

**BONAIRE AVIATION COMPANY
P.O. BOX 1158 TCAS
BLOUNTVILLE, TN 37617**

**F.A.A. APPROVED
"PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT
MANUAL" SUPPLEMENT**

**FOR
CESSNA 207, 20700315 THRU 20700362
CESSNA 207A, 20700363 AND ON**

Reg. No. N 75 773
Ser. No. 20700643

This Supplement must be attached to the "Pilot's Operating Handbook and FAA Approved Airplane Flight Manual" dated October 1, 1976 when a Continental Model IO-550-F engine and one of the following propellers with associated spinner are installed in accordance with **Supplemental Type Certificate (STC) No. SA00173AT.**

McCauley D3A34C401/90DFA-10 propeller
McCauley D3A34C402/90DFA-10 propeller
Hartzell PHC-C3YF-1RF/F8468A ()-6R propeller
Hartzell PHC-J3YF-1RF/F8468A ()-6R propeller
Hartzell PHC-C3YF-1RF/F7691 () propeller
Hartzell PHC-J3YF-1RF/F7691 () propeller

The information contained herein supplements or supersedes the information of the basic airplane flight manual only in those areas listed herein. For Limitations, Procedures and Performance information not contained in this Supplement, consult basic "Pilot's Operating Handbook and FAA Approved Airplane Flight Manual".

Original POH and AFM Supplement signed by:
Roger Anderson 8-11-93

F.A.A. Approved: Roger I Anderson

Manager
Atlanta Aircraft Certification Office,
Federal Aviation Admin.
Atlanta, GA.

Dated: JAN 30 1995

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LOG OF REVISIONS

Rev. No.	Pages	Description	Date	Approved
A	All	Revised address on entire manual	3/16/94	m73773
	All	Revised serial number applicability	3/16/94	
	1	Added propellers	3/16/94	
	2	Revised performance specifications	3/16/94	
	2, 3	Revised propeller specifications	3/16/94	
	4	Revised instrument markings	3/16/94	
	5	Revised placards	3/16/94	
	9	Revised Fuel Flow Chart	3/16/94	

Note: Revised text is indicated by a vertical black line along right margin.

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PERFORMANCE-SPECIFICATIONS

CESSNA MODEL 207A

ENGINE: Teledyne Continental, Fuel Injection
300 BHP at 2700 RPM (Maximum Continuous Rating)

IO-550-F

PROPELLER: 3-Bladed Constant Speed, Diameter

PHC-C3YF-1RF/F8468A ()-6R or PHC-J3YF-1RF/F8468A ()-6R.....

80 inches

PHC-C3YF-1RF/F7691 () or PHC-J3YF-1RF/F7691 ().....

78 inches

SECTION I. GENERAL

DESCRIPTIVE DATA

ENGINE

Engine Model Number: IO-550-F

Engine Type: Normally-aspirated, direct-drive, air-cooled, horizontally-opposed, fuel-injected, six-cylinder engine with 550 cu. in. displacement.

Horsepower Rating and Engine Speed: Maximum continuous power 300 rated BHP at 29.6 inches Hg and 2700 RPM.

PROPELLER

Propeller Model Number: McCauley D3A34C401/90DFA-10

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 10.4 +/- .2° and a high pitch setting of 28.5 +/- .5° (30 inch station).

Propeller Model Number: McCauley D3A34C402/90DFA-10

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 11.2 +/- .2° and a high pitch setting of 28.5 +/- .5° (30 inch station).

Propeller Model Number: Hartzell PHC-C3YF-1RF/F8468A ()-6R

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 11.7 +/- 0.1° and a high pitch setting of 30 - 32° (30 inch station).

Propeller Model Number: Hartzell PHC-J3YF-1RF/F8468A ()-6R

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 11.7 +/- 0.1° and a high pitch setting of 30 - 32° (30 inch station).

Propeller Model Number: Hartzell PHC-C3YF-1RF/F7691 ()

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 13.4 +/- 0.1° and a high pitch setting of 30 - 32° (30 inch station).

Propeller Model Number: Hartzell PHC-J3YF-1RF/F7691 ()

Propeller Type: Constant speed and hydraulically actuated with a low pitch setting of 13.4 +/- 0.1° and a high pitch setting of 30 - 32° (30 inch station).

