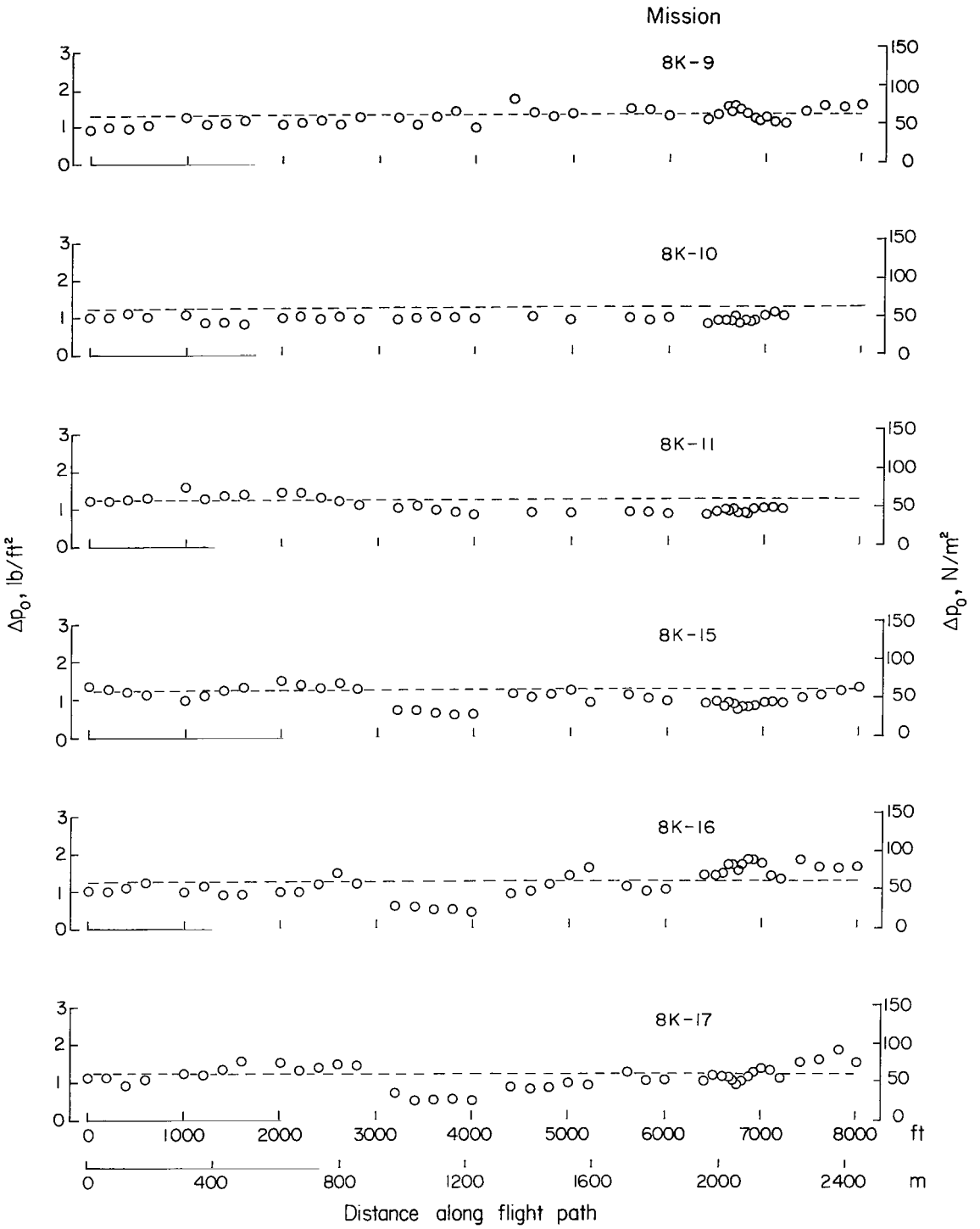


Figure 6.- Tracings of calculated and measured sonic-boom pressure-time histories showing some categories of waveforms.



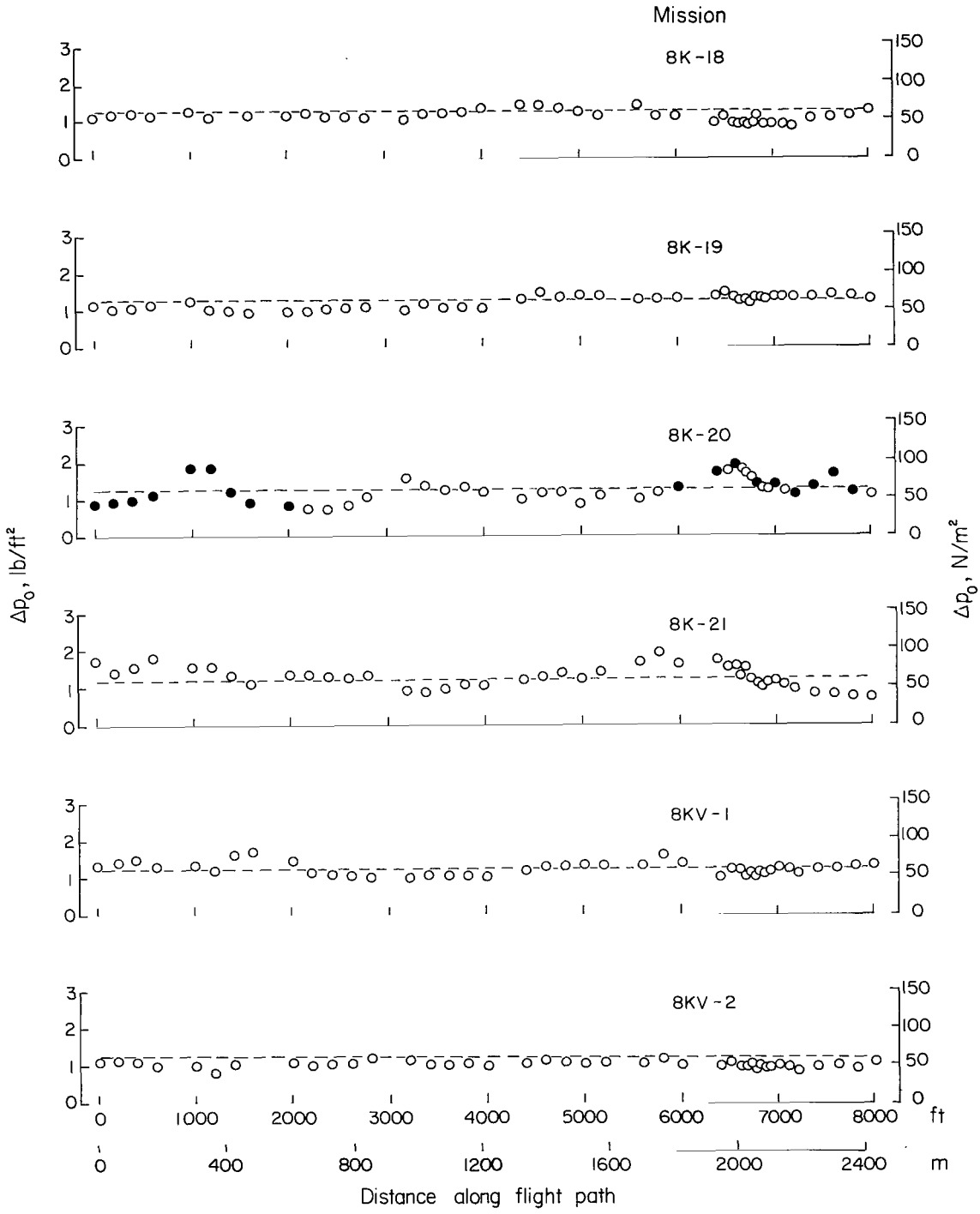
(a) Missions 8K-1 and 8K-2, and 8K-5 to 8K-8.

