

FLINT AERO
8665 MISSION GORGE RD. BLDG. D-1
SANTÉE, CALIFORNIA 92071
SUPPLEMENT NO. 152-AF

FAA APPROVED

AIRPLANE FLIGHT MANUAL AND PILOTS OPERATING HANDBOOK SUPPLEMENT

TO

CESSNA 152 AND A152

AIRPLANE FLIGHT MANUAL

AND POH AS NOTED BELOW *

This supplement must be attached to the FAA Approved Airplane Flight Manual and POH as noted below* when the airplane is modified by the installation of Flint Aero Auxiliary Wing Fuel Tanks in accordance with STC SA1809WE.

This information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the basic Airplane Flight Manual and POH.

* MODEL	POH	AIRPLANE S/N
152, Cessna	P/N D1136-13PH	(S/N 15282032 through 15283591)
A152, Cessna	P/N D1137-13PH	(S/N 681, A1520809 through A1520878)
152, Cessna	P/N D1170-13PH	(S/N 15283592 through 15284541)
A152, Cessna	P/N D1171-13PH	(S/N A1520879 through A1520943)
152, Cessna	P/N D1210-13PH	(S/N 15285162 through 15285594)
A152, Cessna	P/N D1211-13PH	(S/N A1520984 through A1521014)
152, Cessna	P/N D1229-13PH	(S/N 15285595 through 15285833)
A152, Cessna	P/N D1230-13PH	(S/N A1521015 through A1521025)
152, Cessna	P/N D1249-13PH	(S/N 15285834 and on)
A152, Cessna	P/N D1250-13PH	(S/N A1521026 and on)

FAA APPROVED

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Northwest Mountain Region

DATE

May 18, 1984

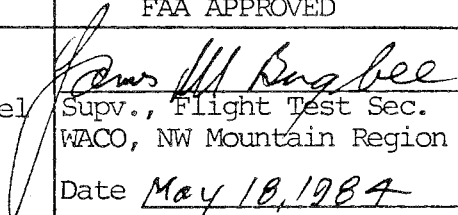
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LOG OF PAGES (INCLUDING REVISIONS)

*Revised Pages

REV. NO.	PAGES		DESCRIPTION	FAA APPROVED
	NO.	DATE		
Orig.	1 thru 15	MAY 18 1984	Installation of Auxiliary Wing Fuel Tanks	 Supv., Flight Test Sec. WACO, NW Mountain Region Date <u>May 18, 1984</u>

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SECTION 1

GENERAL

FUEL

In addition to standard or long range tanks:

AUXILIARY WING FUEL TANKS:

TOTAL CAPACITY: 24 U.S. Gallons
TOTAL CAPACITY EACH TANK: 12 U.S. Gallons
TOTAL USABLE: 23 U.S. Gallons

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SECTION 2
LIMITATIONS

AIRSPEED LIMITATIONS

For acrobatic A152 models with auxiliary wing fuel tanks:

AIRSPEED LIMITS WHEN ANY AMOUNT OF USABLE FUEL IN
AUXILIARY TANKS ARE AS FOLLOWS:

	SPEED	KCAS	KIAS	REMARKS
V _{ne}	Never exceed speed	137	141	
V _{no}	Maximum structural cruising speed	101	104	
V _a	Maneuvering speed	93	95	

FUEL LIMITATIONS

In addition to standard or long range tanks:

2 AUXILIARY WING FUEL TANKS: 12 U.S. Gallons
TOTAL FUEL: 24 U.S. Gallons
USABLE FUEL (LEVEL FLIGHT): 23 U.S. Gallons
UNUSABLE FUEL: 1.0 U.S. Gallons

PLACARDS (Add following placards)

For acrobatic A152 models with auxiliary wing fuel tanks:

NEAR AIRSPEED INDICATOR

AIRSPEED LIMITS WHEN AUXILIARY FUEL TANKS CONTAIN ANY AMOUNT OF FUEL:	
V _{ne} (NEVER EXCEED)	162 MPH (141 KTS)
V _{no} (MAX. STRUCT. CRUISE)	120 MPH (104 KTS)
V _a (MANEUVERING)	109 MPH (95 KTS)

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SECTION 2
LIMITATIONS

PLACARDS (continued)

NEAR AUXILIARY FUEL TANK PUMP SWITCH

AUXILIARY FUEL - 24 U.S. GAL.
(23 USABLE)

AUXILIARY FUEL MUST BE OFF DURING
TAKE-OFF, LANDING, FILLING, AND WHEN
AUXILIARY IS EMPTY. MONITOR MAIN
FUEL TANK GAUGE WHILE TRANSFERRING
AUXILIARY FUEL TO PREVENT OVERFILLING.

