

FLINT AERO

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Report No. 337.11

FAA APPROVED
SUPPLEMENTAL AIRCRAFT FLIGHT MANUAL
TO

CESSNA 337, A, B, C, D (serial 337-0001 thru 337-1193, except 337-0306 and 337-0569)

CESSNA 337E, F, G (serial 33700306, 33701194 thru 33701671, except 33701449)

CESSNA M337B

CESSNA T337E (serial 33701194 thru 33701316)

CESSNA T337F (serial 33700569, 33701317 thru 33701398)

CESSNA T337G (serial P3370001 thru P3370225 & P3370677, except P3370196)

REIMS MODELS:

F337E (serial F3370001 thru F3370024)

F337F (serial F3370025 thru F3370055)

F337G (serial F3370056 thru F3370076)

FT337E (serial FT3370001 thru FT3370024)


FT337F (serial FT3370025 thru FT3370055)

FT337GP (serial FP3370001 thru FP3370015)

PLACARD AIRCRAFT

This supplemental Aircraft Flight Manual must be carried on board the airplane when the airplane is modified by the installation of the Flint Aero wing tip fuel tanks in accordance with STC SA5090NM .

The information contained herein supplements or supersedes the placards and the Cessna Owner's Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this Supplemental Aircraft Flight Manual, consult the basic placards and Cessna Owner's Manual.

FAA APPROVED: 
Manager, Flight Test Branch, ANM-1601
Federal Aviation Administration
Los Angeles Aircraft Certification Office
Transport Airplane Directorate

DATE: JUNE 7, 1991

REVISED: May 21, 1992

Supplemental AFM to:

Cessna 337, A Thru G; M337B; T337E, F, G;

Reims models: F337E, F, G; FT337E, F & GP

STC No. SA5090NM

REVISIONS AND ADDITIONS

REV LEV	DATE	PAGES AFFECTED	REMARKS	FAA APPROVED
Orig.	6/7/91	Title	Installation	 Manager, Flt. Test Branch FAA Los Angeles ACO ANM-160L Date <u>6/7/91</u>
	6/7/91	P-1	of wing tip	
	6/7/91	P-2	fuel tanks	
	6/7/91	P-3		
	6/7/91	1		
	6/7/91	2		
	6/7/91	3		
	6/7/91	4		
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Rev. A	5/21/92	Title	Add Reims	 Manager, Flt Test Branch FAA Los Angeles ANM-160L Date <u>5-21-92</u>
	5/21/92	P-1	models	
	5/21/92	P-2		
	5/21/92	P-3		
	5/21/92	1		
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	5/21/92	4		
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EFFECTIVE PAGE (Revisions)

PAGE	ORIG	DATE	PAGE	REV.	DATE	PAGE	REV	DATE
Title	N/C	6/7/91	Title	A	5/21/92			
P-1	N/C	6/7/91	P1	A	5/21/92			
P-2	N/C	6/7/91	P2	A	5/21/92			
P-3	N/C	6/7/91	P3	A	5/21/92			
1	N/C	6/7/91	1	A	5/21/92			
2	N/C	6/7/91	2	A	5/21/92			
3	N/C	6/7/91	3	A	5/21/92			
4	N/C	6/7/91	4	A	5/21/92			
5	N/C	6/7/91	5	A	5/21/92			
6	N/C	6/7/91	6	A	5/21/92			
7	N/C	6/7/91	7	A	5/21/92			
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9	N/C	6/7/91	9	A	5/21/92			
10	N/C	6/7/91	10	A	5/21/92			
11	N/C	6/7/91	11	A	5/21/92			
12	N/C	6/7/91	12	A	5/21/92			
13	N/C	6/7/91	13	A	5/21/92			

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SECTION 1 OPERATING CHECK LIST

PREFLIGHT INSPECTION - WING TIP FUEL TRANSFER TANKS

1. Master switch on. Check wing tip fuel tank gauges for fuel quantity. Visually check wing tip fuel tanks for quantity.
2. With master switch on, check each wing tip fuel tank pumps for operation by operating each pump separately with wing tip fuel tank transfer switches. Listen for pump operation. If no noise or vibration, assume pump is not operating. Check for service.
3. From each wing tip fuel tank, drain a sample quantity of fuel. Check for contamination. If any water is visible, drain additional amounts of fuel until all water is expelled from the tank.
4. Visually inspect external areas of wing around wing tip fuel tanks including leak detection drain for any signs of fuel leakage.
5. Check each wing tip tank filler neck for fuel quantity, filler cap for security, and vent lines for obstructions.

