

TECHNICAL FACILITIES RESUME

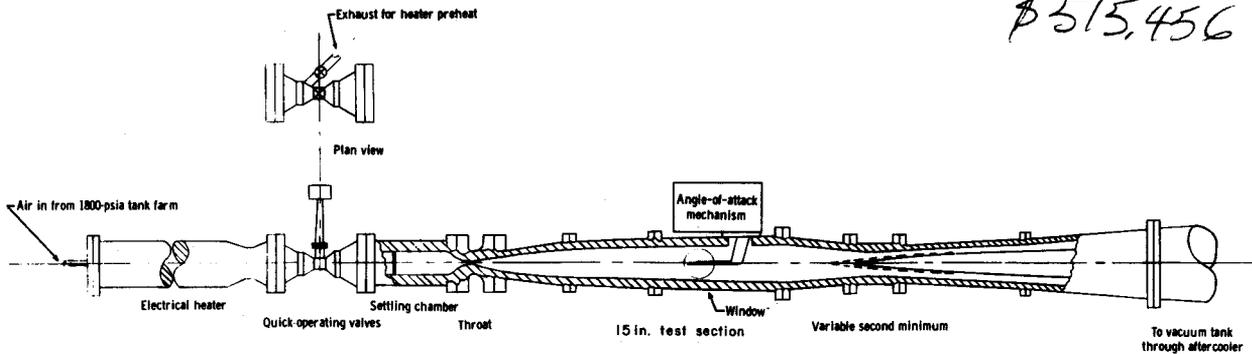
DATE OF RESUME: July 1, 1966
FACILITY NO: 04-00-52-00

1251-A
15" M6

- 1. REPORTING INSTALLATION: Langley Research Center
Hampton, Virginia
- 2. FACILITY NAME: Hypersonic Flow Apparatus
- 3. LOCATION (if other than in 1. above): Same as 1.

From 583 to 1251

\$515,456 4/81



4. FUNCTIONAL NAME: Wind Tunnel, Hypersonic Flow Apparatus

5. TECHNOLOGICAL AREAS SUPPORTED: Force, pressure, heat transfer, and flutter testing, with heated air as the test media.

6. NARRATIVE DESCRIPTION OF FACILITY CAPABILITIES & FUNCTIONS:

The test medium is air heated by a 2000 kv.-a. dc heat exchanger. Model mounting consists of sting and circular-arc strut. Side-wall model mounting is possible by replacing the schlieren window. Contoured axially symmetric nozzle throat is 0.513 in diameter, test section is 15 inches in diameter, and test core is 10 inches in diameter. It exhausts into a vacuum tank.

6. NARRATIVE DESCRIPTION

Stagnation pressure, psia 800 to 1200
Stagnation temperature, °R. 1500 to 1760
Enthalpy, Btu/lb. 425
Mach number 10.03
Reynolds number per foot 1.3×10^6 to 2.0×10^6
Running time, sec. 180

Major Support Components or Equipment

Air from 1800 psia tank farm

Application - Aeronautics and Space

Category - Fluid Flow

7. POTENTIAL:

8. PLANS:

9. BLDG. NO. 583 10. YR. BUILT: 1959** 11. FAC. CAT. CODE: 330-40
12. INITIAL COST: \$ 280** K 13. NASA B.O.D. 1959 14. STATUS CODE: Standby
15. ACCUM. COST: \$ 335** K 16. LIFE EXPECT. Indef. 17. OWNER CODE: NASA
18. OPER. CODE: NASA 19. CONTRACTOR NAME (if contr. oper.):

** This apparatus only

20. OTHER SOURCES OF INFO: "Effects of Leading-Edge Bluntness and Ramp Deflection Angle on Laminar Boundary-Layer Separation in Hypersonic Flow"
NASA TND-3290

21. COGNIZANT ORGANIZATIONAL COMPONENT: Full Scale Research Division

22. LOCAL OFFICE TO CONTACT FOR FURTHER INFO:

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