NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

INDEX OF NACA TECHNICAL PUBLICATIONS

July, 1956 - June, 1957

WASHINGTON - 1957
This index of NACA Technical Publications covers the NACA research reports issued in the period of July 1956 through June 1957. It is the sixth supplement to the basic 1915-1949 Index.

The research reports issued prior to July 1956 which have been declassified since that date have also been included. A list of these reports may be found on pages 243-244. Cards for this list may be discarded as entries for them are included in this Index. Current announcement of newly declassified materials is regularly made in the NACA Research Abstracts and Reclassification Notice.

The arrangement of this Index follows: (1) Explanatory chart of NACA publications series designations, (2) outline of subject classification system, (3) chronological list of NACA reports under each subject classification, (4) list of reports declassified from July 1956 through June 1957, (5) alphabetical index to subject categories, and (6) author index.

Entries included herein duplicate in part the information of the index cards furnished with the individual research reports. Recipients maintaining card files may wish to discard those index cards on hand for unclassified research reports issued during the July 1956-June 1957 period. Such cards were printed on yellow stock for easy identification in the discard process. Please note that some classified reports issued during the July-December 1956 period are included in the yellow stock area. Therefore care must be taken to avoid destroying such cards.

Newly available research reports are currently announced in the NACA Research Abstracts and Reclassification Notice and are normally available for a period of five years after announcement. Most of the older research reports (those issued prior to July 1952) are thus available on a "loan only" basis within the United States. Requests for NACA research reports should be forwarded to the address given below.

Division of Research Information
National Advisory Committee for Aeronautics
1512 H Street, N. W.
Washington 25, D. C.

December 1, 1957.
# EXPLANATORY CHART OF NACA PUBLICATIONS SERIES

## DESIGNATIONS

<table>
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<tr>
<th>PUBLICATIONS SERIES</th>
<th>SYMBOL</th>
<th>CURRENTLY ISSUED</th>
<th>NUMBERED CONSECUTIVELY</th>
<th>NUMBER BASED ON LABORATORY OF ORIGIN**</th>
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** Symbol and date only used prior to date mentioned. ** A - Ames * 5 - 1945 50 - 1950 # A - January G - July ### 01 B - February H - August 02 C - March I - September 03 . etc. to 31 followed by a - 2nd document issued that date D - April J - October b - 3rd document issued that date E - May K - November F - June L - December
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(1.1) Fundamental Aerodynamics


(1.1.1) INCOMPRESSIBLE FLOW


(1.1.2) COMPRESSIBLE FLOW


### AERODYNAMICS

**Theoretical and Experimental Investigation of the Subsonic-Flow Fields Beneath Swept and Unsweped Wings with Tables of Vortex-Induced Velocities.**


**An Experimental Investigation of Sting-Support Effects on Drag and a Comparison with Jet Effects at Transonic Speeds.**

Maurice S. Cahn. September 1956. 67p. diagrs., tabs. (NACA RM L56F18a)

**Interaction of Grids with Traveling Shock Waves.**

Duran Singh Dosanjh, Johns Hopkins University. September 1956. 80p. diagrs., photos. (NACA TN 3880)

**Radiation and Recovery Corrections and Time Constants of Several Chromel-Alumel Thermocouple Probes in High-Temperature, High-Velocity Gas Streams.**


**Tabulation of Mass-Flow Parameters for Use in Design of Turbomachine Blade Rows for Ratios of Specific Heats of 1.3 and 1.4.**


**Average Properties of Compressible Laminar Boundary Layer on Flat Plate with Unsteady Flight Velocity.**


**Simplified Method for Estimating Compressible Laminar Heat Transfer with Pressure Gradient.**


**Results of Two Free-Fall Experiments on Flutter of Thin Unsweped Wings in the Transonic Speed Range.**


**On Stokes' Stream Function in Compressible Small-Disturbance Theory.**

Milton D. Van Dyke. February 1957. 15p. diagrs. (NACA TN 3877)

**Investigation of Separated Flows in Supersonic and Subsonic Streams with Emphasis on the Effect of Transition.**


**A Theoretical Study of the Effect of Upstream Transpiration Cooling on the Heat-Transfer and Skin-Friction Characteristics of a Compressible, Laminar Boundary Layer.**


**Interaction of Moving Shocks and Hot Layers.**


**Nonuniformities in Shock-Tube Flow Due to Unsteady-Boundary-Layer Action.**


**A Power-Series Solution for the Unsteady Laminar Boundary-Layer Flow in an Expansion Wave of Finite Width Moving Through a Gas Initially at Rest.**


**An Integral Solution to the Flat-Plate Laminar Boundary-Layer Flow Existing Inside and After Expansion Waves and After Shock Waves Moving into Quiescent Fluid with Particular Application to the Complete Shock-Tube Flow.**


**Compressible Laminar Boundary Layer Over a Yawed Infinite Cylinder with Heat Transfer and Arbitrary Prandtl Number.**

Eli Reshotko and Ivan E. Beckwith. June 1957. (i), 86p. diagrs., tabs. (NACA TN 3986)

### 1.1.2.1 Subsonic Flow

**An Investigation at Transonic Speeds of the Aerodynamic Characteristics of an Air Inlet Installed in the Root of a 45° Swept-Back Wing.**

Robert R. Howell and Arvid L. Keith, Jr. October 1952. 47p. diagrs., photos., tabs. (NACA RM L52H08a)

**The Influence of Vortex Generators on the Performance of a Short 1.9:1 Straight-Wall Annular Diffuser with a Whirling Inlet Flow.**

Charles C. Wood and James T. Higginbotham. February 1953. 36p. diagrs., photo., tab. (NACA RM L52L01a)
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(1) AERODYNAMICS


TRANSONIC FLOW PAST CONE CYLINDERS. George E. Solomon, California Institute of Technology. 1955. 91p. diagrs., photos. (NACA Rept. 1242. Supersedes TN 3213)


(1.1.2.3) SUPERSONIC FLOW


PRELIMINARY INVESTIGATION OF USE OF CONICAL FLOW SEPARATION FOR EFFICIENT SUPERSONIC DIFFUSION. W. E. Moeckel and P. J. Evans, Jr. December 1951. 15p. photos., diagrs. (NACA RM E51J06)

FLOW SEPARATION FROM RODS AHEAD OF BLUNT NOSES AT MACH NUMBER 2.72. Jim J. Jones. July 1952. 18p. diagrs., photos. (NACA RM L52E05a)

AN INVESTIGATION AT TRANSonic SPEEDS OF THE AERODYNAMIC CHARACTERISTICS OF AN AIR INLET INSTALLED IN THE ROOT OF A 45° SWEPt-BACK WING. Robert R. Howell and Arvid L. Keith, Jr. October 1952. 47p. diagrs., photos., tabs. (NACA RM L52H08a)


MEASUREMENTS AND PREDICTIONS OF FLOW CONDITIONS ON A TWO-DIMENSIONAL BASE SEPARATING MACH NUMBER 3.36 JET AND A MACH NUMBER 1.55 OUTER STREAM. Donald E. Coletti. May 1954. 56p. diagrs., photos. (NACA RM L54C08)


THE PROPER COMBINATION OF LIFT LOADINGS FOR LEAST DRAG ON A SUPERSONIC WING. Frederick C. Gran. 1956. ii, 8p. diagrs., tab. (NACA Rept. 1275. Supersedes TN 3533)


CONVERSION OF INVIscID NORMAL-FORCE COEFFICIENTS IN HELIUM TO EQUIVALENT COEFFICIENTS IN AIR FOR SIMPLE SHAPES AT HYPERSONIC SPEEDS. James N. Mueller. October 1956. 31p. diagrs. (NACA TN 3807)


METHOD FOR CALCULATING EFFECTS OF DISSOCIATION ON FLOW VARIABLES IN THE RELAXATION ZONE BEHIND NORMAL SHOCK WAVES. John S. Evans. December 1956. 52p. diagrs., tabs. (NACA TN 3860)


Experimental Investigation of the Forces and Moments Due to Sidleslip of a Series of Triangular Vertical- and Horizontal-Tail Combinations at Mach Numbers of 1.62, 1.93, and 2.41. Donald E. Coletti. March 1957. 32p. diagrs., photo., tabs. (NACA TN 3846. Supersedes RM L54G01)


(1.1.3)

Viscous Flow


Investigation of Spoilers at a Mach Number of 1.93 to Determine the Effects of Height and Chordwise Location on the Section Aerodynamic Characteristics of a Two-Dimensional Wing. James N. Mueller. March 1953. 52p. diagrs., photos. (NACA RM L52L31)

Pressure Distributions on Three Bodies of Revolution to Determine the Effect of Reynolds Number up to and including the Transonic Speed Range. John M. Swihart and Charles F. Whitcomb. October 1953. 39p. diagrs., photo., tab. (NACA RM L53H04)


(1) AERODYNAMICS


ATTENUATION IN A SHOCK TUBE DUE TO UNSTEADY-Boundary-Layer ACTION. Harold Mirels. August 1956. 60p. diagrs. (NACA TN 3278)


ON POSSIBLE SIMILARITY SOLUTIONS FOR THREE-DIMENSIONAL INCOMPRESSIBLE LAMINAR BOUNDARY LAYERS. I - SIMILARITY WITH RESPECT TO STATIONARY RECTANGULAR COORDINATES. Arthur G. Hansen and Howard Z. Herzig. October 1956. 30p. tab. (NACA TN 3768)


(1.1.3.1) LAMINAR FLOW


EXPERIMENTAL INVESTIGATION OF BOUNDARY-LAYER SUCTION THROUGH SLOTS TO OBTAIN EXTENSIVE LAMINAR BOUNDARY LAYERS ON A 15-PERCENT-THICK AIRFOIL SECTION AT HIGH REYNOLDS NUMBERS. Laurence K. Loftin, Jr., and Elmer A. Horton. June 1952. 38p. diagrs., photos., tabs. (NACA RM L52D02)


ANALYSIS AND CALCULATION BY INTEGRAL METHODS OF LAMINAR COMPRESSIBLE BOUNDARY LAYER WITH HEAT TRANSFER AND WITH AND WITHOUT PRESSURE GRADIENT. Morris Morduchow, Polytechnic Institute of Brooklyn. 1955. ii, 19p. diagrs., tabs. (NACA Rept. 1245)


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### (1.1.3.2) TURBULENT FLOW


THE INFLUENCE OF VORTEX GENERATORS ON THE PERFORMANCE OF A SHORT 1.9:1 STRAIGHT-WALL ANNULAR DIFFUSER WITH A WHIRLING INLET FLOW. Charles C. Wood and James T. Higginbotham. February 1953. 36p. diagrs., photo., tab. (NACA RM L52L01a)


MEASUREMENTS AND PREDICTIONS OF FLOW CONDITIONS ON A TWO-DIMENSIONAL BASE SEPARATING A MACH NUMBER 3.36 JET AND A MACH NUMBER 1.55 OUTER STREAM. Donald E. Coletti. May 1954. 56p. diagrs., photos. (NACA RM L54C08)

(1) AERODYNAMICS


ATTENUATION IN A SHOCK TUBE DUE TO UNSTEADY-BOUNDARY-LAYER ACTION. Harold Mirels. August 1956. 60p. diagrs. (NACA TN 3276)


FURTHER EXPERIMENTS ON THE STABILITY OF LAMINAR AND TURBULENT HYDROGEN-AIR FLAMES AT REDUCED PRESSURES. Burton Fine. April 1957. 3lp. diagrs., tabs. (NACA TN 3977)
CHARTS FOR THE ANALYSIS OF FLOW IN A WHIRLING DUCT. Robert A. Makofski. May 1957. 21p. diagrs. (NACA TN 3950)


(1.1.3.3) JET MIXING


MEASUREMENTS AND PREDICTIONS OF FLOW CONDITIONS ON A TWO-DIMENSIONAL BASE SEPARATING A MACH NUMBER 3.36 JET AND A MACH NUMBER 1.55 OUTER STREAM. Donald E. Coletti. May 1954. 56p. diagrs., photos. (NACA RM L54C08)


(1.1.4) AERODYNAMICS WITH HEAT


ANALYSIS AND CALCULATION BY INTEGRAL METHODS OF LAMINAR COMPRESSIBLE BOUNDARY LAYER WITH HEAT TRANSFER AND WITH AND WITHOUT PRESSURE GRADIENT. Morris Morduchow, Polytechnic Institute of Brooklyn. 1955. II, 19p. diagrs., tabs. (NACA Rept. 1245)
(1) AERODYNAMICS


MECHANISM OF GENERATION OF PRESSURE WAVES AT FLAME FRONTS. Boa-Teh Chu, Johns Hopkins University. October 1956. 20p. diagrs. (NACA TN 3683)


(1.1.4.1) HEATING


MEASUREMENTS OF THE NONLINEAR VARIATION WITH TEMPERATURE OF HEAT-TRANSFER RATE FROM HOT WIRES IN TRANSONIC AND SUPERSONIC FLOW. Warren Winovich and Howard A. Stine. April 1957. 33p. diagrs., photo., tab. (NACA TN 3965)


(1.1.4.2) HEAT TRANSFER


AVERAGE PROPERTIES OF COMPRESSIBLE LAMINAR BOUNDARY LAYER ON FLAT PLATE WITH UNSTEADY FLIGHT VELOCITY. Franklin K. Moore and Simon Ostrach. December 1956. 35p. diagrs., tabs. (NACA TN 3866)

THEORY AND DESIGN OF A PNEUMATIC TEMPERATURE PROBE AND EXPERIMENTAL RESULTS OBTAINED IN A HIGH-TEMPERATURE GAS STREAM. Frederick S. Simmons and George E. Glawe. January 1957. 41p. diagrs., photo. (NACA TN 3893)


MEASUREMENTS OF THE NONLINEAR VARIATION WITH TEMPERATURE OF HEAT TRANSFER RATE FROM HOT WIRES IN TRANSONIC AND SUPersonic FLOW. Warren Winovich and Howard A. Stine. April 1957. 33p. diagrs., photo., tab. (NACA TN 3965)


CHARTS FOR THE ANALYSIS OF FLOW IN A WHIRLING DUCT. Robert A. Makofski. May 1957. 21p. diagrs. (NACA TN 3950)


ON FLOW OF ELECTRICALLY CONDUCTING FLUIDS OVER A FLAT PLATE IN THE PRESENCE OF A TRANSVERSE MAGNETIC FIELD. Vernon J. Rossow. May 1957. 54p. tabs. (NACA TN 3971)

AN INTEGRAL SOLUTION TO THE FLAT PLATE LAMINAR BOUNDARY LAYER FLOW EXISTING INSIDE AND AFTER EXPANSION WAVES AND AFTER SHOCK WAVES MOVING INTO QUIESCENT FLUID WITH PARTICULAR APPLICATION TO THE COMPLETE SHOCK TUBE FLOW. Robert L. Trimpi and Nathaniel B. Cohen. June 1957. ii, 180 p. diagrs., tab. (NACA TN 3944)

COMPRESSIBLE LAMINAR BOUNDARY LAYER OVER A YAWED INFINITE CYLINDER WITH HEAT TRANSFER AND ARBITRARY PRANDTL NUMBER. Eli Reshotko and Ivan E. Beckwith. June 1957. (i), 86p. diagrs., tabs. (NACA TN 3986)

(1.1.4.3) ADDITIONS OF HEAT


(1) AERODYNAMICS

ATTENUATION IN A SHOCK TUBE DUE TO UNSTEADY-BOUNDARY-LAYER ACTION. Harold Mirels. August 1956. 60p. diagrs. (NACA TN 3278)


(1.1.5)
FLOW OF RAREIFIED GASES

(1.1.5.1)
SLIP FLOW


(1.1.5.2)
FREE MOLECULE FLOW


(1.1.6)
TIME-DEPENDENT FLOW


(1.2) Wings


FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.4 TO DETERMINE THE ZERO-LIFT DRAG OF WINGS WITH "M" AND "W" PLAN FORMS. Ellis Katz, Edward T. Marley, and William B. Pepper. September 18, 1950. 23p. diagrs., photos. (NACA RM L50G31)


(1.2.1) SECTION THEORY


CONVERSION OF INVISCID NORMAL-FORCE COEFFICIENTS IN HELIUM TO EQUIVALENT COEFFICIENTS IN AIR FOR SIMPLE SHAPES AT SUBSONIC SPEEDS. James N. Mueller. October 1956. 31p. diagrs. (NACA TN 3807)


(1.2.1.2) SECTION VARIABLES

FLIGHT MEASUREMENTS OF THE PRESSURE DISTRIBUTION ON THE WING OF THE X-1 AIRPLANE (10-PERCENT-THICK WING) OVER A CHORDWISE STATION NEAR THE MIDSPAN, IN LEVEL FLIGHT AT MACH NUMBERS FROM 0.79 TO 1.00 AND IN A PULL-UP AT A MACH NUMBER OF 0.96. H. Arthur Carner and Ronald J. Knapp. September 12, 1950. 25p. diagrs., photo., tab. (NACA RM L50H04)


ZERO-LIFT DRAG OF A SERIES OF BOMB SHAPES AT MACH NUMBERS FROM 0.60 TO 1.10. William E. Stoney, Jr., and John F. Royall. July 1956. 12p. diagrs., photos., tabs. (NACA RM L56D16)

A CORRELATION OF LOW-SPEED, AIRFOIL-SECTION STALLING CHARACTERISTICS WITH REYNOLDS NUMBER AND AIRFOIL GEOMETRY. Donald E. Gault. March 1957. 9p. diagrs., tab. (NACA TN 3963)

(1.2.1.2.1) Camber

AERODYNAMIC STUDY OF A WING-FUSELAGE COMBINATION EMPLOYING A WING Swept BACK 63° - INVESTIGATION AT A MACH NUMBER OF 1.53 TO DETERMINE THE EFFECTS OF CAMBERING AND TWISTING THE WING FOR UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.25. Robert T. Madden. May 6, 1949. 35p. diagrs., photo., tabs. (NACA RM A9C07)

AN INVESTIGATION AT SUBSONIC SPEEDS OF SEVERAL MODIFICATIONS TO THE LEADING-EDGE REGION OF THE NACA 64A010 AIRFOIL SECTION DESIGNED TO INCREASE MAXIMUM LIFT. Ralph L. Maki and Lynn W. Hunton. December 1956. 50p. diagrs., tab. (NACA TN 3871)
(1) AERODYNAMICS

(1.2.1.2.2) Thickness


HYDRODYNAMIC CHARACTERISTICS OVER A RANGE OF SPEEDS UP TO 80 FEET PER SECOND OF A RECTANGULAR MODIFIED FLAT PLATE HAVING AN ASPECT RATIO OF 0.25 AND OPERATING AT SEVERAL DEPTHS OF SUBMERSION. Victor L. Vaughan, Jr., and John A. Ramasen. April 1957. 23p. diagrs. (NACA TN 3908)


(1.2.1.2.3) Thickness Distribution


AN INVESTIGATION AT SUBSONIC SPEEDS OF SEVERAL MODIFICATIONS TO THE LEADING-EDGE REGION OF THE NACA 64A010 AIRFOIL SECTION DESIGNED TO INCREASE MAXIMUM LIFT. Ralph L. Maki and Lynn W. Hunton. December 1956. 50p. diagrs., tab. (NACA TN 3871)

(1.2.1.2.5) Surface Conditions

EXPERIMENTAL INVESTIGATION OF BOUNDARY-LAYER SUCTION THROUGH SLOTS TO OBTAIN EXTENSIVE LAMINAR BOUNDARY LAYERS ON A 15-PERCENT-THICK AIRFOIL SECTION AT HIGH REYNOLDS NUMBERS. Laurence K. Loftin, Jr., and Elmer A. Horton. June 1952. 38p. diagrs., photos., tabs. (NACA RM L52D02)


EXPERIMENTAL DROPLET IMPINGEMENT ON SEVERAL TWO-DIMENSIONAL AIRFOILS WITH THICKNESS RATIOS OF 6 TO 16 PERCENT. Thomas F. Gelder, William H. Smyers, Jr., and Uwe von Glahn. December 1956. 77p. diagrs., photos., tabs. (NACA TN 3899)

(1, 2, 1, 3) DESIGNATED PROFILES

FLIGHT MEASUREMENTS OF THE PRESSURE DISTRIBUTION ON THE WING OF THE X-1 AIRPLANE (10-PERCENT-THICK WING) OVER A CHORDWISE STATION NEAR THE MIDSpan, IN LEVEL FLIGHT AT MACH NUMBERS OF 0.79 TO 1.00 AND IN A PULL-UP AT A MACH NUMBER OF 0.96. H. Arthur Carner and Ronald J. Knapp. September 12, 1950. 25p. diagrs., photo., tab. (NACA RM L50B04)

EXPERIMENTAL INVESTIGATION OF BOUNDARY-LAYER SUCTION THROUGH SLOTS TO OBTAIN EXTENSIVE LAMINAR BOUNDARY LAYERS ON A 15-PERCENT-THICK AIRFOIL SECTION AT HIGH REYNOLDS NUMBERS. Laurence K. Loftin, Jr., and Elmer A. Horton. June 1952. 36p. diagrs., photos., tabs. (NACA RM L52D02)


(1, 2, 1, 4) HIGH-LIFT DEVICES


AN INVESTIGATION AT SUBSONIC SPEEDS OF SEVERAL MODIFICATIONS TO THE LEADING-EDGE REGION OF THE NACA 64A010 AIRFOIL SECTION DESIGNED TO INCREASE MAXIMUM LIFT. Ralph L. Maki and Lynn W. Hunton. December 1956. 50p. diagrs., tab. (NACA TN 3871)


(1, 2, 1, 4.1) Plain Flaps


(1, 2, 1, 4.2) Split Flaps


(1, 2, 1, 4.3) Slotted Flaps


(1) AERODYNAMICS

(1.2.1.4.4) Leading Edge Flaps


(1.2.1.4.5) Slots and Slats


(1.2.1.5) CONTROLS

(1.2.1.5.1) Flap Type


(1.2.1.5.2) Spoilers

EFFECTS OF Spoiler ON AIRFOIL PRESSURE DISTRIBUTION AND EFFECTS OF SIZE AND LOCATION OF SPOILERS ON THE AERO_DYNAMIC CHARACTERISTICS OF A TAPERED UNSWEEPED WING OF ASPECT RATIO 2.5 AT A MACH NUMBER OF 1.90. D. William Comer and Meade H. Mitchell, Jr. January 24, 1951. 33p. diagrs., photo. (NACA RM L50L20)


(1.2.1.6) BOUNDARY LAYER


EXPERIMENTAL INVESTIGATION OF BOUNDARY-LAYER SUCTION THROUGH SLOTS TO OBTAIN EXTENSIVE LAMINAR BOUNDARY LAYERS ON A 15-PERCENT-THICK AIRFOIL SECTION AT HIGH REYNOLDS NUMBERS. Laurence K. Loftin, Jr., and Elmer A. Horton. June 1952. 38p. diagrs., photos., tabs. (NACA RM L52D02)


ON POSSIBLE SIMILARITY SOLUTIONS FOR THREE-DIMENSIONAL INCOMPRESSIBLE LAMINAR BOUNDARY LAYERS. 1 - SIMILARITY WITH RESPECT TO STATIONARY RECTANGULAR COORDINATES. Arthur G. Hansen and Howard Z. Herzig. October 1956. 30p. tab. (NACA TN 3768)


ON FLOW OF ELECTRICALLY CONDUCTING FLUIDS OVER A FLAT PLATE IN THE PRESENCE OF A TRANSVERSE MAGNETIC FIELD. Vernon J. Rossow. May 1957. 54p. tabs. (NACA TN 3971)

COMPRESSIBLE LAMINAR BOUNDARY LAYER OVER A YAWED INFINITE CYLINDER WITH HEAT TRANSFER AND ARBITRARY PRANDTL NUMBER. Eli Reshotko and Ivan E. Beckwith. June 1957. (i), 86p. diagrs., tabs. (NACA TN 3986)

(1.2.1.6.1) Characteristics


CORRECTED COPY

(1.2.1.6.2) Control


(1.2.1.7) REYNOLDS NUMBER EFFECTS


EXPERIMENTAL INVESTIGATION OF BOUNDARY-LAYER SUCTION THROUGH SLOTS TO OBTAIN EXTENSIVE LAMINAR BOUNDARY LAYERS ON A 15-PERCENT-THICK AIRFOIL SECTION AT HIGH REYNOLDS NUMBERS. Laurence K. Loftin, Jr., and Elmer A. Horton. June 1952. 38p. diagrs., photos., tabs. (NACA RM L52D02)


AN INVESTIGATION AT SUBSONIC SPEEDS OF SEVERAL MODIFICATIONS TO THE LEADING-EDGE REGION OF THE NACA 64A010 AIRFOIL SECTION DESIGNED TO INCREASE MAXIMUM LIFT. Ralph L. Maki and Lynn W. Hunton. December 1956. 50p. diagrs., tab. (NACA TN 3871)

A CORRELATION OF LOW-SPEED, AIRFOIL-SECTION STALLING CHARACTERISTICS WITH REYNOLDS NUMBER AND AIRFOIL GEOMETRY. Donald E. Gault. March 1957. 9p. diagrs., tab. (NACA TN 3963)

(1.2.1.8) MACH NUMBER EFFECTS

FLIGHT MEASUREMENTS OF THE PRESSURE DISTRIBUTION ON THE WING OF THE X-1 AIRPLANE (10-PERCENT-THICK WING) OVER A CHORDWISE STATION NEAR THE MIDSPAN, IN LEVEL FLIGHT AT MACH NUMBERS FROM 0.79 TO 1.00 AND IN A PULL-UP AT A MACH NUMBER OF 0.96. H. Arthur Carner and Ronald J. Knapp. September 12, 1950. 25p. diagrs., photo., tab. (NACA RM L50H04)
(1) AERODYNAMICS

INVESTIGATION AT A MACH NUMBER OF 1.2 OF TWO 45° SWEEPBACK WINGS UTILIZING NACA 2-006 AND NACA 65A006 AIRFOIL SECTIONS. Homer B. Wilson, Jr. September 1952. 20p. diagrs., photos., tab. (NACA RM L52G17)


INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE PRESSURE DISTRIBUTIONS ON A 45° SWEEPBACK VERTICAL TAIL IN SIDESLIP WITH A 45° SWEEPBACK TAIL MOUNTED AT 50-TO 100-PERCENT VERTICAL-TAIL SPAN. Harleth G. Wiley and William C. Moseley, Jr. November 1954. 89p. diagrs., photos., tabs. (NACA RM L54H08)


CONVERSION OF INVISCID NORMAL-FORCE COEFFICIENTS IN HELIUM TO EQUIVALENT COEFFICIENTS IN AIR FOR SIMPLE SHAPES AT HYPersonic speeds. James N. Mueller. October 1956. 31p. diagrs. (NACA TN 3807)

AN INVESTIGATION AT SUBSONIC SPEEDS OF SEVERAL MODIFICATIONS TO THE LEADING-EDGE REGION OF THE NACA 64A010 AIRFOIL SECTION DESIGNED TO INCREASE MAXIMUM LIFT. Ralph L. Maki and Lynn W. Hutton. December 1956. 50p. diagrs., tab. (NACA TN 3871)


(1.2.1.9)

WAKE


TURBULENCE IN THE WAKE OF A THIN AIRFOIL AT LOW SPEEDS. George S. Campbell, California Institute of Technology. January 1957. 63p. diagrs. (NACA TM 1427)

(1.2.2)

COMPLETE WINGS

WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEEP BACK 63° AND TWISTED AND CAMBERED FOR A UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.5. James A. Weiberg and Hubert C. Carel. May 9, 1950. 52p. diagrs., photos., tabs. (NACA RM A50A23)

WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEEP BACK 63° AND TWISTED AND CAMBERED FOR UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.5 AND WITH A THICKENED TIP SECTION. James A. Weiberg and Hubert C. Carel. November 21, 1950. 42p. diagrs., photo., tabs. (NACA RM A50l14)


EFFECT OF WING FLEXIBILITY ON THE DAMPING IN ROLL OF A NOTCHED DELTA WING-BODY COMBINATION BETWEEN MACH NUMBERS 0.8 AND APPROXIMATELY 2.2 AS DETERMINED WITH ROCKET-PROPELLED MODELS. William M. Bland, Jr. June 1954. 20p. diagrs., photos. (NACA RM L54E04)


(1.2.2.1) WING THEORY


THE PROPER COMBINATION OF LIFT LOADINGS FOR LEAST DRAG ON A SUPERSONIC WING. Frederick C. Grant. 1956. ii, 9p. diagrs., tab. (NACA Rept. 1275. Supersedes TN 3533)


THREE-DIMENSIONAL TRANSSONIC FLOW THEORY APPLIED TO SLENDER WINGS AND BODIES. Max. A. Heaslet and John R. Spreiter. July 1956. 72p. diagrs. (NACA TN 3717)

METHOD FOR CALCULATING THE AERODYNAMIC LOADING ON AN OSCILLATING FINITE WING IN SUBSONIC AND SONIC FLOW. Harry L. Runyan and Donald S. Woolston. August 1956. 76p. diagrs., tabs. (NACA TN 3694)


(1) AERODYNAMICS


THE LINEARIZED SUBSONIC FLOW ABOUT SYMMETRICAL NONVORSTING WING-BODY COMBINATIONS. John B. McDevitt. April 1957. 67p. (NACA TN 3964)

LIFT AND MOMENT RESPONSES TO PENETRATION OF SHARP-EDGED TRAVELING GUSTS, WITH APPLICATION TO PENETRATION OF WEAK BLAST WAVES. Joseph A. Drischler and Franklin W. Diederich. May 1957. 85p. diagrs., tabs. (NACA TN 3956)

(1, 2, 2, 2) WING VARIABLES


TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN LEVEL FLIGHT AT MACH NUMBERS FROM 0.79 TO 1.90 AND IN A PULL-UP AT A MACH NUMBER OF 0.96. H. Arthur Carner and Mary M. Payne. September 18, 1950. 43p. diagrs., photos., tabs. (NACA RM L50H25)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0008-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 22p. diagrs., photo. (NACA RM A50K20)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPER-SONIC SPEEDS - PLANE 45° SWEEP-BACK WING OF ASPECT RATIO 3, TAPER RATIO 0.4 WITH 3-PERCENT-THICK, BICONVEX SECTION. John C. Heitmeyer. September 1951. 20p. diagrs. (NACA RM A51H10)

TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN AN UNACCELERATED LOW-SPEED STALL, IN PUSH-OVERS AT MACH NUMBERS OF 0.83 AND 0.99, AND IN A PULL-UP AT A MACH NUMBER OF 1.16. Ronald J. Knapp. September 1951. 53p. diagrs., photo., tabs. (NACA RM L51F25)

DAMPING IN ROLL OF ROCKET-POWERED TEST VEHICLES HAVING SWEEP, TAPERED WINGS OF LOW ASPECT RATIO. E. Claude Sanders, Jr., and James L. Edmondson. October 1951. 25p. diagrs., photos., tab. (NACA RM L51G06)


TRANSONIC AERODYNAMIC CHARACTERISTICS IN PITCH OF A W-PLAN HAVING 60° 45° PANEL SWEEP, ASPECT RATIO 3.5, AND TAPER RATIO 0.25. William D. Morrison, Jr. August 1953. 16p. diagrs., photo. (NACA RM L53F22)


FLIGHT INVESTIGATION OF THE ROLLING EFFECTIVENESS OF FINGERED SEMAPHORE SPOILERS ON A TAPERED 45° SWEEPBACK WING BETWEEN MACH NUMBERS 0.6 AND 1.3. James D. Church. January 1954. 27p. diagrs., photos. (NACA RM L53K20)

(1) AERODYNAMICS


SOME EFFECTS OF AEROELASTICITY AT MACH NUMBERS FROM 0.7 TO 1.6 ON THE ROLLING EFFECTIVENESS OF THIN FLAT-PLATE DELTA WINGS HAVING 45° SWEPT LEADING EDGES AND FULL-SPan CONSTANT-CHORD AILERONS. Edward T. Marley and Roland D. English. February 1952. 14p. diagns., photo. (NACA RM L51L05)


AERODYNAMIC CHARACTERISTICS OF TWO PLANE, UNSWEPT TAPERED WINGS OF ASPECT RATIO 3 AND 3-PERCENT THICKNESS FROM TESTS ON TRANSONIC BUMP. Horace F. Emerson and Bernard M. Gale. May 1952. 23p. diagns., photo. (NACA RM A52C07)


INVESTIGATION AT A MACH NUMBER OF 1.2 OF TWO 45° SWEPTBACK WINGS UTILIZING NACA 2-006 AND NACA 65A006 AIRFOIL SECTIONS. Homer B. Wilson, Jr. September 1952. 20p. diagrs., photo., tab. (NACA RM L52G17)

SOME EFFECTS OF SPOILER HEIGHT, WING FLEXIBILITY, AND WING THICKNESS ON ROLLING EFFECTIVENESS AND DRAG OF UNSWEEPED WINGS AT MACH NUMBERS BETWEEN 0.4 AND 1.7. E. M. Fields. October 1952. 20p. diagrs., photo. (NACA RM L52H18)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - COMPARISON OF THREE WINGS OF ASPECT RATIO 2 OF RECTANGULAR, SWEPTBACK, AND TRAPEZOIDAL PLAN FORM, INCLUDING EFFECTS OF THICKNESS DISTRIBUTION. Ronald C. Hightower. February 1953. 30p. diagrs., tabs. (NACA RM A52L02)


A COMPARISON OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS UP TO 0.94 OF SWEPTBACK WINGS HAVING NACA 4-DIGIT OR NACA 64A THICKNESS DISTRIBUTIONS. Fred B. Sutton and Jerald K. Dickson. August 1954. 67p. diagrs., tab. (NACA RM A54F18)


EFFECTS OF LEADING-EDGE RADIUS ON THE LONGITUDINAL STABILITY OF TWO 45° SWEPTBACK WINGS AS INFLUENCED BY REYNOLDS NUMBERS UP TO 8.2 x 10^6 AND MACH NUMBERS UP TO 0.303. Gerald V. Foster and William C. Schneider. July 1955. 65p. diagrs. (NACA RM L55F06)

(1.2.2.2) Aspect Ratio


PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A WING WITH ASPECT RATIO 6, 45° SWEET, TAPER RATIO 0.6, AND AN NACA 65A006 AIRFOIL SECTION. Edward C. Polihamus and Albert G. Few, Jr. August 1952. 46p. diagrs., photo. (NACA RM L52F11)


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FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.6 TO 1.4 TO DETERMINE THE ZERO-LIFT DRAG OF WINGS WITH "M" AND "W" PLAN FORMS. Ellis Katz, Edward T. Marley, and William B. Pepper. September 18, 1950. 25p. diagra., photos., tab. (NACA RM L50G31)


(1) AERODYNAMICS


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE 45° SWEEP-BACK WING OF ASPECT RATIO 3, TAPER RATIO 0.4 WITH 3-PERCENT-THICK, BICONVEX SECTION. John C. Heitmeyer. September 1951. 20p. diags. (NACA RM A51B10)

FLIGHT INVESTIGATION AT SUBSONIC, TRANSONIC, AND SUPERSONIC VELOCITIES OF THE HINGE-MOMENT CHARACTERISTICS, LATERAL-CONTROL EFFECTIVENESS, AND WING DAMPING IN ROLL OF A 60° SWEEPBACK DELTA WING WITH HALF-DELTA TIP AILERONS. (Revised.) C. William Martz and James D. Church. September 1951. 32p. diags., photos. (NACA RM L51G18)

DAMPING IN ROLL OF ROCKET-POWERED TEST VEHICLES HAVING SWEPT, TAPERED WINGS OF LOW ASPECT RATIO. E. Claude Sanders, Jr., and James L. Edmondson. October 1951. 25p. diags., photos., tab. (NACA RM L51G06)

EFFECTS OF REYNOLDS NUMBER ON THE AERODYNAMIC CHARACTERISTICS OF A DELTA WING AT MACH NUMBER OF 2.41. John E. Hatch, Jr., and L. Keith Hargrave. October 1951. 36p. diags., photos., tab. (NACA RM L51H06)

FREE-FLIGHT INVESTIGATION TO DETERMINE FORCE AND HINGE-MOMENT CHARACTERISTICS AT ZERO ANGLE OF ATTACK OF A 60° SWEEPBACK HALF-DELTA TIP CONTROL ON A 60° SWEEPBACK DELTA WING AT MACH NUMBERS BETWEEN 0.68 AND 1.44. C. William Martz, James D. Church, and John W. Gosslee. December 1951. 36p. diags., photos. (NACA RM L51I14)


SOME EFFECTS OF AEROELASTICITY AT MACH NUMBERS FROM 0.7 TO 1.6 ON THE ROLLING EFFECTIVENESS OF THIN FLAT-PLATE DELTA WINGS HAVING 45° SWEPT LEADING EDGES AND FULL-SPAN CONSTANT-CHORD AILERONS. Edward T. Marley and Roland D. English. February 1952. 14p. diags., photo. (NACA RM L51L05)


TRANSONIC AERODYNAMIC CHARACTERISTICS OF THREE W-PLAN-FORM WINGS HAVING ASPECT RATIO 3, TAPER RATIO 0.45, AND TAILORED AIRFOIL SECTIONS. William D. Morrison, Jr. July 1952. 30p. diagrs., photo. (NACA RM L52E14a)


PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A W WING WITH ASPECT RATIO 6, 45° SWEEP, TAPER RATIO 0.6, AND AN NACA 65A009 AIRFOIL SECTION. Edward C. Polhamus and Albert G. Few, Jr. August 1952. 46p. diagrs., photo. (NACA RM L52F11)


AERODYNAMIC LOAD MEASUREMENTS OVER A LEADING-EDGE SLAT ON A 45° SWEPTBACK WING AT MACH NUMBERS FROM 0.10 TO 0.91. Jones F. Cahill and Robert J. Nuber. September 1952. 32p. diagrs., photos., tab. (NACA RM L52G11a)

ROCKET-MODEL INVESTIGATION TO DETERMINE THE FORCE AND HINGE-MOMENT CHARACTERISTICS OF A HALF-DELTA TIP CONTROL ON A 50° SWEPTBACK DELTA WING BETWEEN MACH NUMBERS OF 0.55 AND 1.43. C. William Martz, James D. Church, and John W. Goslee. October 1952. 53p. diagrs., photos., tab. (NACA RM L52H06)


TRANSONIC AERODYNAMIC CHARACTERISTICS IN PITCH OF A W-WING HAVING 60° 48° PANEL SWEEP, ASPECT RATIO 3.5, AND TAPER RATIO 0.25. William D. Morrison, Jr. August 1953. 18p. diagrs., photo. (NACA RM L53F22)


INVESTIGATION OF THE EFFECTS OF LEADING-EDGE FLAPS ON THE AERODYNAMIC CHARACTERISTICS IN PITCH AT MACH NUMBERS FROM 0.40 TO 0.93 OF A WING-FUSELAGE CONFIGURATION WITH A 45° SWEPTBACK WING OF ASPECT RATIO 4. Kenneth P. Spreemann and William J. Alford, Jr. August 1953. 36p. diagrs., photo., tabs. (NACA RM L53G13)

(1) AERODYNAMICS
(1) AERODYNAMICS


THE EFFECTS OF CHANGES IN ASPECT RATIO AND TAIL HEIGHT ON THE LATERAL STABILITY CHARACTERISTICS AT HIGH SUBSONIC SPEEDS OF A MODEL WITH A WING HAVING 32.6 DEGREE SWEEPBACK. William J. Alford, Jr. and Thomas B. Pasteur, Jr. February 1954. 61p. diagrs., photos., tab. (NACA RM L53L09)


ROCKET-POWERED-MODEL INVESTIGATION OF THE HINGE-MOMENT AND NORMAL-FORCE CHARACTERISTICS OF A HALF-DIAMOND TIP CONTROL ON A 60 DEGREE SWEEPBACK DIAMOND WING BETWEEN MACH NUMBERS OF 0.5 AND 1.3. James D. Church. April 1954. 30p. diagrs., photos., tab. (NACA RM L54C10)


A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAIN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60 DEGREE DELTA WING. Barrie G. Wiley. May 1954. 45p. diagrs., tabs. (NACA RM L54D01)

A COMPARISON OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS AT Mach Numbers UP TO 0.94 OF SWEPTBACK WINGS HAVING NACA 4-DIGIT OR NACA 64A THICKNESS DISTRIBUTIONS. Fred B. Sutton and Jerald K. Dickson. August 1954. 69p. diagrs., tab. (NACA RM A54F18)

PRESSURE DISTRIBUTIONS ON PLUG- AND SEMAPHORE-TYPE SPOILER AILERONS ON A 35ø SWEPTBACK WING OF ASPECT RATIO 4, TAPER RATIO 0.6, AND NACA 65A006 AIRFOIL SECTION AT HIGH SUBSONIC SPEEDS. Alexander D. Hammond and William C. Hayes, Jr., August 1954. 55p. diagrs., tabs. (NACA RM L54F08)


A LOW-SPEED INVESTIGATION OF A THIN 60ø DELTA WING EQUIPPED WITH A DOUBLE SLOTTED FLAP TO DETERMINE THE CHORDWISE PRESSURE DISTRIBUTION AND THE EFFECT OF VANE SIZE. Delwin R. Croom. March 1955. 42p. diagrs., tabs. (NACA RM L54L03a)


LOW-SPEED STUDY OF THE EFFECT OF FREQUENCY ON THE STABILITY DERIVATIVES OF WINGS OSCILLATING IN YAW WITH PARTICULAR REFERENCE TO HIGH ANGLE-OF-ATTACK CONDITIONS. John P. Campbell, Joseph L. Johnson, Jr., and Donald E. Reves. November 1955. 93p. diagrs., photos., tab. (NACA RM L55H05)

THEORETICAL SPAN LOAD DISTRIBUTIONS AND ROLLING MOMENTS FOR SIDESLIPPING WINGS OF ARBITRARY PLAN FORM IN INCOMPRESSIBLE FLOW. M. J. Queijo. 1956. ii, 15p. diagrs. (NACA Rept. 1269. Supersedes TN 3605)

(1) AERODYNAMICS


LOW-SPEED LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A 45° SWEPTBACK WING WITH DOUBLE SLOTTED FLAPS. Rodger L. Naeseth. April 1956. 31p. diagrs., tabs. (NACA RM L56A10)


EXPERIMENTAL STEADY-STATE YAWING DERIVATIVES OF A 60° DELTA-WING MODEL AS AFFECTED BY CHANGES IN VERTICAL POSITION OF THE WING AND IN RATIO OF FUSELAGE DIAMETER TO WING SPAN. Byron M. Jaquet and Herman S. Fletcher. October 1956. 20p. diagrs., tab. (NACA TN 3843)


COMPRESSIBLE LAMINAR BOUNDARY LAYER OVER A YAWED INFINITE CYLINDER WITH HEAT TRANSFER AND ARBITRARY PRANDTL NUMBER. Eli Reshotko and Ivan E. Beckwith. June 1957. (i), 86p. diagrs., tabs. (NACA TN 3896)

(1.2.2.2.4)

Taper and Twist


THEORETICAL SPAN LOAD DISTRIBUTIONS AND ROLLING MOMENTS FOR SIDESLIPPING WINGS OF ARBITRARY PLAN FORM IN INCOMPRESSIBLE FLOW. M. J. Quelij. 1956. ii, 15p. diagrs. (NACA Rept. 1209. Supersedes TN 3605)


AERODYNAMIC CHARACTERISTICS OF TWO PLANE, UNSWEPT TAPERED WINGS OF ASPECT RATIO 3 AND 5-PERCENT THICKNESS FROM TESTS ON TRANSONIC BUMP. Horace F. Emerson and Bernard M. Gale. May 1952. 23p. diagrs., photo. (NACA RM A52C07)


SOME EFFECTS OF LEADING-EDGE ROUGHNESS ON THE AILERON EFFECTIVENESS AND DRAG OF A THIN RECTANGULAR WING EMPLOYING A FULL-SPAN PLAIN AILERON AT MACH NUMBERS FROM 0.6 TO 1.5. Roland D. English. November 1953. 16p. diagrs., photos. (NACA RM L53I25)


AERODYNAMICS

(1.2.2.6) Surface Conditions

(1.2.2.7) Dihedral


(1.2.2.3) HIGH-LIFT DEVICES

WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEPT BACK 63° AND TWISTED AND CAMBERED FOR A UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.5. James A. Webberg and Hubert C. Carel. May 9, 1950. 53p. diagrs., photos., tabs. (NACA RM A50A23)
(1) AERODYNAMICS

WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEPT BACK 63° AND TWISTED AND CAMBERED FOR UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.5 AND WITH A THICKENED TIP SECTION. James A. Weiberg and Hubert C. Carel. November 21, 1950. 42p. diags., photo., tabs. (NACA RM A50114)


WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diags., tab. (NACA TN 3866)


### (1.2.2.3.1) Trailing-Edge Flaps

**FLIGHT-TEST EVALUATION OF THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF 0.5-SCALE MODELS OF THE LARK PILOTLESS AIRCRAFT CONFIGURATION.** David G. Stone. February 6, 1948. 60p. diagrs., photos., tabs. (NACA RM L7125)


**EFFECTS ON CONTROL EFFECTIVENESS OF SYSTEMATICALLY VARYING THE SIZE AND LOCATION OF TRAILING-EDGE FLAPS ON A 45° SWEPTBACK WING AT A MACH NUMBER OF 1.9.** Cari R. Jacobsen. December 1951. 34p. diagrs., photo., tab. (NACA RM L51126)


**CONTROL CHARACTERISTICS OF TRAILING-EDGE SPOILERS ON UNTAPERED BLUNT TRAILING-EDGE WINGS OF ASPECT RATIO 2.7 WITH 0° AND 45° SWEEEPBACK AT MACH NUMBERS OF 1.41 AND 1.96.** Cari R. Jacobsen. December 1952. 35p. diagrs., photo. (NACA RM L52226)

**LOW-SPEED WIND-TUNNEL INVESTIGATION OF A THIN 60° DELTA WING WITH DOUBLE SLOTTED, SINGLE SLOTTED, PLAIN, AND SPLIT FLAPS.** John M. Riebe and Richard G. MacLeod. January 1953. 57p. diagrs., photo., tabs. (NACA RM L52279)

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### EFFECTS OF CHORD-EXTENSION AND DROOP OF COMBINED LEADING-EDGE FLAP AND CHORD-EXTENSION ON LOW-SPEED STATIC LONGITUDINAL STABILITY CHARACTERISTICS OF AN AIRPLANE MODEL HAVING A 35° SWEPTBACK WING WITH PLAIN FLAPS NEUTRAL OR DEFLECTED.** Byron M. Jaquet. January 1953. 34p. diagrs., photos. (NACA RM L52K21a)


**STATIC LATERAL STABILITY CHARACTERISTICS OF AN AIRPLANE MODEL HAVING A 47.0° SWEPTBACK WING OF ASPECT RATIO 6 AND THE CONTRIBUTION OF VARIOUS MODEL COMPONENTS AT A REYNOLDS NUMBER OF 4.45 x 10⁶.** Roland F. Griner. September 1953. 83p. diagrs., photos., tabs. (NACA RM L53G09)

**LOW-SPEED LONGITUDINAL CHARACTERISTICS OF TWO UNSWEPT WINGS OF HEXAGONAL AIRFOIL SECTIONS HAVING ASPECT RATIOS OF 2.5 AND 4.0 WITH FUSELAGE AND WITH HORIZONTAL TAIL LOCATED AT VARIOUS VERTICAL POSITIONS.** William M. Hadaway and Patrick A. Cancro. October 1953. 29p. diagrs., photos. (NACA RM L53H14a)


**A LOW-SPEED INVESTIGATION OF THE AERODYNAMIC, CONTROL, AND HINGE-MOMENT CHARACTERISTICS OF TWO TYPES OF CONTROLS AND BALANCING TABS ON A LARGE-SCALE THIN DELTA-WING-FUSELAGE MODEL.** Marvin P. Fink and Bennie W. Cocke. March 1954. 69p. diagrs., photos., tabs. (NACA RM L54B03)


A LOW-SPEED INVESTIGATION OF A THIN 60° DELTA WING EQUIPPED WITH A DOUBLE SLOTTED FLAP TO DETERMINE THE CHORDWISE PRESSURE DISTRIBUTION AND THE EFFECT OF VANE SIZE. Delwin R. Croom. March 1955. 42p. diagr., tabs. (NACA RM L54L3a)


GROUND EFFECTS ON THE LONGITUDINAL CHARACTERISTICS OF TWO MODELS WITH WINGS HAVING LOW ASPECT RATIO AND POINTED TIPS. Donald A. Buell and Bruce E. Tinling. July 1955. 48p. diagr., photos., tabs. (NACA RM A55E04)


LOW-SPEED LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A 45° SWEEPBACK WING WITH DOUBLE SLOTTED FLAPS. Rodger L. Naeseth. April 1956. 31p. diagr., tabs. (NACA RM L56A10)


(1.2.2.3.2) Slots and Slats


WIND-TUNNEL INVESTIGATION AT TRANSonic SPEEDS OF A LEADING-EDGE SLAT ON A MODIFIED-DOUBLE-WEDGE WING. Richard G. MacLeod. December 1951. 12p. diagrs. (NACA RM L5I22a)


AERODYNAMIC LOAD MEASUREMENTS OVER A LEADING-EDGE SLAT ON A 45° SWEPTBACK WING AT MACH NUMBERS FROM 0.10 TO 0.91. Jones F. Cahill and Robert J. Nuber. September 1952. 32p. diagrs., photos., tab. (NACA RM L52G16a)


(1.2.2.3.3) Leading-Edge Flaps

EFFECT OF PROPELLER LOCATION AND FLAP DEFLECTION ON THE AERODYNAMIC CHARACTERISTICS OF A WING-PROPELLER COMBINATION FOR ANGLES OF ATTACK FROM 0° TO 80°. William A. Newsom, Jr. January 1957. 45p. diagrs. (NACA TN 3917)


EFFECT OF LEADING-EDGE CHORD-EXTENSIONS ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEPTBACK WING-FUSELAGE COMBINATION AT MACH NUMBERS OF 0.40 TO 1.03. F. E. West, Jr., George Liner, and Gladys S. Martz. April 1953. 40p. diagrs., photo. (NACA RM L53B02)
(1) AERODYNAMICS


LOW-SPEED LONGITUDINAL CHARACTERISTICS OF TWO UNSWEEP WINGS OF HEXAGONAL AIRFOIL SECTIONS HAVING ASPECT RATIOS OF 2.5 AND 4.0 WITH FUSELAGE AND WITH HORIZONTAL TAIL LOCATED AT VARIOUS VERTICAL POSITIONS. William M. Hadaway and Patrick A. Cancro. October 1953. 29p. diagrs., photos. (NACA RM L53H14a)


(1.2.2.4) CONTROLS


A LOW-SPEED INVESTIGATION OF THE AERODYNAMIC, CONTROL, AND HINGE-MOMENT CHARACTERISTICS OF TWO TYPES OF CONTROLS AND BALANCING TABS ON A LARGE-SCALE THIN DELTA-WING-FUSELAGE MODEL. Marvin P. Fink and Bennie W. Cocke. March 1954. 69p. diagrs., photos., tabs. (NACA RM L54B03)


### AERODYNAMICS

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SOME EFFECTS OF LEADING-EDGE ROUGHNESS ON THE AILERON EFFECTIVENESS AND DRAG OF A THIN RECTANGULAR WING EMPLOYING A FULL-SPAN PLAIN AILERON AT MACH NUMBERS FROM 0.6 TO 1.5. Roland D. English. November 1953. 16p. diagrs., photos. (NACA RM L53125)


EFFECT ON THE LOW-SPEED AERODYNAMIC CHARACTERISTICS OF A 49° SWEPTBACK WING HAVING AN ASPECT RATIO OF 3.78 OF BLOWING AIR OVER THE TRAILING-EDGE FLAP AND AILERON. Edward F. Whittle, Jr., and Stanley Lipson. April 1954. 51p. diagrs., photo, tab. (NACA RM L54C05)


FLIGHT INVESTIGATION OF AN AILERON AND A SPOILER ON A WING OF THE X-3 AIRPLANE PLAN FORM AT MACH NUMBERS FROM 0.5 TO 1.6. Roland D. English. June 1954. 16p. diagrs., photos. (NACA RM L54D26a)


GROUND EFFECTS ON THE LONGITUDINAL CHARACTERISTICS OF TWO MODELS WITH WINGS HAVING LOW ASPECT RATIO AND POINTED TIPS. Donald A. Buell and Bruce E. Tinning. July 1956. 48p. diagrs., photos., tabs. (NACA RM A56E04)


WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diagrs., tab. (NACA TN 3898)


(1.2.2.4.2) Spoilers


AN INVESTIGATION AT SUBSONIC SPEEDS OF THE ROLLING EFFECTIVENESS OF A SMALL PERFORATED SPOILER ON A WING HAVING 45° OF SWEEPBACK. Angelo Bandettini. September 1952. 37p. diagrs., photos. (NACA RM A52G02)

SOME EFFECTS OF SPOILER HEIGHT, WING FLEXIBILITY, AND WING THICKNESS ON ROLLING EFFECTIVENESS AND DRAG OF UNSWEPT WINGS AT MACH NUMBERS BETWEEN 0.4 AND 1.7. E. M. Fields. October 1952. 20p. diagrs., photo. (NACA RM L52R18)

CONTROL CHARACTERISTICS OF TRAILING-EDGE SPOILERS ON UNTAPERED BLUNT TRAILING-EDGE WINGS OF ASPECT RATIO 2.7 WITH 0° AND 45° SWEEPBACK AT MACH NUMBERS OF 1.41 AND 1.96. Carl R. Jacobsen. December 1952. 36p. diagrs., photo. (NACA RM L52228)


FLIGHT INVESTIGATION OF THE ROLLING EFFECTIVENESS OF FIGURED SEMAPHORE SPOILERS ON A TAPERED 45° SWEEPBACK WING BETWEEN MACH NUMBERS 0.6 AND 1.3. James D. Church. January 1954. 27p. diagrs., photos. (NACA RM L53K20)


A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAIN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60° DELTA WING. Harleth G. Wiley. May 1954. 45p. diagrs., tabs. (NACA RM L54D01)

FLIGHT INVESTIGATION OF AN AILERON AND A SPOILER ON A WING OF THE X-3 AIRPLANE PLAN FORM AT MACH NUMBERS FROM 0.5 TO 1.6. Roland D. English. June 1954. 16p. diagrs., photos. (NACA RM L54D26a)

PRESSURE DISTRIBUTIONS ON PLUG- AND SEMAPHORE-TYPE SPOILER AILERONS ON A 35° SWEEPBACK WING OF ASPECT RATIO 4, TAPER RATIO 0.6, AND NACA 65A006 AIRFOIL SECTION AT HIGH SUBSONIC SPEEDS. Alexander D. Hammond and William C. Hayes, Jr. August 1954. 55p. diagrs., tabs. (NACA RM L54F08)