Figure 7.- Sonic-boom peak positive overpressures measured near ground level from each microphone in the 8000-foot (2438-meter) linear array.



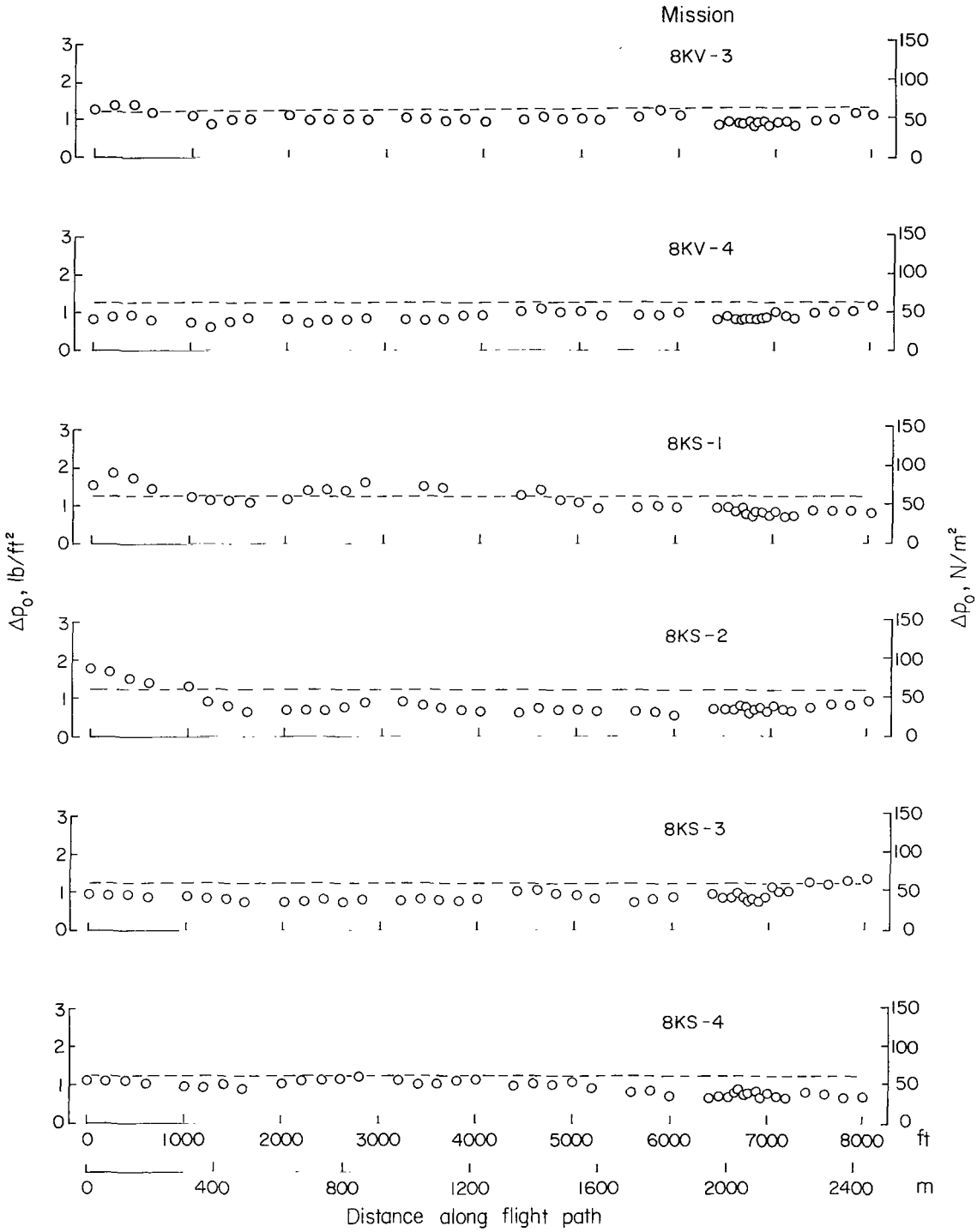
(b) Missions 8K-9 to 8K-11, and 8K-15 to 8K-17.

Figure 7.- Continued.



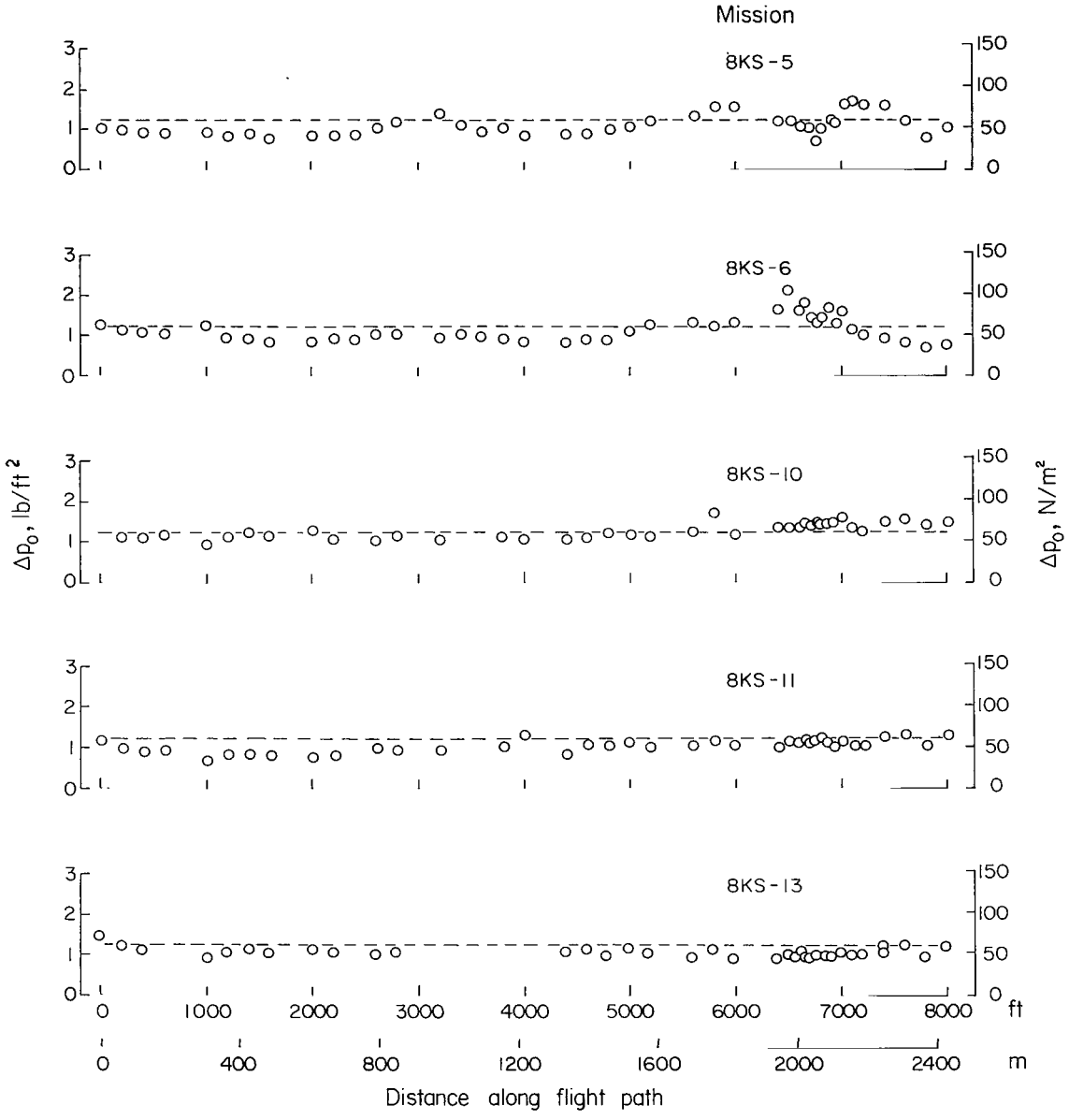
(c) Missions 8K-18 to 8K-21, and 8KV-1 and 8KV-2. Solid symbols are signatures used in figure 8.

