

STARTING THE ENGINE.

- (1) Master Switch -- "ON".
- (2) Carburetor Heat -- Cold.
- (3) Mixture -- Rich.
- (4) Primer -- 2-5 strokes (depending on temperature).
- (5) Throttle -- Open 1/8".
- (6) Propeller Area -- Clear.
- (7) Ignition Switch -- "BOTH".
- (8) Starter -- Engage.

BEFORE TAKE-OFF.

- (1) Flight Controls -- Check.
- (2) Trim Tab -- "TAKE-OFF" setting.
- (3) Cabin Doors -- Latched and locked.
- (4) Throttle Setting -- 1700 RPM.
- (5) Engine Instruments -- Check.
- (6) Carburetor Heat -- Check operation.
- (7) Magnetos -- Check (75 RPM maximum differential between magnetos).
- (8) Flight Instruments and Radios -- Set.
- (9) Suction Gage -- Check (4.6 to 5.4 inches of mercury).

TAKE-OFF.

NORMAL TAKE-OFF.

- (1) Wing Flaps -- 0°
- (2) Carburetor Heat -- Cold.
- (3) Power -- Full throttle (applied smoothly).
- (4) Elevator Control -- Lift nosewheel at 60 MPH.
- (5) Climb Speed -- 85 MPH.

MAXIMUM PERFORMANCE TAKE-OFF.

- (1) Wing Flaps -- 0°
- (2) Carburetor Heat -- Cold.
- (3) Brakes -- Apply.
- (4) Power -- Full throttle.

- (5) Brakes -- Release.
- (6) Elevator Control -- Slightly tail low.
- (7) Climb Speed -- 66 MPH (with obstacles ahead).

CLIMB.

NORMAL CLIMB.

- (1) Airspeed -- 80 to 90 MPH.
- (2) Power -- Full throttle.
- (3) Mixture -- Full rich (unless engine is rough).

MAXIMUM PERFORMANCE CLIMB.

- (1) Airspeed -- 80 MPH at sea level to 77 MPH at 10,000 feet.
- (2) Power -- Full throttle.
- (3) Mixture -- Full rich (unless engine is rough).

CRUISING.

- (1) Power -- 2200 to 2700 RPM.
- (2) Trim Tab -- Adjust.
- (3) Mixture -- Lean.

LET-DOWN.

- (1) Mixture -- Rich.
- (2) Power -- As desired.
- (3) Carburetor Heat -- As required to prevent carburetor icing.

BEFORE LANDING.

- (1) Mixture -- Rich.
- (2) Fuel Selector -- "BOTH ON."
- (3) Carburetor Heat -- Apply full heat before closing throttle.
- (4) Airspeed -- 70 to 80 MPH (flaps up).

Section II

DESCRIPTION AND OPERATING DETAILS

The following paragraphs describe the systems and equipment whose function and operation is not obvious when sitting in the airplane. This section also covers in somewhat greater detail some of the items listed in Check List form in Section I that require further explanation.

FUEL SYSTEM.

Fuel is supplied to the engine from two aluminum tanks, one in each wing. From these tanks, fuel flows by gravity through a selector valve and a strainer to the carburetor.

Refer to figure 2-2 for fuel quantity data. For fuel system servicing information, refer to Lubrication and Servicing Procedures in Section IV.

FUEL QUANTITY DATA (U.S. GALLONS)					
TANKS	NO.	USABLE FUEL ALL FLIGHT CONDITIONS	ADDITIONAL USABLE FUEL (LEVEL FLIGHT)	UNUSABLE FUEL (LEVEL FLIGHT)	TOTAL FUEL VOLUME EACH
LEFT WING	1	18.0 gal.	1.0 gal.	0.5 gal.	19.5 gal.
RIGHT WING	1	18.0 gal.	1.0 gal.	0.5 gal.	19.5 gal.

Figure 2-2.

WEIGHT AND BALANCE. *1493.0 empty wt.*

The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To figure the weight and balance for your particular airplane, use the Sample Problem, Loading Graph, and Center of Gravity Moment Envelope as follows:

Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, carried in your airplane, and write them down in the proper columns. Using the Loading Graph, determine the moment/1000 of each item to be carried. Total the weights and moments/1000 and use the Center of Gravity Moment Envelope to determine whether the point falls within the envelope, and if the loading is acceptable.

ACFT WT'd on 10/25/95 following 180HP conversion =

*ACFT - empty wt - 1493.0
ACFT - useful load - 609.0 with full gas
ACFT E.W. CG - 36.73*