(1) AERODYNAMICS

(1.2.2.4.3) All-Movable


FLIGHT INVESTIGATION TO DETERMINE LIFT AND DRAG CHARACTERISTICS OF A CANARD RAM-JET MISSILE CONFIGURATION IN THE MACH NUMBER RANGE OF 0.8 TO 2.0. Abraham A. Gaumal and Thomas L. Kennedy. June 1954. 20p. diagrs., photos. (NACA RM L54D28)


(1.2.2.5) REYNOLDS NUMBER EFFECTS


AERODYNAMIC STUDY OF A WING-FUSELAGE COMBINATION EMPLOYING A WING SWEEPT BACK 63°. - EFFECT OF REYNOLDS NUMBER AT SUPERSONIC MACH NUMBERS ON THE LATERAL STABILITY AND CONTROL CHARACTERISTICS OF A WING TWISTED AND CAMBERED FOR UNIFORM LOAD. John C. Heitmeyer. October 9, 1950. 36p. diagrs., photo. (NACA RM A50G01)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0005-63 SECTION.
Donald W. Smith and John C. Heitmeyer.
February 1, 1951. 23p. diagrs., photo.  
(NACA RM A50K21)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 4 WITH NACA 0005-63 SECTION.
John C. Heitmeyer and Jack D. Stephenson.
February 2, 1951. 21p. diagrs., photo.  
(NACA RM A50K24)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0005-63 SECTION.
John C. Heitmeyer and Willard G. Smith.
February 2, 1951. 22p. diagrs., photo.  
(NACA RM A50K24a)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 4 WITH NACA 0005-63 THICKNESS DISTRIBUTION, CAMBERED AND TWISTED FOR TRAPEZOIDAL SPAN LOAD DISTRIBUTION. E. Ray Phelps and Willard G. Smith.
February 2, 1951. 23p. diagrs., photo, tab.  
(NACA RM A50K24b)

February 5, 1951. 21p. diagrs., photo, tab.  
(NACA RM A50K27a)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRAPEZOIDAL WING OF ASPECT RATIO 4 WITH 3-PERCENT-THICK, BICONVEX SECTION. John C. Heitmeyer.
June 8, 1951. 20p. diagrs., photo.  
(NACA RM A51D30)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 4 WITH 3-PERCENT-THICK ROUNDED NOSE SECTION. John C. Heitmeyer and Ronald C. Highwater.
August 1951. 17p. diagrs.  
(NACA RM A51F21)

September 1951. 20p. diagrs.  
(NACA RM A51H02)

EFFECTS OF REYNOLDS NUMBER ON THE AERODYNAMIC CHARACTERISTICS OF A DELTA WING AT MACH NUMBER OF 2.41. John E. Hatch, Jr., and L. Keith Hargrave.
October 1951. 30p. diagrs., photos., tab.  
(NACA RM L51H06)

February 1952. 56p. diagrs., photos., tab.  
(NACA RM A51K28)

A COMPARISON OF THE CHORDWISE PRESSURE DISTRIBUTION AND SPANWISE DISTRIBUTION OF LOADING AT SUBSONIC SPEEDS ON TWO TRIANGULAR WINGS OF ASPECT RATIO 2 HAVING NACA 0005 AND 0008 SECTIONS. Donald W. Smith and Verlin D. Reed.
May 1952. 142p. diagrs., photo., tabs.  
(NACA RM A51L21)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TAPERED WING OF ASPECT RATIO 3.1 WITH 3-PERCENT-THICK ROUNDED-NOSE SECTION. John C. Heitmeyer.
July 1952. 25p. diagrs., tabs.  
(NACA RM A52D23)

EFFECTS OF THREE TYPES OF BLUNT TRAILING EDGES ON THE AERODYNAMIC CHARACTERISTICS OF A PLANE TAPERED WING OF ASPECT RATIO 3.1, WITH A 3-PERCENT-THICK BICONVEX SECTION. Duane W. Dugan.
July 1952. 34p. diagrs.  
(NACA RM A52E01)

(NACA RM L52D16)

AN INVESTIGATION AT SUBSONIC SPEEDS OF THE ROLLING EFFECTIVENESS OF A SMALL PERFORATED SPOLIER ON A WING HAVING 45° OF SWEEPBACK. Angelo Bandettini.
September 1952. 31p. diagrs., photos.  
(NACA RM A52G02)

(NACA RM L52G17)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - COMPARISON OF THREE WINGS OF ASPECT RATIO 2 OF RECTANGULAR, SWEEPBACK, AND TRIANGULAR PLAN FORM, INCLUDING EFFECTS OF THICKNESS DISTRIBUTION. Ronald C. Highwater.
February 1953. 30p. diagrs., tabs.  
(NACA RM A52L02)

SUBSONIC STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A WING-BODY COMBINATION HAVING A POINTED WING OF ASPECT RATIO 2 WITH CONSTANT-PERCENT-THICK CHORD TRAILING-EDGE ELEVONS. Donald W. Smith and Verlin D. Reed.
May 1953. 143p. diagrs., photos., tab.  
(NACA RM A53C20)
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STATIC LATERAL STABILITY CHARACTERISTICS OF AN AIRPLANE MODEL HAVING A 47.7° SWEEPBACK WING OF ASPECT RATIO 6 AND THE CONTRIBUTION OF VARIOUS MODEL COMPONENTS AT A REYNOLDS NUMBER OF 4.45 x 10^6, Roland F. Griner. September 1953. 83p. diagrs., photos., tabs. (NACA RM L53G00)

AERODYNAMIC CHARACTERISTICS OF A 68.4° DELTA WING AT MACH NUMBERS OF 1.0 AND 1.9 OVER A RANGE OF REYNOLDS NUMBER RANGE. John E. Hatch, Jr., and James J. Gallagher. November 1953. 44p. diagrs., photos., tabs. (NACA RM L53J08)


A COMPARISON OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS UP TO 0.94 OF SWEEPBACK WINGS HAVING NACA 4-DIGIT OR NACA #4A THICKNESS DISTRIBUTIONS. Fred B. Sutton and Jerald K. Dickson. August 1954. 67p. diagrs., tab. (NACA RM A54E18)


EFFECTS OF LEADING-EDGE RADIUS ON THE LONGITUDINAL STABILITY OF TWO 45° SWEEPBACK WINGS AS INFLUENCED BY REYNOLDS NUMBERS UP TO 8.30 x 10^6 AND MACH NUMBERS UP TO 0.303. Gerald V. Foster and William C. Schneider. July 1955. 65p. diagrs. (NACA RM L55F06)


HYDRODYNAMIC CHARACTERISTICS OVER A RANGE OF SPEEDS UP TO 80 FEET PER SECOND OF A RECTANGULAR MODIFIED FLAT PLATE HAVING AN ASPECT RATIO OF 0.25 AND OPERATING AT SEVERAL DEPTHS OF SUBMERSION. Victor L. Vaughan, Jr., and John A. Ramsen. April 1957. 25p. diagrs. (NACA TN 3908)

(1.2.2.6) MACH NUMBER EFFECTS

FLIGHT-TEST EVALUATION OF THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF 0.5-SCALE MODELS OF THE LARK PILOTLESS-AIRCRAFT CONFIGURATION. David G. Stone. February 6, 1948. 60p. diagrs., photos., tabs. (NACA RM L7126)


AERODYNAMIC STUDY OF A WING-FUSELAGE COMBINATION EMPLOYING A WING SWEPT BACK 63°. - CHARACTERISTICS FOR SYMMETRICAL WING SECTIONS AT HIGH SUBSONIC AND MODERATE SUPERSONIC MACH NUMBERS. Newton A. Mas. July 7, 1949. 28p. diagrs., photos. (NACA RM A9E00)


TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN LEVEL FLIGHT AT MACH NUMBERS FROM 0.78 TO 1.00 AND IN A PULL-UP AT A MACH NUMBER OF 0.94. H. Arthur Carner and Mary M. Payne. September 18, 1950. 43p. diagrs., photo, tabs. (NACA RM L50H25)


BUFFETING INFORMATION OBTAINED FROM ROCKET-PROPELLED AIRPLANE MODELS HAVING THIN UNSWEEPED WINGS. Clarence L. Gillis. October 18, 1950. 15p. diagrs., photos. (NACA RM L50H22a)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASYMPT-10 RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0008-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 22p. diagrs., photo. (NACA RM A50K20)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASYMPT-10 RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0003-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 23p. diagrs., photo. (NACA RM A50K21)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASYMPT-10 RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 4 WITH 3-PERCENT-THICK, ROUNDED NOSE SECTION. John C. Heitmeyer and Ronald C. Hightower. August 1951. 17p. diagrs. (NACA RM A51F21)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASYMPT-10 RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 3 WITH NACA 0003-63 SECTION. John C. Heitmeyer. September 1951. 20p. diagrs. (NACA RM A51H02)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASYMPT-10 RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE 45° SWEEP-BACK WING OF ASPECT RATIO 5, TAPER RATIO 0.4 WITH 3-PERCENT-THICK, BICONVEX SECTION. John C. Heitmeyer. September 1951. 20p. diagrs. (NACA RM A51H10)
(1) AERODYNAMICS


DAMPING IN ROLL OF ROCKET-POWERED TEST VEHICLES HAVING SWEP'T, TAPERED WINGS OF LOW ASPECT RATIO. E. Claude Sanders, Jr., and James L. Edmondson. October 1951. 25p. diags., photos., tab. (NACA RM L51G06)


SOME EFFECTS OF AEROELASTICITY AT MACH NUMBERS FROM 0.7 TO 1.6 ON THE ROLLING-EFFECTIVENESS OF THIN FLAT-PLATE DELTA WINGS HAVING 45° SWEPT LEADING EDGES AND FULL-SPAN CONSTANT-CHORD AILERONS. Edward T. Marley and Roland D. English. February 1952. 14p. diags., photo. (NACA RM L51L05)


AERODYNAMIC CHARACTERISTICS OF TWO PLANE, UNSWEEP TAPERED WINGS OF ASPECT RATIO 3 AND 3-PERCENT THICKNESS FROM TESTS ON TRANSONIC BUMP. Horace F. Emerson and Bernard M. Gale. May 1952. 55p. diags., photos. (NACA RM A52C07)

LONGITUDINAL STABILITY AND DRAG CHARACTERISTICS AT MACH NUMBERS FROM 0.70 TO 1.37 OF ROCKET-POWERED MODIFIED TRIANGULAR WING, A MODIFIED TRIANGULAR WING. Rowe Chapman, Jr., and John D. Morrow. May 1952. 35p. diags., photos., tab. (NACA RM L52A31)


TRANSSONIC AERODYNAMIC CHARACTERISTICS OF THREE W-PLAN-FORM WINGS HAVING ASPECT RATIO 8, TAPER RATIO 0.45, AND NACA IN- SERIES AIRFOIL SECTIONS. William D. Morrison, Jr. July 1952. 30p. diags., photo. (NACA RM L52E14a)


AN INVESTIGATION AT SUBSONIC SPEEDS OF THE ROLLING EFFECTIVENESS OF A SMALL PERFORATED SPOILER ON A WING HAVING 45° OF A SWEEPBACK. Angelo Bandettini. September 1952. 37p. diags., photos. (NACA RM A52G02)


AERODYNAMIC LOAD MEASUREMENTS OVER A LEADING-EDGE SLAT ON A 45° SWEEPBACK WING AT MACH NUMBERS FROM 0.10 TO 0.91. Jones F. Estabrooks. September 1952. 32p. diagrs., photos., tab. (NACA RM L52G18a)

ROCKET-MODEL INVESTIGATION TO DETERMINE THE FORCE AND HINGE-MOMENT CHARACTERISTICS OF A HALF-DELTA TIP CONTROL ON A 56° SWEEPBACK DELTA WING BETWEEN MACH NUMBERS OF 0.55 AND 1.43. C. William Marts, James D. Church, and John W. Goslee. October 1952. 53p. diagrs., photos., tab. (NACA RM L52H06)

SOME EFFECTS OF SPOILER HEIGHT, WING FLEXIBILITY, AND WING THICKNESS ON ROLLING EFFECTIVENESS AND DRAG OF UNSWEPT WINGS AT MACH NUMBERS BETWEEN 0.4 AND 1.7. E. M. Fields. October 1952. 20p. diagrs., photo. (NACA RM L52H18)


A TRANSONIC WIND-TUNNEL INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A 60° TRIANGULAR WING IN COMBINATION WITH A SYSTEMATIC SERIES OF THREE BODIES. Thomas C. Kelly. April 1953. 25p. diagrs., photo. (NACA RM L52L22a)
(1) AERODYNAMICS

EFFECT OF LEADING-EDGE CHORD-EXTENSIONS ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEEPBACK WING-FUSELAGE COMBINATION AT MACH NUMBERS FROM 0.40 TO 1.03. F. E. West, Jr., George Liner, and Gladys S. Marts. April 1953. 40p. diagrs., photo. (NACA RM L53B02)


TRANSONIC AERODYNAMIC CHARACTERISTICS IN PITCH OF A W-WING HAVING 60° 48° PANEL SWEEP, ASPECT RATIO 3.5, AND TAPER RATIO 0.25. William D. Morrison, Jr. August 1953. 18p. diagrs., photo. (NACA RM L53F22)


SOME EFFECTS OF LEADING-EDGE ROUGHNESS ON THE AILERON EFFECTIVENESS AND DRAG OF A THIN RECTANGULAR WING EMPLOYING A FULL-SPAN PLAIN AILERON AT MACH NUMBERS FROM 0.6 TO 1.5. Roland D. English. November 1953. 16p. diagrs., photos. (NACA RM L53I25)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J101)


THE TWISTING EFFECT AT TRANSONIC SPEEDS OF SPOILER AILERONS ON A 45° SWEEPBACK WING WITH ASPECT-RATIO 4, TAPER-RATIO 0.25, AND LEADING-EDGE NOTCH. Alexander D. Hammond and Jean C. Graven, Jr. January 1954. 21p. diagrs., photos. (NACA RM L53K03a)
FLIGHT INVESTIGATION OF THE ROLLING EFFECTIVENESS OF FINGERED SEMAPHORE SPOILERS ON A TAPERED 45° SWEEPBACK WING BETWEEN MACH NUMBERS 0.6 AND 1.3. James D. Church. January 1954. 27p. diagrs., photos. (NACA RM L53K20)

THE EFFECTS OF CHANGES IN ASPECT RATIO AND TAIL HEIGHT ON THE LONGITUDINAL STABILITY CHARACTERISTICS AT HIGH SUBSONIC SPEEDS OF A MODEL WITH A WING HAVING 32.6° SWEEPBACK. William J. Alford, Jr., and Thomas B. Pasteur, Jr. February 1954. 61p. diagrs., photos. tab. (NACA RM L53J09)


ROCKET-POWERED-MODEL INVESTIGATION OF THE HINGE-MOMENT AND NORMAL-FORCE CHARACTERISTICS OF A HALF-DIAMOND TIP CONTROL ON A 60° SWEEPBACK DIAMOND WING BETWEEN MACH NUMBERS OF 0.5 AND 1.3. James D. Church. April 1954. 30p. diagrs., photos., tab. (NACA RM L54C10)


A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60° DELTA WING. Harleth G. Wiley. May 1954. 45p. diagrs., tabs. (NACA RM L54D01)

SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOSITY DAMPER IN THE Rudder SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurt, Jr., and John M. Elliott. June 1954. 46p. diagrs., photos., tab. (NACA RM L54D09)

FLIGHT INVESTIGATION OF AN AILERON AND A SPOILER ON A WING OF THE X-3 AIRPLANE PLAN FORM AT MACH NUMBERS FROM 0.5 TO 1.6. Roland D. English. June 1954. 16p. diagrs., photos. (NACA RM L54D25a)

A COMPARISON OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF MACH NUMBERS UP TO 0.94 OF SWEEPBACK WINGS HAVING NACA 4-DIGIT OR NACA 64A006 AIRFOIL CROSS SECTIONS. Fred B. Sutton and Jerald K. Dickson. August 1954. 67p. diagrs., tab. (NACA RM A54F18)

PRESSURE DISTRIBUTIONS ON PLUG- AND SEMAPHORE-TYPE SPOILER ALERONS ON A 35° SWEEPBACK WING OF ASPECT RATIO 4, TAPER RATIO 0.4, AND NACA 65A006 AIRFOIL SECTION AT HIGH SUBSONIC SPEEDS. Alexander D. Hammond and William C. Hayes, Jr. August 1954. 55p. diagrs., tabs. (NACA RM L54F08)

A FLIGHT STUDY OF COMPRESSIBILITY EFFECTS ON THE GUST LOADS OF A 35° SWEEPBACK-WING AIRPLANE. Harry C. Mickiebro and Jack Funk. August 1954. 25p. diagrs., tabs. (NACA RM L54G09a)


(1) AERODYNAMICS


EFFECTS OF LEADING-EDGE RADIUS ON THE LONGITUDINAL STABILITY OF TWO 45° SWEPTBACK WINGS AS INFLUENCED BY REYNOLDS NUMBERS UP TO 8.32 x 10^5 AND MACH NUMBERS UP TO 0.303. Gerald V. Foster and William C. Schneider. July 1955. 65p. diagrs. (NACA RM L55F08)


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(1, 2, 2, 7)

WAKE


(1) AERODYNAMICS

PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A WING WITH ASPECT RATIO 6, 45° SWEEP, TAPER RATIO 0.6, AND AN NACA 65A006 AIRFOIL SECTION. Edward C. Polhamus and Albert G. Few, Jr. August 1952. 46p. diags., photo. (NACA RM L52F11)


(1.2.2.8) BOUNDARY LAYER


THE HYDRODYNAMIC CHARACTERISTICS OF MODIFIED RECTANGULAR FLAT PLATES HAVING ASPECT RATIOS OF 1.00, 0.25, AND 0.125 AND OPERATING NEAR A FREE WATER SURFACE. Kenneth L. Wadlin, John A. Ramsen, and Victor L. Vaughan, Jr. 1955. ii, 50p. diagrs., photos. (NACA Rept. 1246. Supersedes TN 3079, TN 3249)


ON POSSIBLE SIMILARITY SOLUTIONS FOR THREE-DIMENSIONAL INCOMPRESSIBLE LAMINAR BOUNDARY LAYERS. I - SIMILARITY WITH RESPECT TO STATIONARY RECTANGULAR COORDINATES. Arthur G. Hansen and Howard Z. Herzig. October 1956. 30p. tab. (NACA TN 3768)


(1.2.2.8.1) Characteristics

AERODYNAMIC CHARACTERISTICS OF A 68.4° DELTA-WING AT MACH NUMBERS OF 1.6 AND 1.9 OVER A WIDE REYNOLDS NUMBER RANGE. E. Hatch, J., and James J. Gallagher. November 1953. 44p. diagrs., photos., tabs. (NACA RM L53108)


(1.3) BODIES

TRANSONIC FLOW PAST CONE CYLINDERS. George E. Solomon, California Institute of Technology. 1955. 41p. diagrs., photos. (NACA Rept. 1245. Supersedes TN 3213)


ON STOKES' STREAM FUNCTION IN COMPRESSIBLE SMALL-DISTURBANCE THEORY. Milton D. Van Dyke. February 1957. 15p. diagrs. (NACA TN 3977)

(1.3.1) THEORY


THREE-DIMENSIONAL TRANSONIC FLOW THEORY APPLIED TO SLENDER WINGS AND BODIES. Max. A. Heaslet and John R. Spreiter. July 1956. 72p. diagrs. (NACA TN 3717)

SUPersonic FLOW PAST NONLIFTING BUMPED AND INDENTED BODIES OF REVOLUTION. F. Edward McLean and Conrad Rennemann, Jr. September 1956. 30p. diagrs. (NACA TN 3744)


MINIMUM-DRAG DUCTED AND CLOSED THREE-POINT BODY OF REVOLUTION BASED ON LINEARIZED SUPERSOONIC THEORY. Hermon M. Parker. December 1956. 20p. diagrs., tab. (NACA TN 3704)


THE LINEARIZED SUBSONIC FLOW ABOUT SYMMETRICAL NONLIFTING WING-BODY COMBINATIONS. John B. McDevitt. April 1957. 67p. diagrs. (NACA TN 3964)

(1.3.2) SHAPE VARIABLES

FLIGHT INVESTIGATION OF THE DRAG OF ROUND-NOSED BODIES OF REVOLUTION AT MACH NUMBERS FROM 0.6 TO 1.5 USING ROCKET-PROPELLED TEST VEHICLES. Roger G. Hart. July 1951. 9p. diagrs., photos., tab. (NACA RM L51E25)

FLOW SEPARATION FROM RODS AHEAD OF BLUNT NOSES AT MACH NUMBER 2.72. Jim J. Jones. July 1952. 18p. diagrs., photos. (NACA RM L52E05a)

BUFFETING OF A VERTICAL TAIL ON AN INCLINED BODY AT SUPERSOONIC MACH NUMBERS. Forrest E. Gowen. March 1953. 35p. diagrs., photos., tab. (NACA RM A55A09)


(1.3.2.1) FINENESS RATIO


EXPERIMENTAL STEADY-STATE YAWING DE­ RIVATIVES OF A 60° DELTA-WING AIRCRAFT AS AFFECTED BY CHANGES IN VERTICAL POSITION OF THE WING AND IN RATIO OF FU­ SELAGE DIAMETER TO WING SPAN. Byron M. Jaquet and Herman S. Fletcher. October 1956. 20p. diags., tab. (NACA TN 3843)

EFFECTS OF FU­ SELAGE NOSE LENGTH AND A CANOPY ON THE STATIC LONGITUDINAL AND LATERAL STABILITY CHARACTERISTICS OF 45° SWEEP­ BACK AIRPLANE MODELS HAVING FUSE­ LAGES WITH SQUARE CROSS SECTIONS. Byron M. Jaquet and H. S. Fletcher. April 1957. 47p. diags., photos., tabs. (NACA TN 3961)

(1.3.2.2) CROSS SECTION

EFFECT OF VERTICAL POSITION OF THE WING ON THE AERODYNAMIC CHARACTERISTICS OF THREE WING-BODY COMBINATIONS. John C. Heitmeyer. February 1953. 56p. diags., photos., tabs. (NACA RM A52L15a)


EFFECTS OF FUSELAGE NOSE LENGTH AND A CANOPY ON THE STATIC LONGITUDINAL AND LATERAL STABILITY CHARACTERISTICS OF 45° SWEEP­ BACK AIRPLANE MODELS HAVING FUSE­ LAGES WITH SQUARE CROSS SECTIONS. Byron M. Jaquet and H. S. Fletcher. April 1957. 47p. diags., photos., tabs. (NACA TN 3961)
(1.3.2.3) THICKNESS DISTRIBUTION

Flight investigation of the drag of round-nosed bodies of revolution at Mach numbers from 0.6 to 1.5 using rocket-propelled test vehicles. Roger G. Hart. July 1951. 9p. diagrs., photos., tab. (NACA RM L51E25)

Pressures and associated aerodynamic and load characteristics for two bodies of revolution at transonic speeds. Harold L. Robinson. March 1954. 34p. diagrs., tab. (NACA RM L53L28a)


(1.3.2.4) SURFACE CONDITIONS

Flight measurements of pressures on base and rear part of fuselage of the Bell X-1 research airplane at transonic speeds, including power effects. Ronald J. Knapp and Wallace E. Johnson. January 1953. 31p. diagrs., photos. (NACA RM L52L01)

Zero-lift drag of a series of bomb shapes at Mach numbers from 0.60 to 1.10. William E. Stoney, Jr., and John F. Royall. July 1956. 12p. diagrs., photos., tabs. (NACA RM L56D16)

(1.3.2.5) PROTUBERANCES

Data presentation of force characteristics of several engine-strut-body configurations at Mach numbers of 1.8 and 2.0. Robert T. Madden and Emil J. Kremzier. August 1951. 32p. diagrs. (NACA RM E51E29)


Aerodynamic interference effects on normal and axial force coefficients of several engine-strut-body configurations at Mach Numbers of 1.8 and 2.0. Emil J. Kremzier and Murray Dryer. April 1952. 35p. diagrs., tab. (NACA RM E52B21)


(1.3.3) CANOPIES


Effects of fuselage nose length and a canopy on the static longitudinal and lateral stability characteristics of 450 sweptback airplane models having fuselages with square cross sections. Byron M. Jaquet and H. S. Fletcher. April 1957. 47p. diagrs., photos., tabs. (NACA TN 3961)

(1.3.4) DUCTED BODIES


MINIMUM-DRAG DUCTED AND CLOSED THREE-POINT BODY OF REVOLUTION BASED ON LINEARIZED SUPERSONIC THEORY. Hermon M. Parker. December 1956. 20p. diagrs., tab. (NACA TN 3704)

(1.3.4.1)
NOSE SHAPE

FLIGHT INVESTIGATION OF THE DRAG OF BODIES OF REVOLUTION AT MACH NUMBERS FROM 0.6 TO 1.5 USING ROCKET-PROPELLED TEST VEHICLES. Roger G. Hart. July 1951. 9p. diagrs., photos, tab. (NACA RM L51E25)

FLIGHT DETERMINATION OF DRAG AND PRESSURE RECOVERY OF A NOSE INLET OF PARABOLIC PROFILE AT MACH NUMBERS FROM 0.8 TO 1.7. Richard I. Sears and C. F. Merlet. October 1951. 22p. diagrs., photo. (NACA RM L51E02)


FLIGHT DETERMINATION OF DRAG OF NORMAL-SHOCK NOSE INLETS WITH VARIOUS COWLNG PROFILES AT MACH NUMBERS FROM 0.9 TO 1.5. R. I. Sears, C. F. Merlet, and L. W. Putland. 1956. ii, 19p. diagrs., photos., tabs. (NACA Rept. 1281. Supersedes RM L53I25a)

(1.3.4.3)
SIDE INLETS


(1.3.4.4)
SIDE EXITS

(1.4) Internal Aerodynamics


MEASUREMENTS AND PREDICTIONS OF FLOW CONDITIONS ON A TWO-DIMENSIONAL BASE SEPARATING A MACH NUMBER 3.36 JET AND A MACH NUMBER 1.55 OUTER STREAM. Donald E. Coletti. May 1954. 56p. diagrs., photos. (NACA RM L54C08)

ATTENUATION IN A SHOCK TUBE DUE TO UNSTEADY-BOUNDARY-LAYER ACTION. Harold Mirels. August 1953. 66p. diagrs. (NACA TN 3278)


(1.4.1) AIR INLETS


PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0. Evan A. Fradenburgh and Emil J. Kreutzmier. August 1953. 31p. diagrs., tabs. (NACA RM E53P11)


(1.4.1.1) NOSE, CENTRAL


FLIGHT DETERMINATION OF DRAG OF NORMAL-SHOCK NOSE INLETS WITH VARIOUS COWLING PROFILES AT MACH NUMBERS FROM 0.9 TO 1.5. R. I. Sears, C. F. Merlet, and L. W. Putland. 1956. 11p. diagrs., photos., tabs. (NACA Rept. 1281. Supersedes RM L53I25a)

(1.4.1.1.1) Propeller-Spinner-Cowl Combinations

EFFECT OF ROTATION OF AN NACA 1-SERIES E-TYPE COWLING ON THE INTERNAL FLOW AND FORCE CHARACTERISTICS OF THE COWLING AT MACH NUMBERS UP TO 0.84 AND AT AN ANGLE OF ATTACK OF 0°. Robert I. Sammonds and Robert M. Reynolds. October 1954. 54p. diagrs., photos., tabs. (NACA RM A54G14)