Figure 7.- Continued.



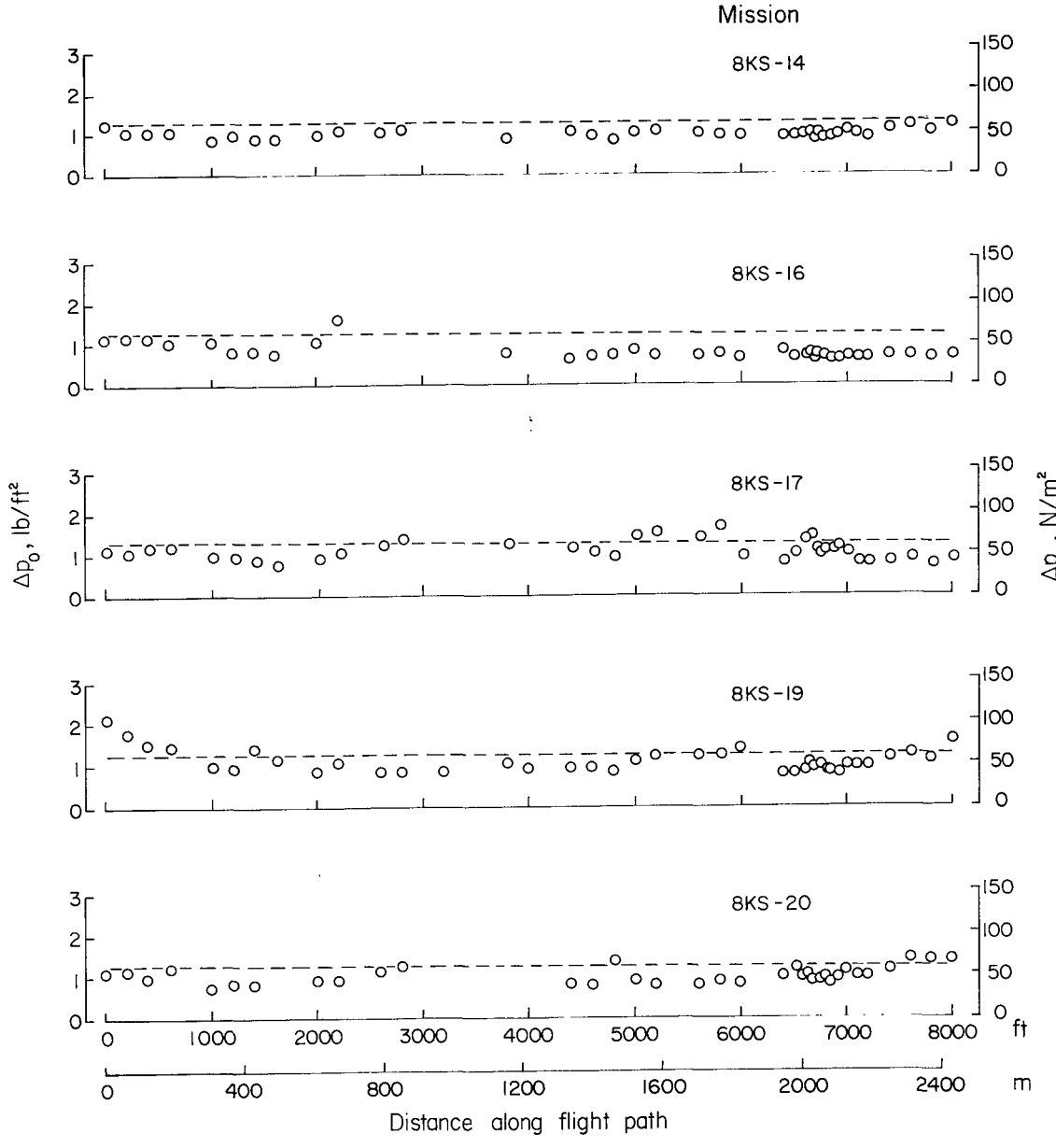
(d) Missions 8KV-3 and 8KV-4, and 8KS-1 to 8KS-4.

Figure 7.- Continued.



(e) Missions 8KS-5, 8KS-6, 8KS-10, 8KS-11, and 8KS-13.

Figure 7.- Continued.



(f) Missions 8KS-14, 8KS-16, 8KS-17, 8KS-19, and 8KS-20.

Figure 7.- Concluded.

