



## **TREND MONITORING DATA COLLECTION PROCEDURES**

Trend monitoring data is collected during the cruise phase of flight. We recommend these procedures to assist you in recording the most accurate information. These procedures are not meant to replace any manufacturer's instructions and precedence should be given to any guidelines set forth in the maintenance manuals.

- 1) Engine performance data should be recorded at least once every flying day, preferably once every flight, where stabilized cruise is obtained. All data should be sent to The Trend Group a minimum of once a week.
- 2) Hours and Cycles should be reported as TAT (Total Aircraft Time) and TCA (Total Cycles on Aircraft).
- 3) Let the engine parameters stabilize in cruise flight a minimum of 5 minutes. DO NOT adjust the power levers, otherwise you will have to wait another 5 minutes.
- 4) Take your trend readings within +/- 5,000 feet of your standard reference cruise altitude.
- 5) Standardize the cruise condition for recording trend monitoring data. None of the auxiliary power extracted from the engine is accounted for. To obtain flight to flight continuity, always extract the same amount of auxiliary power (generator/alternator, hydraulic, air conditioning, anti ice, and bleed air) while collecting the trend monitoring data.
- 6) Take actual readings rather than "targets" (i.e. preselected engine parameters). Rarely will an engine stabilize at a target. You may initially select a reference power setting, but during the 5 minute stabilization period, you should let the engine power drift away from that initial setting. It doesn't matter if the engine's power indications are mismatched since the program will compensate as long as actual parameters are provided.
- 7) Avoid parallax errors by using the same cockpit seat to record the data.
- 8) Try to record the parameters in a reasonable time frame, getting a decimal point reading when possible. DO NOT round off numbers.
- 9) Pressure Altitude must be recorded as accurate as the instrument allows (DO NOT write down flight level). To determine the correct pressure altitude, record the altitude with the altimeter calibration set at 29.92" Hg.
- 10) The Indicated Outside Air Temperature (IOAT) should be recorded to the closest 1 degree C; be careful to indicate positive and negative numbers. Be sure to remain consistent in recording your data when multiple Outside Air Temperatures are available; Total Air Temperature (TAT), Ram Air Temperature (RAT) and/or Static Outside Air Temperature (SAT).
- 11) The Indicated Airspeed (IAS) should be read to the closest 5 knots. If Mach is available, record to the nearest 1/100.
- 12) The engine parameters should be read as consistently and as accurately as possible. Parameters given in percent should be read to 1/10 of 1%.

Following these recommendations will minimize any "noise" or scatter on your trend monitoring graphs, allowing for a more accurate and timely analysis.