(1.4.1.1.2) Subsonic

EFFECT OF ROTATION OF AN NACA 1-SERIES E-TYPE COWLING ON THE INTERNAL FLOW AND FORCE CHARACTERISTICS OF THE COWLING AT MACH NUMBERS UP TO 0.84 AND AT AN ANGLE OF ATTACK OF 0°. Robert I. Sammonds and Robert M. Reynolds. October 1954. 54p. diagrs., photos., tabs. (NACA RM A54G14)

(1.4.1.1.3) Supersonic

FLIGHT DETERMINATION OF DRAG AND PRESSURE RECOVERY OF A NOSE INLET OF PARABOLIC PROFILE AT MACH NUMBERS FROM 0.8 TO 1.7. Richard I. Sears and C. F. Merlet. October 1951. 22p. diagrs., photo. (NACA RM L51E02)


(1.4.1.2) NOSE, ANNULAR

PRELIMINARY INVESTIGATION OF USE OF CONICAL FLOW SEPARATION FOR EFFICIENT SUPERSONIC DIFFUSION. W. E. Moeckel and P. J. Evans, Jr. December 1951. 15p. photos., diagrs. (NACA RM E51J08)


(1.4.1.3) WING LEADING EDGE


AN INVESTIGATION AT TRANSONIC SPEEDS OF THE AERODYNAMIC CHARACTERISTICS OF AN AIR INLET INSTALLED IN THE ROOT OF A 45° SWEPT-BACK WING. Robert R. Howell and Arvid L. Keith, Jr. October 1952. 47p. diagrs., photos., tabs. (NACA RM L52H08a)

(1) AERODYNAMICS

(1.4.1.4) SIDE


(1.4.1.4.1) Scoops


(1.4.1.4.2) Submerged


(1.4.2) DUCTS

AN INVESTIGATION AT TRANSONIC SPEEDS OF THE AERODYNAMIC CHARACTERISTICS OF AN AIR INLET INSTALLED IN THE ROOT OF A 45° SWEEP-BACK WING. Robert R. Howell and Arvld L. Keith, Jr. October 1952. 47p. diagrs., photos., tabs. (NACA RM L52H06a)

(1.4.2.1) DIFFUSERS


FLIGHT DETERMINATION OF DRAG AND PRESSURE RECOVERY OF A NOSE INLET OF PARABOLIC PROFILE AT MACH NUMBERS FROM 0.8 TO 1.7. Richard L. Sears and C. F. Merlet. October 1951. 22p. diagrs., photo. (NACA RM L51E02)


EFFECTS OF COMBINING AUXILIARY BLEED WITH EJECTOR PUMPING ON THE POWER REQUIREMENTS AND TEST-SECTION FLOW OF AN 8-INCH BY 8-INCH SLOTTED TUNNEL. B. H. Little, Jr., and James M. Cumbage, Jr. July 1955. 44p. diagrs., photo. (NACA RM L55E29)

(1.4.2.1.1) Subsonic


THE INFLUENCE OF VORTEX GENERATORS ON THE PERFORMANCE OF A SHORT 1.9:1 STRAIGHT-WALL ANNULAR DIFFUSER WITH A WHIRLING INLET FLOW. Charles C. Wood and James T. Higginbotham. February 1953. 38p. diagrs., photo., tab. (NACA RM L52L01a)


EXPLORATORY INVESTIGATION OF THE USE OF AIR INJECTION AT ELIMINATE AIR-FLOW SEPARATION IN DIFFUSERS HAVING LARGE EXPANSION ANGLES. Curt A. Holzhauser and Leo P. Hall. October 1956. 18p. diagrs. (NACA TN 3793)


(1, 4, 2, 1.2) Supersonic

PRELIMINARY INVESTIGATION OF USE OF CONICAL FLOW SEPARATION FOR EFFICIENT SUPERSONIC DIFFUSION. W. E. Moeckel and P. J. Evans, Jr. December 1951. 15p. photos., diagrs. (NACA RM E51J08)


PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0. Evan A. Fraudenberg and Emil J. Kremzier. August 1953. 31p. diagrs., tabs. (NACA RM E53F11)


(1, 4, 2, 2) NOZZLES


EFFECT OF PROPERTIES OF PRIMARY FLUID ON PERFORMANCE OF CYLINDRICAL SHROUD EJECTORS. Fred D. Kochendorfer. March 1954. 32p. diagrs. (NACA RM E53L24a)

NOTE ON PERFORMANCE OF AIRCRAFT EJECTOR NOZZLES AT HIGH SECONDARY FLOWS. Fred D. Kochendorfer. August 1954. 20p. diagrs. (NACA RM E54F17a)


(1.4.2.3) PIPES


CHARTS FOR THE ANALYSIS OF FLOW IN A WHIRLING DUCT. Robert A. Makowski. May 1957. 21p. diagrs. (NACA TN 3950)

(1.4.2.4) BENDS


IMPINGEMENT OF DROPLETS IN 60° ELBOWS WITH POTENTIAL FLOW. Paul T. Hacker, Paul G. Saper, and Charles F. Kadov. October 1956. 54p. diagrs., tabs. (NACA TN 3770)

(1.4.3) EXITS


EFFECT OF PROPERTIES OF PRIMARY FLUID ON PERFORMANCE OF CYLINDRICAL SHROUD EJECTORS. Fred D. Kochendorfer. March 1954. 32p. diagrs. (NACA RM E54L24a)


NOTE ON PERFORMANCE OF AIRCRAFT EJECTOR NOZZLES AT HIGH SECONDARY FLOWS. Fred D. Kochendorfer. August 1954. 20p. diagrs. (NACA RM E54F17a)


(1) AERODYNAMICS

AN EXPERIMENTAL INVESTIGATION OF STRING-SUPPORT EFFECTS ON DRAG AND A COMPARISON WITH JET EFFECTS AT TRANSONIC SPEEDS. Maurice S. Cahm. September 1956. 67p. diagrs., tabs. (NACA RM L56F18a)


(1.4.4) JET PUMPS AND THRUST AUGMENTORS


EFFECT OF PROPERTIES OF PRIMARY FLUID ON PERFORMANCE OF CYLINDRICAL SHROUD EJECTORS. Fred D. Kochendorfer. March 1954. 32p. diagrs. (NACA RM E53L24a)

NOTE ON PERFORMANCE OF AIRCRAFT EJECTOR NOZZLES AT HIGH SECONDARY FLOWS. Fred D. Kochendorfer. August 1954. 20p. diagrs. (NACA RM E54F17a)

EXPLORATORY STUDY OF GROUND PROXIMITY EFFECTS ON THRUST OF ANNULAR AND CIRCULAR NOZZLES. Uwe H. von Glahn. April 1957. 48p. diagrs., photos. (NACA TN 3982)

(1.4.5) CASCADES


COMPARISON OF LOW-SPEED ROTOR AND CASCADE PERFORMANCE FOR MEDIUM-CAMBER NACA 65-(C1 0)10 COMPRESSOR-0 BLADE SECTIONS OVER A WIDE RANGE OF ROTOR BLADE-SETTING ANGLES AT SOLIDITIES OF 1.0 AND 0.5. George C. Ashby, Jr. December 1954. 40p. diagrs., photo. (NACA RM L54L13)


(1.4.5.1) THEORY

(1.4.5.2)  

EXPERIMENT  

LOW-SPEED CASCADE INVESTIGATION OF LOADED LEADING-EDGE COMPRESSOR BLADES.  


INVESTIGATION OF A RELATED SERIES OF TURBINE-BLADE PROFILES IN CASCADE.  


(1.4.6)  

FANS  

COMPARISON OF LOW-SPEED ROTOR AND CASCADE PERFORMANCE FOR MEDIUM-CAMBER NACA 65- (C, A10) 10 COMPRESSOR- 0  


(1.4.7)  

BOUNDARY LAYER  

THE INFLUENCE OF VORTEX GENERATORS ON THE PERFORMANCE OF A SHORT 1.9:1 STRAIGHT-WALL ANNULAR DIFFUSER WITH A WHIRLING INLET FLOW. Charles C. Wood and James T. Higginbotham. February 1953. 38p. diagrs., photo., tab. (NACA RM L52L01a)  


ON POSSIBLE SIMILARITY SOLUTIONS FOR THREE-DIMENSIONAL INCOMPRESSIBLE LAMINAR BOUNDARY LAYERS. I - SIMILARITY WITH RESPECT TO STATIONARY POLAR COORDINATES. Arthur G. Hansen and Howard Z. Herzig. October 1956. 30p. tab. (NACA TN 3768)  


(1) AERODYNAMICS


ON FLOW OF ELECTRICALLY CONDUCTING FLUIDS OVER A FLAT PLATE IN THE PRESENCE OF A TRANSVERSE MAGNETIC FIELD. Vernon J. Rossow. May 1957. 54p. tabs. (NACA TN 3971)

(1.4.7.1) CHARACTERISTICS

FLOW SEPARATION FROM RODS AHEAD OF BLUNT NOSES AT MACH NUMBER 2.72. Jim J. Jones. July 1952. 18p. diagrs., photos. (NACA RM L52E05a)


EXPLORATORY INVESTIGATION OF THE USE OF AREA SUCTION TO ELIMINATE AIR-FLOW SEPARATION IN DIFFUSERS HAVING LARGE EXPANSION ANGLES. Curt A. Holzhauser and Leo P. Hall. October 1956. 18p. diagrs. (NACA TN 3793)

AN INVESTIGATION AT TRANSONIC SPEEDS OF THE AERODYNAMIC CHARACTERISTICS OF AN AIR INLET INSTALLED IN THE ROOT OF A 45° SWEEP-BACK WING. Robert R. Howell and Arvid L. Keith, Jr. October 1952. 47p. diagrs., photos., tabs. (NACA RM L52B08a)


PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0. Evan A. Fradenburgh and Emil J. Kremzier. August 1953. 31p. diagrs., tabs. (NACA RM E53F11)


(1.5) Propellers

(1.5.1) THEORY


(1.5.2) DESIGN VARIABLES


(1.5.2.1) BLADE SECTIONS


(1.5.2.2) SOLIDITY


(1.5.2.4) BLADE PLAN FORMS


(1.5.2.5) MACH NUMBER EFFECTS


(1) AERODYNAMICS


(1.5.2.7) DUAL ROTATION


(1.5.2.8) INTERFERENCE OF BODIES


AN ANALYSIS OF ONCE-PER-REVOLUTION OSCILLATING AERODYNAMIC THRUST LOADS ON SINGLE-ROTATION PROPellers ON TRACTOR AIRPLANES AT ZERO YAW. Vernon L. Rogallo, Paul F. Yaggi, and John L. McCCloud, III. 1956. ii, 30p. diagrs., photos. (NACA Rept. 1295. Supersedes TN 3395)


(1.5.2.9) PITCH AND YAW


(1.5.3) DESIGNATED TYPES


(1.5.4) SLIPSTREAM


EFFECT OF PROPELLER LOCATION AND FLAP DEFLECTION ON THE AERODYNAMIC CHARACTERISTICS OF A WING-PROPELLER COMBINATION FOR ANGLES OF ATTACK FROM 0° TO 80°. William A. Newsom, Jr. January 1957. 45p. diagrs. (NACA TN 3917)


(1.5.6) OPERATING CONDITIONS


(1.5.7) PROPELLER-SPINNER-COWL COMBINATIONS

EFFECT OF ROTATION OF AN NACA 1-SERIES E-TYPE COWLING ON THE INTERNAL FLOW AND FORCE CHARACTERISTICS OF THE COWLING AT MACH NUMBERS UP TO 0.84 AND AT AN ANGLE OF ATTACK OF 0°. Robert I. Sammonds and Robert M. Reynolds. October 1954. 54p. diagrs., photos., tabs. (NACA RM A54G14)

(1.6) Rotating Wings

(1.6.1) Theory


Approximate Solution for Streamlines About a Lifting Rotor Having Uniform Loading and Operating in Hovering or Low-Speed Vertical-Ascent Flight Conditions. Walter Castles, Jr., Georgia Institute of Technology. February 1957. 41p. diagrams, tables. (NACA TN 3921)


(1.6.2) Experimental Studies


(1.6.2.1) Power-Driven

(17.1) Aircraft

(17.1.1) Airplanes


Components in Combination


Comparison of Large-Scale Flight Measurements of Zero-Lift Drag at Mach Numbers from 0.8 to 1.7 of Two Wing-Body Combinations Having Similar 60° Triangular Wings with NACA 65A008 Sections. Eugene D. Schult. October 25, 1950. 15p. diags., photo., tab. (NACA RM L50I22)


Static Lateral Stability Characteristics of an Airplane Model Having a 47.7° Sweptback Wing of Aspect Ratio 6 and the Contribution of Various Model Components at a Reynolds Number of 4.45 x 106. Roland F. Griner. September 1953. 85p. diags., photos., tabs. (NACA RM L53G09)


TABLES OF CHARACTERISTIC FUNCTIONS FOR SOLVING BOUNDARY-VALUE PROBLEMS OF THE WAVE EQUATION WITH APPLICATION TO SUPER­SONIC INTERFERENCE. Jack N. Nielsen. February 1957. 245p. diagrs., tabs. (NACA TN 3873)


A THEORY FOR THE LATERAL RESPONSE OF AIRPLANES TO RANDOM ATMOSPHERIC TURBU­LENCE. John M. Eggleston. May 1957. 1, 75p. diagrs., tabs. (NACA TN 3954)


(1,7,1,1.1) Wing-Fuselage


FLIGHT INVESTIGATION FROM HIGH SUBSONIC TO SUPERSONIC SPEEDS TO DETERMINE THE ZERO-LIFT DRAG OF A TRANSONIC RESEARCH VEHICLE HAVING WINGS OF 45° SWEEPBACK, ASPECT RATIO 4, TAPER RATIO 0.6, AND NACA 65A006 AIRFOIL SECTIONS. Ellis Katz. October 27, 1949. 16p. diagrs., photos., tab. (NACA RM L9H30)


FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.4 TO DETERMINE THE ZERO-LIFT DRAG OF WINGS WITH "M" AND "W" PLAN FORMS. Ellis Katz, Edward T. Marley, and William B. Pepper. September 18, 1950. 23p. diagrs., photos., tab. (NACA RM L50G31)


COMPARISON OF LARGE-SCALE FLIGHT MEASUREMENTS OF ZERO-LIFT DRAG AT MACH NUMBERS FROM 0.9 TO 1.7 OF TWO WING-BODY COMBINATIONS HAVING SIMILAR 60° TRIANGULAR WINGS WITH NACA 65A008 SECTIONS. Eugene D. Schult. October 25, 1950. 15p. diagrs., photo., tab. (NACA RM L50F12)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0008-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 22p. diagrs., photo. (NACA RM A50K20)


(1) AERODYNAMICS


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE 45° SWEEP-BACK WING OF ASPECT RATIO 3, TAPER RATIO 0.4 WITH 3-PERCENT-THICK, BICONVEX SECTION. John C. Heitmeyer. September 1951. 20p. diagrs. (NACA RM A51H10)


PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A W WING WITH ASPECT RATIO 6, 45° SWEEP, TAPER RATIO 0.6, AND AN NACA 65A009 AIRFOIL SECTION. Edward C. Polhamus and Albert G. Few, Jr. August 1952. 46p. diagrs., photo. (NACA RM L52F11)

FLUTTER OF A 60° DELTA WING (NACA 65A003 AIRFOIL) ENCOUNTERED AT SUPERSONIC SPEEDS DURING THE FLIGHT TEST OF A ROCKET-PROPELLED MODEL. Joseph H. Judd and William T. Lauten, Jr. September 1952. 34p. diagrs., photos., tabs. (NACA RM L52E06a)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - COMPARISON OF THREE WINGS OF ASPECT RATIO 2 OF RECTANGULAR, SWEEPBACK, AND TRIANGULAR PLAN FORM, INCLUDING EFFECTS OF THICKNESS DISTRIBUTION. Donald C. Hightower. February 1953. 30p. diagrs., tabs. (NACA RM A52L02)
**AERODYNAMICS**

**Effect of vertical position of the wing on the aerodynamic characteristics of three wing-body combinations.** John C. Heilmeyer. February 1953. 56p. diagrs., photo., tabs. (NACA RM A52L15a)


**A transonic wind-tunnel investigation of an unswept-wing-body combination at angles of attack up to 240°.** Bruce B. Estabrooks. February 1953. 23p. diagrs., tab. (NACA RM L52L19)

**A transonic wind-tunnel investigation of the effects of longitudinal wing location and varying body size on the interference characteristics of a 45° sweptback wing.** Donald L. Loving. March 1953. 31p. diagrs., photo., tabs. (NACA RM L52L16)

**Transonic wind-tunnel investigation of the aerodynamic characteristics of a 60° triangular wing in combination with a systematic series of three bodies.** Thomas C. Kelly. April 1953. 22p. diagrs., photo. (NACA RM L52L22a)

**Effect of leading-edge chord-extensions on the aerodynamic characteristics of a 45° sweptback wing-fuselage combination at Mach numbers of 0.40 to 1.03.** F. E. West, Jr., George Liner, and Gladys S. Martz. April 1953. 40p. diagrs., photo. (NACA RM L53B02)


**Subsonic static longitudinal stability and control characteristics of a wing-body combination having a pointed wing of aspect ratio 2 with constant-percent-chord trailing-edge elevons.** Donald W. Smith and Verlin D. Reed. May 1953. 145p. diagrs., photos., tab. (NACA RM A53C20)

**Free-flight longitudinal-stability investigation including some effects of wing elasticity from Mach numbers of 0.85 to 1.34 of a tailless missile configuration having a 45° sweptback wing of aspect ratio 5.** Richard G. Arbic and Warren Gillespie, Jr. August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F18)

**Wind-tunnel investigation at high subsonic speeds of the static longitudinal and static lateral stability characteristics of a wing-fuselage combination having a triangular wing of aspect ratio 2.31 and an NACA 65A003 airfoil.** James W. Wiggins. August 1953. 28p. diagrs., photos. (NACA RM L53G09a)

**Low-speed investigation of the aerodynamic, control, and hinge-moment characteristics in sideslip of a delta-wing-fuselage model with horn-balance-type ailerons and with and without nacelles.** William I. Scallion. August 1953. 31p. diagrs., photo., tabs. (NACA RM L53G09b)

**Wind-tunnel investigation of the aerodynamic characteristics in pitch and sideslip at high subsonic speeds of a wing-fuselage combination having a triangular wing of aspect ratio 4.** Paul G. Fournier. August 1953. 23p. diagrs., photos. (NACA RM L53G14a)

**Static lateral stability characteristics of an airplane model having a 47° sweptback wing of aspect ratio 6 and the contribution of various model components at a Reynolds number of 4.45 x 10^6.** Roland F. Griner. September 1953. 83p. diagrs., photos., tabs. (NACA RM L53G09)

**Wind-tunnel investigation of the effects of a fence and a leading-edge notch on the aerodynamic loading characteristics in pitch of a 45° sweptback wing at high subsonic speeds.** Richard E. Kuhn, James W. Wiggins, and Andrew L. Byrnes, Jr. October 1953. 56p. diagrs., photo., tabs. (NACA RM L53H24)

**Wind-tunnel investigation at high subsonic speeds to determine the rolling derivatives of two wing-fuselage combinations having triangular wings, including a semiempirical method of estimating the rolling derivatives.** James W. Wiggins. February 1954. 32p. diagrs. (NACA RM L53L18a)

**A low-speed investigation of the aerodynamic, control, and hinge-moment characteristics of two types of controls and balancing tabs on a large-scale thin delta-wing-fuselage model.** Marvin P. Fink and Bennie W. Cocke. March 1954. 69p. diagrs., photo., tabs. (NACA RM L54B03)

**Wind-tunnel investigation of effect of sweep on rolling derivatives at angles of attack up to 15° and at high subsonic Mach numbers, including a semiempirical method of estimating the rolling derivatives.** James W. Wiggins. April 1954. 47p. diagrs., tab. (NACA RM L54C26)
(1) AERODYNAMICS

A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAIN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60° DELTA WING. Harleth G. Wiley. May 1954. 45p. diags., tabs. (NACA RM L54D01)

SUPERSONIC FLUTTER OF A 60° DELTA WING ENCOUNTERED DURING THE FLIGHT TEST OF A ROCKET-PROPELLED MODEL. William T. Lauten, Jr., and Joseph H. Judd. June 1954. 20p. diags., photos., tabs. (NACA RM L54D12a)


(NACA RM L54H11)


(NACA RM L55E20b)


COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED-AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Fischel. (The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956.) August 1956. 16p. diag. (NACA TN 3659)


THE LINEARIZED SUBSONIC FLOW ABOUT SYMMETRICAL NONLIFTING WING-BODY COMBINATIONS. John B. McDevitt. April 1957. 67p. diagrs. (NACA TN 3984)


AN ANALYSIS OF ONCE-PER-REVOLUTION OSCILLATING AERODYNAMIC THRUST LOADS ON SINGLE-ROTATION PROPELLERS ON TRACTOR AIRPLANES AT ZERO YAW. Vernon L. Rogallo, Paul F. Yaggy, and John L. McCcloud, III. 1956. 11, 50p. diagrs., photos., tab. (NACA Rept. 1295. Supersedes TN 3395)


WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diagrs., tab. (NACA TN 3898)


AN ANALYSIS OF ONCE-PER-REVOLUTION OSCILLATING AERODYNAMIC THRUST LOADS ON SINGLE-ROTATION PROPELLERS ON TRACTOR AIRPLANES AT ZERO YAW. Vernon L. Rogallo, Paul F. Yaggy, and John L. McCcloud, III. 1956. 11, 50p. diagrs., photos., tab. (NACA Rept. 1295. Supersedes TN 3395)


WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diagrs., tab. (NACA TN 3898)


LONGITUDINAL STABILITY AND DRAG CHARACTERISTICS AT MACH NUMBERS FROM 0.70 TO 1.37 OF ROCKET-PROPELLED MODELS HAVING A MODIFIED TRIANGULAR WING. Rowe Chapman, Jr., and John D. Morrow. May 1952. 35p. diagrs., photos., tab. (NACA RM L52A31)


LOW-SPEED LONGITUDINAL CHARACTERISTICS OF TWO UNSWEEP WINGS OF HEXAGONAL AIRFOIL SECTIONS HAVING ASPECT RATIOS OF 2.5 AND 4.0 WITH FUSELAGE AND WITH HORIZONTAL TAIL LOCATED AT VARIOUS VERTICAL POSITIONS. William M. Hadaway and Patrick A. Cancro. October 1953. 29p. diagrs., photos. (NACA RM L53H14a)


GROUND EFFECTS ON THE LONGITUDINAL CHARACTERISTICS OF TWO MODELS WITH WINGS HAVING LOW ASPECT RATIO AND POINTED TIPS. Donald A. Buell and Bruce E. Tiling. July 1955. 48p. diagrs., photos., tabs. (NACA RM A55E04)


COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED-AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Flischel. The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956). August 1956. 16p. diagrs. (NACA TN 3859)


EXPERIMENTAL STEADY-STATE YAWING DE-RIVATIVES OF A 60° DELTA-WING MODEL AS AFFECTED BY CHANGES IN VERTICAL POSITION OF THE WING AND IN RATIO OF FUSELAGE DIAMETER TO WINGSPAN. Byron M. Jaquet and Herman S. Fletcher. October 1956. 20p. diagrs., tab. (NACA TN 3843)


(1.7.1.1.4) Propeller and Jet Interference


(1.7.1.1.5) External Stores


(1.7.1.2) SPECIFIC AIRPLANES


RESULTS OBTAINED DURING A DIVE RECOVERY OF THE BELL XS-1 AIRPLANE TO HIGH LIFT COEFFICIENTS AT A MACH NUMBER GREATER THAN 1.0. Milton D. McLaughlin and Dorothy C. Clift. April 6, 1948. 6p. diags. (NACA RM L6C23a)

RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1948. 29p. diags., tabs. (NACA RM L8A05a)


(1) AERODYNAMICS


FLIGHT MEASUREMENTS WITH THE DOUGLAS D-55S-II (BUAERO NO. 37974) RESEARCH AIRPLANE. STATIC LATERAL AND DIRECTIONAL STABILITY CHARACTERISTICS AS MEASURED IN SIDESLIPS AT MACH NUMBERS UP TO 0.87. S. A. Sjöberg. May 29, 1950. 29p. diagrs., photos., tab. (NACA RM L50C14)


FLIGHT MEASUREMENTS WITH THE DOUGLAS D-55S-II (BUAERO NO. 37974) RESEARCH AIRPLANE. STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBERS UP TO 0.87. S. A. Sjöberg, James R. Peele, and John H. Griffith. January 17, 1951. 48p. diagrs., photos., tab. (NACA RM L50K13)


TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN AN UNACCELERATED LOW-SPEED STALL, IN PUSH-OVER AT MACH NUMBERS OF 0.87 AND 0.99, AND IN A PULL-UP AT A MACH NUMBER OF 1.16. Ronald J. Knapp. September 1951. 53p. diagrs., tab. (NACA RM L51F25)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrams, tabs. (NACA RM L53J01)


(1) AERODYNAMICS


PERFORMANCE


PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0. Evan A. Fradenburgh and Emil J. Kremzier. August 1953. 31p. diagrs., tabs. (NACA RM E53F11)

CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)


EFFECT OF PROPELLER LOCATION AND FLAP DEFLECTION ON THE AERODYNAMIC CHARACTERISTICS OF A WING-PROPELLER COMBINATION FOR ANGLES OF ATTACK FROM 0° TO 80°. William A. Newsom, Jr. January 1957. 45p. diagrs. (NACA TN 3917)


(1.7.2) MISSILES

OBSERVATIONS OF UNSTEADY FLOW PHENOMENA FOR AN INCLINED BODY FITTED WITH STABILIZING FINS. Merrill H. Mead. January 1952. 23p. diagrs., photos. (NACA RM A51K05)

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TABLES OF CHARACTERISTIC FUNCTIONS FOR SOLVING BOUNDARY-VALUE PROBLEMS OF THE WAVE EQUATION WITH APPLICATION TO SUPERSONIC INTERFERENCE. Jack N. Nielsen. February 1957. 245p. diagrs., tabs. (NACA TN 3873)


(1.7.2.1.1)

Wing-Body

FLIGHT INVESTIGATION FROM HIGH SUBSONIC TO SUPERSONIC SPEEDS TO DETERMINE THE ZERO-LIFT DRAG OF A TRANSonic RESEARCH VEHICLE HAVING WINGS OF 45° SWEEPBACK, ASPECT RATIO 4, TAPER RATIO 0.6, AND NACA 65A006 AIRFOIL SECTIONS. Ellis Katz. October 27, 1949. 16p. diagrs., photos., tab. (NACA RM L9B30)

FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.4 TO DETERMINE THE ZERO-LIFT DRAG OF WINGS WITH "M" AND "W" PLAN FORMS. Ellis Katz, Edward T. Marley, and William B. Pepper. September 18, 1950. 23p. diagrs., photos., tab. (NACA RM L50G31)

COMPARISON OF LARGE-SCALE FLIGHT MEASUREMENTS OF ZERO-LIFT DRAG AT MACH NUMBERS FROM 0.9 TO 1.7 OF TWO-WING-BODY COMBINATIONS HAVING SIMILAR 60° TRIANGULAR WINGS WITH NACA 65A003 SECTIONS. Eugene D. Schult. October 25, 1950. 15p. diagrs., photo., tab. (NACA RM L50I22)


LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0008-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 22p. diagrs., photo. (NACA RM A50K20)

LIFT, DRAG, AND PITCHING MOMENT OF LOW-ASPECT-RATIO WINGS AT SUBSONIC AND SUPERSONIC SPEEDS - PLANE TRIANGULAR WING OF ASPECT RATIO 2 WITH NACA 0005-63 SECTION. Donald W. Smith and John C. Heitmeyer. February 1, 1951. 23p. diagrs., photo. (NACA RM A50K21)