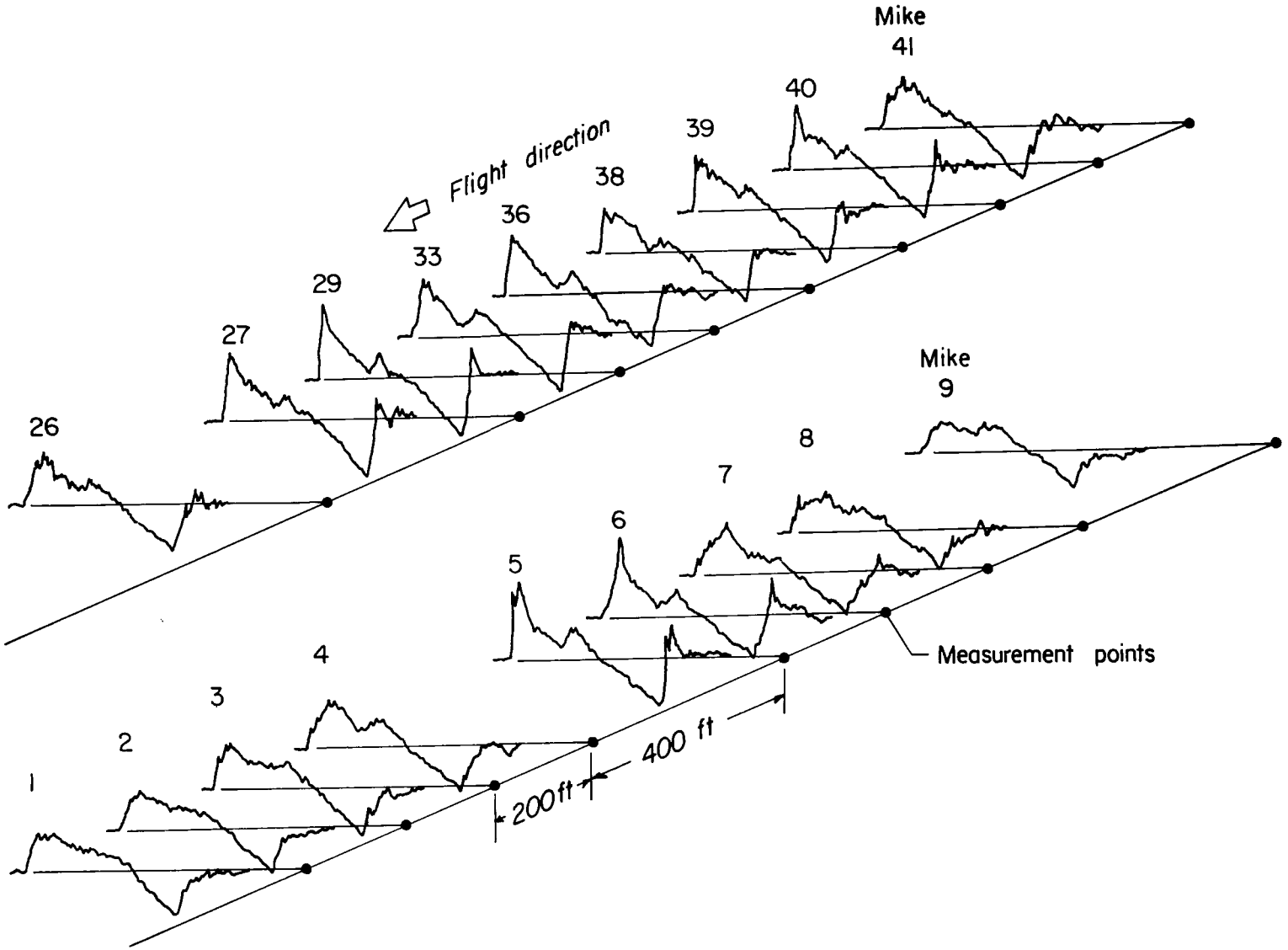


Figure 8.- Sonic-boom pressure signatures as measured by several microphones spaced at 200-foot (60.96-meter) intervals along the 8000-foot (2438-meter) linear array for fighter airplane in steady-level flight at a Mach number of 1.31 and a msl altitude of 30 800 feet (9388 meters). (Signatures relate to solid data points of fig. 7 for mission 8K-20.)

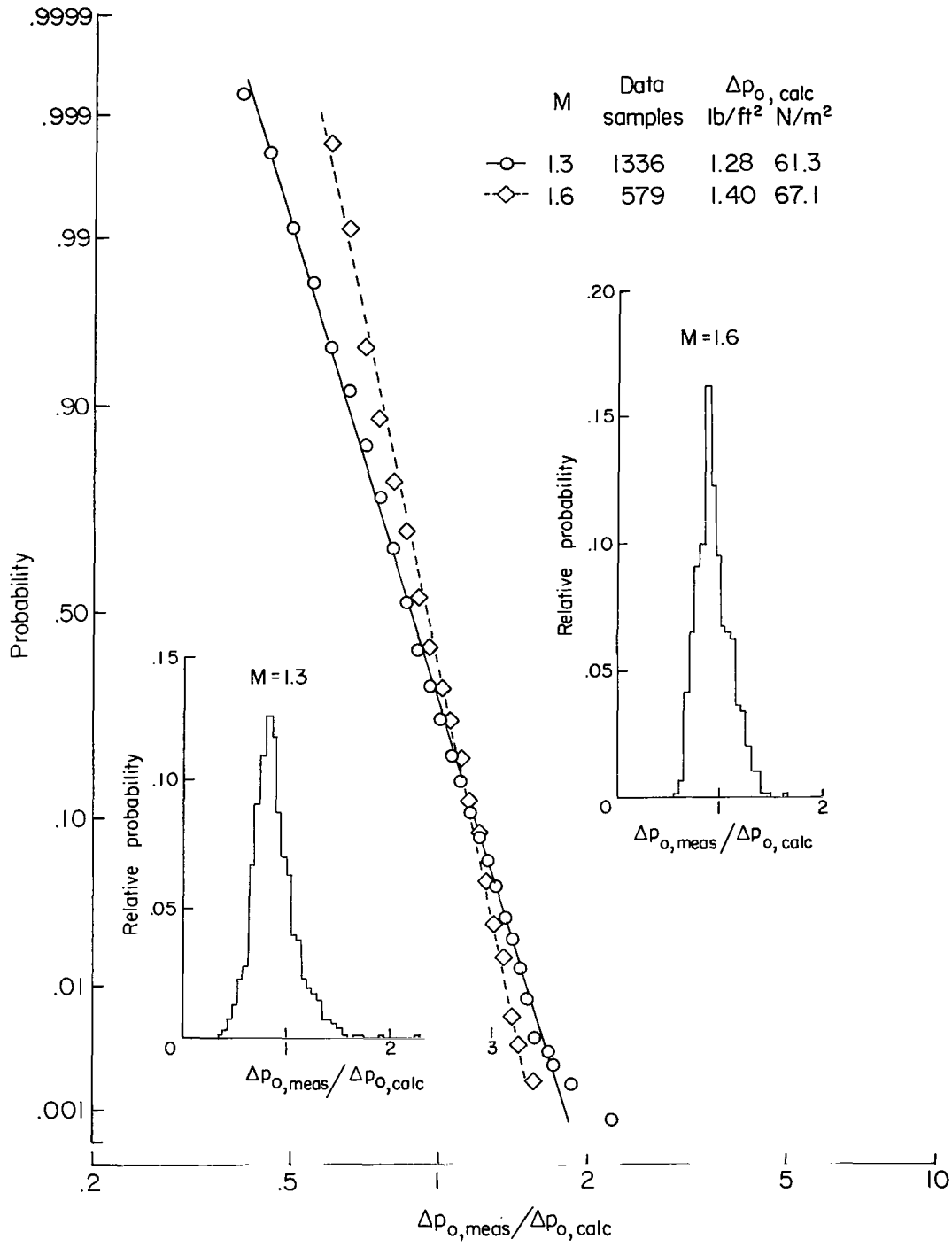


Figure 9.- Probability of equaling or exceeding a given value of the ratio of measured to calculated overpressures for the fighter airplane, at M = 1.3 and M = 1.6 at a msl altitude of about 30 000 feet (9144 meters), as obtained during the November 1966 to January 1967 Edwards area measurements.

