COMMERCIAL SUPersonic TRANSPORT AIRCRAFT

RESEARCH PROGRAM

Selected References—Bibliographic List No.8

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Federal Aviation Agency
Washington 25, D.C.
P R E F A C E

This bibliography lists citations on the subject of the commercial supersonic transport aircraft research program, the ultimate goal being the development of a Mach 3 and 3,500 mile range transport that can cruise the world airlanes.

The contents have been divided into six sections with subdivisions to facilitate a ready subject approach to selected references.
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I. GENERAL


International Air Transport Assoc. SYMPOSIUM ON SUPERSONIC AIR TRANSPORT; REPORT OF THE DISCUSSIONS. 14th Technical conference, Montreal, Technical Secretariat c1961, 2v. TL 539. 5. 17.


- 1 -
Kay, R. R. BIG PUSH FOR SUPersonic JET? FIRST CONTRACTS ARE LET TO STUDY NEW AIRCRAFT. In Iron Age 189:93, June 14, 1962.


KENNEDY MEMO MAINTAINS SST TIMETABLE. In Aviation Week 78:38, Jan. 28, 1963.


SUPERSONIC AIR TRANSPORT; MR. HALL HIBBARD'S PLESMAN MEMORIAL LECTURE. In Flight 76:392-3, Oct. 16, 1959.


SUPERSONIC TRANSPORT AIRCRAFT. In Engineer 210:1006-10, Dec. 16, 1960.


White, Al. B-70. In Western Aviation, Missiles & Space 41:28-31, 50, Nov. 1961. (Discussion of the applicability of knowledge gained in the development of the B-70 to the development of commercial supersonic transport).


II. AIRFRAME


1. STRUCTURES

AIRFRAME AND PROPULSION PROGRESS; ILLUSTRATIONS WITH TEXT. In Engineer 213:690, April 20, 1962.

Anderton, D. A. INDUSTRY SHAPES SUPERSONIC DESIGN GOALS. In Aviation Week 74:26, April 24, 1961.


Blake, C. L. NEW DESIGN APPROACH FOR SUPERSONIC TRANSPORTS. SAE meeting, April 5-8, 1960, 1lp. Paper 166A.


DESIGN STUDY FOR A SUPERSONIC AIRLINER. In Engineering 193:484, April 13, 1962.


Newell, A. F. and D. Howe. TRENDS IN AIRCRAFT DESIGN. College of Aeronautics, Cranfield (Great Britain) Production Engineers Conference, 8th, April 5-7, 1962, Paper (COA-N-127).


2. DYNAMICS


3. **METALS**


Northrop Aircraft Corp., Hawthorne. NORTOBRAZE SYSTEM QUARTZ RADIANT HEAT BRAZING HIGH TEMPERATURE SANDWICH PANELS. Interim report No. 1, Jan. 4-Mar. 31, 1960, lv. (Report NOR-60-110; Contract AF 33 (600) 40457) AD 237-484.


4. MATERIALS


III. PROPULSION


1. ENGINES


Alford, J. S. et al. INLET DUCT-ENGINE AIRFLOW MATCH AND COMPATIBILITY FOR SUPERSONIC AIRCRAFT. SAE meeting, Los Angeles, Oct. 8-12, 1962, 10p. Preprint 586C.


COOLING SYSTEMS LABORATORY, ROYAL AIRCRAFT ESTABLISHMENT, FARNBOROUGH. In Aircraft Engineering 34:335, Nov. 1962.


Hawkins, R. C. POWERPLANT CONSIDERATIONS FOR MACH 3.0 COMMERCIAL TRANSPORT. SAE meeting, Los Angeles, Oct. 9-13, 1961, 7p, Preprint 427B.


Sensa, W. H. and T. G. Slaiby. CONSIDERATION OF POWERPLANTS FOR SUPERSONIC TRANSPORT AIRCRAFT. SAE meeting, New York, April 4-7, 1961, 7p. Preprint 341E.


2. FUELS


Osterhout, D. P., Jr. FUELS FOR THE SUPERSONIC TRANSPORT; a progress report of the group on supersonic transport fuels and related equipment, aviation fuel, lubricant, and equipment research committee of the coordinating Research Council, Inc. SAE meeting, Los Angeles, Oct. 8-12, 1962, 4p. Paper 583E.
3. LUBRICANTS


Southwest Research Institute, San Antonio. DEVELOPMENT OF LUBRICANT SCREENING TESTS AND EVALUATION OF LUBRICANTS FOR GAS TURBINE ENGINES FOR COMMERCIAL SUPERSONIC TRANSPORT. Progress report No. 1, Aug. 1, 1962, report RS-357; Second quarterly technical report, Nov. 1, 1962, (Contract AF 33 (657)-9248) Project 648D.
IV. OPERATIONAL ENVIRONMENT


1. FLIGHT CONTROL


2. PILOT FACTORS


Bruneau, Robert J. and Harvey W. Hertz. PHYSIOLOGICAL SUPPORT OF AN EXTREME HIGH ALTITUDE FLYING PROGRAM. In Aerospace Medicine 33:436-9, April 1962.


Lundberg, Bo. SOME SPECIAL PROBLEMS CONNECTED WITH SUPERSONIC TRANSPORT. International Air Transport Association Technical Conference, 14th, Montreal, Canada, April 1961, 74 p. NASA N105-065.


TO BREATHE OR NOT TO BREATHE (LACK OF OXYGEN IN HIGH ALTITUDE FLYING. In Combat Crew 9:11, March 1959.


3. SIMULATION


Reed, W. S. SUPersonic TRANSPORT SIMULATOR TESTED. In Aviation Week 76:52-3+, April 16, 1962.

