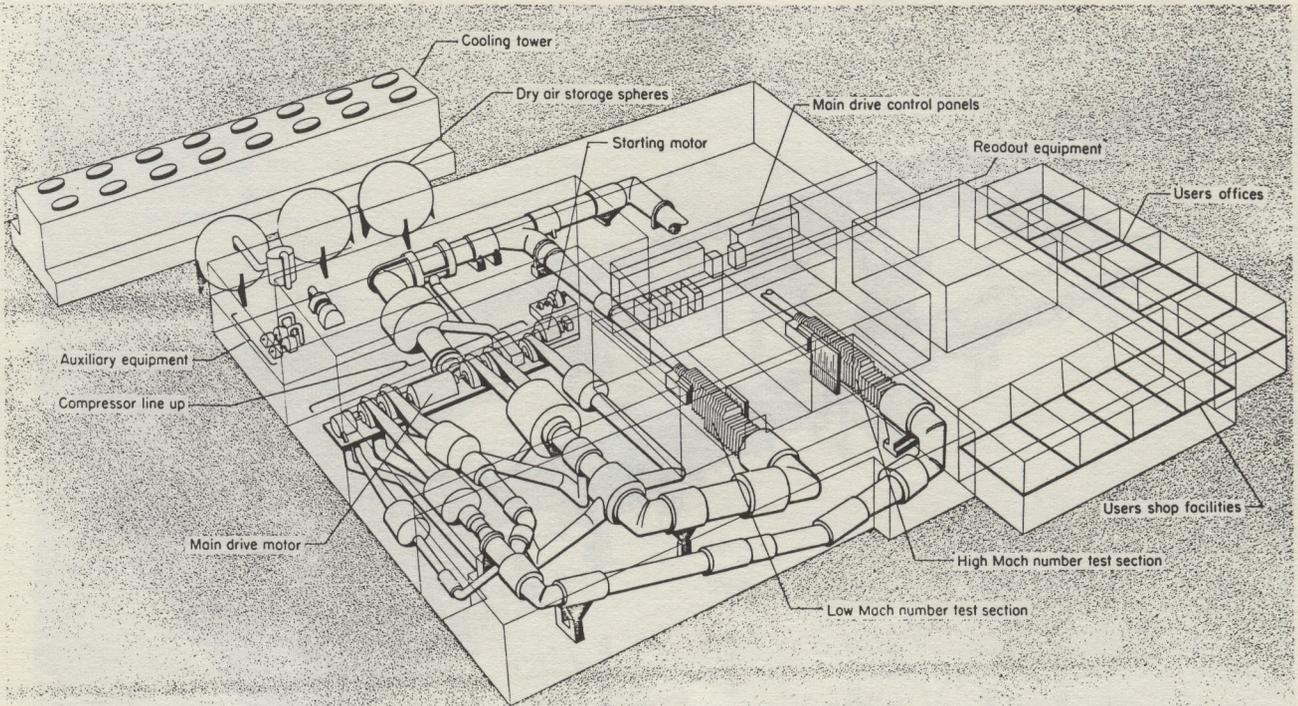


LANGLEY UNITARY PLAN WIND TUNNEL



The Langley Unitary Plan wind tunnel is located in Building 1251 and is under the direction of the Full-Scale Research Division. The tunnel is used for force, moment, pressure-distribution, and heat-transfer studies. The test medium is air. Model mounting consists of various sting arrangements: axial and lateral movement and side-wall support. The tunnel is of the continuous-flow, asymmetric sliding-block type. There are two test sections, each 4 feet square and 7 feet long. Examples of nonoverload operating conditions for the two test sections are as follows:

Test section number 1:

Mach number	1.47	to	2.86
Stagnation pressure, psia	4.0 to 30.0	4.0 to 50.9	
Dynamic pressure, lb/sq ft	250 to 1860	110 to 1400	
Reynolds number per foot	1.04×10^6	0.56×10^6	
	to	to	
	7.83×10^6	7.10×10^6	

Test section number 2:

Mach number	2.29	to	4.63
Stagnation pressure, psia	4.0 to 29.4	15.0 to 142	
Dynamic pressure, lb/sq ft	170 to 1260	95 to 905	
Reynolds number per foot	0.76×10^6	0.82×10^6	
	to	to	
	5.57×10^6	7.78×10^6	

The normal operating temperature is approximately 150° F with heat bursts of 300° F to 400° F available for heat-transfer studies.