ALTAIR ADASd ENGINE TREND MONITORING - ADJUSTMENT/TEST

1. General

A. This section gives the tests for the ADAS^d processor.

2. Tools and Equipment

A. For a list of required tools and equipment, refer to the Altair ADAS^d Engine Trend Monitoring System - Description And Operation.

3. ADAS^d Processor Test

A. Do a test of the ADAS^d Processor.

  (1) Make sure that the battery is connected.

  (2) Put the battery switch to the ON position.

  (3) Put the AVIONICS 1 and AVIONICS 2 switches to the ON position.

  (4) If a PREV EXCEED message is shown, push the TRND/ACK softkey to clear the message.

    (a) Download the log file to find the cause of the message.

  (5) If an ETM FAULT message is shown, clear the log file. Refer to ALTAIR ADASd Engine Trend Monitoring System - Description and Operation.

  (6) If the processor is configured and CAS messages do not operate correctly, do the troubleshooting for the system. Refer to Altair ADAS^d Engine Trend Monitoring - Troubleshooting.

4. Live Data Sensor Test – Engine Off

A. Do the Live Data Sensor Test – Engine Off Tests.

  (1) Make the LIVE DATA then TEXT VIEW selection from the pull down menu.

    NOTE: **This selection will start a new Live Data session.**

  (2) Give the LIVE DATA file a name and make the SAVE selection.

  (3) When you see the prompt by the Monitor Link Program (MLP), put the RUN/CONF switch in the RUN position and click OK.

  (4) Complete a check of the BLEED AIR HEAT switch.

    (a) Set the BLEED AIR HEAT switch to the OFF position.

      1   Make sure that the LIVE DATA shows 0d.

    (b) Set the BLEED AIR HEAT switch to the ON position.

      1   Make sure that the LIVE DATA shows 1d.

    (c) Set the BLEED AIR HEAT switch to the OFF position.

      1   Make sure that the LIVE DATA shows 0d.

  (5) Complete a check of the Emergency Power Lever (EPL).

    (a) Make sure that the engine is off.

    (b) Cut and remove the frangible/shear wire from the EPL.

    (c) Set the EPL to the NORM position.

      1   Make sure that the LIVE DATA shows 0d.

    (d) Set the EPL to the MAX position.

      1   Make sure that the LIVE DATA shows 1d.

    (e) Set the EPL to the NORM position.

      1   Make sure that the LIVE DATA shows 0d.

    (f) Install the frangible/shear wire. Refer to Chapter 76, Emergency Power Lever Frangible/Shear Wire Removal/Installation.

  (6) Complete a check of the INERTIAL SEPARATOR handle.

    (a) Push the INERTIAL SEPARATOR handle to the NORMAL position.

      1   Make sure that the LIVE DATA shows 0d.

  (b) Pull the INERTIAL SEPARATOR handle to the BYPASS position.

   <u>1</u> Make sure that the LIVE DATA shows 1d.

  (c) Push the INERTIAL SEPARATOR handle to the NORMAL position.

   <u>1</u> Make sure that the LIVE DATA shows 0d.

 (7) Make sure all sensor values agree with values shown on PFD1, PFD2, and MFD.

  (a) Record the values.

 (8) Click on the STOP LIVE DATA bar on the MLP.

 (9) When you see the prompt by the MLP, put the RUN/CONF switch in the CONF position and click OK.

5. Live Data Sensor Test – Engine Ground Run

 A. Do the Live Data Sensor Test – Engine Ground Run.

  WARNING: Immediately shut down the engine if an exceedance occurs in any of the engine operating limitations, or if any incorrect engine operation occurs during any of the procedures that follow. Refer to the P&W Maintenance Manual for the applicable procedure.

  (1) Make sure that the engine is stable.

  (2) Push the ENGINE softkey.

  (3) Push the TRND/ACK softkey.

  (4) Hold engine parameters steady for at least 5 seconds.

   NOTE: No message will appear to show that data is recorded.

  (5) Record the cockpit instrument values.

   NOTE: The values are recorded on a generic form equivalent to Table 502, Engine Ground Run Data.

  (6) Connect the download cable between the communication port and the serial port.

   NOTE: The communication port is under the copilot's instrument panel. The serial port is on the laptop computer.

  (7) Apply power to the laptop.

  (8) Make a connection between the laptop and the processor.

   (a) Open the Monitor Link Program (MLP) and click on EDIT from the pull down menu.

   (b) Make the COMMUNICATION PORT and AUTO DETECT selections.

    NOTE: The MLP will automatically sense to which communication port the download cable is connected. The MLP display will show SUCCESSFULLY DETECTED COMM PORT at the top of the screen.

   (c) If the MLP doesn't sense the communication port, do the troubleshooting procedure. Refer to System Start-Up and Communication.

  (9) Make the MLU and RETRIEVE UNIT'S DATA LOG selections from the pull down menu.

  (10) The MLP will now let you make selections of the name and location for the file.

   (a) After the file is downloaded the MLP will let you make a selection to reset the log. Click YES.

    NOTE: If you click YES, the log will be uploaded to the Turbine Tracker site.

    NOTE: The log file will automatically be shown by the MLP after it has been downloaded.

    <u>1</u> If the log file it is not shown by the MLP, click on VIEW in the pull down menu.

    <u>2</u> Then click on DATA LOG FILE and COMPLETE to see the log file.

  (11) To find the manual trend data in the log file, look for a paragraph with the heading TRENDING DATA.

  (12) Make sure that the time/date stamp of the manual trend data agrees with the time/date of the hand-recorded data.

  (13) Compare the average indications (not the maximum indications) from the log file to the entries recorded in generic form.

   (a) Make sure that the indications are in the ranges shown on Table 502, Engine Ground Run Data.

   (b) If all the sensor indications are not in tolerance, do the steps that follow.

   (c) Make sure wiring to the ADAS^d processor is correct.

(d)   Make sure the data on the G1000 is correct.

    <u>1</u>   If the incorrect data is shown, do the troubleshooting for the system with the indication error.

    <u>2</u>   If the correct data is shown, contact Cessna Propeller Aircraft Product Support for assistance; (316) 517-5800 or Fax (316) 942-9006.

Table 501. Engine Ground Run Data

Engine Run Ground Test	Cockpit Indicator Reading	Altair ADAS[d] Reading	Difference	Maximum Deviation
Ng				+0.3 or -0.3 percent
Np				+3 or -3 percent
ITT				+5 or -5°C
Wf				+5 or -5 percent
Torque				+2 or -2 percent

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Retain printed data for historical reference only. For future maintenance, use only current data.

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