Before Takeoff

a. Add the following to the before takeoff procedure:

- Wing tip fuel tank transfer pump switches.....OFF

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SECTION 2 - DESCRIPTION AND OPERATING DETAILS

1. Wing Tip Fuel Tank Capacities

In addition to standard tanks:

Wing Tip Fuel Tank:

Total Capacity = 39.0 U.S. Gallons

Total Capacity Each Tank = 19.5 U.S. Gallons

Total Usable = 38.6 U.S. Gallons

Total Usable Each Tank = 19.3 U.S. Gallons

2. Operation of Wing Tip Fuel Tanks (Transfer)

To transfer, turn applicable "wing tip fuel tank transfer switch" on. When wing tip tanks indicate empty, turn applicable transfer switch off.

As a general procedure, do not transfer wing tip tank fuel while using the auxiliary tanks or until burning approximately one hour of fuel from the main tanks.

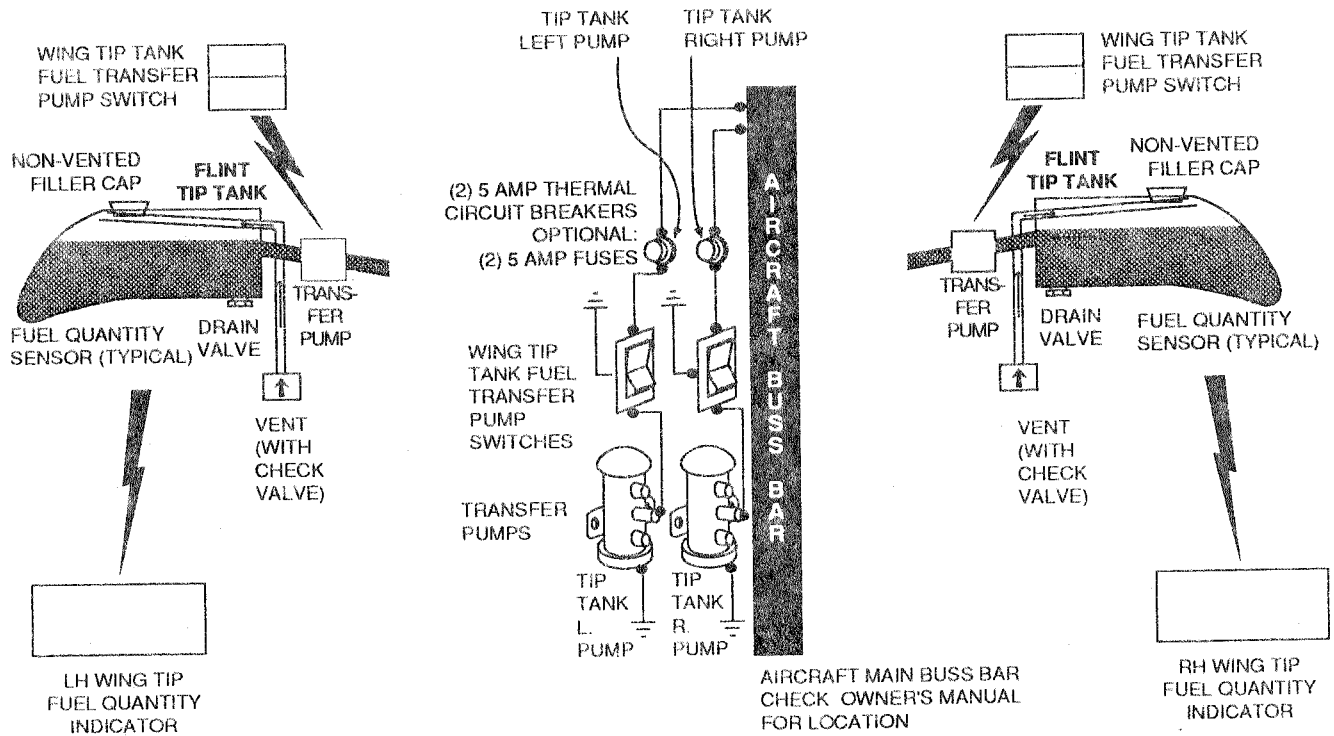
NOTE: Should the transfer pump fail, it is not possible to transfer fuel from the affected tank in flight.