"INTENTIONAL SPINS PROHIBITED WITH
FUEL IN AUXILIARY TANKS."

ON AUXILIARY FUEL TANK PUMP SWITCHES

LEFT AUX
FUEL 12 GAL
11.5 USABLE

ON

○

OFF

RIGHT AUX
FUEL 12 GAL
11.5 USABLE

ON

○

OFF

FOR ACROBATIC MODEL A152
NEAR AUXILIARY FUEL TANK PUMP SWITCHES

AUXILIARY FUEL MUST BE OFF AND
AUXILIARY TANKS EMPTY FOR
ACROBATIC MANEUVERS.

NEAR AUXILIARY FUEL TANK FILLER CAPS

12 U.S. GAL.
(11.5 GAL. USABLE)

(* *) MIN. GRADE AV. GASOLINE.
AUX. PUMP SWITCH MUST BE
OFF BEFORE FILLING.

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SECTION 3

EMERGENCY PROCEDURES

WING FIRE (add)

AUXILIARY FUEL TANK PUMP SWITCHES --- OFF

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SECTION 4

NORMAL PROCEDURES

PREFLIGHT INSPECTION - AUXILIARY WING FUEL TANKS

- 1) CHECK FUEL GAUGE READING FOR QUANTITY. . Visually check QTY.
- 2) FROM BOTH RIGHT AND LEFT AUX. TANKS, DRAIN SMALL QUANTITY OF FUEL AND CHECK FOR ANY CONTAMINATION. IF ANY WATER IS VISIBLE, CONTINUE DRAINING UNTIL ALL WATER IS EXPELLED FROM AUX. TANK.
- 3) VISUALLY INSPECT EXTERNAL AREAS OF WING AROUND AUX. FUEL TANKS FOR ANY SIGNS OF FUEL LEAKAGE.

BEFORE STARTING ENGINE (add)

WITH MASTER SWITCH ON, CHECK EACH AUX. FUEL PUMP FOR OPERATION BY TURNING ON INDIVIDUAL ON/OFF SWITCH. LISTEN FOR PUMP OPERATION. IF NO NOISE OR VIBRATION THEN PUMP IS NOT OPERATING.

SPINS

INTENTIONAL SPINS ARE PROHIBITED WITH FUEL IN THE AUXILIARY WING FUEL TANKS.

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SECTION 5

RANGE AND ENDURANCE

WITH AUXILIARY WING FUEL TANKS (23 U.S. GALLONS USABLE)

For altitudes between sea level and 8,000 feet additional range and endurance including 45 min. reserve will be at least:

POWER	75%	45%
Range Nautical Miles	380	472
Endurance Hours	3.7	5.8

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SECTION 6

FOR AIRPLANE WITH AUXILIARY WING FUEL TANKS

AIRPLANE WEIGHING PROCEDURES

SAMPLE AIRPLANE WEIGHING CHART

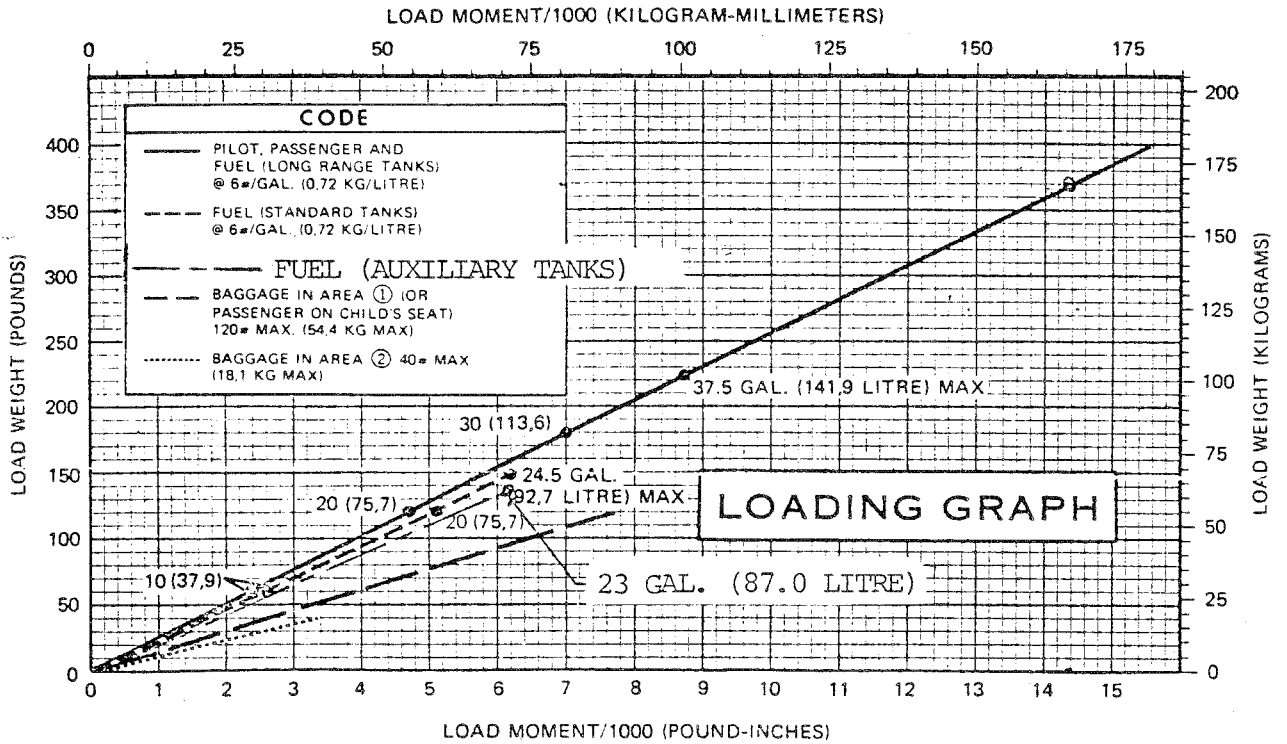
Item	Weight (Lbs.)	X C.G. Arm (In.) =	Moment/1000 (Lbs.-In.)
Airplane Weight (From Item 5, page 6-3)			
Add Oil:			
No Oil Filter (6 Qts at 7.5 Lbs/Gal)		-14.7	
With Oil Filter (7 Qts at 7.5 Lbs/Gal)		-14.7	
Add Unusable Fuel:			
Std. Tanks (1.5 Gal at 6 Lbs/Gal)		40.0	
L.R. Tanks (1.5 Gal at 6 Lbs/Gal)		40.0	
L&R Aux Fuel (1.0 Gal at 6 Lbs/Gal.)		50.0	
Equipment changes			
Airplane Basic Empty Weight			

WEIGHT AND BALANCE

SAMPLE LOADING PROBLEM	SAMPLE AIRPLANE		YOUR AIRPLANE	
	Weight (lbs.)	Moment (lb.-ins. /1000)	Weight (lbs.)	Moment (lb.-ins. /1000)
1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)	1136	34.0		
2. Usable Fuel (At 6 Lbs./Gal.)				
Standard Tanks (24.5 Gal. Maximum)	147	6.2		
Long Range Tanks (37.5 Gal. Maximum)				
Aux. Fuel (23 Gal. Maximum) @ 44"	138	6.1		
Reduced Fuel (As limited by maximum weight)				
3. Pilot and Passenger (Station 33 to 41)	202	7.8		
4. Baggage - Area 1 (Or passenger on child's seat) (Station 50 to 76, 120 Lbs. Max.)	47	3.0		
5. Baggage - Area 2 (Station 76 to 94, 40 Lbs. Max.)				
6. TOTAL WEIGHT AND MOMENT	1670	57.1		
7. Locate this point (1670 at 56.5) on the Center of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable.				

SECTION 6

WEIGHT AND BALANCE (continued)



NOTES: Line representing adjustable seats shows the pilot or passenger center of gravity on adjustable seats positioned for an average occupant. Refer to the Loading Arrangements Diagram for forward and aft limits of occupant C.G. range.

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SECTION 7

WITH AUXILIARY WING FUEL TANKS

AIRFRAME

Left and right auxiliary fuel tank pump switches are located on the instrument panel.

Left and right auxiliary fuel tank quantity gauges are located either on the instrument panel or above each door jam respectively.