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SECTION II. LIMITATIONS. (CONTINUED)

POWER PLANT INSTRUMENT MARKINGS

OIL TEMPERATURE GAGE

Caution Range (Yellow Radial)	76° to 100°F
Operation Range (Green Arc)	100° to 240°F
Maximum (Red Radial)	240°F

OIL PRESSURE GAGE

Minimum (Idle) (Red Radial)	10 PSI
Caution Range (Yellow ARC)	10 to 30 PSI
Operating Range (Green ARC)	30 to 60 PSI
Maximum (Red Radial)	100 PSI

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CYLINDER HEAD TEMPERATURE GAGE

Operating Range (Green ARC)	360°F to 420°F
Maximum (Red Radial)	460°F

TACHOMETER

D3A34C401/90DFA-10 or D3A34C402/90DFA-10

Continuous Operation Prohibited Range (Red ARC)	1950 to 2150 RPM
Operating Range (Green ARC)	1800 to 2700 RPM
Maximum (Red Radial)	2700 RPM

**PHC-C3YF-1RF/F8468A ()-6R, PHC-J3YF-1RF/F8468A ()-6R,
PHC-C3YF-1RF/F7691 () or PHC-J3YF-1RF/F7691 ()**

Operating Range (Green ARC)	1800 to 2700 RPM
Maximum (Red Radial)	2700 RPM

MANIFOLD PRESSURE GAGE

Operating Range (Green ARC)	15.0 to 29.6" HG
Maximum (Red Radial)	29.6" HG

FUEL FLOW INDICATOR

Operating Range (Green ARC)	4.0 to 27.4 GPH
Maximum (Red Radial)	27.4 GPH

SECTION II. LIMITATIONS (CONTINUATION)

PLACARDS

MAXIMUM POWER SETTINGS AND FUEL FLOW	
TAKEOFF: 2700 RPM, 29.6 IN. MP., 27.4 GPH	
MAXIMUM CONTINUOUS POWER: 2700 RPM	
PRESSURE ALTITUDE (FEET)	FUEL FLOW (GPH)
SL	27.4
2,000	24.0
4,000	22.5
6,000	21.0
8,000	19.5
10,000	18.0
12,000	16.5

(12) Near manifold pressure / fuel flow indicator.

AUX FUEL PUMP
 HI FOR PRIMING AND ENGINE
 DRIVEN PUMP FAILURE ONLY

(13) Near auxiliary pump switch

D3A34C401/90DFA-10 or D3A34C402/90DFA-10

Continuous Operation Prohibited
 Between 1950 RPM to 2150 RPM

PHC-C3YF-1RF/F7691 ()

Do not Exceed 20 Inches Manifold Pressure
 below 2250 RPM

PHC-J3YF-1RF/F7691 ()

Do not Exceed 20 Inches Manifold Pressure
 below 2200 RPM

(14) Next to Tachometer.

SECTION III. EMERGENCY PROCEDURES (NO CHANGE)

SECTION IV. NORMAL PROCEDURES

CHECKLIST PROCEDURES

TAKEOFF

NORMAL TAKEOFF

- (2) Power-- FULL THROTTLE and 2700 RPM.
- (3) Mixture--ADJUST to 27.4 GPH

SHORT FIELD TAKEOFF

- (3) Power--FULL THROTTLE and 2700 RPM.
- (4) Mixture-- Lean per table (Section II).

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CRUISE

- (1) Power -- 15-28 inches hg of manifold pressure and 2200 to 2700 RPM.
- (2) Mixture -- Lean for cruise fuel flow as determined from the OPERATIONAL DATA in Section V.

NOTE

In hot weather at high altitudes, be alert for fuel vapor indications. If fuel flow fluctuations are observed or if desired fuel flows cannot be maintained, place the auxiliary fuel pump switch in the LOW position and select the mixture control as required. The auxiliary fuel pump may be turned off when fuel flow will remain steady. Then reset the mixture as necessary.

LANDING

BALKED LANDING

- (1) Power-- FULL THROTTLE and 2700 RPM.

SECTION IV. NORMAL PROCEDURES (CONTINUATION)

AMPLIFIED PROCEDURES

CRUISE

Normal cruising is done between 65% and 75% of maximum continuous power. The power settings required to obtain these powers at various altitudes and outside air temperatures can be determined by using the OPERATIONAL DATA, Section V.

The Maximum Cruise Speed Performance table (figure 4-3) shows that cruising can be done most efficiently at higher altitudes because very nearly the same cruising speed can be maintained at much less power.

For greater cruising range at a given throttle setting, select the lowest engine RPM in the green arc range that will give smooth engine operation.

MAXIMUM CRUISE SPEED PERFORMANCE

PRESSURE ALTITUDE	% BHP	GAL/HR	TRUE AIRSPEED (mph)
6500	75	15.8	158
8000	70	14.6	156
10,000	65	13.6	152

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Figure 4-3

Cowl flaps should be adjusted to maintain the cylinder head temperature at approximately two thirds of the normal operating (green arc) range to assure prolonged engine life.