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3. Climb

For models 337, 337A, 337B, M337B, 337C, 337D, 337E & Reims models F337E, F337F & F337G

Twin-engine climb speed (all weights)

Wing flaps up, gear up 103 MPH IAS best rate of climb

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SECTION 3 - EMERGENCY PROCEDURES

1. Landing Emergencies

For all landing emergencies add the following procedure:

Wing tip fuel tank transfer switch OFF

2. Engine-Out on Take-Off

For models 337, 337A, 337B, M337B, 337C, 337D, 337E &
Reims models F337E, F337F & F337G

Single-engine speeds at sea level

best rate of climb speed 101 MPH IAS

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SECTION 4 - OPERATING LIMITATIONS (CERTIFICATE)

1. Gross Weight Limits

	<u>T337G & FT337GP</u>
-Maximum takeoff weight is 4630 pounds	4700 pounds
-Maximum landing weight is 4400 pounds	4465 pounds
-Maximum zero fuel weight is 4330 pounds	4330 pounds

2. Weight and Balance Limits

-Center of gravity range (landing gear extended)

Forward Limit	Aft Limit	Weight
140.4	143.0	4700 lbs (for T337G & FT337GP)
140.0	143.0	4630 lbs
137.3	143.2	4400 lbs
134.5	143.3	3600 lbs

Straight line fairing between points.

3. Fuel Loading Limitations

-At weights between 4630 (4700lbs for T337G & FT337GP) and 4330 pounds, there must be at least 12 U.S. gallons of fuel in each wing tip tank.

Note: With low fuel loading and takeoff weights above 4330 pounds, a practical zero fuel weight will be 4180 pounds.

4. Wing Tip Fuel Tank Transfer Limits

-Do not transfer wing tip tank fuel until weight is below 4330 pounds.

-Do not transfer wing tip tank fuel until the main fuel tank on that side is at least 11 gallons below full and is the selected engine fuel source.

-Do not transfer wing tip tank fuel to a main tank that is not a selected engine fuel source until that main tank quantity is at least 20 gallons below full.

-Do not transfer wing tip fuel unless in level flight or on the ground.

-Do not transfer wing tip fuel during take off, landing, refueling, and when empty.

Note: Main fuel tank quantity below the full level can be determined by reference to fuel quantity gauges and by calculating fuel used by:

- 1) Estimating engine fuel flow rates versus time.
- 2) If installed, using engine fuel flow rates indicators versus time.

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SECTION 4 - OPERATING LIMITATIONS (CERTIFICATE)

5. Airspeed Limitations (CAS)

-For all turbocharged models, reduce never exceed speed (Vne) and maximum structural cruising speed (Vno) by 5 KIAS (6 MPH) per 1000 feet pressure altitude (HP) above 18,000 feet (HP).

6. Airspeed indicator marking (CAS)

Normal operating range.....74 to 190 MPH (green arc)

For T337G & FT337GP.....75 to 190 MPH (green arc)

Flap operating range.....67 to 120 MPH (white arc)

For T337G & FT337GP.....67 to 125 MPH (white arc)

7. Engine instrument markings

Wing tip fuel tank quantity indicators

Empty (0.2 U.S. Gallons unusable each tank)....E (red line)

Supplemental AFM to:

Cessna 337, A Thru G; M337B; T337E, F, G;

Reims models: F337E, F, G; FT337E, F & GP

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SECTION 4 - OPERATING LIMITATIONS (CERTIFICATE)

8. Placards

The following information is displayed in the form of composite or individual placards.