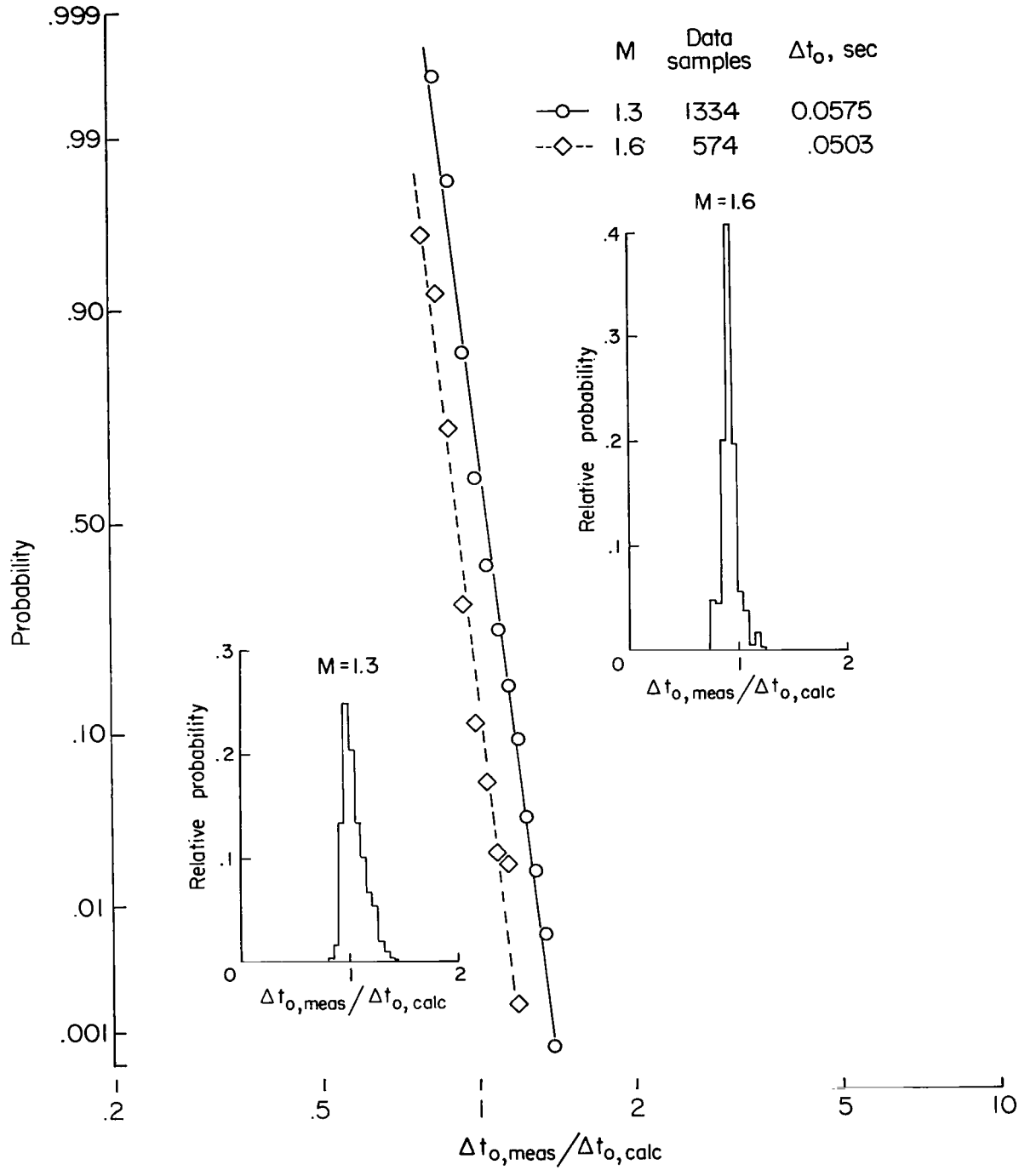


Figure 10.- Probability of equaling or exceeding a given value of the ratio of measured to calculated positive time durations for the fighter airplane, at M = 1.3 and M = 1.6 at a msl altitude of about 30 000 feet (9144 meters), as obtained during the November 1966 to January 1967 Edwards area measurements.

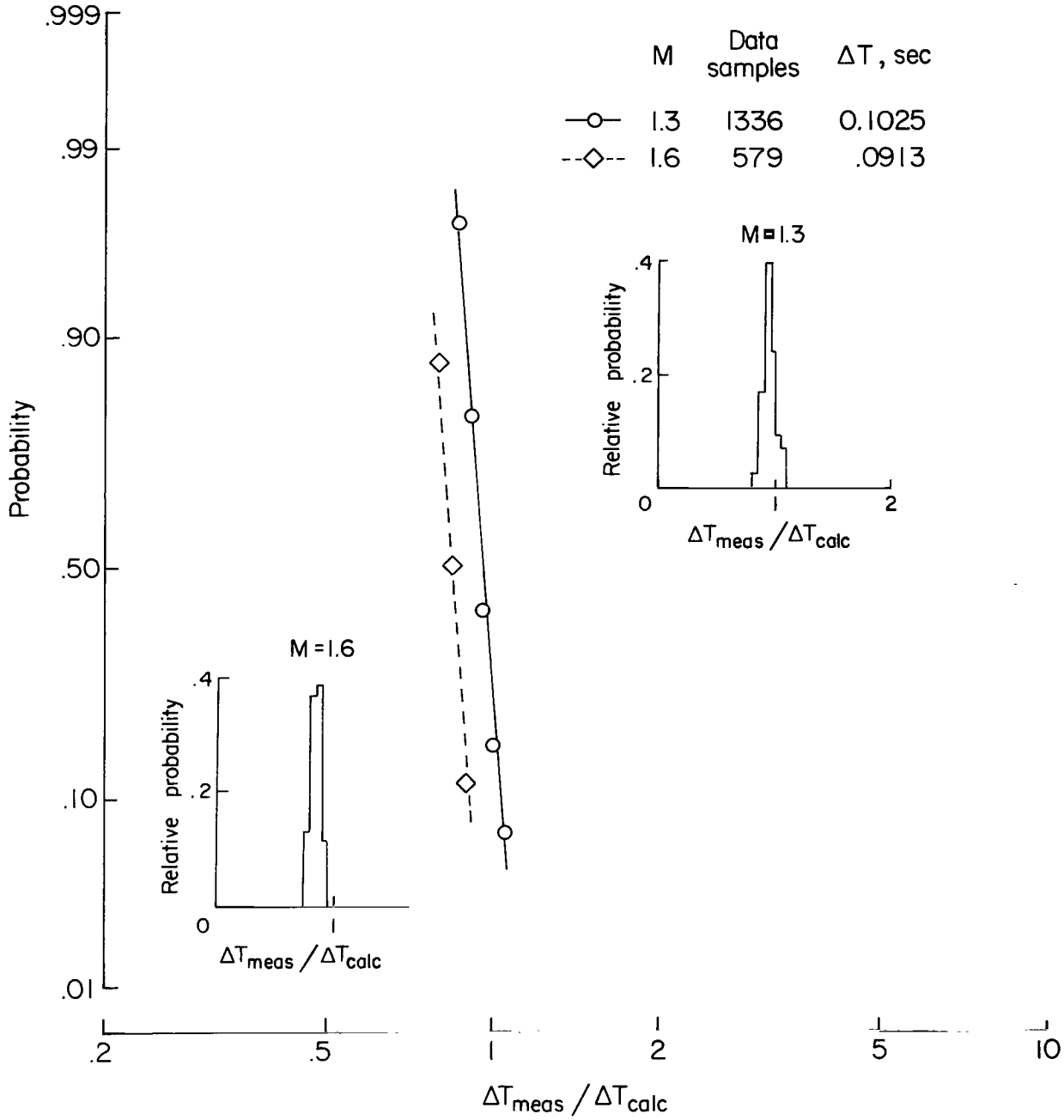


Figure 11.- Probability of equaling or exceeding a given value of the ratio of measured to calculated total time duration for the fighter airplane, at M = 1.3 and M = 1.6 at a msl altitude of about 30 000 feet (9144 meters), as obtained during the November 1966 to January 1967 Edwards area measurements.