LONGITUDINAL STABILITY AND DRAG CHARACTERISTICS OF MACH NUMBERS FROM 0.70 TO 1.37 OF ROCKET-PROPELLED MODELS HAVING A MODIFIED TRIANGULAR WING. Rowe Chapman, Jr., and John D. Morrow. May 1952. 36p., diagrs., photos., tab. (NACA RM L52A51)


THE USE OF THE ROLLED-UP VORTEX CONCEPT FOR PREDICTING WING-TAIL INTERFERENCE AND COMPARISON WITH EXPERIMENT AT MACH NUMBER OF 1.62 FOR A SERIES OF MISSILE CONFIGURATIONS HAVING TANDEM CRUCIFORM LIFTING SURFACES. Carl E. Grigsby. September 1952. 41p. diagrs., photos. (NACA RM L52H05)


FREE-FLIGHT LONGITUDINAL-STABILITY INVESTIGATION INCLUDING SOME EFFECTS OF WING ELASTICITY FROM MACH NUMBERS OF 0.85 TO 1.34 OF A TAILLESS MISSILE CONFIGURATION HAVING A 45° SWEEPBACK WING OF ASPECT RATIO 5.5. Richard G. Arbic and Warren Gillespie, Jr. August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F16)


(1.7.2.1.2) Tail-Body


OBSERVATIONS OF UNSTEADY FLOW PHENOMENA FOR AN INCLINED BODY FITTED WITH STABILIZING FINS. Merrill H. Mead. January 1952. 25p. diags., photos. (NACA RM A51K05)


BUFFETING OF A VERTICAL TAIL ON AN INCLINED BODY AT SUPERSONIC MACH NUMBERS. Forrest E. Gowan. March 1953. 35p. diags., photos., tab. (NACA RM A53A09)


ZERO-LIFT DRAG OF A SERIES OF BOMB SHAPES AT MACH NUMBERS FROM 0.60 TO 1.10. William E. Stoney, Jr., and John F. Royall. July 1956. 12p. diags., photos., tabs. (NACA RM L56D16)


(1.7.2.1.3) Jet Interference


(1) AERODYNAMICS


AN EXPERIMENTAL INVESTIGATION OF STING-SUPPORT EFFECTS ON DRAG AND A COMPARISON WITH JET EFFECTS AT TRANSONIC SPEEDS. Maurice S. Cahn. September 1956. 67p. diagrs., photos., tabs. (NACA RM L56F18a)


(1.7.2.1.4)

Wing-Tail-Body


FLIGHT INVESTIGATION FROM MACH NUMBER 0.8 TO MACH NUMBER 2.0 TO DETERMINE SOME EFFECTS OF WING-TO-TAIL DISTANCE ON THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A 60° DELTA-WING-CANARD MISSILE. Clarence A. Brown, Jr., and Reginald R. Lundstrom. June 1952. 42p. diagrs., photos. (NACA RM L52C26)

THE USE OF THE ROLLED-UP VORTEX CONCEPT FOR PREDICTING WING-TAIL INTERFERENCE AND COMPARISON WITH EXPERIMENT AT MACH NUMBER OF 1.62 FOR A SERIES OF MISSILE CONFIGURATIONS HAVING TANDEM CRUCIFORM LIFTING SURFACES. Carl E. Grigsby. September 1952. 41p. diagrs., photos. (NACA RM L52H05)


(1.7.2.2)

SPECIFIC MISSILES

FLIGHT-TEST EVALUATION OF THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF 0.5-SCALE MODELS OF THE LARK PILOTLESS-AIRCRAFT CONFIGURATION. David G. Stone. February 6, 1948. 60p. diagrs., photos., tabs. (NACA RM L7128)


ROCKET-MODEL INVESTIGATION TO DETERMINE THE FORCE AND HINGE-MOMENT CHARACTERISTICS OF A HALF-DELTA TIP CONTROL ON A 59° SWEEPBACK DELTA WING BETWEEN MACH NUMBERS OF 0.55 AND 1.43. C. William Martz, James D. Church, and John W. Goslee. October 1952. 59p. diagrs., photos., tab. (NACA RM L52H08)
(1) AERODYNAMICS

PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0.
Evan A. Fradenburgh and Emil J. Kremzier.
August 1953. 31p. diagrs., tabs. (NACA RM E53F11)

FREE-FLIGHT LONGITUDINAL-STABILITY INVESTIGATION INCLUDING SOME EFFECTS OF WING ELASTICITY FROM MACH NUMBERS OF 0.85 TO 1.34 OF A TAILLESS MISSILE CONFIGURATION HAVING A 45° SWEEPBACK WING OF ASPECT RATIO 5.5.
Richard G. Arbic and Warren Gillespie, Jr.
August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F18)

ROCKET-POWERED-MODEL INVESTIGATION OF THE HINGE-MOMENT AND NORMAL-FORCE CHARACTERISTICS OF A HALF-DIAMOND TIP CONTROL ON A 60° SWEEPBACK DIAMOND WING BETWEEN MACH NUMBERS OF 0.5 AND 1.3.
James D. Church.
April 1954. 30p. diagrs., photos., tab. (NACA RM L54C10)

TURBULENT CONVECTIVE HEAT-TRANSFER COEFFICIENTS MEASURED FROM FLIGHT TESTS OF FOUR RESEARCH MODELS (NACA RM-10) AT MACH NUMBERS FROM 1.0 TO 3.6.
Leo T. Chauvin and Joseph P. Maloney.
March 1955. 30p. diagrs., photos., tabs. (NACA RM L54L15)

FLIGHT INVESTIGATION OF THE PERFORMANCE OF A TWO-STAGE SOLID-PROPELLANT NIKE-DEACON (DAN) METEOROLOGICAL SOUNDING ROCKET.
Robert H. Heitkotter.
July 1956. 21p. diagrs., photos. (NACA TN 3739)

(1.7.3) ROTATING-WING AIRCRAFT

(1.7.3.1) AUTOGIROS

CHARTS FOR ESTIMATING PERFORMANCE OF HIGH-PERFORMANCE HELICOPTERS.
Alfred Gessow and Robert J. Tapscott.
1956. ii, 33p. diagrs. (NACA Rept. 1266. Supersedes TN 3323; TN 3482)

EQUATIONS AND PROCEDURES FOR NUMERICALLY CALCULATING THE AERODYNAMIC CHARACTERISTICS OF LIFTING ROTORS.
Alfred Gessow.
October 1956. 21p. diagr., tab. (NACA TN 3747)

AN EXPERIMENTAL INVESTIGATION OF THE EFFECT OF VARIOUS PARAMETERS INCLUDING TIP MACH NUMBER ON THE FLUTTER OF SOME MODEL HELICOPTER ROTOR BLADES.
George W. Brooks and John E. Baker.
June 1953. 68p. diagrs., photos., tabs. (NACA RM L53D24)

ASPECTS OF INTERNAL-FLOW-SYSTEM DESIGN FOR HELICOPTER PROPULSIVE UNITS.
John R. Henry.
September 1954. 24p. diagrs. (NACA RM L54F29)

STUDIES OF THE SPEED STABILITY OF A TANDEM HELICOPTER IN FORWARD FLIGHT.
Robert J. Tapscott and Kenneth B. Amer.

CHARTS FOR ESTIMATING PERFORMANCE OF HIGH-PERFORMANCE HELICOPTERS.
Alfred Gessow and Robert J. Tapscott.
1956. ii, 35p. diagrs. (NACA Rept. 1266. Supersedes TN 3323; TN 3482)

AN EXPERIMENTAL INVESTIGATION OF A FLAT RAM-JET ENGINE ON A HELICOPTER ROTOR.
Robert D. Powell, Jr., and James P. Shivers.
January 1956. 27p. diagrs., photos. (NACA RM L55F28)

STATIC-1HUST MEASUREMENTS OF THE AERODYNAMIC LOADING ON A HELICOPTER ROTOR BLADE.
John P. Rabbott, Jr.
July 1956. 22p. diagrs., photos. (NACA TN 3688)

EQUATIONS AND PROCEDURES FOR NUMERICALLY CALCULATING THE AERODYNAMIC CHARACTERISTICS OF LIFTING ROTORS.
Alfred Gessow.
October 1956. 21p. diagr., tab. (NACA TN 3747)

A THEORETICAL ESTIMATE OF THE EFFECTS OF COMPRESSION ON THE PERFORMANCE OF A HELICOPTER ROTOR IN VARIOUS FLIGHT CONDITIONS.
Alfred Gessow and Almer D. Crim.
October 1956. 33p. diagrs. (NACA TN 3798)

CHARTS FOR ESTIMATING THE HOVERING ENDURANCE OF A HELICOPTER.
Robert A. Makofski.
October 1956. 15p. diagrs. (NACA TN 3810)

DISTRIBUTION OF NORMAL COMPONENT OF INDUCED VELOCITY IN LATERAL PLANE OF A LIFTING ROTOR.
Walter Castles, Jr., and Howard L. Durham, Jr., Georgia Institute of Technology.
December 1956. 26p. diagrs., tabs. (NACA TN 3841)


FLIGHT MEASUREMENTS OF THE VIBRATIONS ENCOUNTERED BY A TANDEM HELICOPTER AND A METHOD FOR MEASURING THE COUPLED RESPONSE IN FLIGHT. John E. Yeates, Jr. December 1956. 28p. diagrs., photo. (NACA TN 3852)


INVESTIGATION OF VERTICAL DRAG AND PERIODIC AIRLOADS ACTING ON FLAT PANELS IN A ROTOR SLIPSTREAM. Robert A. Mokofski and George F. Menick. December 1956. 23p. diagrs., photo. (NACA TN 3900)


APPROXIMATE SOLUTION FOR STREAMLINES ABOUT A LIFTING ROTOR HAVING UNIFORM LOADING AND OPERATING IN HOVERING OR LOW-SPEED VERTICAL-ASCENT FLIGHT CONDITIONS. Walter Castles, Jr., Georgia Institute of Technology. February 1957. 41p. diagrs., tabs. (NACA TN 3921)


SOME EFFECTS OF VALVE FRICTION AND STICK FRICTION ON CONTROL QUALITY IN A HELICOPTER WITH HYDRAULIC-POWER CONTROL SYSTEMS. B. Porter Brown and John P. Reeder. May 1957. 8p. diagr. (NACA TN 4004)

(1.7.4) SEAPLANES

(1.7.4.1) GENERAL STUDIES


HYDRODYNAMIC PRESSURE DISTRIBUTION OBTAINED WITH A STREAMLINE BODY EQUIPPED WITH CHINE STRIPS. Bernard Weinflash. September 1955. 29p. diagrs., photos., tabs. (NACA RM L55F20)

(1.7.6) BIPLANES AND TRIPLANES

(1.8) Stability and Control


(1.8.1) Stability


(1.8.1.1) Static


(1.8.1.1.1) Longitudinal

FLIGHT-TEST EVALUATION OF THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF 0.5-SCALE MODELS OF THE LARK PILOTLESS- AIRCRAFT CONFIGURATION. David G. Stone. February 6, 1948. 60p. diagrs., photos., tabs. (NACA RM L7I26)

RESULTS OF PRELIMINARY FLIGHT TESTS OF THE XS-1 AIRPLANE (8-PERCENT WING) TO A MACH NUMBER OF 1.25. W. C. Williams and De E. Beeler. April 6, 1948. 14p. diagrs. (NACA RM L8A05a)

RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1948. 22p. diagrs., tab. (NACA RM L8A05a)


AERODYNAMIC STUDY OF A WING-FUSELAGE COMBINATION EMPLOYING A WING SWEEPT BACK 63° - EFFECT OF REYNOLDS NUMBER AT SUPERSONIC MACH NUMBERS ON THE LONGITUDINAL CHARACTERISTICS OF A WING TWISTED AND CAMBERED FOR UNIFORM LOAD. John C. Heitmeyer. October 9, 1950. 36p. diagrams, photo. (NACA RM A50G10)


WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEEPT BACK 63° AND TWISTED AND CAMBERED FOR UNIFORM LOAD AT A LIFT COEFFICIENT OF 0.5 AND WITH A THICKENED TIP SECTION. James A. Weiberg and Hubert C. Carel. November 21, 1950. 42p. diagrams, photo, tabs. (NACA RM A50H09)


FLIGHT MEASUREMENTS WITH THE DOUGLAS D-558-II (BUAERO NO. 37974) RESEARCH AIRPLANE. STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBERS UP TO 0.87. S. A. Sjoberg, James R. Peele, and John H. Griffith. January 17, 1951. 46p. diagrams, photos, tab. (NACA RM L50K13)


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LOW-SPEED LONGITUDINAL AERODYNOMIC CHARACTERISTICS OF A 45° SWEEPBACK WING WITH DOUBLE SLOTTED FLAPS. Rodger L. Naeath. April 1956. 31p. diagrs., tabs. (NACA RM L55A10)

COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED-AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Fischel. (The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956). August 1956. 16p. diagrs. (NACA TN 3859)


WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diagrs., tab. (NACA TN 3898)


EFFECT OF PROPELLER LOCATION AND FLAP DEFLECTION ON THE AERODYNAMIC CHARACTERISTICS OF A WING-PROPELLER COMBINATION FOR ANGLES OF ATTACK FROM 0° TO 80°. William A. Newsom, Jr. January 1957. 45p. diagrs. (NACA TN 3917)


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FLIGHT MEASUREMENTS WITH THE DOUGLAS D-55-II (BUAER NO. 37974) RESEARCH AIRPLANE. STATIC LATERAL AND DIRECTIONAL STABILITY CHARACTERISTICS OF A MODEL MEASURED IN SIDESLIPS AT MACH NUMBERS UP TO 0.87. S. A. Sjoberg. May 19, 1950. 29p. diagrs., photos., tab. (NACA RM L50C14)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 12p. diagrs., tabs. (NACA RM L53J01)


A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAIN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60° DELTA WING. Harleth G. Wiley. May 1954. 45p. diagrams, tabs. (NACA RM L54D01)

SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOUS DAMPER IN THE RUDDER SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurt, Jr., and John M. Elliott. June 1954. 46p. diagrams, photos., tab. (NACA RM L54D06)


AERODYNAMIC LOADING CHARACTERISTICS IN SIDESLIP OF A 45° SWEPTBACK WING WITH AND WITHOUT A FENCE AT HIGH SUBSONIC SPEEDS. Richard E. Kuhn and Andrew L. Byrne, Jr. January 1955. 40p. diagrams, photo., tab. (NACA RM L54K15)


LOW-SPEED STUDY OF THE EFFECT OF FREQUENCY ON THE STABILITY DERIVATIVES OF WINGS OSCILLATING IN YAW WITH PARTICULAR REFERENCE TO HIGH ANGLE-OF-ATTACK CONDITIONS. John P. Campbell, Joseph L. Johnson, Jr., and Donald E. Hewes. November 1955. 93p. diagrams, photos., tab. (NACA RM L55H05)


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FLIGHT MEASUREMENTS WITH THE DOUGLAS D-558-II (BUAERO NO. 37974) RESEARCH AIRPLANE. STATIC LATERAL AND DIRECTIONAL STABILITY CHARACTERISTICS AS MEASURED IN SIDESLIPS AT MACH NUMBERS UP TO 0.87. S. A. Sjoberg. May 19, 1950. 29p. diagrs., photos., tab. (NACA RM L50C14)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)


LOW-SPEED STUDY OF THE EFFECT OF FREQUENCY ON THE STABILITY DERIVATIVES OF WINGS OSCILLATING IN YAW WITH PARTICULAR REFERENCE TO HIGH ANGLE-OF-ATTACK CONDITIONS. John P. Campbell, Joseph L. Johnson, Jr., and Donald E. Hewes. November 1955. 93p. diagrs., photos., tabs. (NACA RM L55H05)

LOW-SPEED STATIC STABILITY CHARACTERISTICS OF A COMPLETE MODEL WITH AN M-WING IN MID AND HIGH POSITIONS AND WITH THREE HORIZONTAL-TAIL HEIGHTS. Paul G. Fournier. January 1956. 32p. diagrs. (NACA RM L56B06)

COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED-AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Fischel. (The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956). August 1956. 16p. diagrs. (NACA TN 3859)


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**LONGITUDINAL STABILITY AND DRAG CHARACTERISTICS AT MACH NUMBERS FROM 0.70 TO 1.37 OF ROCKET-PROPELLED MODELS HAVING A MODIFIED TRIANGULAR WING.** Rowe Chapman, Jr., and John D. Morrow. May 1952. 35p. diagrs., photos. (NACA RM L52A31)

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**LONGITUDINAL FREQUENCY-RESPONSE AND STABILITY CHARACTERISTICS OF THE DOUGLAS D-558-II AIRPLANE AS DETERMINED FROM TRANSIENT RESPONSE TO A MACH NUMBER OF 0.96.** Euclid C. Holleman. September 1952. 35p. diagrs., tabs. (NACA RM L52E02)

**THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A 60° DELTA-WING MISSILE HAVING HALF-DELTA TIP CONTROLS AS OBTAINED FROM A FREE-FLIGHT INVESTIGATION AT TRANSONIC AND SUPersonic SPEEDS.** Martin T. Moul and Hal T. Baber, Jr. October 1952. 35p. diagrs., photos. (NACA RM L52H14)


**FLIGHT INVESTIGATION OF A SUPERSONIC CANARD MISSILE EQUIPPED WITH AN AUXILIARY DAMPING-IN-PITCH CONTROL SYSTEM.** Martin T. Moul. February 1953. 31p. diagrs., photos., tabs. (NACA RM L52K14b)

**A TRANSONIC INVESTIGATION BY THE FREE-FALL METHOD OF AN AIRPLANE CONFIGURATION HAVING 45° SWEEPBACK WING AND TAIL SURFACES.** Stanley Faber and John M. Eggleston. June 1953. 41p. diagrs., photos., tabs. (NACA RM L53D10)


**FREE-FLIGHT LONGITUDINAL-STABILITY INVESTIGATION INCLUDING SOME EFFECTS OF WING ELASTICITY FROM MACH NUMBERS OF 0.85 TO 1.34 OF A TAILLESS MISSILE CONFIGURATION HAVING A 45° SWEEPBACK WING OF ASPECT RATIO 5.5.** Richard G. Arbc and Warren Gillespie, Jr. August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F18)

**AN ANALYTICAL STUDY OF SIDESLIP ANGLES AND VERTICAL-TAIL LOADS IN ROLLING FULL-OUTS AS AFFECTED BY SOME CHARACTERISTICS OF MODERN HIGH-SPEED AIRPLANE CONFIGURATIONS.** Ralph W. Stone, Jr. October 1953. 41p. diagrs., tabs. (NACA RM L53G21)


THEORETICAL INVESTIGATION OF THE EFFECT OF RUDDER AND STABILIZER DEFLECTIONS ON THE ANGLES OF ATTACK AND SIDESLIP IN RAPID ROLLS. C. H. Woodling. March 1957. 43p. diagrs., tabs. (NACA RM L57A30a)


LIFT AND MOMENT RESPONSES TO PENETRATION OF SHARP-EDGED TRAVELING GUSTS, WITH APPLICATION TO PENETRATION OF WEAK BLAST WAVES. Joseph A. Drischler and Franklin W. Diederich. May 1957. 85p. diagrs., tabs. (NACA TN 3956)


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OBSERVATIONS OF UNSTEADY FLOW PHENOMENA FOR AN INCLINED BODY FITTED WITH STABILIZING FINS. Merrill H. Mead. January 1952. 23p. diagrs., photos. (NACA RM A51K05)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)


SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOUS DAMPER IN THE RUDDER SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurt, Jr., and John M. Elliott. June 1954. 46p. diagrs., photos., tab. (NACA RM L54D09)


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Damping Derivatives


(1) AERODYNAMICS

1.8.1.2.3

Damping Derivatives
### AERODYNAMICS

**Calculations of the Dynamic Lateral Stability Characteristics of the Douglas D-558-II Airplane in High-Speed Flight for Various Wing Loadings and Altitudes.**

M. J. Queijo and Alex Goodman. October 3, 1950. 31p. diagrs., tabs. (NACA RM L50H16a)

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**Damping in Roll of a Missile Configuration With a Modified Triangular Wing and a Cruciform Tail At a Mach Number of 1.52.**

Richard Scherrrr and David H. Dennis. March 6, 1951. 32p. diagrs., photo., tab. (NACA RM A51A03)

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**Wind-Tunnel Investigation of the Low-Speed Static and Rotary Stability Derivatives of a 0.13-Scale Model of the Douglas D-558-II Airplane in the Landing Configuration.**


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**The Effects of Oscillation Amplitude and Frequency on the Experimental Damping in Pitch of a Triangular Wing Having an Aspect Ratio of 4.**


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**Longitudinal Frequency-Response and Stability Characteristics of the Douglas D-558-II Airplane as Determined from Transient Response to a Mach Number of 0.96.**

Euclid C. Holleman. September 1952. 35p. diagrs., tabs. (NACA RM L52E02)

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**Rocket-Model Investigation of Longitudinal Stability and Drag Characteristics of an Airplane Configuration Having a 60° Delta Wing and a High Unswept Horizontal Tail.**


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FLIGHT INVESTIGATION OF THE ROLLING EFFECTIVENESS OF FINGERED SEMAPHORE SPOILERS ON A TAPERED 45° SWEEPBACK WING BETWEEN MACH NUMBERS 0.6 AND 1.3. James D. Church. January 1954. 27p. diagrs., photos. (NACA RM L53K20)


EFFECT OF WING FLEXIBILITY ON THE DAMPING IN ROLL OF A NOTCHED DELTA WING-BODY COMBINATION BETWEEN MACH NUMBERS 0.6 AND APPROXIMATELY 2.3 AS DETERMINED WITH ROCKET-PROPELLED MODELS. William M. Bland, Jr. June 1954. 20p. diagrs., photos. (NACA RM L54E04)


LOW-SPEED STUDY OF THE EFFECT OF FREQUENCY ON THE STABILITY DERIVATIVES OF WINGS OSCILLATING IN YAW WITH PARTICULAR REFERENCE TO HIGH ANGLE-OF-ATTACK CONDITIONS. John P. Campbell, Joseph L. Johnson, Jr., and Donald E. Hewes. November 1955. 93p. diagrs., photos., tab. (NACA RM L55B05)


EXPERIMENTAL STEADY-STATE YAWING DERIVATIVES OF A 60° DELTA-WING MODEL AS AFFECTED BY CHANGES IN VERTICAL POSITION OF THE WING AND IN RATIO OF FUSELAGE DIAMETER TO WING SPAN. Byron M. Jaquet and Herman S. Fletcher. October 1956. 20p. diagrs., tab. (NACA TN 3843)

(1) AERODYNAMICS


(1.8.2) CONTROL


(1.8.2.1) LONGITUDINAL

FLIGHT-TEST EVALUATION OF THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF 0.5-SCALE MODELS OF THE LARK PILOTLESS-ARCFRAFT CONFIGURATION. David G. Stone. February 6, 1948. 60p. diagrs., photos., tabs. (NACA RM L7126)


RESULTS OBTAINED DURING A DIVE RECOVERY OF THE BELL XS-1 AIRPLANE TO HIGH LIFT COEFFICIENTS AT A MACH NUMBER GREATER THAN 1.0. Milton D. McLaughlin and Dorothy C. Clift. April 6, 1948. 6p. diagrs. (NACA RM L8C23a)

RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1948. 22p. diagrs., tab. (NACA RM L8A05a)


FLIGHT MEASUREMENTS WITH THE DOUGLAS D-558-II (BUAERO NO. 37974) RESEARCH AIRPLANE. STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBERS UP TO 0.87. S. A. Sjoberg, James R. Peele, and John H. Griffith. January 17, 1951. 48p. diagrs., photos., tab. (NACA RM L80K13)


LONGITUDINAL STABILITY AND DRAG CHARACTERISTICS AT MACH NUMBERS FROM 0.70 TO 1.37 OF ROCKET-PROPELLED MODELS HAVING A MODIFIED TRIANGULAR WING. Rowe Chapman, Jr., and John D. Morrow. May 1952. 36p. diagrs., photos. (NACA RM L52A31)

FLIGHT INVESTIGATION FROM MACH NUMBER 0.8 TO MACH NUMBER 2.0 TO DETERMINE SOME EFFECTS OF WING-TO-TAIL DISTANCE ON THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A 60° DELTA-WING-CANARD MISSILE. Lawrence A. Brown, Jr., and Reginald R. Lundstrom. June 1952. 42p. diagrs., photos. (NACA RM L52C26)


INVESTIGATION OF VANES IMMERSED IN THE JET OF A SOLID-FUEL ROCKET MOTOR. Leo V. Giladett and Andrew R. Wineman. September 1952. 50p. diagrs., photos, tabs. (NACA RM L52F12)

ROCKET-MODEL INVESTIGATION TO DETERMINE THE FORCE AND HINGE-MOMENT CHARACTERISTICS OF A HALF-Delta Tip Control ON A 50° SWEEPBACK DELTA WING BETWEEN MACH NUMBERS OF 0.55 AND 1.43. C. William Martz, James D. Church, and John W. Goslee. October 1952. 53p. diagrs., photos, tabs. (NACA RM L52H06)


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| COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED- AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Fischel. (The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956). August 1956. 16p. diagrs. (NACA TN 3859)
| WIND-TUNNEL INVESTIGATION OF AN EXTERNAL-FLOW JET-AUGMENTED SLOTTED FLAP SUITABLE FOR APPLICATION TO AIRPLANES WITH POD-MOUNTED JET ENGINES. John P. Campbell and Joseph L. Johnson, Jr. December 1956. 47p. diagrs., tab. (NACA TN 3898)
| THEORETICAL INVESTIGATION OF THE EFFECT OF RUDDER AND STABILIZER DEFLECTIONS ON THE ANGLES OF ATTACK AND SIDESLIP IN RAPID ROLLS. C. H. Woodling. March 1957. 43p. diagrs., tabs. (NACA RM L57A30a)
| LIFT AND MOMENT RESPONSES TO PENETRATION OF SHARP-EDGED TRAVELING GUSTS, WITH APPLICATION TO PENETRATION OF WEAK BLAST WAVES. Joseph A. Drischler and Franklin W. Diederich. May 1957. 8p. diagrs., tabs. (NACA TN 3956)
| SOME EFFECTS OF VALVE FRICTION AND STICK FRICTION ON CONTROL QUALITY IN A HELICOPTER WITH HYDRAULIC-POWER CONTROL SYSTEMS. B. Porter Brown and John P. Reeder. May 1957. 8p. diagr. (NACA TN 4004)

| (1.8.2.2) LATERAL
(1) AERODYNAMICS


FLIGHT INVESTIGATION AT SUBSONIC, TRANSONIC, AND SUPersonic VELOCITIES OF THE HINGE-MOMENT CHARACTERISTICS, LATERAL-CONTROL EFFECTIVENESS, AND WING DAMPING IN ROLL OF A 60° SWEEPBACK DELTA WING WITH HALF-DELTA TIP AILERONS. (Revised.) C. William Martz and James D. Church. September 1951. 32p. diagrs., photos. (NACA RM L51G18)


FREE-FLIGHT INVESTIGATION TO DETERMINE FORCE AND HINGE-MOMENT CHARACTERISTICS AT ZERO ANGLE OF ATTACK OF A 60° SWEEPBACK HALF-DELTA TIP CONTROL ON A 60° SWEEPBACK DELTA WING AT MACH NUMBERS BETWEEN 0.68 AND 1.44. C. William Martz, James D. Church, and John W. Goslee. December 1951. 36p. diagrs., photos. (NACA RM L51I14)