FUEL SYSTEM

FUEL QUANTITY DATA (U.S. GALLONS)			
TANKS	TOTAL USABLE FUEL ALL FLIGHT CONDITIONS	TOTAL UNUSABLE FUEL	TOTAL FUEL VOLUME
STANDARD (13 Gal. Each)	24.5	1.5	26.0
LONG RANGE (19.5 Gal. Each)	37.5	1.5	39.0
AUXILIARY WING (12 Gal. Each)	23.0	1.0	24.0

In addition to the main tanks, two auxiliary wing fuel tanks are installed in the tip area of the wings. The capacity is 12 U.S. gallons each (11.5 usable). These tanks transfer to each main tank by transfer pumps controlled by two switches in the cockpit. Each tank has a water drain and is vented through its respective filler cap. Each tank has its individual fuel quantity gauge.

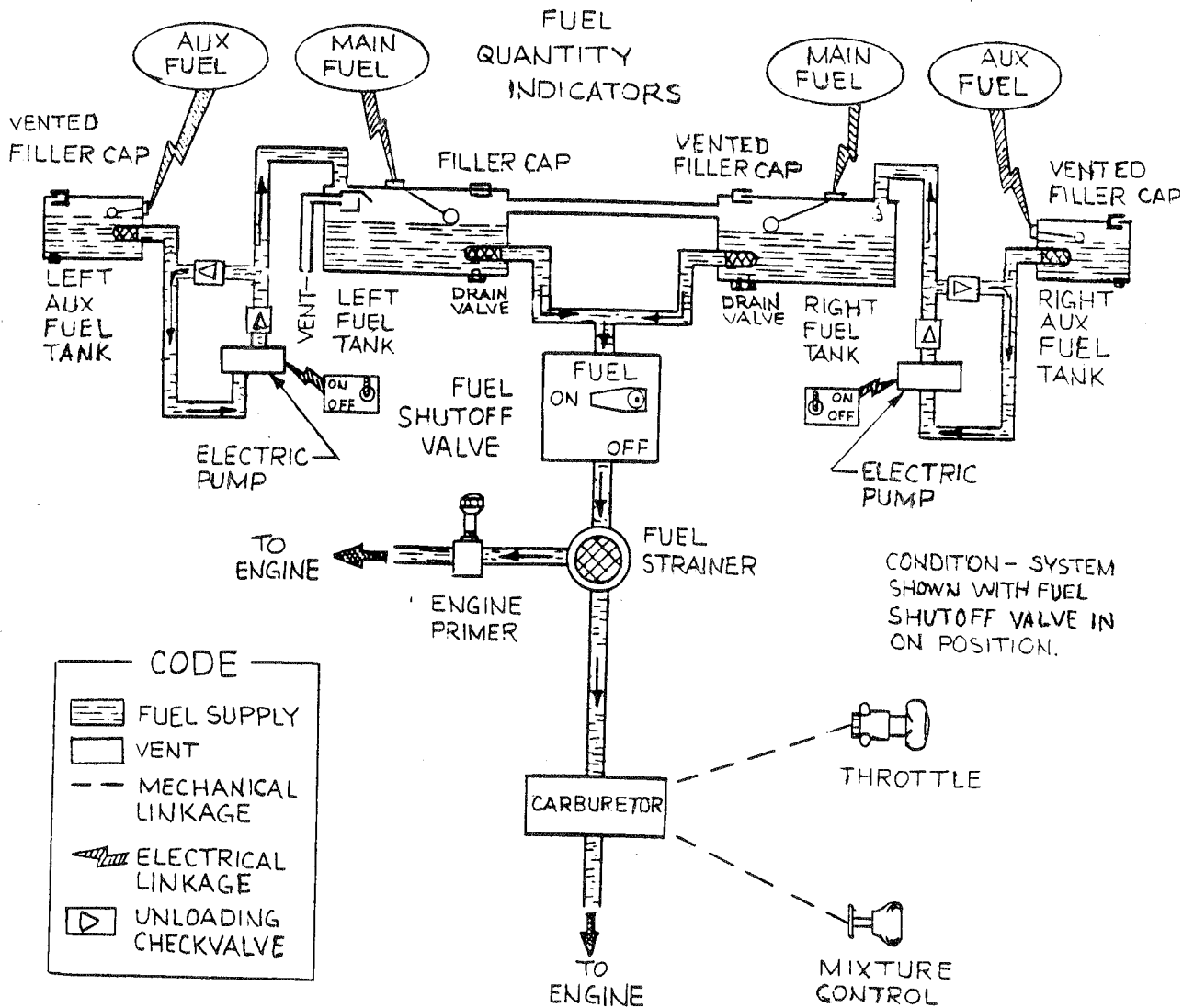
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SECTION 7

