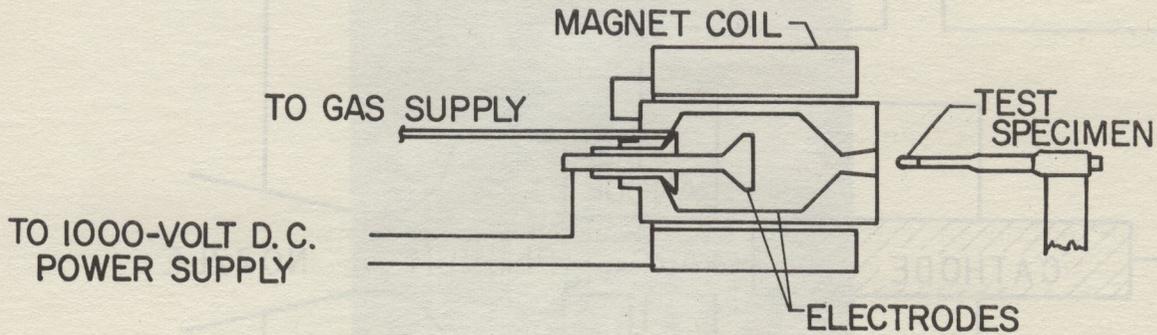


LANGLEY ARC-HEATED MATERIALS JET



The Langley arc-heated materials jet is located in Building 1275 and is under the direction of the Applied Materials and Physics Division. It is used for studies of aerodynamic effects on materials at supersonic velocities and high temperatures. The test medium is nitrogen or air or a combination of these gases. This facility has a swing-arm type of model-insert mechanism. Gases are heated by a magnetically stabilized dc electric arc and expanded to atmospheric pressure through a conical nozzle with a 0.75-inch-diameter exit. Electrodes and nozzle are fabricated of copper and are water cooled. Approximate operating conditions are as follows:

Mach number	2
Stagnation pressure, psia	165
Stagnation enthalpy, Btu/lb	1300