SOME EFFECTS OF AEROELASTICITY AT MACH NUMBERS FROM 0.7 TO 1.6 ON THE ROLLING EFFECTIVENESS OF THIN FLAT-PLATE DELTA WINGS HAVING 45° SWEEP LEADING EDGES AND FULL-SPAN CONSTANT-CHORD AILERONS. Edward T. Marley and Roland D. English. February 1952. 14p. diagrs., photo. (NACA RM L51L0S)


AN INVESTIGATION AT SUBSONIC SPEEDS OF THE ROLLING EFFECTIVENESS OF A SMALL PERFORATED SPOILER ON A WING HAVING 45° OF SWEEPBACK. Angelo Bandettini. September 1952. 37p. diagrs., photos. (NACA RM A52G02)


ROCKET-MODEL INVESTIGATION TO DETERMINE THE FORCE AND HINGE-MOMENT CHARACTERISTICS OF A HALF-DELTA TIP CONTROL ON A 50° SWEEPBACK DELTA WING BETWEEN MACH NUMBERS OF 0.55 AND 1.43. C. William Martz, James D. Church, and John W. Goslee. October 1952. 53p. diagrs., photos., tab. (NACA RM L52H06)

CONTROL HINGE-MOMENT AND EFFECTIVENESS CHARACTERISTICS OF A 60° HALF-DELTA TIP CONTROL ON A 60° DELTA WING AT MACH NUMBERS OF 1.41 AND 1.46. Lawrence D. Guy. October 1952. 40p. diagrs., photo., tab. (NACA RM L52H13)

SOME EFFECTS OF SPOILER HEIGHT, WING FLEXIBILITY, AND WING THICKNESS ON ROLLING EFFECTIVENESS AND DRAG OF UNSWEEP WINGS AT MACH NUMBERS BETWEEN 0.4 AND 1.7. E. M. Fields. October 1952. 20p. diagrs., photo. (NACA RM L52H18)
CONTROL CHARACTERISTICS OF TRAILING-EDGE SPOILERS ON UNTAPERED BLUNT TRIANGULAR WINGS AT ASPECT RATIO 2.7 WITH 0° AND 45° SWEEPBACK AT MACH NUMBERS OF 1.41 AND 1.96. Carl R. Jacobsen. December 1952. 35p. diagrs., photo. (NACA RM L52J28)


SOME EFFECTS OF LEADING-EDGE ROUGHNESS ON THE AILERON EFFECTIVENESS AND DRAG OF A THIN RECTANGULAR WING EMPLOYING A FULL-SPAN PLAIN AILERON AT MACH NUMBERS FROM 0.6 TO 1.5. Roland D. English. November 1953. 16p. diagrs., photos. (NACA RM L53J25)


CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)


FLIGHT INVESTIGATION OF THE ROLLING EFFECTIVENESS OF FINGERED SEMAPHORE SPOILERS ON A TAPERED 45° SWEEPBACK WING BETWEEN MACH NUMBERS 0.6 AND 1.3. James D. Church. January 1954. 27p. diagrs., photos. (NACA RM L53K20)


A LOW-SPEED INVESTIGATION OF THE AERODYNAMIC, CONTROL, AND HINGE-MOMENT CHARACTERISTICS OF TWO TYPES OF CONTROLS AND BALANCING TABS ON A LARGE-SCALE THIN DELTA-WING-FUSELAGE MODEL. Marvin P. Fink and Bennie W. Cocke. March 1954. 69p. diagrs., photo., tabs. (NACA RM L54B03)


A WIND-TUNNEL INVESTIGATION AT HIGH SUBSONIC SPEEDS OF THE LATERAL CONTROL CHARACTERISTICS OF VARIOUS PLAIN SPOILER CONFIGURATIONS ON A 3-PERCENT-THICK 60° DELTA WING. Harleth G. Wiley. May 1954. 45p. diagrs., tabs. (NACA RM L54D01)

SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOUS DAMPER IN THE RUDDER SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurt, Jr., and John M. Elliott. June 1954. 46p. diagrs., photos., tab. (NACA RM L54D09)
(1) AERODYNAMICS


COMPARISON OF FLIGHT AND WIND-TUNNEL MEASUREMENTS OF HIGH-SPEED-AIRPLANE STABILITY AND CONTROL CHARACTERISTICS. Walter C. Williams, Hubert M. Drake, and Jack Fischel. (The information in this report was also contained in a paper by the same authors which was presented to Wind Tunnel and Model Testing Panel of Advisory Group for Aeronautical Research and Development, Brussels, Belgium, August 27-31, 1956). August 1956. 16p. diagrs. (NACA TN 3859)


A THEORY FOR THE LATERAL RESPONSE OF AIRPLANES TO RANDOM ATMOSPHERIC TURBULENCE. John M. Eggleston. May 1957. 1, 75p. diagrs., tabs. (NACA TN 3954)


SOME EFFECTS OF VALVE FRICTION AND STICK FRICTION ON CONTROL QUALITY IN A HELICOPTER WITH HYDRAULIC-POWER CONTROL SYSTEMS. B. Porter Brown and John P. Reeder. May 1957. 8p. diag. (NACA TN 4004)
### (1.8.2.3) Directional

**Wind-Tunnel Investigation of a Ram-Jet Canard Missile Model Having a Wing and Canard Surfaces of Delta Plan Form with 70° Swept Leading Edges. Longitudinal and Lateral Stability and Control Characteristics at a Mach Number of 1.60.**


**Calculated Lateral Frequency Response and Lateral Oscillatory Characteristics for Several High-Speed Airplanes in Various Flight Conditions.**

Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)

**Subsonic Flight Investigation of Methods to Improve the Damping of Lateral Oscillations by Means of a Viscous Damper in the Rudder System in Conjunction with Adjusted Hinge-Moment Parameters.**


**The Static Lateral and Directional Subsonic Aerodynamic Characteristics of an Airplane Model Having a Triangular Wing of Aspect Ratio 3.**


**Transition-Flight Tests of a Model of a Low-Wing Transport Vertical-Take-Off Airplane with Tilting Wing and Propellers.**

Powell M. Lovell, Jr., and Lysle P. Farlee. September 1956. 30p. diagrs., photo, tab. (NACA TN 3745)

**Theoretical Investigation of the Effect of Rudder and Stabilizer Deflections on the Angles of Attack and Sideslip in Rapid Rolls.**

C. H. Woodling. March 1957. 43p. diagrs., tabs. (NACA RM L57A30a)

**Flight Tests of a Model of a High-Wing Transport Vertical-Take-Off Airplane with Tilting Wing and Propellers and with Jet Controls at the Rear of the Fuselage for Pitch and Yaw Control.**


### (1.8.2.4) Air Brakes

**Low-Speed Investigation of the Effects of Wing Tanks and Speed Brakes on the Static Stability of a Model Having a 40° Swept Wing.**


### (1.8.2.5) Hinge Moments

**Control Effectiveness and Hinge-Moment Characteristics of a Tip Control Surface on a Low-Aspect-Ratio Pointed Wing at a Mach Number of 1.9.**

D. William Conner and Ellery B. May, Jr. October 5, 1949. 28p. diagrs., photo. (NACA RM L52H20)

**Control Effectiveness Load and Hinge-Moment Characteristics of a Tip Control Surface on a Delta Wing at a Mach Number of 1.9.**

D. William Conner and Ellery B. May, Jr. October 7, 1949. 41p. diagrs., photo. (NACA RM L52H05)

**Aerodynamic Study of a Wing-Fuselage Combination Employing a Wing Swept Back 63° - Effectiveness of an Elevon as a Longitudinal Control and the Effects of Camber and Twist on the Maximum Lift-Drag Ratio at Supersonic Speeds.**


**Flight Investigation at Subsonic, Transonic, and Supersonic Velocities of the Hinge-Moment Characteristics, Lateral Control Effectiveness, and Wing Damping in Roll of a 60° Sweptback Delta Wing with Half-Delta Tip Ailerons.** (Revised.)

C. William Marts and James D. Church. September 1951. 32p. diagrs., photos. (NACA RM L51G18)

**Aerodynamic Study of a Wing-Fuselage Combination Employing a Wing Swept Back 63° - Effectiveness of an Inboard Elevon as a Longitudinal- and Lateral-Control Device at Subsonic and Supersonic Speeds.**

Frank A. Pfy1. December 1951. 35p. diagrs., photo., tabs. (NACA RM A51I18)

**Free-Flight Investigation to Determine Force and Hinge-Moment Characteristics at Zero Angle of Attack of a 60° Swept-Back Half-Delta Tip Control on a 60° Sweptback Delta Wing at Mach Numbers Between 0.58 and 1.44.**

C. William Marts, James D. Church, and John W. Goslee. December 1951. 36p. diagrs., photos. (NACA RM L51I14)

**Recent Data on Controls.**

(1) AERODYNAMICS

FLIGHT INVESTIGATION FROM MACH NUMBER 0.8 TO MACH NUMBER 2.0 TO DETERMINE SOME EFFECTS OF WING-TO-TAIL DISTANCE ON THE LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A 60° DELTA-WING-CANARD MISSILE. Clarence A. Brown, Jr., and Reginald R. Lundstrom. June 1952. 42p. diagrams, photos. (NACA RM L52F12)

INVESTIGATION OF VANES IMMERSED IN THE JET OF A SOLID-FUEL ROCKET MOTOR. Leo V. Giladett and Andrew R. Wineman. September 1952. 30p. diagrams, photos, tab. (NACA RM L52H13)

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A LOW-SPEED INVESTIGATION OF THE AERODYNAMIC, CONTROL, AND HINGE-MOMENT CHARACTERISTICS OF TWO TYPES OF CONTROLS AND BALANCING TABS ON A LARGE-SCALE THIN DELTA-WING—FUSELAGE MODEL. Marvin P. Fink and Bennie W. Cocke. March 1954. 69p. diagrams, photos, tabs. (NACA RM L54B03)

EFFECT ON THE LOW-SPEED AERODYNAMIC CHARACTERISTICS OF A 45° SWEPTBACK WING HAVING AN ASPECT RATIO OF 3.78 OF BLOWING AIR OVER THE TRAILING-EDGE FLAP AND AILERON. Edward F. Whittle, Jr., and Stanley Lipson. April 1954. 51p. diagrams, photo, tab. (NACA RM L54C05)

ROCKET-POWERED-MODEL INVESTIGATION OF THE HINGE-MOMENT AND NORMAL-FORCE CHARACTERISTICS OF A HALF-DIAMOND TIP CONTROL ON A 60° SWEPTBACK DIAMOND WING BETWEEN MACH NUMBERS OF 0.5 AND 1.3. James D. Church. April 1954. 36p. diagrams, photos, tabs. (NACA RM L54C10)

SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOUS DAMPER IN THE RUDDER SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurt, Jr., and John M. Elliott. June 1954. 46p. diagrams, photos, tab. (NACA RM L54D09)


(1) AERODYNAMICS

GROUND EFFECTS ON THE LONGITUDINAL CHARACTERISTICS OF TWO MODELS WITH WINGS HAVING LOW ASPECT RATIO AND POINTED TIPS. Donald A. Buell and Bruce E. Tinling. July 1955. 48p. diagrs., photos., tabs. (NACA RM A55E04)


1.8.2.6 AUTOMATIC

THEORETICAL INVESTIGATION OF THE STABILITY AT NEGATIVE STATIC MARGINS OF A SUPERSONIC MISSILE WITH AN AUTOPILOT SENSITIVE TO PITCH ANGLE AND PITCHING VELOCITY. Henry A. Cole, Jr., and Marvin Abramovitz. March 1952. 28p. diagrs., tab. (NACA RM A52A14)

FLIGHT INVESTIGATION OF A SUPERSONIC CANNARD MISSILE EQUIPPED WITH AN AUXILIARY DAMPING-IN-PITCH CONTROL SYSTEM. Martin T. Moul. February 1955. 31p. diagrs., photos., tabs. (NACA RM L52K14b)


STUDY OF THE ATTACK OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR ON A MANEUVERING BOMBER WITH EMPHASIS ON PROPER COORDINATION OF LIFT-ACCELERATION AND ROLL-ANGLE COMMANDS DURING ROLLING MANEUVERS. Charles W. Mathews. August 1954. 52p. diagrs., photos., tabs. (NACA RM L54E27)


BUFFETING INFORMATION OBTAINED FROM ROCKET-PROPELLED AIRPLANE MODELS HAVING THIN UNSWEPT WINGS. Clarence L. Gillis. October 18, 1950. 15p. diagrs., photos. (NACA RM L50H22a)


(1.8.3) SPINNING

(1.8.4) STALLING
RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1946. 29p. diagrs., tab. (NACA RM L8A05a)


RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1948. 22p. diagrs., tab. (NACA RM L54L15a)

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CALCULATED LATERAL FREQUENCY RESPONSE AND LATERAL OSCILLATORY CHARACTERISTICS FOR SEVERAL HIGH-SPEED AIRPLANES IN VARIOUS FLIGHT CONDITIONS. Byron M. Jaquet. December 1953. 12p. diags., tabs. (NACA RM L53J01)

SUBSONIC FLIGHT INVESTIGATION OF METHODS TO IMPROVE THE DAMPING OF LATERAL OSCILLATIONS BY MEANS OF A VISCOS DAMPER IN THE RUDDER SYSTEM IN CONJUNCTION WITH ADJUSTED HINGE-MOMENT PARAMETERS. Harold L. Crane, George J. Hurl, Jr., and John M. Elliott. June 1954. 46p. diags., photos., tab. (NACA RM L54D09)


(1.8.6) MASS AND GYROSCOPIC PROBLEMS


THEORETICAL INVESTIGATION OF THE EFFECT OF RUDDER AND STABILIZER DEFLECTIONS ON THE ANGLES OF ATTACK AND SIDESLIP IN RAPID ROLLS. C. H. Woodling. March 1957. 43p. diagrs., tabs. (NACA RM L57A30a)


STUDY OF THE ATTACK OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR ON A MANEUVERING BOMBER WITH EMPHASIS ON PROPER COORDINATION OF LIFT-ACCELERATION AND ROLL-ANGLE COMMANDS DURING ROLLING MANEUVERS. Charles W. Mathews. August 1954. 52p. diagrs., photo., tabs. (NACA RM L54B27)


(1) AERODYNAMICS


(1.8.9) TRACKING

THE APPLICATION OF MATRIX METHODS TO COORDINATE TRANSFORMATIONS OCCURRING IN SYSTEMS STUDIES INVOLVING LARGE MOTIONS OF AIRCRAFT. Brian F. Doolin. May 1957. 36p. (NACA TN 3968)
(1.9) Aeroelasticity

AERODYNAMIC STUDY OF A WING-FUSELAGE COMBINATION EMPLOYING A WING SWEPT BACK 63° - EFFECT OF REYNOLDS NUMBER AT SUPERSONIC MACH NUMBERS ON THE LONGITUDINAL CHARACTERISTICS OF A WING TWISTED AND CAMBERED FOR UNIFORM LOAD. John C. Heitmeyer. October 1950. 30p. diagrs., photo., tab. (NACA RM L50H25a)


SOME EFFECTS OF AEROELASTICITY AT MACH NUMBERS FROM 0.7 TO 1.8 ON THE ROLLING EFFECTIVENESS OF THIN FLAT-PLATE DELTA WINGS HAVING 45° SWEPT LEADING EDGES AND FULL-SPAN CONSTANT-CHORD AILERONS. Edward T. Marley and Roland D. English. February 1952. 14p. diagrs., photo. (NACA RM L51L05)


SOME EFFECTS OF SPOILER HEIGHT, WING FLEXIBILITY, AND WING THICKNESS ON ROLLING EFFECTIVENESS AND DRAG OF UNSWEPT WINGS AT MACH NUMBERS BETWEEN 0.4 AND 1.7. E. M. Fields. October 1952. 20p. diagrs., photo. (NACA RM L52H18)


FREE-FLIGHT LONGITUDINAL-STABILITY INVESTIGATION INCLUDING SOME EFFECTS OF WING ELASTICITY FROM MACH NUMBERS OF 0.85 TO 1.34 OF A TAILLESS MISSILE CONFIGURATION HAVING A 45° SWEPTBACK WING OF ASPECT RATIO 5.5. Richard G. Arbic and Warren Gillespie, Jr. August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F18)


FLIGHT INVESTIGATION OF AN AILERON AND A SPOILER ON A WING OF THE X-3 AIRPLANE PLAN FORM AT MACH NUMBERS FROM 0.5 TO 1.6. Roland D. English. June 1954. 16p. diagrs., photos. (NACA RM L54D26a)

EFFECT OF WING FLEXIBILITY ON THE DAMPING IN ROLL OF A NOTCHED DELTA WING-BODY COMBINATION BETWEEN MACH NUMBERS 0.6 AND APPROXIMATELY 2.2 AS DETERMINED WITH ROCKET-PROPELLED MODELS. William M. Bland, Jr. June 1954. 20p. diagrs., photos. (NACA RM L54E04)
(1) AERODYNAMICS


(1.10) Parachutes

(2)

HYDRODYNAMICS
(2.1) Theory

WATER-IMPACT THEORY FOR AIRCRAFT EQUIPPED WITH NONTRIMMING HYDRO-SKIS MOUNTED ON SHOCK STRUTS. Emanuel Schnitzer. October 1954. 29p. diagrs. (NACA RM L54H10)

THE HYDRODYNAMIC CHARACTERISTICS OF MODIFIED RECTANGULAR FLAT PLATES HAVING ASPECT RATIOS OF 1.00, 0.25, AND 0.125 AND OPERATING NEAR A FREE WATER SURFACE. Kenneth L. Wadlin, John A. Ramsen, and Victor L. Vaughan, Jr. 1955. ii, 50p. diagrs., photos. (NACA Rept. 1246. Supersedes TN 3079; TN 3249)


THEORETICAL DETERMINATION OF WATER LOADS ON PITCHING HULLS AND SHOCK-MOUNTED HYDRO-SKIS. Emanuel Schnitzer. October 1956. 65p. diagrs., tab. (NACA RM L56E31)

IMPACT-LOADS INVESTIGATION OF CHINE-IMMERSED MODELS HAVING CONCAVE-CONVEX TRANSVERSE SHAPE AND STRAIGHT OR CURVED KEEL LINES. Philip M. Edge, Jr. February 1957. 66p. diagrs., photos., tabs. (NACA TN 3940)

(2) HYDRODYNAMICS

(2.2) General Arrangement Studies


WATER-IMPACT THEORY FOR AIRCRAFT EQUIPPED WITH NONTRIMMING HYDRO-SKIS MOUNTED ON SHOCK STRUTS. Emanuel Schnitzer. October 1954. 29p. diagrs. (NACA RM L54H10)


(2.3) Seaplane Hull Variables

PLANING CHARACTERISTICS OF SIX SURFACES REPRESENTATIVE OF HYDRO-SKI FORMS.
Kenneth L. Wadlin and John R. McGehee.
February 10, 1950. 150 p. diagrs., photos., tab. (NACA RM L9L20)

IMPACT-LOADS INVESTIGATION OF CHINE-IMMERSSED MODELS HAVING CONCAVE-CONVEX TRANSVERSE SHAPE AND STRAIGHT OR CURVED KEEL LINES. Philip M. Edge, Jr. February 1957. 66 p. diagrs., photos., tabs. (NACA TN 3940)

(2.3.1) LENGTH-BEAM RATIO


(2.3.2) DEAD RISE

PLANING CHARACTERISTICS OF SIX SURFACES REPRESENTATIVE OF HYDRO-SKI FORMS.
Kenneth L. Wadlin and John R. McGehee.
February 10, 1950. 150 p. diagrs., photos., tab. (NACA RM L9L20)


HYDRODYNAMIC PRESSURE DISTRIBUTION OBTAINED WITH A STREAMLINE BODY EQUIPPED WITH CHINE STRIPS. Bernard Weinflash. September 1955. 20 p. diagrs., photos., tabs. (NACA RM L55F20)

(2.3.5) 
FOREBODY SHAPE


(2.3.6) 
CHINES


HYDRODYNAMIC PRESSURE DISTRIBUTION OBTAINED WITH A STREAMLINE BODY EQUIPPED WITH CHINE STRIPS. Bernard Weinflesh. September 1955. 29p. diags., photos., tabs. (NACA RM L55F20)

(2.5)

**Lateral Stabilizers**

(2.5.1)

**WING-TIP FLOAT**


## (2.6) Planing Surfaces

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<td>Force characteristics in the submerged and planing condition of a 1/5.78-scale model of a hydro-ski-wheel combination for the Grumman JRF-5 airplane.</td>
<td>Norman S. Land and Charles A. Pelz</td>
<td>July 1952</td>
<td>28p.</td>
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<td>Preliminary tank tests of some hydro-ski-wheel combinations in the planing condition.</td>
<td>Norman S. Land and Rudolph E. Fontana</td>
<td>October 1952</td>
<td>71p.</td>
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<td>Investigation of the planing lift of a flat plate at speeds up to 170 feet per second.</td>
<td>Kenneth W. Christopher</td>
<td>March 1957</td>
<td>15p.</td>
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(2.7) Hydrofoils

THE HYDRODYNAMIC CHARACTERISTICS OF MODIFIED RECTANGULAR FLAT PLATES HAVING ASPECT RATIOS OF 1.00, 0.25, AND 0.125 AND OPERATING NEAR A FREE WATER SURFACE.
(NACA Rept. 1246. Supersedes TN 3079; TN 3249)

THEORETICAL DETERMINATION OF WATER LOADS ON PITCHING HULLS AND SHOCK-MOUNTED HYDRO-SKIS.
Emanuel Schnitzer. October 1956. 65p. diagrs., tab.
(NACA RM L56E31)

AN EXPERIMENTAL HYDRODYNAMIC INVESTIGATION OF THE INCEPTION OF VORTEX VENTILATION.
John A. Ramsen. April 1957. 31p. diagrs., photos. (NACA TN 3903)

HYDRODYNAMIC CHARACTERISTICS OVER A RANGE OF SPEEDS UP TO 80 FEET PER SECOND OF A RECTANGULAR MODIFIED FLAT PLATE HAVING AN ASPECT RATIO OF 0.25 AND OPERATING AT SEVERAL DEPTHS OF SUBMERSION.
Victor L. Vaughan, Jr., and John A. Ramsen. April 1957. 23p. diagrs. (NACA TN 3908)
WATER-IMPACT THEORY FOR AIRCRAFT
EQUIPPED WITH NONTRIMMING HYDRO-SKIS
MOUNTED ON SHOCK STRUTS. Emanuel Schnitzer.
October 1954. 29p. diagrs. (NACA RM L54H10)


(2.10) Stability and Control

(2.10.1) LONGITUDINAL

(3)
PROPELLION
(3.1)

Complete Systems


(3.1.1)

Reciprocating Engines


(3.1.3)

Turbojet Engines


THE NEAR NOISE FIELD OF STATIC JETS AND SOME MODEL STUDIES OF DEVICES FOR NOISE REDUCTION. Leslie W. Lassiter and Harvey H. Hubbard. 1956. i, 12p. diagrs., photos. (NACA Rept. 1261)


PROPOSED INITIATING SYSTEM FOR CRASH-FIRE PREVENTION SYSTEMS. Jacob C. Mozer and Douglas O. Black. December 1956. 16p. diagrs. (NACA TN 3774)


EFFECT OF STANDING TRANSVERSE ACOUSTIC OSCILLATIONS ON FUEL-OXIDANT MIXING IN CYLINDRICAL COMBUSTION CHAMBERS. William R. Mickelsen. May 1957. (i), 48p. diagrams. (NACA TN 3983)


PROPOSED INITIATING SYSTEM FOR CRASH-FIRE PREVENTION SYSTEMS. Jacob C. Moser and Dugald O. Black. December 1956. 18p. diagrams. (NACA TN 3774)

(3.1.6) PULSE-JET ENGINES


(3.1.7) RAM-JET ENGINES


(3.1.4) TURBO-PROPELLER ENGINES


AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES. Albert M. Lord. April 1952. 30p. diagrs. (NACA RM E52B01)


PERFORMANCE COMPARISON OF THREE CANARD-TYPE RAM-JET MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 1.5 TO 2.0. Evan A. Fradenburgh and Emil J. Kremszier. August 1953. 31p. diagrs., tabs. (NACA RM E53F11)


AN EXPERIMENTAL INVESTIGATION OF A FLAT RAM-JET ENGINE ON A HELICOPTER ROTOR. Robert D. Powell, Jr., and James P. Shivers. January 1956. 27p. diagrs., photo. (NACA RM L55F28)


EFFECT OF STANDING TRANSVERSE OSCILLATIONS ON FUEL-OXIDANT MIXING IN CYLINDRICAL COMBUSTION CHAMBERS. William R. Mickelsen. May 1957. (i), 49p. diagrs. (NACA TN 3983)

ROCKET ENGINES


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<td>Sanford Gordon and Vearl N. Huff.</td>
<td>May 10, 1951</td>
<td>22p.</td>
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<td>Anthony Fortini and Vearl N. Huff.</td>
<td>January 1957</td>
<td>38p.</td>
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(3.2) Control of Engines


Analysis of a Form of Peak Holding Control. G. J. Delio. March 1956. 57p. diags. (NACA RM E56B10)


(3.2.2) Control of Turbojet Engines


(3.2.4) Control of Turbine-Propeller Engines

(3.3)  
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(3.3.2)  
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EXPLORATORY STUDY OF GROUND PROXIMITY EFFECTS ON THRUST OF ANNULAR AND CIRCULAR NOZZLES. Uwe H. von Glahn. April 1957. 48p. diagrs., photos. (NACA TN 3982)

(3.3.2.1)  
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(3.3.2.2)  
AFTERBURNING


EFFECT OF STANDING TRANSVERSE ACOUSTIC OSCILLATIONS ON FUEL-OXIDANT MIXING IN CYLINDRICAL COMBUSTION CHAMBERS. William R. Mickelsen. May 1957. (i), 49p. diagrs. (NACA TN 3983)
(3.4) Fuels


(3.4.1) PREPARATION


THE EFFECT OF MAGNESIUM PARTICLES OF VARIOUS EQUIVALENT DIAMETERS ON SOME PHYSICAL PROPERTIES OF PETROLATUM-STABILIZED MAGNESIUM-HYDROCARBON SLURRIES. Joseph M. Lamberti. April 1954. 48p. diagrs., photos., tabs. (NACA RM E54A22)


PREPARATION AND PROPERTIES OF CONCENTRATED BORON-HYDROCARBON SLURRY FUELS. Irving A. Goodman and Virginia O. Fenn. August 1954. 35p. diagrs., photos., tabs. (NACA RM E54F16a)

EFFECT OF SURFACE-ACTIVE ADDITIVES ON PHYSICAL BEHAVIOR OF 50-PERCENT SLURRIES OF 1.5-MICRON MAGNESIUM IN n-DECANE. Murray L. Pinns. February 1955. 54p. diagrs., photo., tabs. (NACA RM E54K22a)
(3) PROPULSION


(3.4.2) PHYSICAL AND CHEMICAL PROPERTIES


IGNITION-ENERGY REQUIREMENTS IN A SINGLE TUBULAR COMBUSTOR. Hampton H. Foster. March 27, 1951. 27p. diagrs., tab. (NACA RM E51A24)

THEORETICAL PERFORMANCE OF LITHIUM AND FLUORINE AS A ROCKET PROPPELLANT. Sanford Gordon and Vearl N. Huff. May 10, 1951. 22p. diagrs., tabs. (NACA RM E51C01)


AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES. Albert M. Lord. April 1952. 30p. diagrs. (NACA RM E52B01)