SECTION IV. NORMAL PROCEDURES (CONTINUATION)

LEANING WITH A CESSNA ECONOMY MIXTURE INDICATOR (EGT)

OPERATING INSTRUCTIONS.

If exhaust gas temperature indicators are used as an aid to leaning proceed as follows:

1. Adjust RPM for desired cruise setting.
2. Slowly move mixture control toward "lean" while observing E.G.T. gage. Note position on the instrument where the needle "peaks" or starts to drop as mixture is leaned further.
3. The recommended cruise setting is 2500 RPM and 25.0 In. Hg. MAP with the mixture set at 25°F rich or lean of peak E.G.T. At cruise settings below 65% engine may be operated at peak E.G.T.

Caution... Do not attempt to adjust mixture by use of E.G.T. at setting above 78% of maximum power. Also, remember that engine power will change with ambient conditions. Changes in altitude or outside air temperature will require adjustments in manifold pressure and fuel flow. (Refer to Charts Fuel Flow Vs. BHP, Section V).

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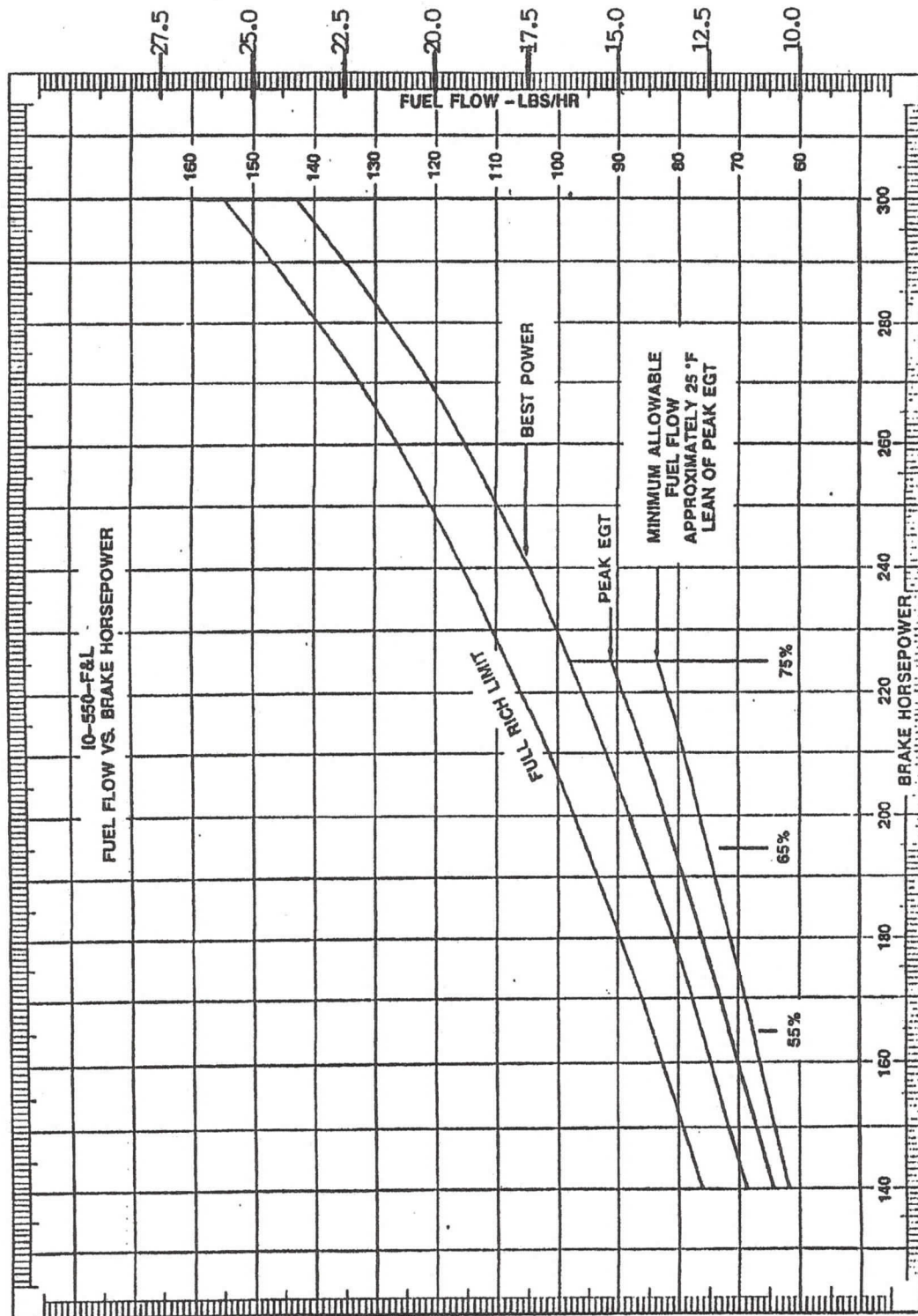
Gage fuel flow should fall between the maximum and minimum values on the curve. If not, the fuel injection system or instrumentation (including tachometer, manifold pressure, fuel flow gage or E.G.T. system) should be checked for maladjustments or calibration error.

