

# C172R

All information below extracted from Pilot's Operating Handbook. For reference only.

## ENGINE

Textron Lycoming  
IO-360-L2A  
4 Cylinder  
Horizontally Opposed  
Direct Drive  
Naturally Aspirated  
Air cooled  
Internal Combustion  
Fuel injected  
360 CU. IN. DISP  
2400 RPM ; 160 BHP

## OIL T.

Min 100 F  
Max 245 F  
Op. 100 - 245 F

## OIL P.

Min 20 PSI  
Max 115 PSI  
Op. 50 - 90 PSI

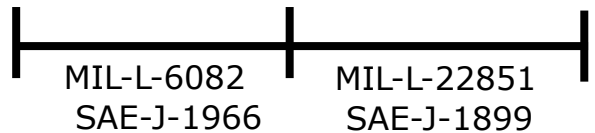
## OIL QTY.

Total 9 US QTZ  
Sump 8 US QTZ  
Min 5 US QTZ

0 HRS

50 HRS

LIFETIME



## VACUUM

4.5-5.5 INHG  
Suction for DGI & AH

## WING LOADING

14.1 LBS/ SQFT

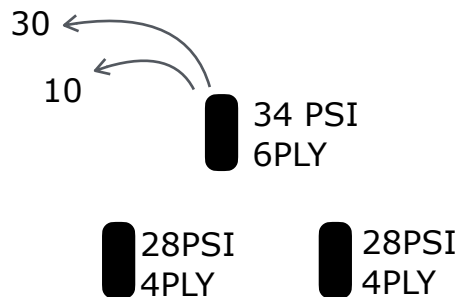
## POWER LOADING

15.3 LBS/HP

## PROPELLER

McCauley Propeller Systems  
1C235/LFA7570  
Twin blade  
Fixed Pitch  
GND clearance 11.25"  
75 inches.

## UNDERCARRIAGE



Brake fluid - MIL L 5606

Tricycle

MLG - Tubular Spring  
steel leg

NLG - Oleo Pneumatic  
strut

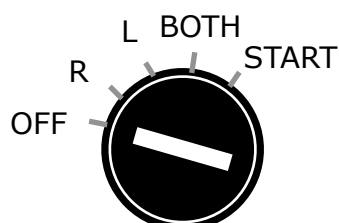
Brakes - On MLG only,  
type - Single disc  
hydraulically actuated

## FLAPS

Single Slotted  
Driven electrically by  
Motor in the right wing  
10 AMP CB  
0, 10, 20, 30 positions  
Mechanical stops at  
10, 20, 30

## CHECKS

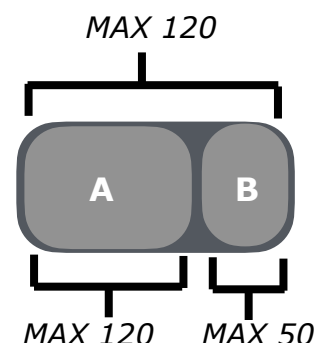
- 1) Mag Drop
  - 1800 RPM
  - Drop < 150
  - Diff 50
- 2) Static RPM
  - Full throttle
  - 2065 to 2165



**BATT 24V DC**  
**ALT 28V, 60AMP**

## WEIGHTS (LBS)

|           |      |
|-----------|------|
| RAMP      | 2457 |
| T/O & LDG | 2450 |
| USEFUL    | 818  |
| SEW       | 1639 |
| BAGG      | 120  |



## FUEL

AVGAS 100 LL (Blue) OR AVGAS 100 (Green)

TOTAL FUEL CAPACITY - 56 USG  
USABLE FUEL CAPACITY - 53 USG

28 USG



1.5 USG

28 USG



1.5 USG

### FUEL SELECTOR

BOTH FOR T/O & LDG. CLIMB & DESCENT

L/R ONLY IN CRUISE

### FUEL QTY INDICATION

0 - 1.5 USG RED  
1.5 - 5 USG YELLOW  
5 - 24 USG GREEN

### UN-COORDINATED FLIGHT

WITH 1 TANK EMPTY OR 1/4 CAPACITY  
OR LESS PERMITTED FOR 30 S MAX

### FUEL DRAIN VALVES

5 UNDER EACH WING  
3 UNDER THE BELLY

## PERFORMANCE

### SPEED

MAX AT SL ..... 123KTS  
CRUISE 80% PWR AT 8,000 FT.....122KTS

### CRUISE

80% PWR 8,000FT ..... 580NM 4.8 HRS  
60% PWR 10,000 FT ..... 687 NM 6.6 HRS

ROC AT SL ..... 720 FPM

### TAKE OFF

GND ROLL ..... 945'  
DIST 50 FT .....1685'

### LANDING

GND ROLL .....550'  
DIST 50FT .....1295'