FUEL SYSTEM (continued)



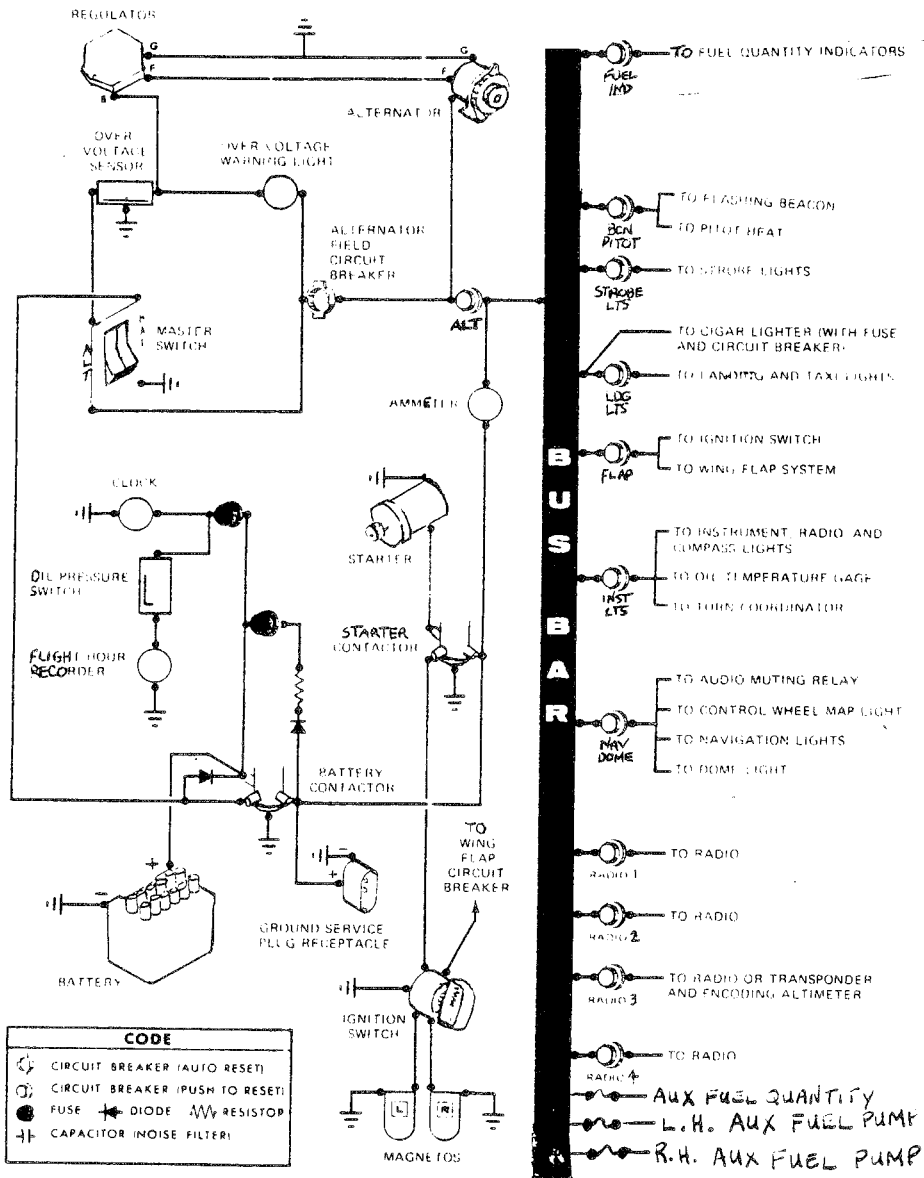
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SECTION 7

ELECTRICAL SYSTEM



CIRCUIT BREAKERS AND FUSES

Each aux. fuel pump has its individual 5 amp fuse and is connected to the main buss bar. Both aux. fuel quantity gauges have one common in line 5 amp fuse mounted to main buss bar.

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SECTION 8

WITH AUXILIARY WING FUEL TANKS

FUEL

CAPACITY EACH AUXILIARY WING FUEL TANK: 12 U.S. Gallons