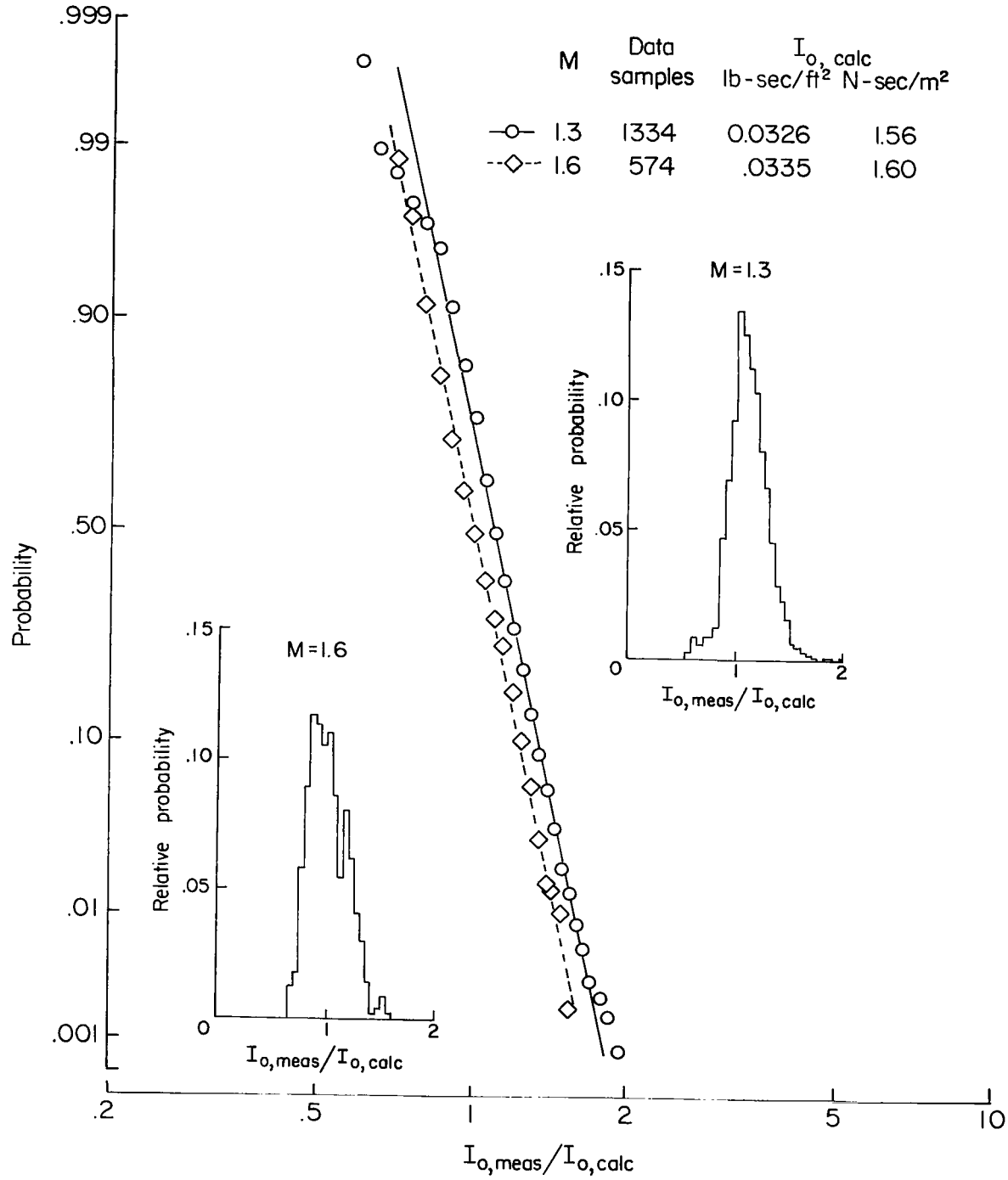
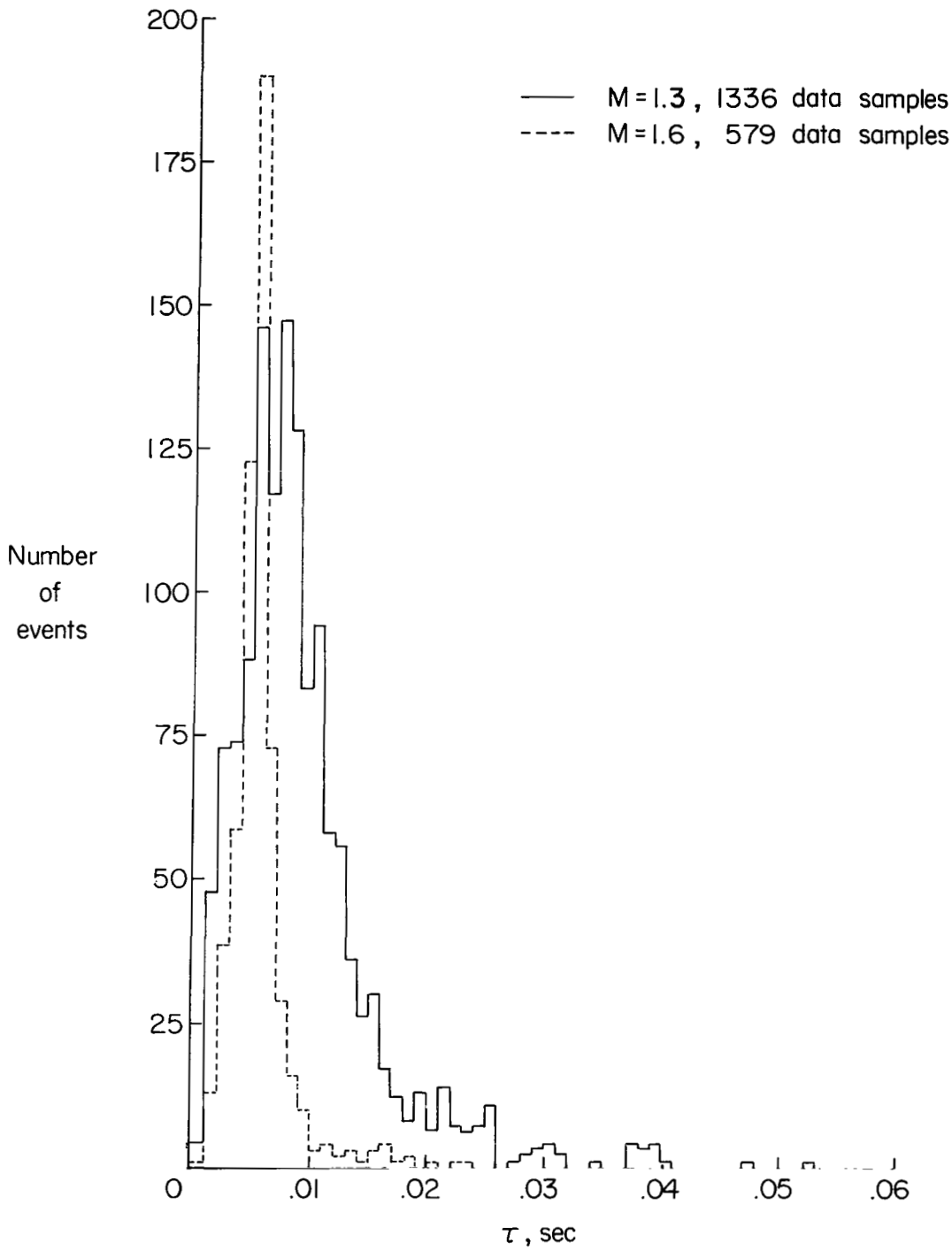
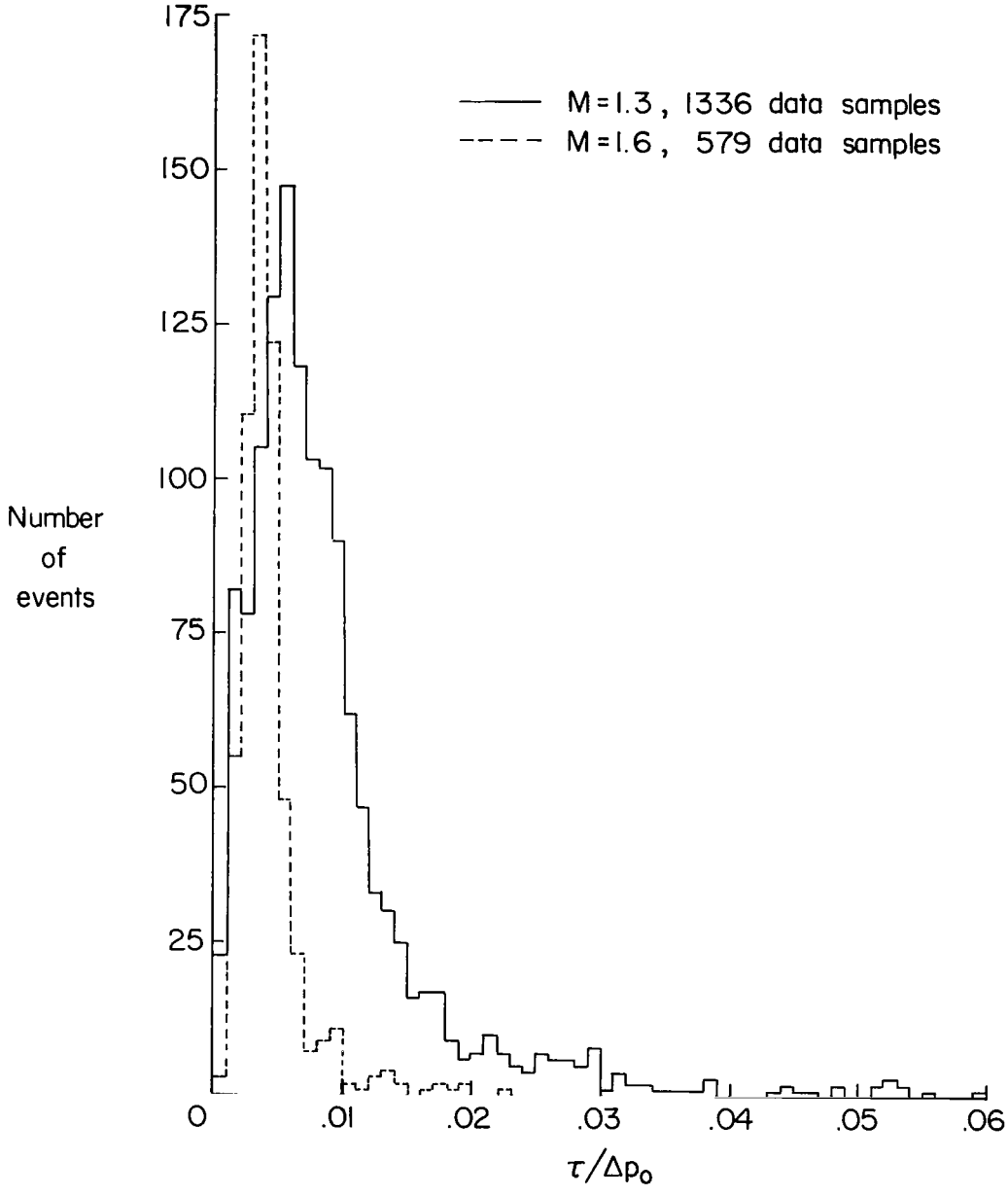


