FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT OR
SUPPLEMENTAL AIRPLANE FLIGHT MANUAL
(FOR THOSE AIRCRAFT WITHOUT A BASIC AIRPLANE FLIGHT MANUAL)

EDM-900 PRIMARY ENGINE DATA MANAGEMENT SYSTEM

Airplane Flight Manual Supplement No. 900-0001 Rev. D

For

Aircraft as listed on STC SA01435SE

REG. NO.____________________

SER. NO.____________________

This Supplement must be attached to the FAA Approved Airplane Flight Manual when the J.P. Instruments EDM-900 is installed in accordance with Supplemental Type Certificate SA01435SE. For those airplanes without a basic Airplane Flight Manual, this Supplemental AFM must be in the aircraft when the EDM-900 is installed.

The information contained in this Airplane Flight Manual Supplement/ Supplemental Aircraft Flight Manual supplements or supersedes the basic manual/placards only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic manuals, markings, and placards.

FAA APPROVED:

____________________
Manager,
Seattle Aircraft Certification Office
Federal Aviation Administration

FAA APPROVED  Date _______________  Page 1 of 6
<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Affected Pages</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Complete Flight Manual Supplement for EDM-900.</td>
<td>1 thru 4</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Complete Flight Manual Supplement for EDM-900.</td>
<td>1 thru 6</td>
<td></td>
</tr>
</tbody>
</table>

Manager, Seattle Aircraft Certification Office
Federal Aviation Administration

Date: __Dec 10 2004____

Manager, Seattle Aircraft Certification Office
Federal Aviation Administration

Date: ________________
I. GENERAL

The EDM-900 is a combined electronic indicating system, which simultaneously displays to the pilot powerplant and aircraft systems operating parameters. It includes the following indicating systems; replacing previous primary digital and/or analog instruments. (The label of the parameter shown on the EDM-900 display message area is indicated in the second column. The message is located below the CHT/EGT display.

<table>
<thead>
<tr>
<th>Gauge Function</th>
<th>Message Area Alarm Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine rotational speed</td>
<td>RPM xxx</td>
</tr>
<tr>
<td>Engine Manifold Pressure</td>
<td>MAP xx.x in hg</td>
</tr>
<tr>
<td>Engine Cylinder Head Temp</td>
<td>CHT2 xxx °F</td>
</tr>
<tr>
<td>Engine Oil Temperature</td>
<td>O-T xxx °F</td>
</tr>
<tr>
<td>Engine Oil Pressure</td>
<td>O-P xxx °F</td>
</tr>
<tr>
<td>Fuel Pressure</td>
<td>F-P xx PSI</td>
</tr>
<tr>
<td>Fuel Flow to engine</td>
<td>F-F xx.x GPH</td>
</tr>
<tr>
<td>Comp. Discharge Temp.</td>
<td>CDT xxx °F</td>
</tr>
<tr>
<td>Turbine Inlet Temp. Left</td>
<td>TIT-L xxx °F</td>
</tr>
<tr>
<td>Turbine Inlet Temp. Right</td>
<td>TIT-R xxx °F</td>
</tr>
<tr>
<td>Single Turbine Inlet Temp.</td>
<td>TIT xxxx °F</td>
</tr>
<tr>
<td>Exhaust Gas Temp.</td>
<td>EGT2 xxx °F</td>
</tr>
<tr>
<td>Shock Cooling of CHT</td>
<td>CLD xx °/MIN</td>
</tr>
<tr>
<td>Differential Temp. of EGT</td>
<td>DIF xx °F</td>
</tr>
<tr>
<td>Bus Voltage</td>
<td>Volts xx.x</td>
</tr>
<tr>
<td>Amperage Load</td>
<td>AMPS xx</td>
</tr>
<tr>
<td>Outside Air Temp.</td>
<td>OAT xx °F</td>
</tr>
<tr>
<td>Estimated Time to Empty</td>
<td>Est. T to E xx:xx H:M</td>
</tr>
<tr>
<td>Fuel used to date</td>
<td>USED xx,x GAL</td>
</tr>
<tr>
<td>Estimated Remaining fuel</td>
<td>Est. REM xx GAL</td>
</tr>
<tr>
<td>Estimated Fuel required to</td>
<td>Est. WP REQ xx GAL</td>
</tr>
<tr>
<td>Waypoint</td>
<td></td>
</tr>
<tr>
<td>Estimated Fuel Remaining at</td>
<td>Est. WP RES xx GAL</td>
</tr>
<tr>
<td>Waypoint</td>
<td></td>
</tr>
<tr>
<td>Nautical Miles per Gallon</td>
<td>ECON xx.x MPG</td>
</tr>
<tr>
<td>Brightness, Dim control</td>
<td>DIM/BRT</td>
</tr>
</tbody>
</table>