SECTION V. PERFORMANCE

See following pages.

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TAKEOFF DISTANCE **MAXIMUM WEIGHT 3800 LBS**

SHORT FIELD

CONDITIONS:

Flaps 10°
 2700 RPM and Full Throttle Prior to Brake Release
 Mixture Set at Placard Fuel Flow
 Cowl Flaps Open
 Paved, Level, Dry Runway
 Zero Wind

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	27.4
2000	24.0
4000	22.5
6000	21.0
8000	19.5

NOTES:

1. Short field technique as specified in Section 4.
2. Where distance value has been deleted, climb performance after lift-off is less than 150 fpm at takeoff speed.
3. Decrease distances 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
4. For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL	TO CLEAR 50 FT OBS	GRND ROLL	TO CLEAR 50 FT OBS	GRND ROLL	TO CLEAR 50 FT OBS	GRND ROLL	TO CLEAR 50 FT OBS	GRND ROLL	TO CLEAR 50 FT OBS
3800	62	74	S.L. 1000 2000 3000 4000 5000 6000 7000 8000	985 1080 1180 1290 1415 1560 1715 1890 2090	1770 1940 2130 2345 2595 2880 3215 3615 4095	1060 1160 1270 1390 1525 1680 1850 2045 2260	1900 2085 2295 2530 2805 3125 3495 3945 4500	1140 1245 1365 1495 1645 1810 1995 2205 2445	2040 2240 2470 2730 3035 3390 3810 4325 4970	1225 1340 1465 1610 1770 1950 2150 2380 ---	2195 2410 2665 2955 3290 3685 4165 4760 ---	1315 1440 1575 1730 1905 2100 2320 --- ---	2355 2600 2875 3195 3570 4020 4575 --- ---

Figure 5-4. Takeoff Distance (Sheet 1 of 2)

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RATE OF CLIMB

MAXIMUM

CONDITIONS:

Flaps Up
 2700 RPM
 Full Throttle
 Mixture Set at Placard Fuel Flow
 Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	27.4
4000	22.5
8000	19.5
12,000	16.5

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
3800	S.L.	82	980	885	785	690
	2000	81	845	755	660	570
	4000	80	715	625	540	450
	6000	79	585	500	420	335
	8000	79	460	380	300	220
	10,000	78	340	260	180	---
	12,000	77	220	140	60	---
3500	S.L.	80	1125	1025	925	830
	2000	79	985	890	795	700
	4000	78	845	755	665	575
	6000	77	710	625	540	460
	8000	76	580	495	415	335
	10,000	76	450	370	295	---
	12,000	75	325	245	170	---
3200	S.L.	77	1290	1190	1085	985
	2000	76	1135	1040	940	845
	4000	76	995	900	810	720
	6000	75	850	760	675	590
	8000	74	715	630	550	470
	10,000	73	575	495	420	---
	12,000	72	440	365	290	---

Figure 5-5. Rate of Climb

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TIME, FUEL, AND DISTANCE TO CLIMB

MAXIMUM RATE OF CLIMB

CONDITIONS:

Flaps Up
 2700 RPM
 Full Throttle
 Mixture Set at Placard Fuel Flow
 Cowl Flaps Open
 Standard Temperature

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	27.4
4000	22.5
8000	19.5
12,000	16.5

NOTES:

1. Add 2.0 gallons of fuel for engine start, taxi and takeoff allowance.
2. Increase time, fuel and distance by 10% for each 10°C above standard temperature.
3. Distances shown are based on zero wind.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB FPM	FROM SEA LEVEL		
				TIME MIN	FUEL USED GALLONS	DISTANCE NM
3800	S.L.	82	810	0	0	0
	2000	81	700	3	1.0	4
	4000	80	595	6	2.1	8
	6000	79	490	10	3.4	14
	8000	79	385	14	4.9	21
	10,000	78	280	21	6.8	31
	12,000	77	175	30	9.5	45
3500	S.L.	80	950	0	0	0
	2000	79	835	2	0.8	3
	4000	78	725	5	1.8	7
	6000	77	610	8	2.8	11
	8000	76	500	12	4.0	17
	10,000	76	390	16	5.4	24
	12,000	75	280	22	7.2	33
3200	S.L.	77	1115	0	0	0
	2000	76	990	2	0.7	3
	4000	76	870	4	1.5	6
	6000	75	750	7	2.3	9
	8000	74	630	10	3.3	13
	10,000	73	515	13	4.4	19
	12,000	72	400	18	5.7	25

Figure 5-6. Time, Fuel, and Distance to Climb (Sheet 1 of 2)

TIME, FUEL, AND DISTANCE TO CLIMB

NORMAL CLIMB - 90 KIAS

CONDITIONS:

Flaps Up
 2550 RPM
 25 Inches Hg or Full Throttle
 Cowl Flaps Open
 Standard Temperature

MIXTURE SETTING	
PRESS ALT	GPH
S.L. to 4000	22.5
8000	19.5
12,000	16.5

NOTES:

1. Add 2.0 gallons of fuel for engine start, taxi and takeoff allowance.
2. Increase time, fuel and distance by 10% for each 8°C above standard temperature.
3. Distances shown are based on zero wind.

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WEIGHT LBS	PRESS ALT FT	RATE OF CLIMB FPM	FROM SEA LEVEL		
			TIME MIN	FUEL USED GALLONS	DISTANCE NM
3800	S.L.	530	0	0	0
	2000	530	4	1.1	6
	4000	505	8	2.3	12
	6000	400	12	3.6	19
	8000	290	18	5.2	29
	10,000	185	27	7.5	44
	12,000	80	44	11.5	74
3500	S.L.	640	0	0	0
	2000	640	3	0.9	5
	4000	620	6	1.9	10
	6000	505	10	2.9	16
	8000	395	14	4.2	23
	10,000	280	21	5.8	34
	12,000	170	30	8.0	51
3200	S.L.	770	0	0	0
	2000	770	3	0.8	4
	4000	750	5	1.6	8
	6000	625	8	2.4	13
	8000	505	12	3.4	19
	10,000	385	16	4.6	27
	12,000	265	23	6.1	38

Figure 5-6. Time, Fuel, and Distance to Climb (Sheet 2 of 2)

SECTION VI. WEIGHT AND BALANCE/EQUIPMENT LIST. (NO CHANGE)

SECTION VII. AIRPLANE & SYSTEMS DESCRIPTION.

ENGINE

The airplane is powered by a horizontally-opposed, six-cylinder, overhead-valve, air-cooled, fuel injection engine with a wet sum oil system. The engine is a Continental Model IO-550-F and is rated at 300 horsepower at 2700 RPM continuous. Major accessories include a propeller governor on the front of the engine and dual magnetos, starter, and belt-driven alternator on the rear of the engine. Provisions are also made for a vacuum pump and a full flow oil filter.

ENGINE INSTRUMENTS

The cylinder head temperature gage, under the left fuel quantity indicator, is operated by an electrical-resistance type temperature sensor on the engine which receives power from the airplane electrical system. Temperature limitations are the normal operating range (green arc) which is 360°F to 420°F, and the maximum (red line) which is 460°F. N75773

The engine-driven mechanical tachometer is located on the lower right side of the instrument panel. The instrument is calibrated in increments of 100 RPM and indicates both engine and propeller speed. An hour meter below the center of the tachometer dial records elapsed engine time in hours and tenths. Instrument markings include a normal operating range (green arc) of 1800 to 2700 RPM, a continuous operational prohibited range (red arc), if applicable, and a maximum (red line) of 2700 RPM.

The manifold pressure gage is the left half of a dual-indicating instrument mounted above the tachometer. The gage is direct reading and indicates induction air manifold pressure in inches of mercury. It has a normal operating range (green arc) of 15 to 29.6 inches HG, and a maximum (red line) of 29.6.

The fuel flow indicator is the right half of a dual-indicating instrument mounted above the tachometer. The indicator is a fuel pressure gage calibrated to indicate the approximate gallons per hour of fuel being metered to the engine. The normal cruise range (green arc) is from 3.0 to 27.4 gallons per hour, the maximum (red line) is 27.4 gallons per hour.

SECTION VIII. AIRPLANE HANDLING, SERVICE & MAINTENANCE. (NO CHANGE)