



Jet Propulsion Static Test Laboratory

Description:

About 70 x 180 feet, containing six jet-propulsion engine cells, one combustion research laboratory, and two spin pits for burst tests of compressors and turbines.

Date of initial operation - August, 1944.

Purpose of Equipment:

To improve the thrust, general performance and reliability of turbo-jet engines.

Research Projects:

- a) Investigation of methods for increasing the take-off thrust of turbo-jet engines.
- b) Vibration and stress studies of a turbo-jet engine at ground-level conditions.
- c) Burst tests of turbine wheels and compressor rotors at high temperatures.

Illustrations:

- 1) Auxiliary combustion chamber for study of thrust augmentation by "bleed-off" method.
- 2) I-40 turbo-jet engine for study of thrust augmentation by water-alcohol injection.
- 3) TG-180 turbo-jet engine for study of thrust augmentation by burning fuel in the tail pipe.
- 4) Ryan "Fireball" engine installation to study effect of pressure losses in air intake systems on engine performance.