Remote Annunciate Light (RAL)
Display

Non-primary functions such as: Induction air temperature, carburetor inlet temperature, EGT Span, bus voltage, Amps, Shock Cooling, Fuel Remaining, Fuel Required, Fuel Reserve, MPG, Endurance, and Fuel Used have programmable alarm limits. CHT, TIT, EGT, FP, FF, and MAP may not be primary on some installations. Any of these non-primary functions are programmable by the pilot. Primary functions can not be changed.

The right hand side the EDM-900 has horizontal tape scales with digital values below each scale. The functions: OIL-Temperature (O-T), OIL-Pressure (O-P), FUEL-Pressure (F-P), (or CDT, for engine installations having a primary Compressor Discharge Temperature), Fuel Flow (FF), and two main and two Aux fuel tank quantities (QTY-LF/RT Main, QTY-LF/RT Aux). The engine MAP and RPM are presented in the upper left corner of the instrument with analog-type circular gauges. The EGT, CHT and TIT are presented in the lower left corner. Below the EGT/CHT columns is a “Message area” that displays the digital values of the EGT/CHT/TIT and additional functions like shock cooling and limit alarm messages. OAT is displayed in a box in degrees C or F. A soft switch is located above button 4 and toggles between ALL/TEMP/FUEL

<table>
<thead>
<tr>
<th>(1st)</th>
<th>(2nd)</th>
<th>(3rd)</th>
<th>(4th)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP</td>
<td>LF</td>
<td>DIM</td>
<td>ALL/TEMP/FUEL</td>
</tr>
</tbody>
</table>

Specific values for each parameter are displayed digitally above the vertical scale displays of EGT, CHT, and TIT, except for the portrait mode where only the CHT and TIT values are shown. The boxed number below the columns indicates which cylinder’s digital information is being displayed in the “Message Area” or displayed as an alarm in the Message Area.
Programming

Depressing the LF and STEP buttons simultaneously enters the program mode to enter fuel quantities (for fuel flow only), display scan rate, OAT display to °F or °C, EGT digital display resolution to 1 or 10° and other setup parameters. Exit by pressing the NEXT button until EXIT is displayed, then press EXIT. If either the STEP or LF buttons are not pushed for three minutes, the EDM-900 will revert to automatic scan mode (1 to 9 seconds or 0 no scan). Depressing the STEP button will stop the automatic mode and revert to manual mode. Refer to the EDM-900 Pilot’s Guide Rev. IR or later for additional operating information. This Pilot’s Guide must be available to the pilot for all flight operations.

Remote Alarm Light (RAL) for EDM 900

The remote alarm light is a red or yellow light depending on the alarm condition. The EDM-900 incorporates a light that alerts the pilot that a parameter has reached a caution range or limit. This light is mounted in front of the pilot, labeled “ENGINE”. The light flashes depending on the condition “Warning” (Red) or “Caution” (Yellow). All Alert and Alarms will be displayed in the “Message Area” of the Display.

On initial startup or whenever power is turned on, the words EDM-900 PRIMARY” are displayed in the Message Area, followed by the make and model of the aircraft with STC information for which the primary limits were set.