1. Adjacent to fuel selector valve cover at appropriate locations:

TOTAL WING TIP FUEL 39 U.S. GALLONS (38.6 GALLONS USABLE). TRANSFER WING TIP FUEL ONLY IN LEVEL FLIGHT WHEN MAIN TANK IS 11 U.S. GALLONS BELOW FULL AND IS A SELECTED ENGINE FUEL SOURCE OR 20 U.S. GALLONS BELOW FULL WHEN NOT A SELECTED ENGINE FUEL SOURCE.
WING TIP FUEL TANK PUMP SWITCHES MUST BE OFF DURING TAKEOFF, LANDING, REFUELING, AND WHEN EMPTY.

2. Forward of each wing tip tank filler

19.5 U.S. GALLONS (19.3 GALLONS USABLE)
100LL OR 100/130 MIN. GRADE AVIATION GASOLINE

3. Adjacent to wing tip fuel tank pump switches

WING TIP FUEL TANK PUMPS MUST BE OFF DURING TAKEOFF, LANDING, REFUELING AND WHEN EMPTY. MONITOR MAIN FUEL TANK GAUGE WHILE TRANSFERRING WING TIP FUEL TO PREVENT OVER FILLING.

4. At wing tip fuel tank pump switches

LEFT WING TIP FUEL	RIGHT WING TIP FUEL
19.5 GALLONS	19.5 GALLONS
19.3 GALLONS USABLE	19.3 GALLONS USABLE
ON	ON
OFF	OFF

5. Installed near wing tip fuel gauge

LEFT WING TIP FUEL	RIGHT WING TIP FUEL
19.3 U.S. GALLONS	19.3 U.S. GALLONS
USABLE	USABLE

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SECTION 4 - OPERATING LIMITATIONS (CERTIFICATE)

Placards (cont.)

6. Installed adjacent to each wing tip fuel tank leak detection drain
(3 per side)

FUEL OR VAPOR FROM DRAIN
REQUIRES IMMEDIATE REPAIRS

7. Installed adjacent to appropriate wing tip tank pump circuit breakers
or fuses

TIP TANK L PUMP
TIP TANK R PUMP

8. Near the airspeed indicator (for turbocharged models only)

REDUCE Vne AND Vno BY 5 KIAS (6 MPH) PER 1000 FEET
(Hp) ABOVE 18,000 FEET (Hp).

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SECTION 4 - OPERATING LIMITATIONS (CERTIFICATE)

Weight and Balance Equipment List

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF	WT-LBS	ARM-INS
		DRAWING		
	C. ELECTRICAL SYSTEMS			
C-1-F	Fuel Pump - L.H. Wing Tip Tank	FA 337-IN	+2.0	145.0
C-2-F	Fuel Pump - R.H. Wing Tip Tank	FA 337-IN	+2.0	145.0
	D. INSTRUMENTS			
D-1-F	Gauges - L.H. & R.H. Wing Tip Fuel Tank Quantity Indicator	FA 337-IN		75.5*
	1. Dual needles - single gauge		+0.2	
	2. Single needle - two gauges		+0.8	
	J. SPECIAL PACKAGES			
J-1-F	Wing tips & fuel tanks including position lights (net change)			
	1 - Remove Cessna wing tips and install Flint Aero Wing Tip Fuel Tanks	FA 337-IN	+45.7	150.5
	2 - Unusable fuel in Flint Aero Wing Tip Tanks (0.4 U.S. Gal. at 6 lbs/U.S. gal.)	FA 337-IN	+2.4	150.5
	TOTAL INSTALLATION NET CHANGE		+52.3 or +52.9	-
<u>NOTE</u>	In calculating weight and balance for full wing tip fuel tank: 38.6 U.S. gal. usable x 6 lbs/ U.S. gal. x <u>150.5 in.</u> arm = moment of 34,855.8 in. lbs. or 34.86 in. lbs./1000 C.G. = total moment divided by total weight			

* Determine arm after installation for various gauge(s) location.

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