Insight Instrument Corp.
Box 194 Ellicott Station
Buffalo, New York 14205

FAA Approved
Airplane Flight Manual Supplement No. 1
For
Single and Twin Engine Powered Small Airplanes (4 or 6 cylinder engines only) as Listed on Master Eligibility List of STC SA157NE.

This Supplement must be attached to the FAA Approved Airplane Flight Manual when the Insight Instrument Corp. Graphic Engine Monitor System is installed in accordance with Supplemental Type Certificate (STC) SA157NE. On aircraft which require an Airplane Flight Manual, the AFMS must be attached. The information contained herein supplements the information of the basic AFM; for limitations, procedures and performance information not contained in this Supplement, consult the basic Airplane Flight Manual.

FAA Approved: Norman J. Klimm
Manager, New York Aircraft
Certification Office

Date: June 14, 1983

Revised: May 6, 1985

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(See Title Page (page 1) For
Aircraft Applicability List)

REVISION LOG PAGE

Rev. No.	Description	Pages Affected	Approval
1	Change to multiple approval	All	for W.J. Bray Raymond J. Borowski Mgr. N.Y. Aircraft Certification Office August 30, 1983
2	Add additional aircraft models	All	for N.J. Glenn Raymond J. Borowski Mgr. N.Y. Aircraft Certification Office October 13, 1983
3	Add GEM-603 with a numeric digital TIT readout and additional aircraft models	All	for N.J. Glenn Raymond J. Borowski Mgr., N.Y. Aircraft Certification Office May 6, 1985

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I. Limitations: The Graphic Engine Monitor instrument does not replace any existing aircraft cylinder head temperature (CHT) indicator, exhaust gas temperature (EGT) indicator or turbine inlet temperature TIT indicator.

II. Procedures:

a. Description: The Graphic Engine Monitor (GEM) Model 602 displays electronic bar graph readings of exhaust gas temperature. All temperature information is presented as vertical columns (one per cylinder) while CHT is indicated by a non-illuminated "black" bar in the field of orange bars. (One bar represents 25°F.) Actual CHT values are determined by comparing the black bar to the scale along the right edge of the gauge.

b. The Graphic Engine Monitor Model 603 performs identically to the Model GEM-602 except that it incorporates a digital numeric readout of turbocharger TIT in addition to existing digital bar graph displays of CHT and EGT. The turbocharger numeric display shows TIT in tens of degrees Fahrenheit (Rdg x10).

The Graphic Engine Monitor has two modes of operation.
(a) Lean Mode
(b) Monitor Mode

The Lean Mode is identified by the "EGT" annunciator blinking. It may be entered at any time by holding the Reset Button for two seconds until the "EGT" annunciator blinks. Lean Mode is used to adjust the mixture for cruise and identify the leanest cylinder. The instrument then enters the Monitor Mode.

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b. Normal Procedure:

Cruise Leaning Procedure Using Insight GEM

1. Establish cruise power setting. If "EGT" annunciator is not blinking, hold reset switch until it does blink.

2. Lean mixture slowly until one column blinks. Stop leaning when column starts blinking. The blinking identifies that cylinder as the leanest and that it has just gone past peak EGT. Push the reset switch briefly to stop the blinking. The instrument then enters the monitor mode.

3. Enrichen until the leanest cylinder's EGT drops one bar (25°F). This sets the mixture to peak EGT for "best economy" setting. To select the best power setting, the mixture should be enrichened further to drop the EGT 3 to 4 bars (75-100°F). If best power is selected, the reset switch should be pushed briefly to trigger the storage of normal temperature for monitor mode.

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