Figure 12.- Probability of equaling or exceeding a given value of the ratio of measured to calculated positive impulse for the fighter airplane, at M = 1.3 and M = 1.6 at a msl altitude of about 30 000 feet (9144 meters), as obtained during the November 1966 to January 1967 Edwards area measurements.



(a) Rise time.

Figure 13.- Histograms showing variations of bow-wave rise time to peak value of overpressure for fighter airplane at Mach numbers of about 1.3 and 1.6 and a msl altitude from 29 000 to 31 000 feet (8839 to 9449 meters).



(b) Rise time per unit overpressure.

Figure 13.- Concluded.

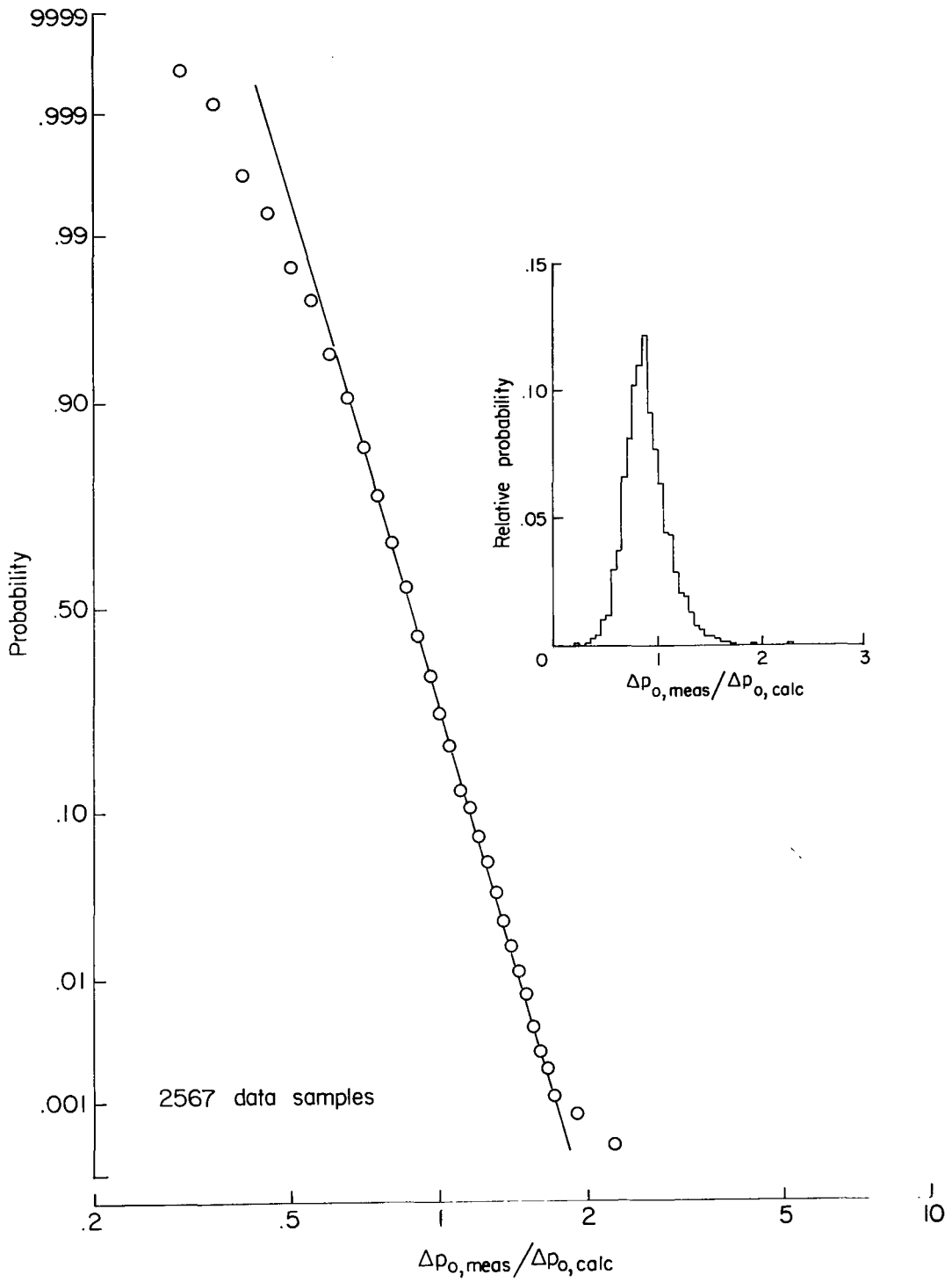


Figure 14.- Probability of equaling or exceeding a given value of the ratio of measured to calculated overpressures for the fighter airplane, as obtained during the Edwards area and Oklahoma City area measurements.