SERVICE CEILING ..... 13,500

ENROUTE climb at SL ..... 75 - 85 KTS  
(Best speed : combo of engine perf, cooling  
& visibility outside since nose low)

| MIXTURE DESCRIPTION                               | EXHAUST GAS TEMPERATURE |
|---|-------------------------|
| RECOMMENDED LEAN<br>(Pilot's Operating Handbook ) | 50° Rich of Peak EGT    |
| BEST ECONOMY                                      | Peak EGT                |

## GENERAL NOTES

- For max cabin heat, push cabin air in & Pull cabin heat out.
- Stall warning is activated 5 - 10 kts above stalling speed in all conditions
- On encountering ICING, the appropriate action is turn back or change altitude
- Aircraft is DAY NIGHT IFR VFR approved
- No aerobatic manoeuvres, only acrobatic manoeuvres approved
- Utility category means backseat & baggage empty
- To minimise compass card swings, choose easterly or westerly heading
- Voltmeter/OAT/CLOCK Pushing upper control button - E F C E. Takes 3 Sec to start.
- To apply parking brake, apply brake pressure - pull handle 90 - release brake press.
- Normal fuel flow range is 0 - 11 GPH.
- You can fill till a minimum of 17.5 Gallons to allow for more cabin load
- Isopropyl alcohol max 1% & DiEGME max 0.10/0.15 %

| SPEEDS    |     | CG LIMITS                 | EGT LIMIT              | CHT LIMIT   |
|-----------|-----|---------------------------|------------------------|-------------|
| VSO       | 33  | 1950 LBS                  | 1250 - 1650 F          | 200 - 500 F |
| VS        | 44  | FWS : 35"                 |                        |             |
| VX        | 60  | AFT : 47.3"               |                        |             |
| VY        | 79  |                           |                        |             |
| VA        |     |                           | LOAD FACTOR LIMITS     |             |
| 2450      | 99  | 2450 LBS                  | 2450 LBS               |             |
| 2000      | 92  | FWD : 40"                 | WOF -1.52G             |             |
| 1600      | 82  | AFT: 47.3"                | +3.8G                  |             |
|           |     |                           | WF +3G                 |             |
| VR        | 55  | DATUM - Lower portion     |                        |             |
| VFE 10    | 110 | Of front face of firewall |                        |             |
| VFE 20 30 | 85  |                           |                        |             |
| VNO       | 129 | All inches aft of datum   | White arc ; 33 - 85    |             |
| VNE       | 163 |                           | Green arc ; 44 - 129   |             |
| VG WF     | 60  |                           | Yellow arc ; 129 - 163 |             |
| WOF       | 65  |                           | ARC ON ASI             |             |

## GENERAL NOTES

- Fire on ground ; THROTTLE FULL OPEN, MIXTURE IDLE CUT OFF
  - Engine failure during take off roll; FIRST THROTTLE IDLE
  - Landing with Flat MLG - Flaps 30. Landing with Flat NLG - Flaps as required
  - Airspeed when engine fails after take off - 65KTS WOF, 60KTS WF
  - Max airspeed & altimeter variation over normal operating range - 4KTS & 30FT.
  - Magneto malfunction - Misfiring, Spark plug fault - Loss of RPM
  - Weak intermittent firing followed by black exhaust - Over priming
  - Examination of fuel after each refuelling & before the 1st flight of the day
  - Recommended start duty cycle. 10s ON, 20s OFF, 3 TIMES followed by 10 min break
  - Oil pressure, 30s to register in normal. 60s in cold weather
  - Until 50 hrs of engine ops, max power during cruise - 80% only
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- Carb icing. Drop in RPM or Drop in manifold pressure is the indication.
  - An open alternator door will result in approximate 10% power loss
  - If microphone key (PPT) is pressed for 33s or more, transmission is discontinued
  - 760 Channel VHF comm is from 118.00 to 136.975 MHz (25 kHz spacing)
  - 200 Channel VHF navigation is from 108.00 to 117.95 MHz (50 kHz spacing)
  - Compass error of 25 degree in case of alternator OFF/ FAILED
  - The alternator must be switched off manually if voltage > 31.5 V
  - VSI depicts - in feet per minute
  - Long flight max deviation for compass precession error - 30 deg. Hence DGI must be Periodically aligned with magnetic compass due precession error.
  - Attitude indicator bank angle markings are 10, 20, 30, 60 & 90.
  - During pre-flight LOW FUEL annunciators shall not be shown.
  - A/c has clock model - Davtron model 803 digital clock
  - Centre area of the instrument panel contains static pressure alternate source valve

## DIMENSIONS

|                 |           |
|-----------------|-----------|
| LENGHT          | 27' 2"    |
| HEIGHT          | 8' 11"    |
| WINGSPAN        | 36' 1"    |
| ELEVATOR SPAN   | 11' 4"    |
| PROP DIAMETER   | 75"       |
| PROP GND CLEAR. | 11.25"    |
| STRUT LENGHT    | 2"        |
| WHEEL BASE      | 65"       |
| MIN TR. RADIUS  | 27' 5.5"  |
| WING AREA       | 174 SQ FT |