Alarm Limits

Primary alarm limits for each specific aircraft model are set by JPI and are not programmable by the pilot. The primary functions for your installation are shown on the Primary label on the back of the instrument and are identical to those specified in the FAA Approved (AFM) Airplane Flight Manual or (POH) Pilot’s Operating Handbook.

Whenever a parameter reaches an alarm limit, the display and the “RAL” will flash red. Also a soft key label “Clear” will appear. Tapping the CLEAR soft key will acknowledge and extinguish the soft key label, the red display warnings on the main display and on the RAL. If another lower priority alarm exists, it will then be displayed in the Message Area but the offending primary parameter remains red. Each press of the CLEAR button will allow any lower priority alarm to be displayed, thus presenting the pilot with the highest priority alarm condition. If the primary gauge has a yellow caution area it will activate the RAL (yellow) if that parameter is reached. Clear will deactivate this alarm until the parameter is reset and reactivated again.

Alarm hierarchy for the EDM-900

1. OILP_LO.
2. OILT_HI.
3. CHT.
4. TIT.
5. FLVL.
6. MAP.
7. RPM.
8. CDT.
9. FP_LO.
10. REM.
11. CLD.
12. OILT_LO.
13. OILP_HI.
14. CLD.
15. OILT_LO.
16. VOLTS.
17. OILP_HI.
18. AMPS.
19. RES.
20. EGT.

CAUTION

Alerts Lights do not indicate high or low, pilots must crosscheck the EDM-900 to determine whether a high limit exceedance has changed to a low limit exceedance or vice versa.

Dimming

Automatic dimming is provided to dim the panel display. Dimming can also be accomplished manually. Tapping the third button (labeled DIM/BRT) puts you in the increase or decrease brightness mode showing LCD % brightness. Manual dimming overrides the automatic dimming feature. When switching electrical power off and on, the system defaults to automatic dimming at full bright.
II. OPERATING LIMITATIONS

A. The EDM-900 may replace any existing RPM, MAP, EGT, CHT, CDT, TIT, OIL T, OIL P, F-P, FF, CDT and Fuel Quantity indicators required by the aircraft type design or operating limits.

B. The EDM-900 must not be used as primary if the RAL is not working.

III. EMERGENCY PROCEDURES

A. Loss of individual display parameter:
   1. Continue normal engine operation by referring to the remaining parameters displayed. Note the RAL will indicate limits even if the display fails and the rest of the unit is functional.

B. Loss of all displays (Electrical Failure):
   1. Avoid high engine power settings and rapid power changes;
   2. Enrichen mixtures to maintain smooth engine operation;
   3. Arrange to terminate the flight safely and as soon as practicable.
   4. Refer to your original airplane AFM for possible additional engine instrument failure information.

IV. NORMAL PROCEDURES

a. PRIMARY FUNCTIONS
Before each flight on startup, verify that the RAL is working; it should flash Red and Yellow. Whenever main electrical power is turned on the EDM-900 performs a self-test procedure. Gauges not functioning will have a red x across them which identifies as inoperative. The message area, located below the EGT/CHT display will display open probes. The EDM must maintain functionality upon cranking the engine.

b. ENGINE MIXTURE LEANING
Refer to the ‘EDM-900 Pilot's Guide’ for detailed instructions on ‘rich of peak’ and ‘lean of peak’ operation.

After establishing desired cruise-power, depress the LF button to activate the Lean Find Mode. As the mixture is leaned, one cylinder’s column will begin blinking; indicating the EGT for that cylinder has peaked. Continue with the leaning procedure, enriching as recommended by the aircraft manufacturer while monitoring the primary engine instruments. Once the leaning procedure has been completed, depress the EXIT button briefly to exit the Lean Find Mode and enter the Monitor Mode.

CAUTION

Comply with manufacturer’s Airplane Flight Manual leaning procedures.
Do not exceed applicable engine or aircraft limitations.