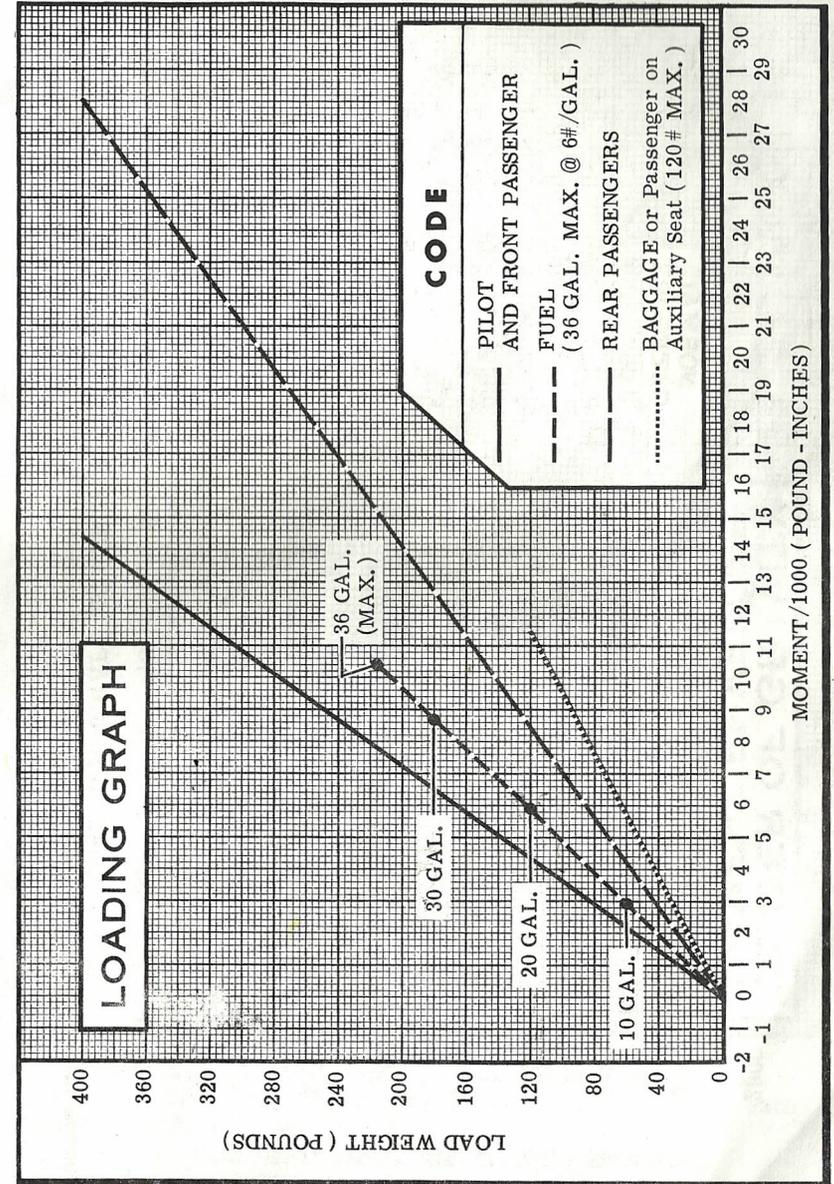
Payload with full gas and 2500lb G.W. STC - 791.0 lbs

SAMPLE AIRPLANE	Sample Airplane		Your Airplane	
	Weight (lbs)	Moment (lb-ins./1000)	Weight	Moment
1. Licensed Empty Weight (Sample Airplane) ...	1324	48.2		
2. Oil - 8 Qts.*	15	-0.3	15	-0.3
3. Pilot & Front Passenger	340	12.2		
4. Fuel - (36 Gal at 6#/Gal) ... <i>6 X 36 =</i>	216	10.4		
5. Rear Passengers	340	23.8		
6. Baggage (or Passenger on Auxiliary Seat)	65	6.2		
7. Total Aircraft Weight (Loaded)	2300	100.5		

8. Locate this point (2300 at 100.5) on the center of gravity envelope, and since this point falls within the envelope the loading is acceptable. *791*

*Note: Normally full oil may be assumed for all flights.

609 payload at 2300 lbs fuel



Flap Operating Range 52-100 MPH (white arc)
Maneuvering Speed* 122 MPH

*The maximum speed at which you can use abrupt control travel without exceeding the design load factor.

ENGINE OPERATION LIMITATIONS.

Power and Speed:

~~145 BHP at 2700 RPM~~
180 HP AT 2700 RPM

ENGINE INSTRUMENT MARKINGS.

OIL TEMPERATURE GAGE.

Normal Operating Range Green Arc
Maximum Allowable 240°F (red line)

OIL PRESSURE GAGE.

Minimum Idling ²⁵ 10 psi (red line)
Normal Operating Range 55-95 30-60 psi (green arc)
Maximum 95 100 psi (red line)

FUEL QUANTITY INDICATORS.

Empty (1.50 gallons unusable each tank) E (red line)

TACHOMETER.

Normal Operating Range:
At sea level 2200-2500 (inner green arc)
At 5000 feet 2200-2600 (middle green arc)
At 10,000 feet 2200-2700 (outer green arc)
Maximum Allowable 2700 (red line)

Aircraft Weight and Balance Revision Form

Date: 06-04-2013

Aircraft
Tail No: N2838L
Make: Cessna
Model: 172H
Serial: 56038
Time: 2568.1 AFTT
TCD No:

Registered Owner
Name: A-R-M Aircraft Leasing LLC
Address: 104 Marclay Rd Williamsburg, Va. 23185

Weight	CG Range
Maximum Weight: 2,300.00	FWD: AFT:

As Received				
Previous Weight & Balance Date : 02-17-2011				
Empty Weight: 1,492.25	Useful Load: 807.75	Empty Weight CG: 36.69	Moment: 54,753.86	

Item	Weight	Arm	Moment
EDM-700 engine monitor	2.0	15.00	30.00
Front shoulder harness (set of two)	1.5	36.00	54.00
Wing leveler system	-4.0	65.00	-260.00
Bendix T12-C ADF	-10.0	19.50	-195.00
IVI belly strobe	-1.8	178.00	-311.50
			0.00
			0.00
			0.00

New				
Empty Weight: 1,480.00	Useful Load: 820.00	Empty Weight CG: 36.53	Moment: 54,071.36	

Notes:

As Calculated
 As Weighed

Prepared By: Williamsburg Flight Center
 104 Marclay Rd
 Williamsburg, Va. 23185

Signature: _____

Printed Name: Shawn T Cole

Repair Agency License No: AP3142798