SST SIMULATOR TO AID TRAFFIC STUDY. In Aviation Week and Space Technology 78:44, March 18, 1963.


4. NOISE


5. SONIC BOOM


Legendre, R. G. FROM SHIP-ACCOMPANYING WAVES TO SHOCK WAVES OF SUPERSONIC AEROPLANES. In Royal Aeronautical Society Journal 66:163-75; Discussion 175-6, March 1962.


Lina, Lindsay J. and Domenic J. Maglieri. GROUND MEASUREMENTS OF AIRPLANE SHOCK-WAVE NOISE AT MACH NUMBERS TO 2.0 AND AT ALTITUDES TO 60,000 FEET. NASA TN D-235, March 1960. 25p.


6. SUBSYSTEMS STUDIES

Bennett, G. OZONE CONTAMINATION OF HIGH ALTITUDE AIRCRAFT CABINS. In Aerospace Medicine 33:969-73, August 1962.


Powell, P. G. and D. C. Willis. PRESENT NAVIGATION SYSTEM CAPABILITIES AND AN ESTIMATE OF THEIR WORTH FOR SUPersonic TRANSPORT OPERATIONS. Trans-Canada Air Lines. Navigation Department, n. d. 5p.


SUPERSONIC AIR TRANSPORT; SYMPOSIUM. In Proceedings of the American Society of Civil Engineers 87 (AT 2 No. 2895): 89-97, August 1961.


V. SYSTEMS STUDIES

Kelly, R. D. EFFECTIVE APPLICATION OF SUPERSONIC TRANSPORTS TO AIRLINE OPERATIONS. SAE Meeting, Los Angeles, California. Oct. 8-12, 1962. 5p. Paper 592A.


1. COMPARATIVE PERFORMANCE CHARACTERISTICS


HYPERSONIC TRANSPORT TECHNOLOGY STUDIED. In Aviation Week 77:95+, Nov. 5, 1962.


2. ECONOMIC ANALYSIS


Dennis, D. H. MACH 3-5 AIRLINERS LOOK ECONOMICALLY FEASIBLE. In Space Aeronautics 31:41-3, April 1959.


Kelly, R. D. MULTI MILLION DOLLAR QUESTION; CAN SUPERSONIC TRANSPORTS PAY OFF? In Society of Automotive Engineers Journal 70:54-6, Nov. 1962.


VI. FOREIGN COMPETITION

ANGLO-FRENCH SUPERSONIC TRANSPORT. In Aircraft Engineering 34:313, Nov. 1962.

Ashlock, J. R. ANGLO-FRENCH MACH 2.2 TRANSPORT WILL HAVE $8-9 MILLION UNIT COST. In Aviation Week 78:38, Jan. 28, 1963.

BOAC; WAIT FOR IT (ECONOMICS OF SUPERSONIC TRANSPORT). In Economist 196:573, August 6, 1960.


BRISTOL T188; A SUPERSONIC RESEARCH TOOL. In Engineering 193:549, April 27, 1962.

BRISTOL T.188; SUPERSONIC RESEARCH VEHICLE. In Interavia 16:804-5, June 1961.
BRISTOL T.188; RESEARCH AIRCRAFT. In Interavia 15:102, January 1960.

BRITAIN AND FRANCE PUSH SUPERSONIC TRANSPORTS. In Space/Aeronautics 35:47-9, May 1961.


Coleman, Herbert J. BRITISH DESIGN NEW MACH 2.2 TRANSPORT. In Aviation Week 76:75+, April 23, 1962.

Coleman, Herbert J. FRENCH PRESS SUPER CARAVELLE DECISION. In Aviation Week 76:36-7, Feb. 5, 1962.

Coleman, Herbert J. T.188 WILL BE TESTED FOR BRITISH MACH 2.2 TRANSPORT. In Aviation Week 76:58-9+, April 30, 1962.


Dawson, Christopher. BRITAIN AND FRANCE PUSH SUPERSONIC TRANSPORTS. In Space/Aeronautics 35:47-9, May 1961.

- 35 -


Hoffman, D. H. SOVIETS PLAN SPECIAL SUPERSONIC TRANSPORT. In Aviation Week 75:36, July 31, 1961


INITIAL GOVERNMENT FUNDING SEEMS ASSURED FOR SUPERSONIC CARAVELLE. In Aviation Week 75:45, Dec. 4, 1961.

KEY DECISION NEAR ON ANGLO-FRENCH SST. In Aviation Week 77:151+, Sept. 10, 1962.


MACH 3 BRISTOL T.188 RESEARCH AIRCRAFT COMPLETES FIRST FLIGHT. In Aviation Week 76:29, Apr. 23, 1962.


SOVIET HYPERSONIC AIRCRAFT PREDICTED.  In Aviation Week 78:38, Jan. 28, 1963.

SUBSONIC TO SUPERSONIC; AERONAUTIQUE MARCEL DASSAULT AND ITS ADVANCED AIRCRAFT.  In Flight 76:72-3, August 28, 1959.

SUPERSONIC AIRCRAFT.  M CARAVELLE GOES.  In Economist 204:71, July 7, 1962.


SUPERSONIC ENTENTE (BAC-SUD DESIGN HAS BEEN RELEASED).  In Flight 82:381-2, Sept. 6, 1962.

SUPERSONIC RESEARCH AIRCRAFT; BRISTOL AIRCRAFT LTD.  In Mechanical Engineering 84:78, June 1962.


TOWARDS THE AMERICAN SST.  In Interavia 18:150, February 1963.


WORLDS’ FIRST SUPERSONIC MEDIUM RANGE AIRLINER.  In Engineering 193:3, January 5, 1962.