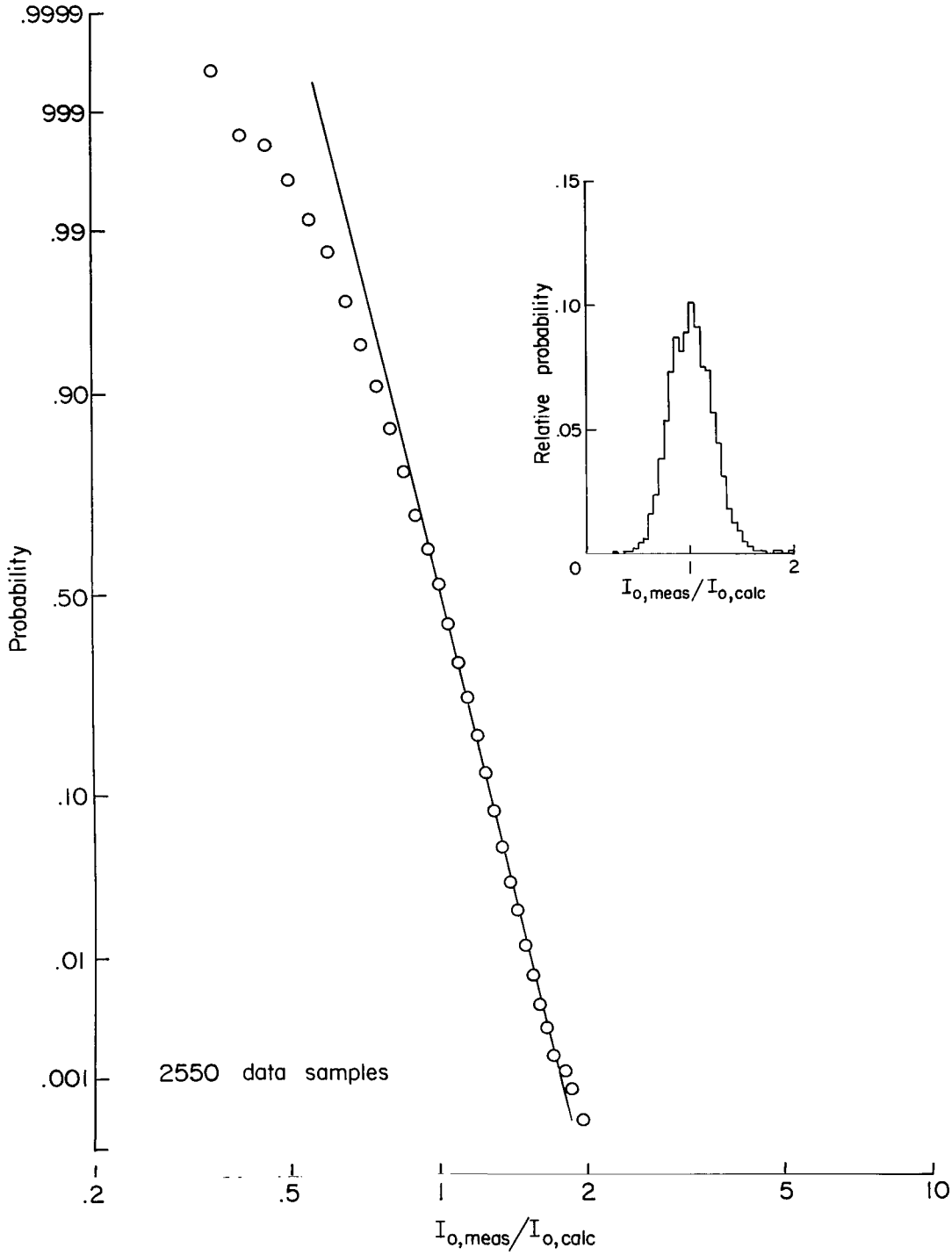


Figure 15.- Probability of equaling or exceeding a given value of the ratio of measured to calculated positive impulse for the fighter airplane, as obtained during the Edwards area and Oklahoma City area measurements.

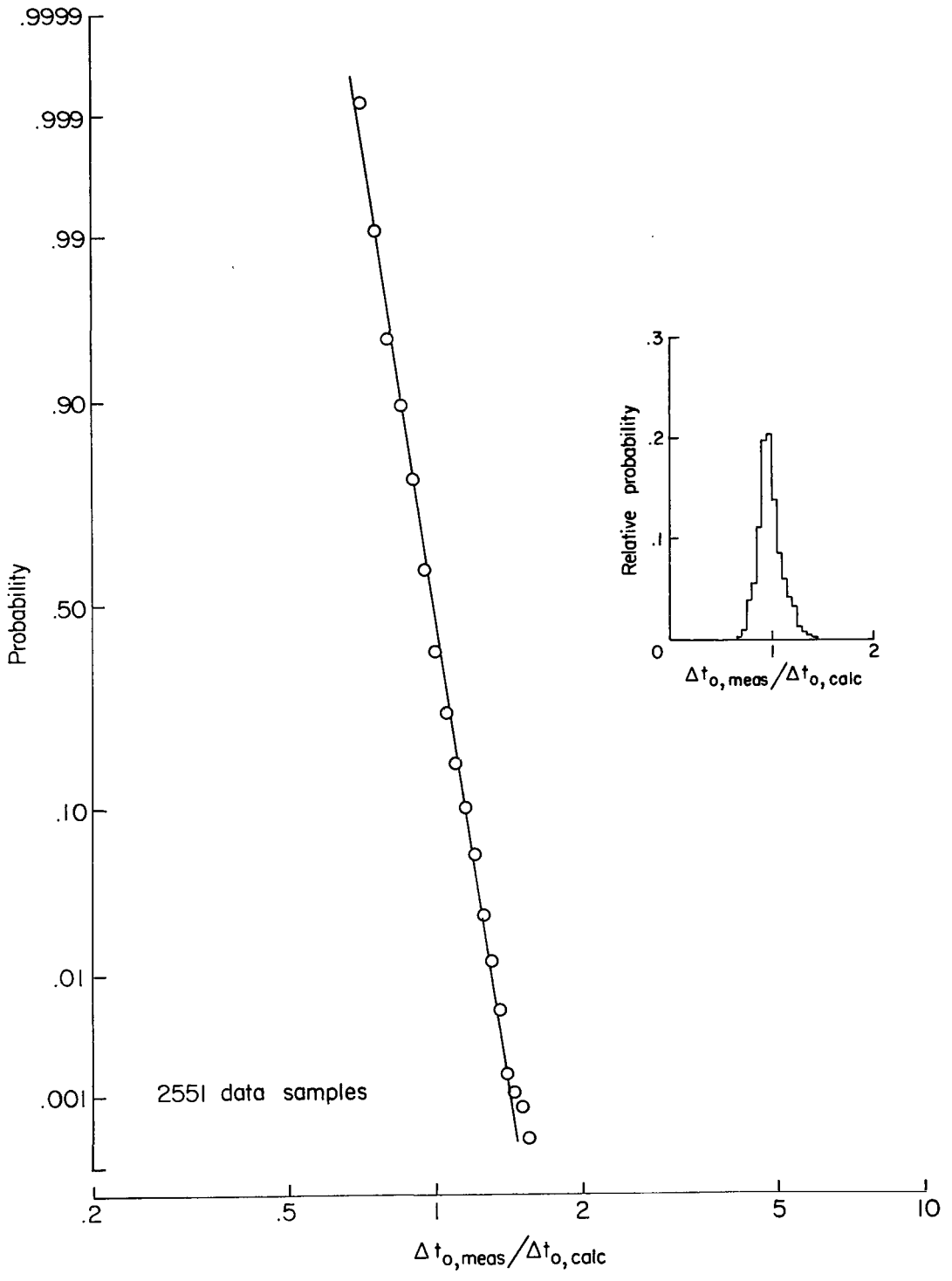


Figure 16.- Probability of equaling or exceeding a given value of the ratio of measured to calculated positive time durations for the fighter airplane, as obtained during the Edwards area and Oklahoma City area measurements.

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