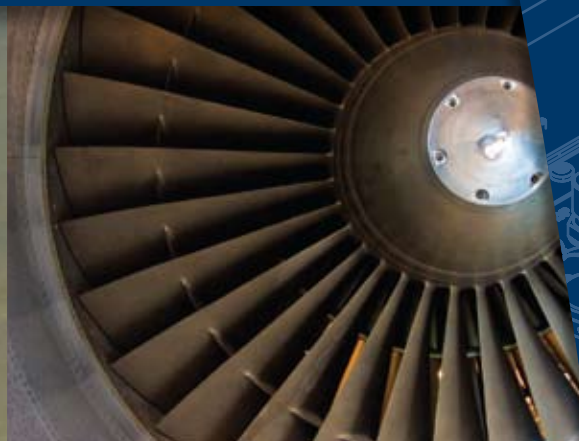




Photo Courtesy of Department of Defense



BH112JD-80 JETCAL^{®1} Analyzer

The BH112JD-80 increases engine testing capabilities to help operators keep pace with the increasing complexity of today's turbine engines.

The microprocessor-based unit incorporates the following functions:

- Enables dynamic and static testing of engine speeds, temperature, fuel flow and pressures
- Obtains ambient temperature at the aircraft
- Obtains ambient pressure at the aircraft
- Measures frequencies from monopole pick-up
- Measures up to 3 speeds
- Accepts pre-programmed parameters for 10 engines
- Software calibrated
- Stores engine and aircraft I.D. data
- Prints out run data

Components

The BH112JD-80 JETCAL[®] Analyzer consists of three sections:

- Data Acquisition Unit (DAU)
- Probe Control Unit
- Accessory/Heater Probe Case

An operator can program the Data Acquisition Unit (DAU) with the appropriate frequency and pressure calibrations required to test 10 selectable engine types. Test results may then be printed immediately using the printer installed in the unit.

The portability of the DAU allows operation on the flight line or in the cockpit with test cell accuracy. The probe control unit contains the power supply and the control required for heater probe operation when testing engine thermocouples. The probe control section is used with the DAU module to control the heater probe temperature, as well as the temperature of the engine thermocouple harness.

The accessory case provides storage space for the cables and other accessories required for engine testing.



¹ JETCAL[®] is a registered trademark of Howell Instruments, Inc.

PORTABLE ENGINE TEST SETS & TRIMMERS

BH112JD-80 JETCAL® Analyzer

Temperature

Under normal conditions, the BH112JD-80 measures and displays the temperature output of the engine's Chromel®-Alumel®² thermocouple harness. In addition, the unit can measure and display an auxiliary Chromel®-Alumel® temperature (AUX TEMP) input as well as ambient temperature (TAMB) from a Howell-supplied ambient temperature sensor. The unit can also display the temperature setting of the heater probes. Temperatures can be displayed in either °C or °F.

Pressure

A pressure transducer is mounted inside the BH112JD-80 that allows ambient pressure (PAMB) to be measured. The unit also has the capability of exciting and monitoring pressures measured by two external transducers (Pext1 and Pext2). The external transducers can be of various ranges and can be scaled in the following engineering units:

- inHg
- Percent
- in-lb
- psi
- ft-lb
- Horsepower

RPM/Fuel Flow

The BH112JD-80 has the capability of displaying any combination of three different frequency signals. These signals can be generated by any of the following:

- Standard three-phase tachometer generators
- Monopole type speed sensors
- Volumetric type flowmeters with a frequency output
- Eldec type mass flowmeters

Each display can be scaled in RPM, %RPM, Hz or pph as appropriate.

Vane Angle

Using a Howell-supplied transmitter, angular positions such as guide vane or swirl vane angles can be monitored.

Elapsed Time

The unit has the controls available to allow the operator to measure engine acceleration, deceleration or run down times.

Static Measurements

When the engine is not running, the operator has the capability of testing the following:

- Accuracy of the aircraft's cockpit temperature indicator
- Insulation and circuit resistance of the aircraft thermocouple harness
- Calibration of the engine thermocouples or fire warning system using heater probes.

Power Requirements

Power requirements for the BH112JD-80 JETCAL® Analyzer are as follows:

- DAU and probe control together:
–115 VAC, 50 to 400 Hz
- Analyzer alone:
–115 VAC, 50 to 400 Hz or 28 VDC

2 Chromel and Alumel® are registered trademarks of Hoskins Manufacturing Co.



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