

## ENGINE INDICATING - GENERAL

### 1. Scope

A. This chapter contains information on the systems and components used to monitor and indicate engine conditions.

### 2. Tools, Equipment and Materials

**NOTE:** Equivalent substitutes may be used for the following items:

NAME	NUMBER	MANUFACTURER	USE
Tachometer Generator	AG34 (MIL-G-26611)	Task Corporation 1009 E. Vermont Ave. Anaheim, CA 92803	Used during functional check of percent RPM indicator.
Frequency Counter	Model 5326	Hewlett Packard 1601 California Ave. Palo Alto, CA 94304	Used during functional check of percent RPM indicator.
Torque System Calibration Tester	5790011-1	Cessna Aircraft Company Cessna Parts Distribution Department 701, CPD 2 5800 East Pawnee Road Wichita, KS 67218-5590 (P.O. Box 7704 Wichita, KS 67277-7704)	Used during functional check of percent torque indicator.
Pressure Tester	2311F	Barfield Instrument Corp. 1478 Central Ave. East Point, GA 30344	To troubleshoot the torque indicating system.
Pressure Gage	304-00101	Barfield Instrument Corp.	To troubleshoot the torque indicating system.
Dry Nitrogen Bottle (Alternate Shop Air with Regulator Capable of 40.0 PSI, Pressure and Shutoff Valve)	Regulated to 100 PSI	Commercially available	To leak check system.
Pressure Gages (0 to 100 PSI)		Commercially available	To monitor pressures.
Container (1 quart capacity)		Commercially available	To bleed system.
Air Data Test Set	6520-10	Laverslab, Inc. 10435 Greenbough, Suite 300 Stafford, TX 77477	To check for torque indicator vacuum leak.
TT1000A Test Set	2312G-8	Barfield Instrument Corp.	To test ITT system.
TT1200	101-00920	Barfield Instrument Corp.	To test ITT system.
Thermo Gun	Model 500A	Raychem Corp. 300 Constitution Drive Menlo Park, CA 94825-1111	To heat probes.
Precision Millivolt Source	MV116	Electronic Development Corp. 11 Hamlin Street Boston, MA 02127-4112	Measure millivolts.
Test Harness	5790005-11	Cessna Aircraft Company	To test ITT indicator.
Test Harness	5790005-13	Cessna Aircraft Company	To calibrate ITT indicator.

Thermos Container (1 quart)		Commercially available	To test ITT system.
28.0 VDC Power Supply (with less than 0.25 VDC peak-to-peak ripple)		Commercially available	To supply voltage.
Deadweight Tester (See Model 61-10 Note 1)		Chandler Engineering Co. 7707 E. 38th St. Tulsa, OK 74145	To calibrate torque indicating system.
Digital Volt Meter	8100A	John Fluke Manufacturing Co. 6920 Seaway Boulevard Everett, WA 98206	To measure voltage.

- NOTE 1:** A deadweight tester, capable of 80.0 PSI with a minimum of 0.1 PSI resolution, must be used. The following precautions need to be taken when using a deadweight tester:
- (1) The deadweight tester must be level to within one-quarter bubble. Device being tested must be at the same height as the deadweight tester with no dips in the connecting hoses.
  - (2) The cylinder must be kept smooth and dust free.
  - (3) The weights must be recalibrated at six-month intervals.
  - (4) The tester must be filled with the type and brand of oil with which the engine has been serviced.

### 3. Definition

- A. This chapter is divided into sections to aid maintenance personnel in locating information. Consulting the Table of Contents will further assist in locating a particular subject. A brief definition of the sections incorporated in this chapter is as follows:
- (1) Airplanes 20800500 and On and Airplanes 208B2000 and On have the Garmin G1000 system installed that includes the GEA 71 Engine/Airframe unit. The GEA 71 Engine/Airframe unit is a microprocessor Line Replaceable Unit (LRU) that converts received signals to digital data used by the G1000 System to deliver CAS message outputs for the airframe and engine systems.
  - (2) The section on indicating provides description, operation, troubleshooting and removal/installation instructions for the torque and propeller RPM indicator systems.
  - (3) The section on temperature indicating provides description, operation, troubleshooting, removal/ installation and test instructions for the inter turbine temperature indicator systems.