

# 77 Engine Indicating



**BEECHCRAFT  
DUKE 60 SERIES  
MAINTENANCE MANUAL**

**CHAPTER 77**  
*LIST OF PAGE EFFECTIVITY*

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GENERAL - MAINTENANCE PRACTICES

*TIT INDICATOR CALIBRATION*

(Figure 201)

**CAUTION**

Damage to the turbocharger turbine blades, excessive turbine coking and excessive oil consumption may be caused by turbine inlet temperatures above 900°C (1650°F).

To prevent a turbine inlet over-temperature condition due to an inaccurate TIT indicator reading, the indicator should be checked every 100 hours and calibrated if required.

The following procedure may be used to check and calibrate the TIT indicator.

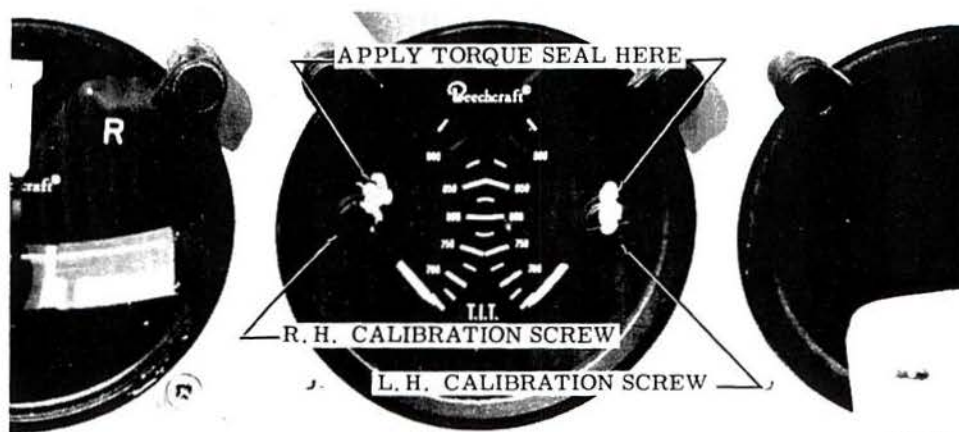
- a. Remove the TIT probe from the turbocharger intake manifold on the RH engine. (Do not disconnect the wires from the probe.)
- b. Using the AICal test equipment, heat the probe to 900°C.
- c. If the TIT indicator reads 900°C, the indicator is properly calibrated. If the reading is not 900°C, the calibration screw on the face of the instrument should be adjusted to obtain this reading.
- d. If the seal was broken on the calibration screw, reseal by applying a small amount of torque seal as shown in Figure 201.

- e. Reinstall the probe in the turbocharger intake manifold.
- f. Repeat the above procedure on the LH engine.

*ALCAL CALIBRATION UNIT*

The AICal Calibration unit, available locally through the Beechcraft Parts and Service Outlets, provides a simple and accurate method for checking and, if necessary, recalibrating aircraft piston engine EGT systems. If the red line temperature is exceeded by the TIT indicators, the calibration unit will quickly determine if the fault lies with the indication system or the engine. The following method will accomplish the TIT calibration test:

- a. Light the AICal unit and support it from the engine cowling.
- b. Place the TIT thermocouple into the comparator port of the AICal unit until it is touching the reference thermocouple.
- c. Raise the heat of the AICal unit until the temperature of 1650°F (900°C) is indicated on the unit's reference meter.
- d. Because both thermocouples are measuring the same temperature, the aircraft-installed TIT indicator should indicate the same red line temperature. If the indicator corresponding to the engine being tested does not register 1650°F (900°C), refer to the adjustment procedure outlined under TIT INDICATOR CALIBRATION in this chapter.
- e. Replace the TIT thermocouple in the turbocharger intake manifold. Lubricate the threads on the probe with MIL-A-907D anti-seize compound (Chart 208, 91-00-00).



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TIT Indicator Calibration  
Figure 201

“END”