THEORETICAL PERFORMANCE OF LIQUID AMMONIA, HYDRAZINE, AND MIXTURE OF LIQUID AMMONIA AND HYDRAZINE AS FUELS WITH LIQUID OXYGEN BIFLUORIDE AS OXIDANT FOR ROCKET ENGINES. III - LIQUID AMMONIA. Vearl N. Huff and Sanford Gordon. October 1952. 15p. diagrs., tabs. (NACA RM E52H14)


THEORETICAL PERFORMANCE OF LIQUID AMMONIA AND HYDRAZINE AS FUEL WITH AS OXIDIZER FOR ROCKET ENGINES. Sanford Gordon and Vearl N. Huff. July 1953. 43p. diagrs., tabs. (NACA RM E53F08)


THE EFFECT OF MAGNESIUM PARTICLES OF VARIOUS EQUIVALENT DIAMETERS ON SOME PHYSICAL PROPERTIES OF PETROLATUM-STABILIZED MAGNESIUM-HYDROCARBON SLURRIES. Joseph M. Lamberti. April 1954. 46p. diagrs., photos., tabs. (NACA RM E54A22)


PREPARATION AND PROPERTIES OF CONCENTRATED BORON-HYDROCARBON SLURRY FUELS. Irving A. Goodman and Virginia O. Fenn. August 1955. 35p. diagrs., photos., tabs. (NACA RM E54Fl6a)


EFFECT OF SURFACE-ACTIVE ADDITIVES ON PHYSICAL BEHAVIOR OF 50-PERCENT SLURRIES OF 1.5-MICRON MAGNESIUM IN n-DECANE. Murray L. Pinns. February 1955. 54p. diagrs., photo., tabs. (NACA RM E54K22a)


(3.4.3) RELATION TO ENGINE PERFORMANCE


IGNITION-ENERGY REQUIREMENTS IN A SINGLE TUBULAR COMBUSTOR. Hampton H. Foster. March 27, 1951. 27p. diagrs., tab. (NACA RM E51A24)


TUNNEL INVESTIGATION OF SEVEN
STATUS OF COMBUSTION RESEARCH ON
photos., tabs., diagrs., photos., tab.
COMBUSTION TEMPERATURE TOWER AND J. ROBERT BRANSTETTER. MAY 15, 1951.
TURBINE POWERED AIRCRAFT.
IGNITION-ENERGY REQUIREMENTS IN A SINGLE TUBULAR COMBUSTOR. HAMPTON H. FOSTER. MARCH 27, 1951. 27P. DIAGRS., TAB.
COMBUSTION PERFORMANCE EVALUATION OF MAGNESIUM-HYDROCARBON S LURRY BLENDS IN A SIMULATED TAIL-PIPE BURNER. LEONARD K. TOWER AND J. ROBERT BRANSTETTER. MAY 13, 1950. 85P. DIAGRS., PHOTOS., TABS. (NACA RM E50118)
STATUS OF COMBUSTION RESEARCH ON HIGH-ENERGY FUELS FOR RAM JETS. WALTER T. OLSON AND LOUIS C. GIBBONS. OCTOBER 1951. 75P. DIAGRS., PHOTOS., TABS. (NACA RM E51D23)
PRELIMINARY RESULTS OF TURBINE-ENGINE ALTITUDE-STARTING INVESTIGATION. H. D. WILSTED AND J. C. ARMSTRONG. NOVEMBER 1951. 25P. DIAGRS. (NACA RM E51180)
AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES. ALBERT M. LORD. APRIL 1952. 30P. DIAGRS. (NACA RM E52B01)
EFFECT OF FUEL PROPERTIES ON CARBON DEPOSITION IN ATOMIZING AND PREVAPORIZATION TURBINE-BLADE METAL COVERED WITH OXIDE COATINGS SUPPLIED BY FUEL ADDITIVES. RICHARD J. McCAFFERTY AND HELMUT F. BUTZE. AUGUST 1952. 20P. DIAGRS., PHOTOS., TABS. (NACA RM E52C24)
TEMPERATURE RESPONSE OF TURBINE-BLADE METAL COVERED WITH OXIDE COATINGS SUPPLIED BY FUEL ADDITIVES. EDMUND R. JONASH, JERROLD D. WEAR, AND WILLIAM P. COOK. OCTOBER 1952. 12P. DIAGRS., PHOTOS., TABS. (NACA RM E52H21)
EFFECT OF FUEL ADDITIVES ON CARBON DEPOSITION IN A J33 SINGLE COMBUSTOR. I - THREE METALLIC-ORGANIC ADDITIVES. EDMUND R. JONASH, JERROLD D. WEAR, AND WILLIAM P. COOK. OCTOBER 1952. 12P. DIAGRS., PHOTOS., TABS. (NACA RM E52H21)
EFFECT OF FUEL ADDITIVES ON CARBON DEPOSITION IN A J33 SINGLE COMBUSTOR. II - SEVEN COMMERCIAL ORGANO-METALLIC ADDITIVES. VINCENT F. HLAVIN AND WILLIAM P. COOK. NOVEMBER 1954. 12P. DIAGRS., PHOTOS., TABS. (NACA RM E54H23)
(3) PROPULSION

EFFECT OF SURFACE-ACTIVE ADDITIVES ON PHYSICAL BEHAVIOR OF 50-PERCENT SLURRIES OF 1.5-MICRON MAGNESIUM IN g-DECANE.
Murray L. Pinn. February 1955. 54p. diagrs., photo., tabs. (NACA RM E54K22a)


EFFECT OF PRESSURE ON THE SPONTANEOUS IGNITION TEMPERATURE OF LIQUID FUELS. Cleveland O'Neal, Jr. October 1956. 21p. diagrs., tabs. (NACA TN 3829)


(3.4.3.3) ROCKETS (INCLUDES FUEL AND OXIDANT)


EXPERIMENTAL INVESTIGATION OF LIQUID DIBORANE - HYDRAZINE PROPELLANT COMBINATION IN 100-POUND-THRUST ROCKET ENGINE. William H. Rowe, Paul M. Ordin, and John M. Diehl. May 9, 1949. 29p. diagrs., photos., tabs. (NACA RM E9F01)


EFFECT OF COMBUSTION-CHAMBER PRESSURE AND NOZZLE EXPANSION RATIO ON THEORETICAL PERFORMANCE OF SEVERAL ROCKET PROPELLANT SYSTEMS. Virginia E. Morrell. May 25, 1950. 15p. diagrs., tabs. (NACA RM E50C30)

THEORETICAL PERFORMANCE OF LITHIUM AND FLUORIDE AS A ROCKET PROPELLANT. Sanford Gordon and Vearl N. Huff. May 10, 1951. 22p. diagrs., tabs. (NACA RM E51C01)


THEORETICAL PERFORMANCE OF LIQUID AMMONIA, HYDRAZINE, AND MIXTURE OF LIQUID AMMONIA AND HYDRAZINE AS FUELS WITH LIQUID OXYGEN BIFLUORIDE AS OXIDANT FOR ROCKET ENGINES. II - HYDRAZINE. Vearl N. Huff and Sanford Gordon. September 1952. 20p. diagrs., tabs. (NACA RM E52G09)

THEORETICAL PERFORMANCE OF LIQUID AMMONIA, HYDRAZINE, AND MIXTURE OF LIQUID AMMONIA AND HYDRAZINE AS FUELS WITH LIQUID OXYGEN BIFLUORIDE AS OXIDANT FOR ROCKET ENGINES. III - LIQUID AMMONIA. Vearl N. Huff and Sanford Gordon. October 1952. 15p. diagrs., tabs. (NACA RM E52H14)


HYDROGEN-OXYGEN EXPLOSIONS IN EXHAUST DUCTING. Paul M. Ordin. April 1957. 31p. diagrs., photos., tab. (NACA TN 3935)
(3.5) Combustion and Combustors

APPLICATION OF STREAM-FILAMENT TECHNIQUES TO DESIGN OF DIFFUSER BETWEEN COMPRESSOR AND COMBUSTOR IN A GAS-TURBINE ENGINE. Norbert O. Stockman. August 1955. 15p. diagrs. (NACA RM E55F06)

(3.5.1) GENERAL COMBUSTION RESEARCH

IGNITION-ENERGY REQUIREMENTS IN A SINGLE TUBULAR COMBUSTOR. Hampton H. Foster. March 27, 1951. 27p. diagrs., tab. (NACA RM E51A24)


PERFORMANCE OF SLURRIES OF 50 PERCENT BORON IN JP-4 FUEL IN 5-INCH RAM-JET BURNER. Thaine W. Reynolds and Donald P. Haas. June 1954. 31p. diagrs., photos., tabs. (NACA RM E54D07)


MECHANISM OF GENERATION OF PRESSURE WAVES AT FLAME FRONTS. Boa-Teh Chu, Johns Hopkins University. October 1956. 20p. diagrs. (NACA TN 3863)

EFFECT OF PRESSURE ON THE SPONTANEOUS IGNITION TEMPERATURE OF LIQUID FUELS. Cleveland O'Neal, Jr. October 1956. 21p. diagrs., tabs. (NACA TN 3829)


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<td>January 1957.</td>
<td>41p.</td>
<td>diagrs., photo.</td>
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<td>William R. Mickelsen.</td>
<td>May 1957.</td>
<td>(i), 49p.</td>
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<td>AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES.</td>
<td>Albert M. Lord.</td>
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<td>EFFECT OF PLASTIC VISCOITY AND YIELD VALUE ON SPRAY CHARACTERISTICS OF MAGNESIUM-SLURRY FUEL.</td>
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AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES. Albert M. Lord. April 1952. 30p. diagrs. (NACA RM E52B01)


(3.5.1.6) IGNITION OF GASES


EFFECT OF PRESSURE ON THE SPONTANEOUS IGNITION TEMPERATURE OF LIQUID FUELS. Cleveland O'Neal, Jr. October 1956. 21p. diagrs., tabs. (NACA TN 3829)

EFFECT OF CONCENTRATION ON IGNITION DELAYS FOR VARIOUS FUEL-OXYGEN-NITROGEN MIXTURES AT ELEVATED TEMPERATURES. E. Anagnostou, R. S. Brokaw, and J. N. Butler. December 1956. 34p. diagrs. (NACA TN 3887)

HYDROGEN-OXYGEN EXPLOSIONS IN EXHAUST DUCTING. Paul M. Ordin. April 1957. 31p. diagrs., photos., tab. (NACA TN 3955)

(3.5.2) EFFECT OF ENGINE OPERATING CONDITIONS AND COMBUSTION CHAMBER GEOMETRY


PERFORMANCE OF SLURRIES OF 50 PERCENT BORON IN JP-4 FUEL IN 5-INCH RAM-JET BURNER. Thaine W. Reynolds and Donald P. Haas. June 1954. 31p. diagrs., photos., tabs. (NACA RM E54D07)

AN EXPERIMENTAL INVESTIGATION OF A FLAT RAM-JET ENGINE ON A HELICOPTER ROTOR. Robert D. Powell, Jr., and James P. Shivers. January 1956. 27p. diagrs., photo. (NACA RM L55F28)


EFFECT OF STANDING TRANSVERSE ACOUSTIC OSCILLATIONS ON FUEL-OXIDANT MIXING IN CYLINDRICAL COMBUSTION CHAMBERS. William R. Mickelsen. May 1957. (i), 49p. diagrs. (NACA TN 3963)

(3.5.2.2) TURBINE ENGINES

APPLICATION OF STREAM-FILAMENT TECHNIQUES TO DESIGN OF DIFFUSER BETWEEN COMPRESSOR AND COMBUSTOR IN A GAS-TURBINE ENGINE. Norbert O. Stockman. August 1955. 15p. diagrs. (NACA RM E55F06)


(3.5.2.3) RAM-JET ENGINES


AN EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROPERTIES OF A HYDROCARBON FUEL AND SEVERAL MAGNESIUM AND BORON SLURRIES. Albert M. Lord. April 1952. 30p. diagrs. (NACA RM E52B01)


PERFORMANCE OF SLURRIES OF 50 PERCENT BORON IN JP-4 FUEL IN 5-INCH RAM-JET BURNER. Thaine W. Reynolds and Donald P. Haas. June 1954. 31p. diagrs., photos., tabs. (NACA RM E54D07)


EFFECT OF COMBUSTION-CHAMBER PRESSURE AND NOZZLE EXPANSION RATIO ON THEORETICAL PERFORMANCE OF SEVERAL ROCKET PROPELLANT SYSTEMS. Virginia E. Morrell. May 25, 1950. 15p. diagrs., tabs. (NACA RM E90C30)

THEORETICAL PERFORMANCE OF LITHIUM AND FLUORINE AS A ROCKET PROPELLANT. Sanford Gordon and Vearl N. Huff. May 10, 1951. 22p. diagrs., tabs. (NACA RM E51C01)


THEORETICAL PERFORMANCE OF LIQUID AMMONIA, HYDRAZINE, AND MIXTURE OF LIQUID AMMONIA AND HYDRAZINE AS FUELS WITH LIQUID OXYGEN BIFLUORIDE AS OXIDANT FOR ROCKET ENGINES. III - LIQUID AMMONIA. Vearl N. Huff and Sanford Gordon. September 1952. 20p. diagrs., tabs. (NACA RM E52G09)

THEORETICAL PERFORMANCE OF LIQUID AMMONIA, HYDRAZINE, AND MIXTURE OF LIQUID AMMONIA AND HYDRAZINE AS FUELS WITH LIQUID OXYGEN BIFLUORIDE AS OXIDANT FOR ROCKET ENGINES. II - HYDRAZINE. Vearl N. Huff and Sanford Gordon. September 1952. 15p. diagrs., tabs. (NACA RM E52H14)


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APPLICATION OF STREAM-FILAMENT TECHNIQUES TO DESIGN OF DIFFUSER BETWEEN COMPRESSOR AND COMBUSTOR IN A GAS-TURBINE ENGINE. Norbert O. Stockman. August 1955. 15p. diagrs. (NACA RM E55F06)

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FLOW THEORY AND EXPERIMENT

SOME EFFECTS OF CHANGING SOLIDITY BY VARYING THE NUMBER OF BLADES ON PERFORMANCE OF AN AXIAL-FLOW COMPRESSOR STAGE. Raymond M. Standahar and George K. Serovy. April 1952. 46p. diagrs., photos., tabs. (NACA RM E52A31)


ROTATING STALL INVESTIGATION OF 0.72 HUB-TO-TIP RATIO SINGLE-STAGE COMPRESSOR. Robert W. Graham and Vasily D. Prian. March 1954. 21p. diagrs., photos., tabs. (NACA RM E53L17a)


SOME EFFECTS OF CHANGING SOLIDITY BY VARYING THE NUMBER OF BLADES ON PERFORMANCE OF AN AXIAL-FLOW COMPRESSOR STAGE. Raymond M. Standahar and George K. Serovy. April 1952. 46p. diagrs., photos., tabs. (NACA RM E52A31)


ANALYSIS OF PART-SPEED OPERATION FOR HIGH-PRESSURE-RATIO Multistage AXIAL-FLOW COMPRESSORS. William A. Benser. December 1853. 41p. diagrs., tab. (NACA RM E53I15)


EXPERIMENTAL DETERMINATION OF AERODYNAMIC FORCES NORMAL TO THE CHORD DUE TO ROTATING STALL ACTING ON COMPRESSOR BLADING. Donald F. Johnson and Eleanor L. Costilow. August 1954. 27p. diagrs., photos. (NACA RM E54F14)
COMPARISON OF LOW-SPEED ROTOR AND CASCADE PERFORMANCE FOR MEDIUM-CAMBER NACA 65-(C 10 )10 COMPRESSOR-BlADE SECTIONS OVER A WIDE RANGE OF ROTOR BLADE-SETTING ANGLES AT SOLIDITIES OF 1.0 AND 0.5. George C. Ashby, Jr. December 1954. 40p. diagrs., photo. (NACA RM L54Il3)


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(3.6.2) STRESS AND VIBRATION

EXPERIMENTAL DETERMINATION OF AERODYNAMIC FORCES NORMAL TO THE CHORD DUE TO ROTATING STALL ACTING ON COMPRESSOR BLADING. Donald F. Johnson and Eleanor L. Costilow. August 1954. 27p. diagrs., photos. (NACA TN 4025)


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HIGH-TEMPERATURE LUBRICANTS AND BEARINGS FOR AIRCRAFT TURBINE ENGINES. NACA Subcommittee on Lubrication and Wear. APPENDIX A: HIGH-SPEED AIRCRAFT MISSIONS. C. M. Michaels, Wright Air Development Center. APPENDIX B: ENGINE DESIGN TRENDS AFFECTING LUBRICANTS AND BEARINGS. C. C. Singleterry, Bureau of Aeronautics, Department of the Navy.


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**(3.8.5) PROPULSION**

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METHOD OF DESIGNING CORRUGATED SURFACES HAVING MAXIMUM COOLING EFFECTIVENESS WITHIN PRESSURE-DROP LIMITATIONS FOR APPLICATION TO COOLED TURBINE BLADES. Henry O. Slone, James E. Hubbard, and Vernon L. Arne. December 1954. 103p. diagrs., lab., charts. (NACA RM E54H20)


THEORY AND EXPERIMENT


DRAG COEFFICIENTS FOR DROPLETS AND SOLID SPHERES IN CLOUDS ACCELERATING IN AIR-STREAMS. Robert D. Ingebo. September 1956. 31p. diagrs., photos., tab. (NACA TN 3762)


INVESTIGATION OF TRANSIENT POOL BOILING DUE TO SUDDEN LARGE POWER SURGE. Robert Cole. December 1956. 44p. diagrs., photos., tabs. (NACA TN 3885)

THEORY AND DESIGN OF A PNEUMATIC TEMPERATURE PROBE AND EXPERIMENTAL RESULTS OBTAINED IN A HIGH-TEMPERATURE GAS STREAM. Frederick S. Simmons and George E. Glawe. January 1957. 41p. diagrs., photo. (NACA TN 3933)
EFFECT OF AN INTERFACE ON TRANSIENT TEMPERATURE DISTRIBUTION IN COMPOSITE AIRCRAFT JOINTS. Martin E. Barzelay and George F. Holloway, Syracuse University. April 1957. 51p. diagrs., photo., tabs. (NACA TN 3824)


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METHOD FOR CALCULATING EFFECTS OF DISSOCIATION ON FLOW VARIABLES IN THE RELAXATION ZONE BEHIND NORMAL SHOCK WAVES. John S. Evans. December 1956. 52p. diagrs., tabs. (NACA TN 3860)

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IGNITION-ENERGY REQUIREMENTS IN A SINGLE TUBULAR COMBUSTOR. Hampton H. Foster. March 27, 1951. 27p. diagrs., tab. (NACA RM E51A24)


EVALUATION OF ETHYL ETHER AS AN IGNITION AID FOR TURBOJET ENGINE FUELS. Edmund R. Jonash and Hampton H. Foster. October 1953. 11p. diagrs., tab. (NACA RM E53I02)

(3.12.3) STARTING SYSTEMS


(3.12.5) COOLING SYSTEMS

(3.13) Vibration and Flutter


SOME FLUTTER EXPERIMENTS AT A MACH NUMBER OF 1.3 ON CANTILEVER WINGS WITH TUBULAR AND CLOSED BODIES AT THE TIPS. John Locke McCarty and W. J. Tuovila. October 1953. 17p. diagrs., tab. (NACA RM L53G10b)

EXPERIMENTAL DETERMINATION OF AERODYNAMIC FORCES NORMAL TO THE CHORD DUE TO ROTATING STALL ACTING ON COMPRESSOR BLADING. Donald F. Johnson and Eleanor L. Costilow. August 1954. 27p. diagrs., photos. (NACA RM E54F14)
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AIRCRAFT LOADS
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(4.1) Loads


AN INVESTIGATION OF LOADS ON AILERONS AT TRANSONIC SPEEDS. Jack F. Runckel and W. H. Gray. May 1955. 8p. diagrs. (NACA RM L55E11A)


AERODYNAMIC LOAD MEASUREMENTS OVER A LEADING-EDGE SLAT ON AN 40° SWEEPBACK WING AT MACH NUMBERS FROM 0.10 TO 0.91. Jones F. Cahill and Robert J. Nuber. September 1952. 32p. diagrs., photos., tab. (NACA RM L52G18a)


### (4) AIRCRAFT LOADS AND CONSTRUCTION

#### (4.1.1.1) WINGS

**CONTROL EFFECTIVENESS AND HINGE-MOMENT CHARACTERISTICS OF A TIP CONTROL SURFACE ON A LOW-ASPECT-RATIO POINTED WING AT A MACH NUMBER OF 1.9.** D. William Conner and Ellery B. May, Jr. October 5, 1949. 28p. diagrs., photo. (NACA RM L52H20)

**FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.4 TO DETERMINE THE ZERO-LIFT DRAG OF WINGS WITH "M" AND "W" PLAN FORMS.** Ellis Katz, Edward T. Marley, and William B. Pepper. September 18, 1950. 23p. diagrs., photos., tab. (NACA RM L50G31)

**TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN LEVEL FLIGHT AT MACH NUMBERS FROM 0.79 TO 1.00 AND IN A PULL-UP AT A MACH NUMBER OF 0.96.** H. Arthur Carner and Mary M. Payne. September 18, 1950. 43p. diagrs., photo., tabs. (NACA RM L50H25)

**EXPERIMENTAL PRESSURE DISTRIBUTIONS OVER TWO WING-BODY COMBINATIONS AT MACH NUMBER 1.9.** Barry Moskowitz and Stephen H. Maslen. February 5, 1951. 31p. diagrs., photos. (NACA RM E50J09)

**TABULATED PRESSURE COEFFICIENTS AND AERODYNAMIC CHARACTERISTICS MEASURED ON THE WING OF THE BELL X-1 AIRPLANE IN AN UNACCELERATED LOW-SPEED STALL, IN PUSHERS AT MACH NUMBERS OF 0.83 AND 0.99, AND IN A PULL-UP AT A MACH NUMBER OF 1.16.** Ronald J. Knapp. September 1951. 53p. diagrs., photo., tabs. (NACA RM L51F25)

**EXPERIMENTAL AND THEORETICAL STUDY OF THE EFFECTS OF BODY SIZE ON THE AERODYNAMIC CHARACTERISTICS OF AN ASPECT RATIO 3.0 WING-BODY COMBINATION.** Edward J. Hopkins and Hubert C. Carel. October 1951. 52p. diagrs., photos., tabs. (NACA RM A51G24)


**TRANSONIC AERODYNAMIC CHARACTERISTICS OF THREE W-PLAN-FORM WINGS HAVING ASPECT RATIO 8, TAPER RATIO 0.45, AND NACA 65A-SERIES AIRFOIL SECTIONS.** William D. Morrison, Jr. July 1952. 30p. diagrs., photo. (NACA RM L52E14a)

**CONTROL HINGE-MOMENT AND EFFECTIVENESS CHARACTERISTICS OF A 60° DELTA WING AT MACH NUMBERS OF 1.41 AND 1.96.** Lawrence D. Guy. October 1952. 40p. diagrs., photo., tab. (NACA RM L52H13)


**INVESTIGATION OF SPOILERS AT A MACH NUMBER OF 1.93 TO DETERMINE THE EFFECTS OF HEIGHT AND CHORDWISE LOCATION ON THE SECTION AERODYNAMIC CHARACTERISTICS OF A TWO-DIMENSIONAL WING.** James N. Mueller. March 1953. 52p. diagrs., photos. (NACA RM L52L31)


**INVESTIGATION OF THE JET EFFECTS ON A FLAT SURFACE DOWNSTREAM OF THE EXIT OF A SIMULATED TURBINE JET NACELLE AT A FREESTREAM MACH NUMBER OF 2.02.** Walter E. Bressette. June 1954. 38p. diagrs., photos., tab. (NACA RM L54E05a)


**A LOW-SPEED INVESTIGATION OF A THIN 60° DELTA WING EQUIPPED WITH A DOUBLE SLOTTED FLAP TO DETERMINE THE CHORDWISE PRESSURE DISTRIBUTION AND THE EFFECT OF VANE SIZE.** Delwin R. Croom. March 1955. 42p. diagrs., tabs. (NACA RM L54L03a)
(4) AIRCRAFT LOADS AND CONSTRUCTION


LIFT AND MOMENT RESPONSES TO PENETRATION OF SHARP-EDGED TRAVELING GUSTS, WITH APPLICATION TO PENETRATION OF WEAK BLAST WAVES. Joseph A. Drischler and Franklin W. Diederich. May 1957. 85p. diagrs., tabs. (NACA TN 3956)

(4.1.1.1) Steady Loads

RESULTS OBTAINED DURING ACCELERATED TRANSONIC TESTS OF THE BELL XS-1 AIRPLANE IN FLIGHTS TO A MACH NUMBER OF 0.92. Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1946. 22p. diagrs., tab. (NACA RM L8A05a)


WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEPT BACK 63° AND TWISTED AND CAMBERED FOR UNIFORM LOAD AT A Lift COEFFICIENT OF 0.5. James A. Weiberg and Hubert C. Carel. May 9, 1950. 53p. diagrs., photos., tabs. (NACA RM A50A23)

WIND-TUNNEL INVESTIGATION AT LOW SPEED OF A WING SWEPT BACK 63° AND TWISTED AND CAMBERED FOR UNIFORM LOAD AT A Lift COEFFICIENT OF 0.5 AND WITH A THICKENED TIP SECTION. James A. Weiberg and Hubert C. Carel. November 21, 1950. 42p. diagrs., photo., tabs. (NACA RM A50114)


EFFECTS OF REYNOLDS NUMBER ON THE AERODYNAMIC CHARACTERISTICS OF A DELTA WING AT MACH NUMBER OF 2.41. John E. Hatch, Jr., and L. Keith Naggrave. October 1951. 36p. diagrs., photos., tabs. (NACA RM L51H06)


PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A W WING WITH ASPECT RATIO 6, 45° SWEEP, TAPER RATIO 0.6, AND AN NACA 65A009 AIRFOIL SECTION. Edward C. Polhamus and Albert G. Few, Jr. August 1952. 46p. diagra., photo. (NACA RM L52F11)

INVESTIGATION AT A MACH NUMBER OF 1.2 OF TWO 45° SWEPTBACK WINGS UTILIZING NACA 2-006 AND NACA 65A006 AIRFOIL SECTIONS. Homer B. Wilson, Jr. September 1953. 50p. diagra., photo., tabs. (NACA RM L52G17)


TRANSONIC AERODYNAMIC CHARACTERISTICS IN PITCH OF A W-WING HAVING 60° 48° PANEL SWEEP, ASPECT RATIO 3.5, AND TAPER RATIO 0.25. William D. Morrison, Jr. August 1953. 18p. diagra., photo. (NACA RM L53F22)

(4) AIRCRAFT LOADS AND CONSTRUCTION

AERODYNAMIC CHARACTERISTICS OF A 68.4 ° DELTA WING AT MACH NUMBERS OF 1.6 AND 1.9 OVER A WIDE REYNOLDS NUMBER RANGE. John E. Hatch, Jr., and James J. Gallagher. November 1953. 44p. diagrs., photos., tabs. (NACA RM L53J08)


PRESSURE DISTRIBUTIONS ON PLUG- AND SEMAPHORE-TYPE SPOILER ALERONS ON A 35 ° SWEEPBACK WING OF ASPECT RATIO 4, TAPER RATIO 0.6, AND NACA 65A008 AIRFOIL SECTION AT HIGH SUBSONIC SPEEDS. Alexander D. Hammond and William C. Hayes, Jr. August 1954. 55p. diagrs., tabs. (NACA RM L54F08)


