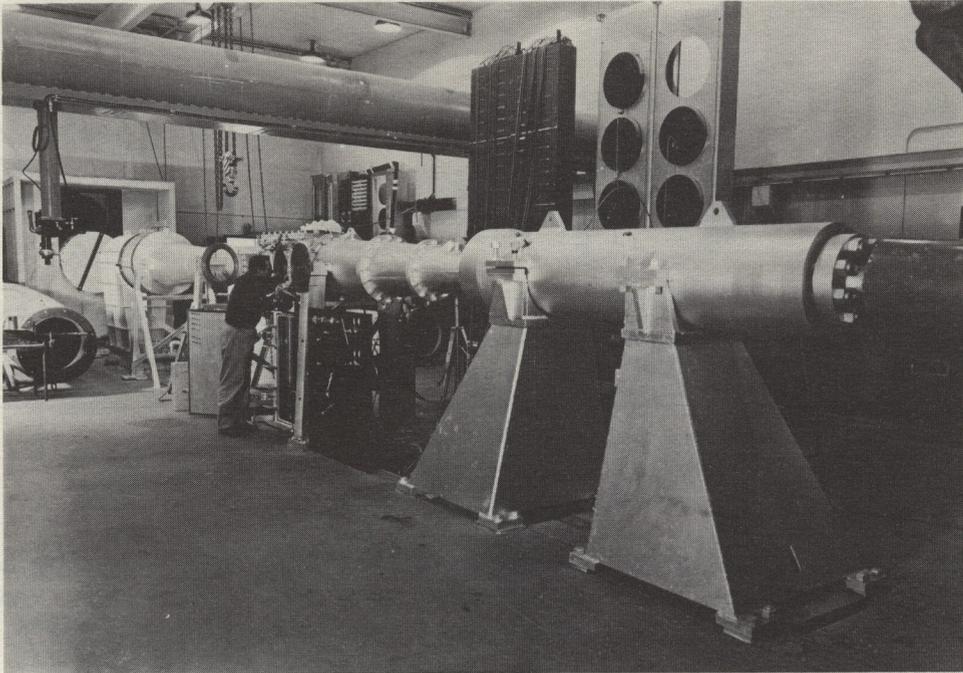


LANGLEY MACH 8 VARIABLE-DENSITY HYPERSONIC TUNNEL



L-61-2866

The Langley Mach 8 variable-density hypersonic tunnel is located in Building 1247D and is under the direction of the Aero-Physics Division. This tunnel is used for fundamental aerodynamic and fluid dynamic investigations over large Reynolds number ranges using pressure and heat-transfer measurements. The test medium is air and is heated by a combination of Dowtherm and electrical resistance. Model mounting consists of sting mount with injection mechanism. The tunnel has an axially symmetric contoured nozzle. The test-section diameter is 18 inches, and the test core size is 4 inches to 14 inches depending on pressure. It exhausts into a vacuum tank or atmosphere. Examples of operating conditions are as follows:

Stagnation pressure, psia	15 to 2930
Stagnation temperature, °R	1160 to 1510
Mach number	7.5 to 8.0
Reynolds number per foot	0.1×10^6 to 12.0×10^6
Running time, sec, for -	
Exhausting into vacuum tank	90
Exhausting into atmosphere	600