THREE-DIMENSIONAL TRANSONIC FLOW THEORY APPLIED TO SLENDER WINGS AND BODIES. Max. A. Heaslet and John R. Spreiter. July 1956. 72p. diagrs. (NACA TN 3717)


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Maneuvering

RESULTS OBTAINED DURING A DIVE RECOVERY OF THE BELL XS-1 AIRPLANE TO HIGH LIFT COEFFICIENTS AT A MACH NUMBER GREATER THAN 1.0. Milton D. McLaughlin and Dorothy C. Clift. April 6, 1946. 6p. diagrs. (NACA RM L4C29a)


(4.1.1.1.3)

Gust Loads

A FLIGHT STUDY OF COMPRESSIBILITY EFFECTS ON THE GUST LOADS OF A 35° SWEEPBACK-WING AIRPLANE. Harry C. Mickleboro and Jack Funk. August 1954. 23p. diagrs., tabs. (NACA RM L54C09a)


MEASUREMENTS OF LIFT FLUCTUATIONS DUE TO TURBULENCE. P. Lamson, California Institute of Technology. March 1957. 36p. diagrs. (NACA TN 3880)

THE RESPONSE OF AN AIRPLANE TO RANDOM ATMOSPHERIC DISTURBANCES. Franklin W. Diederich, California Institute of Technology. April 1957. ii, 95p. diagrs., tab. (NACA TN 3910)

EFFECT OF SPANWISE VARIATIONS IN GUST INTENSITY ON THE LIFT DUE TO ATMOSPHERIC TURBULENCE. Franklin W. Diederich and Joseph A. Drischler. April 1957. 56p. diagrs., tabs. (NACA TN 3920)

THEORETICAL AND EXPERIMENTAL INVESTIGATION OF RANDOM GUST LOADS. PART I - AERODYNAMIC TRANSFER FUNCTION OF A SIMPLE WING CONFIGURATION IN INCOMPRESSIBLE FLOW. Raimo J. Hakkinen and A. S. Richardson, Jr., Massachusetts Institute of Technology. May 1957. 64p. diagrs., photos. (NACA TN 3878)

THEORETICAL AND EXPERIMENTAL INVESTIGATION OF RANDOM GUST LOADS. PART II - THEORETICAL FORMULATION OF ATMOSPHERIC GUST RESPONSE PROBLEM. A. S. Richardson, Jr., Massachusetts Institute of Technology. May 1957. 50p. diagrs., tabs. (NACA TN 3879)
### 4.1.1.1.4 Buffeting Loads


### 4.1.1.2 Tail


**THEORETICAL LIFT DUE TO WING INCIDENCE OF SLENDER WING-BODY-TAIL COMBINATIONS AT ZERO ANGLE OF ATTACK.** Alvin H. Sacks. November 1956. 35p. diags. (NACA TN 3796)

**TABLES OF CHARACTERISTIC FUNCTIONS FOR SOLVING BOUNDARY-VALUE PROBLEMS OF THE WAVE EQUATION WITH APPLICATION TO SUPERSONIC INTERFERENCE.** Jack N. Nielsen. February 1957. 245p. diags., tabs. (NACA TN 3879)
### (4.1.1.2.2) Maneuvering


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**Results Obtained During Accelerated Transonic Tests of the Bell XS-1 Airplane in Flights to a Mach Number of 0.92.** Hubert M. Drake, Milton D. McLaughlin, and Harold R. Goodman. April 19, 1948. 22p. diagrs., tab. (NACA RM L6A05a)

**Buffeting of a Vertical Tail on an Inclined Body at Supersonic Mach Numbers.** Forrest E. Gowan. March 1953. 35p. diagrs., photos, tab. (NACA RM A53A09)


**Calculated Lateral Frequency Response and Lateral Oscillatory Characteristics for Several High-Speed Airplane Configurations in Various Flight Conditions.** Byron M. Jaquet. December 1953. 72p. diagrs., tabs. (NACA RM L53J01)


**Effects of Wing-Mounted Tank-Type Stores on the Low-Lift Buffeting and Drag of a Swept-Wing Airplane Configuration Between Mach Numbers of 0.8 and 1.3.** Homer P. Mason. October 1955. 34p. diagrs., photos, tab. (NACA RM L55D27)


TURBULENCE IN THE WAKE OF A THIN AIRFOIL AT LOW SPEEDS. George S. Campbell, California Institute of Technology. January 1957. 63p. diagrs. (NACA TM 1427)


A THEORY FOR THE LATERAL RESPONSE OF AIRPLANES TO RANDOM ATMOSPHERIC TURBULENCE. John M. Eggleston. May 1957. 1, 75p. diagrs., tabs. (NACA TN 3954)

(4.1.1.3)

BODIES


PRESSURE DISTRIBUTION AT LOW SPEED ON A MODEL INCORPORATING A W WING WITH ASPECT RATIO 6, 45° SWEEP, TAPER RATIO 0.6, AND AN NACA 65A009 AIRFOIL SECTION. Edward C. Polhamus and Albert G. Few, Jr. August 1952. 46p. diagrs., photo. (NACA RM L52F11)


(4.1.1.4) ROTATING WINGS


BAND-PASS SHOCK AND VIBRATION ABSORBERS FOR APPLICATION TO AIRCRAFT LANDING GEAR. Emanuel Schnitzer. October 1956. 27p. diagrs. (NACA TN 3803)

INVESTIGATION OF VERTICAL DRAG AND PERIODIC AIRLOADS ACTING ON FLAT PANELS IN A ROTOR SLIPSTREAM. Robert A. Makofski and George F. Menick. December 1956. 29p. diagrs., photo. (NACA TN 3900)

LIFT AND MOMENT RESPONSES TO PENETRATION OF SHARP-EDGED TRAVELING GUSTS, WITH APPLICATION TO PENETRATION OF WEAK BLAST WAVES. Joseph A. Drischler and Franklin W. Diederich. May 1957. 85p. diagrs., tabs. (NACA TN 3956)

(4.1.1.5) AEROELASTICITY


FREE-FLIGHT LONGITUDINAL-STABILITY INVESTIGATION INCLUDING SOME EFFECTS OF WING ELASTICITY FROM MACH NUMBERS OF 0.85 TO 1.34 OF A TAILLESS MISSILE CONFIGURATION HAVING A 45° SWEPTBACK WING OF ASPECT RATIO 5.5. Richard G. Arbic and Warren Gillespie, Jr. August 1953. 30p. diagrs., photos., tabs. (NACA RM L53F18)


THEORETICAL AND EXPERIMENTAL INVESTIGATION OF RANDOM GUST LOADS. PART II - THEORETICAL FORMULATION OF ATMOSPHERIC GUST RESPONSE PROBLEM. A. S. Richardson, Jr., Massachusetts Institute of Technology. May 1957. 50p. diagrs., tab. (NACA TN 3879)

(4.1.2) LANDING

(4.1.2.1) IMPACT


BAND-PASS SHOCK AND VIBRATION ABSORBERS FOR APPLICATION TO AIRCRAFT LANDING GEAR. Emanuel Schnitzer. October 1956. 27p. diagrs. (NACA TN 3803)


(4.1.2.1.1) Land


LANDING CONDITIONS FOR LARGE AIRPLANES IN ROUTINE OPERATIONS. Norman S. Silsby and Eziaslav N. Harrin. July 1955. 10p. diagrs. (NACA RM L55E18c)

EFFECT OF INTERACTION ON LANDING-GEAR BEHAVIOR AND DYNAMIC LOADS IN A FLEXIBLE AIRPLANE STRUCTURE. Francis E. Cook and Benjamin Milwitzky. 1956. ii, 30p. diagrs., tabs. (NACA Rept. 1278. Supersedes TN 3497)


(4.1.2.2) GROUND-RUN

BAND-PASS SHOCK AND VIBRATION ABSORBERS FOR APPLICATION TO AIRCRAFT LANDING GEAR. Emanuel Schnitzer. October 1956. 27p. diagrs. (NACA TN 3803)


(4.1.2.2.1) Land


RECENT DATA ON TIRE FRICTION DURING LANDING. Sidney A. Batterson. June 1957. 7p. diagrs. (NACA RM L57D196)

(4.2) Vibration and Flutter


FLUTTER OF A 60° DELTA WING (NACA 65A003 AIRFOIL) ENCOUNTERED AT SUBSONIC SPEEDS DURING THE FLIGHT TEST OF A ROCKET-PROPELLED MODEL. Joseph H. Judd and William T. Lauten, Jr. September 1952. 24p. diagrs., photos., tabs. (NACA RM L52E06a)


SUPERSONIC FLUTTER OF A 60° DELTA WING ENCOUNTERED DURING THE FLIGHT TEST OF A ROCKET-PROPELLED MODEL. William T. Lauten, Jr., and Joseph H. Judd. June 1954. 20p. diagrs., photos., tabs. (NACA RM L54D12a)


THEORETICAL DETERMINATION OF WATER LOADS ON PITCHING HULLS AND SHOCK-MOUNTED HYDRO-SKIS. Emanuel Schnitzer. October 1956. 6sp., diagrs., tab. (NACA RM L56E31)


(4.2.1) WINGS AND AILERONS


METHOD FOR CALCULATING THE AERODYNAMIC LOADING ON AN OSCILLATING FINITE WING IN SUBSONIC AND SONIC FLOW. Harry L. Runyan and Donald S. Woolston. August 1956. 76p. diagrs., tabs. (NACA TN 3694)


INCOMPRESSIBLE FLUTTER CHARACTERISTICS OF REPRESENTATIVE AIRCRAFT WINGS. C. H. Wilts, California Institute of Technology. April 1957. 121p. diagrs., tabs. (NACA TN 3780)

EXPERIMENTALLY DETERMINED NATURAL VIBRATION MODES OF SOME CANTILEVER-WING FLUTTER MODELS BY USING AN ACCELERATION METHOD. Perry W. Hanson and W. J. Tuovila. April 1957. 46p. diagrs., photo., tab. (NACA TN 4010)

(4.2.2) TAILS

BUFFETING OF A VERTICAL TAIL ON AN INCLINED BODY AT SUPersonic MACH NUMBERS. Forrest E. Gowen. March 1953. 35p. diagrs., photos., tab. (NACA RM A53A09)

SAFEGUARDS AGAINST FLUTTER OF AIRPLANES.

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SAFEGUARDS AGAINST FLUTTER OF AIRPLANES.

(4.2.3) BODIES

BUFFETING OF A VERTICAL TAIL ON AN INCLINED BODY AT SUPERSONIC MACH NUMBERS. Forrest E. Gowen. March 1953. 35p. diagrs., photos., tab. (NACA RM A53A09)


SOME FLUTTER EXPERIMENTS AT A MACH NUMBER OF 1.3 ON CANTILEVER WINGS WITH TUBULAR AND CLOSED BODIES AT THE TIPS. John Locke McCarty and W. J. Tuovila. October 1953. 17p. diagrs., tab. (NACA RM L53G10b)


(4.2.4) PROPELLER, FANS, AND COMPRESSORS


AN ANALYSIS OF ONCE-PER-REVOLUTION OSCILLATING AERODYNAMIC FORCES NORMAL TO THE CHORD DUE TO ROTATING STALL ACTING ON COMPRESSOR BLADING. Donald F. Johnson and Eleanor L. Costillo. August 1954. 27p. diagrs., photos. (NACA RM E54F14)


(4.2.5) ROTATING-WING AIRCRAFT


(4.2.6) PANELS AND SURFACE COVERINGS


(4.3) Structures

(4.3.3) PLATES


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(4.3.3.2.1) Unstiffened


(4.3.4) BEAMS

STRESS ANALYSIS OF CIRCULAR SEMIMONOCOQUE CYLINDERS WITH CUTOUTS. Harvey G. McComb, Jr. 1955. ii, 55p. diagrs., tabs. (NACA Rept. 1251. Supersedes TN 3199; TN 3200; TN 3460)
TORSIONAL STIFFNESS OF THIN-WALLED SHELLS HAVING REINFORCING CORES AND RECTANGULAR, TRIANGULAR, OR DIAMOND CROSS SECTION.
Harvey G. McComb, Jr. October 1956. 35p. diagrs. (NACA TN 3749)


(4.3.4.1) BOX


(4.3.5) SHELLS

TORSIONAL STIFFNESS OF THIN-WALLED SHELLS HAVING REINFORCING CORES AND RECTANGULAR, TRIANGULAR, OR DIAMOND CROSS SECTION. Harvey G. McComb, Jr. October 1956. 35p. diagrs. (NACA TN 3749)


(4.3.5.1) CYLINDERS


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STRESS ANALYSIS OF CIRCULAR SEMIMONOCOQUE CYLINDERS WITH CUTOUTS. Harvey G. McComb, Jr. 1955. ii, 55p. diagrs., tabs. (NACA Rept. 1251. Supersedes TN 3199; TN 3200; TN 3460)


BURSTING STRENGTH OF UNSTIFFENED PRESSURE CYLINDERS WITH SLITS. Roger W. Peters and Paul Kuhn. April 1957. 21p. diagrs., photos., tabs. (NACA TN 3993)


(4.3.5.2) BOXES


(4.3.6) CONNECTIONS


EFFECT OF AN INTERFACE ON TRANSIENT TEMPERATURE DISTRIBUTION IN COMPOSITE AIRCRAFT JOINTS. Martin E. Barzelay and George F. Holloway, Syracuse University. April 1957. 51p. diagrs., photo., tabs. (NACA TN 3824)

(4.3.6.1) BOLTED


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SHEAR STRENGTH AT 75°F TO 500°F OF FOURTEEN ADHESIVES USED TO BOND A GLASS-FABRIC-REINFORCED PHENOLIC RESIN LAMINATE TO STEEL. John R. Davidson. December 1956. 21p. diagrs., photo., tab. (NACA TN 3901)


(4.3.7) LOADS AND STRESSES

STRESS ANALYSIS OF CIRCULAR SEMIMONOQUE CYLINDERS WITH CUTOUTS. Harvey G. McComb, Jr. 1955. ii, 55p. diagrs., tabs. (NACA Rept. 1251. Supersedes TN 3199; TN 3200; TN 3460)
(4) AIRCRAFT LOADS AND CONSTRUCTION

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THE RESPONSE OF AN AIRPLANE TO RANDOM ATMOSPHERIC DISTURBANCES. Franklin W. Diederich, California Institute of Technology. April 1957. ii, 95p. diagrs., tab. (NACA TN 3910)


AIRCRAFT LOADS AND CONSTRUCTION


BAND-PASS SHOCK AND VIBRATION ABSORBERS FOR APPLICATION TO AIRCRAFT LANDING GEAR. Emanuel Schnitzer. October 1956. 27p. diagrs. (NACA TN 3803)


FATIGUE TESTS ON NOTCHED AND UNNOTCHED SHEET SPECIMENS OF 2024-T3 AND 7075-T6 ALUMINUM ALLOYS AND OF SAE 4130 STEEL WITH SPECIAL CONSIDERATION OF THE LIFE RANGE FROM 2 TO 10,000 CYCLES. Walter Ilig. December 1956. 40p. diagrs., photo, tabs. (NACA TN 3866)

EFFECT OF SPANWISE VARIATIONS IN GUST INTENSITY ON THE LIFT DUE TO ATMOSPHERIC TURBULENCE. Franklin W. Diederich and Joseph A. Drischler. April 1957. 56p. diagrs., tabs. (NACA TN 3920)


AIRCRAFT LOADS AND CONSTRUCTION


THE RESPONSE OF AN AIRPLANE TO RANDOM ATMOSPHERIC DISTURBANCES. Franklin W. Diederich, California Institute of Technology. April 1957. ii, 95p. diagrs., tab. (NACA TN 3910)


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(4) AIRCRAFT LOADS AND CONSTRUCTION


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EFFECT OF INTERACTION ON LANDING-GEAR BEHAVIOR AND DYNAMIC LOADS IN A FLEXIBLE AIRPLANE STRUCTURE. Francis E. Cook and Benjamin Milwitzky. 1956. ii, 30p. diagrs., tabs. (NACA Rept. 1278. Supersedes TN 3467)


BAND-PASS SHOCK AND VIBRATION ABSORBERS FOR APPLICATION TO AIRCRAFT LANDING GEAR. Emanuel Schnitzer. October 1956. 27p. diagrs. (NACA TN 3803)

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(5.1.5) CERAMICS


(5.1.6) PLASTICS


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A VARIATIONAL THEOREM FOR CREEP WITH APPLICATIONS TO PLATES AND COLUMNS. J. Lyell Sanders, Jr., Harvey G. McComb, Jr., and Floyd R. Schlechte. May 1957. 23p. diagrs. (NACA TN 4003)

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FATIGUE TESTS ON NOTCHED AND UNNOTCHED SHEET SPECIMENS OF 2024-T3 AND 7075-T6 ALUMINUM ALLOYS AND OF SAE 4130 STEEL WITH SPECIAL CONSIDERATION OF THE LIFE RANGE FROM 2 TO 10,000 CYCLES. Walter Ilig. December 1956. 40p. diagrs., photo., tabs. (NACA TN 3866)


EFFECT OF FREQUENCY AND TEMPERATURE ON FATIGUE OF METALS. S. R. Valluri, California Institute of Technology. February 1957. 15p. diagrs. (NACA TN 3972)


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SHEAR STRENGTH AT 75° F TO 500° F OF FOURTEEN ADHESIVES USED TO BOND A GLASS-FABRIC-REINFORCED PHENOLIC RESIN LAMINATE TO STEEL. John R. Davidson. December 1956. 21p. diagrs., photo., tab. (NACA TN 3901)

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(5.2.13) PLASTICITY


A VARIATIONAL THEOREM FOR CREEP WITH APPLICATIONS TO PLATES AND COLUMNS. J. Lyell Sanders, Jr., Harvey G. McComb, Jr., and Floyd R. Schlechte. May 1957. 23p. diagrs. (NACA TN 4003)

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EFFECT OF SPANWISE VARIATIONS IN GUST INTENSITY ON THE LIFT DUE TO ATMOSPHERIC TURBULENCE. Franklin W. Diederich and Joseph A. Drischler. April 1957. 56p. diagrs., tabs. (NACA TN 3920)

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(7)
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OPERATING PROBLEMS


EFFECT OF PRESSURE ON THE SPONTANEOUS IGNITION TEMPERATURE OF LIQUID FUELS. Cleveland O'Neal, Jr. October 1956. 21p. diags., tabs. (NACA TN 3829)


PROPOSED INITIATING SYSTEM FOR CRASH-FIRE PREVENTION SYSTEMS. Jacob C. Moser and Dugald O. Black. December 1956. 18p. diags. (NACA TN 3774)


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EXPERIMENTAL DROPLET IMPINGEMENT ON SEVERAL TWO-DIMENSIONAL AIRFOILS WITH THICKNESS RATIOS OF 6 TO 16 PERCENT. Thomas F. Gelder, William H. Smyers, Jr., and Uwe von Glahn. December 1956. 77p. diagrs., photos., tabs. (NACA TN 3839)

(7.3.1) ENGINE INDUCTION SYSTEMS


(7.3.3) WINGS AND TAILS


(7.3.5) MISCELLANEOUS ACCESSORIES

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(7.9) Fire Hazards

PROPOSED INITIATING SYSTEM FOR CRASH-FIRE PREVENTION SYSTEMS. Jacob C. Moser and Dugald O. Black. December 1956. 18p. diags. (NACA TN 3774)


(7.10) General


EXPLORATORY STUDY OF GROUND PROXIMITY EFFECTS ON THRUST OF ANNULAR AND CIRCULAR NOZZLES. Uwe H. von Glahn. April 1957. 48p. diagrs., photos. (NACA TN 3982)
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(8.1) Flight


CHARACTERISTICS OF A 40° CONE FOR MEASURING MACH NUMBER, TOTAL PRESSURE, AND FLOW ANGLES AT SUPERSONIC SPEEDS. Frank J. Centolanzl. May 1957. 36p. diagrs. (NACA TN 3967)
(8.2) Laboratory


THEORY AND DESIGN OF A PNEUMATIC TEMPERATURE PROBE AND EXPERIMENTAL RESULTS OBTAINED IN A HIGH-TEMPERATURE GAS STREAM. Frederick S. Simmons and George E. Glawe. January 1957. 41p. diagrs., photo. (NACA TN 3893)


CHARACTERISTICS OF A 40° CONE FOR MEASURING MACH NUMBER, TOTAL PRESSURE, AND FLOW ANGLES AT SUPersonic SPEEDS. Frank J. Centolanzi. May 1957. 36p. diagrs. (NACA TN 3967)
(8.3) **Meteorological**

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MEASUREMENTS AND PREDICTIONS OF FLOW CONDITIONS ON A TWO-DIMENSIONAL BASE SEPARATING A MACH NUMBER 3.36 JET AND A MACH NUMBER 1.55 OUTER STREAM. Donald E. Coletti. May 1954. 56p. diagrs., photos. (NACA RM L54C08)

EFFECTS OF COMBINING AUXILIARY BLEED WITH EJECTOR PUMPING ON THE POWER REQUIREMENTS AND TEST-SECTION FLOW OF AN 8-INCH BY 8-INCH SLOTTED TUNNEL. B. H. Little, Jr., and James M. Cubbage, Jr. July 1955. 44p. diagrs., photo. (NACA RM L55E25)


(9.1) Equipment

CHARACTERISTICS OF A 40° CONE FOR MEASURING MACH NUMBER, TOTAL PRESSURE, AND FLOW ANGLES AT SUPERSONIC SPEEDS. Frank J. Centola. May 1957. 36p. diagrs. (NACA TN 3967)


(9.1.1) WIND TUNNELS


AN INVESTIGATION OF STING-SUPPORT INTERFERENCE ON BASE PRESSURE AND FOREBODY CHORD FORCE AT MACH NUMBERS FROM 0.60 TO 1.30. Phillips J. Tunnell. January 1955. 19p. diagrs. (NACA RM A54K16a)

EFFECTS OF COMBINING AUXILIARY BLEED WITH EJECTOR PUMPING ON THE POWER REQUIREMENTS AND TEST-SECTION FLOW OF AN 8-INCH BY 8-INCH SLOTTED TUNNEL. B. H. Little, Jr., and James M. Cubbage, Jr. July 1955. 44p. diagrs., photo. (NACA RM L55E25)


AN EXPERIMENTAL INVESTIGATION OF STING-SUPPORT EFFECTS ON DRAG AND A COMPARISON WITH JET EFFECTS AT TRANSONIC SPEEDS. Maurice S. Cahn. September 1956. 65p. diagrs., tabs. (NACA RM L56F18a)


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FATIGUE TESTS ON NOTCHED AND UNNOTCHED SHEET SPECIMENS OF 2024-T3 AND 7075-T6 ALUMINUM ALLOYS AND OF SAE 4130 STEEL WITH SPECIAL CONSIDERATION OF THE LIFE RANGE FROM 2 TO 10,000 CYCLES. Walter Illg. December 1956. 40p. diagrs., photo., tabs. (NACA TN 3866)
(9.2) Technique


AN EXPERIMENTAL INVESTIGATION OF STING-SUPPORT EFFECTS ON DRAG AND A COMPARISON WITH JET EFFECTS AT TRANSONIC SPEEDS. Maurice S. Cahn. September 1956. 67p. diagrs., tabs. (NACA RM L56F18a)


THEORY AND DESIGN OF A PNEUMATIC TEMPERATURE PROBE AND EXPERIMENTAL RESULTS OBTAINED IN A HIGH-TEMPERATURE GAS STREAM. Frederick S. Simmons and George E. Glawe. January 1957. 41p. diagrs., photo. (NACA TN 3893)


TABLES OF VARIOUS MACH NUMBER FUNCTIONS FOR SPECIFIC-HEAT RATIOS FROM 1.28 TO 1.38. Lewis Laboratory Computing Staff. April 1957. 76p. tabs. (NACA TN 3861)


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FREE-FLIGHT INVESTIGATION TO DETERMINE FORCE AND HINGE-MOMENT CHARACTERISTICS AT ZERO ANGLE OF ATTACK OF A 60° SWEPTBACK HALF-DELTA TIP CONTROL ON A 60° SWEPTBACK DELTA WING AT MACH NUMBERS BETWEEN 0.68 AND 1.44. C. William Martz, James D. Church, and John W. Goslee. December 1951. 36p. diagrs., photos. (NACA RM L51II14)


AN INVESTIGATION OF STING-SUPPORT INTERFERENCE ON BASE PRESSURE AND FOREBODY CHORD FORCE AT MACH NUMBERS FROM 0.60 TO 1.30. Phillips J. Tunnell. January 1955. 19p. diagrs. (NACA RM A54K16a)


LOW-SPEED STUDY OF THE EFFECT OF FREQUENCY ON THE STABILITY DERIVATIVES OF WINGS OSCILLATING IN YAW WITH PARTICULAR REFERENCE TO HIGH ANGLE-OF-ATTACK CONDITIONS. John P. Campbell, Joseph L. Johnson, Jr., and Donald E. Hewes. November 1955. 93p. diagrs., photos., tab. (NACA RM L55H05)


THEORETICAL AND EXPERIMENTAL INVESTIGATION OF RANDOM GUST LOADS. PART I - AERODYNAMIC TRANSFER FUNCTION OF A SIMPLE WING CONFIGURATION IN INCOMPRESSIBLE FLOW. Ralmo J. Hakkinen and A. S. Richardson, Jr., Massachusetts Institute of Technology. May 1957. 64p. diagrs., photos. (NACA TN 3878)


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AN EXPERIMENTAL INVESTIGATION OF STING-SUPPORT EFFECTS ON DRAG AND A COMPARISON WITH JET EFFECTS AT TRANSONIC SPEEDS. Maurice S. Cahm. September 1956. 67p. diagrs., tabs. (NACA RM A56G17)

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MEASUREMENTS OF LIFT FLUCTUATIONS DUE TO TURBULENCE. F. Lamson, California Institute of Technology. March 1957. 36p. diagrs. (NACA TN 3880)


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(9.2.7) MATHEMATICS


INCOMPLETE TIME RESPONSE TO A UNIT IMPULSE AND ITS APPLICATION TO LIGHTLY DAMPED LINEAR SYSTEMS. James J. Donegan and Carl R. Huss. December 1956. 17p. diagr. (NACA TN 3897)


ON SUBSONIC FLOW PAST A PARABOLOID OF REVOLUTION. Carl Kaplan. February 1957. 21p. diagr., tab. (NACA TN 3700)


EXPECTED NUMBER OF MAXIMA AND MINIMA OF A STATIONARY RANDOM PROCESS WITH NON-GAUSSIAN FREQUENCY DISTRIBUTION. Franklin W. Diederich. April 1957. 21p. tabs. (NACA TN 3960)

TABLES OF VARIOUS MACH NUMBER FUNCTIONS FOR SPECIFIC-HEAT RATIOS FROM 1.28 TO 1.38. Lewis Laboratory Computing Staff. April 1957. 76p. tabs. (NACA TN 3961)

THE APPLICATION OF MATRIX METHODS TO COORDINATE TRANSFORMATIONS OCCURRING IN SYSTEMS STUDIES INVOLVING LARGE MOTIONS, OF AIRCRAFT. Brian F. Doolin. May 1957. 36p. (NACA TN 3968)

(10)

NOMENCLATURE
THE APPLICATION OF MATRIX METHODS TO
COORDINATE TRANSFORMATIONS OCCURRING IN
SYSTEMS STUDIES INVOLVING LARGE MOTIONS
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- Engines, Control - Ram-Jet
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- Engines, Control - Turbojet
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- Cooling - Pulse Jets
- Cooling - Ram Jets
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- Engines, Reciprocating - Cooling

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- Engines, Turbine - Gas Generator
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