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FOR SERVICE AT THE SIGN
OF THE CESSNA SHIELD".

CESSNA AIRCRAFT COMPANY

WICHITA, KANS.

THERE ARE MORE CESSNAS FLYING THAN ANY OTHER MAKE

SER #17252620

1965

CESSNA



MODEL
172
AND
SKYHAWK

John Baker

OWNER'S
MANUAL

WORLD'S LARGEST PRODUCER OF GENERAL AVIATION AIRCRAFT SINCE 1925

col # 17252620

PERFORMANCE - SPECIFICATIONS

| | MODEL 172 | SKYHAWK |
|--|-----------|-----------|
| WEIGHT | 2300 lbs | 2300 lbs |
| Speed at Sea Level | 138 mph | 139 mph |
| Speed at Sea Level, 75% Power at 7000 ft | 130 mph | 131 mph |
| Maximum Range at 10,000 ft | 595 miles | 600 miles |
| Maximum Range at 10,000 ft, No Reserve | 4.6 hours | 4.6 hours |
| Maximum Range at 10,000 ft, No Reserve | 130 mph | 131 mph |
| Maximum Range at 10,000 ft, No Reserve | 720 miles | 720 miles |
| Maximum Range at 10,000 ft, No Reserve | 7.1 hours | 7.1 hours |
| Maximum Range at 10,000 ft, No Reserve | 102 mph | 102 mph |
| Rate of Climb at Sea Level | 645 fpm | 645 fpm |
| Service Ceiling | 13,100 ft | 13,100 ft |
| Takeoff Distance | 835 ft | 865 ft |
| Takeoff Distance Over 50-Foot Obstacle | 1525 ft | 1525 ft |
| Takeoff Distance Over 50-Foot Obstacle | 520 ft | 520 ft |
| Takeoff Distance Over 50-Foot Obstacle | 1250 ft | 1250 ft |
| Empty Weight (Approximate) | 1260 lbs | 1330 lbs |
| Empty Weight | 120 lbs | 120 lbs |
| LOADING: Pounds/Sq Foot | 13.2 | 13.2 |
| WING LOADING: Pounds/HP | 15.9 | 15.9 |
| CAPACITY: Total | 42 gal. | 42 gal. |
| CAPACITY: Total | 8 qts | 8 qts |
| WING SPAN: Fixed Pitch (Diameter) | 76 inches | 76 inches |
| Engine | O-300-C* | O-300-D |
| Engine Power | 145 | 145 |

Model F172, which is manufactured by Reims Aviation S. A., Reims (Marne) France, is identical to the 172 except that it is powered by an O-300-D engine, manufactured under license by the British firm of Bristol Siddeley Engines Ltd., Bristol, England. All 172 information in this manual pertains to the F172 as well.

TABLE OF CONTENTS

| | Page |
|--|---------|
| SECTION I - OPERATING CHECK LIST..... | 1-1 |
| SECTION II - DESCRIPTION AND OPERATING DETAILS | 2-1 |
| SECTION III - OPERATING LIMITATIONS..... | 3-1 |
| SECTION IV - CARE OF THE AIRPLANE | 4-1 |
| OWNER FOLLOW-UP SYSTEM | 4-8 |
| SECTION V - OPERATIONAL DATA | 5-1 |
| SECTION VI - OPTIONAL SYSTEMS..... | 6-1 |
| ALPHABETICAL INDEX | Index-1 |

This manual describes the operation and performance of both the Cessna Model 172 and the Cessna Skyhawk. Equipment described as "Optional" denotes that the subject equipment is optional on the Model 172. Much of this equipment is standard on the Skyhawk model.

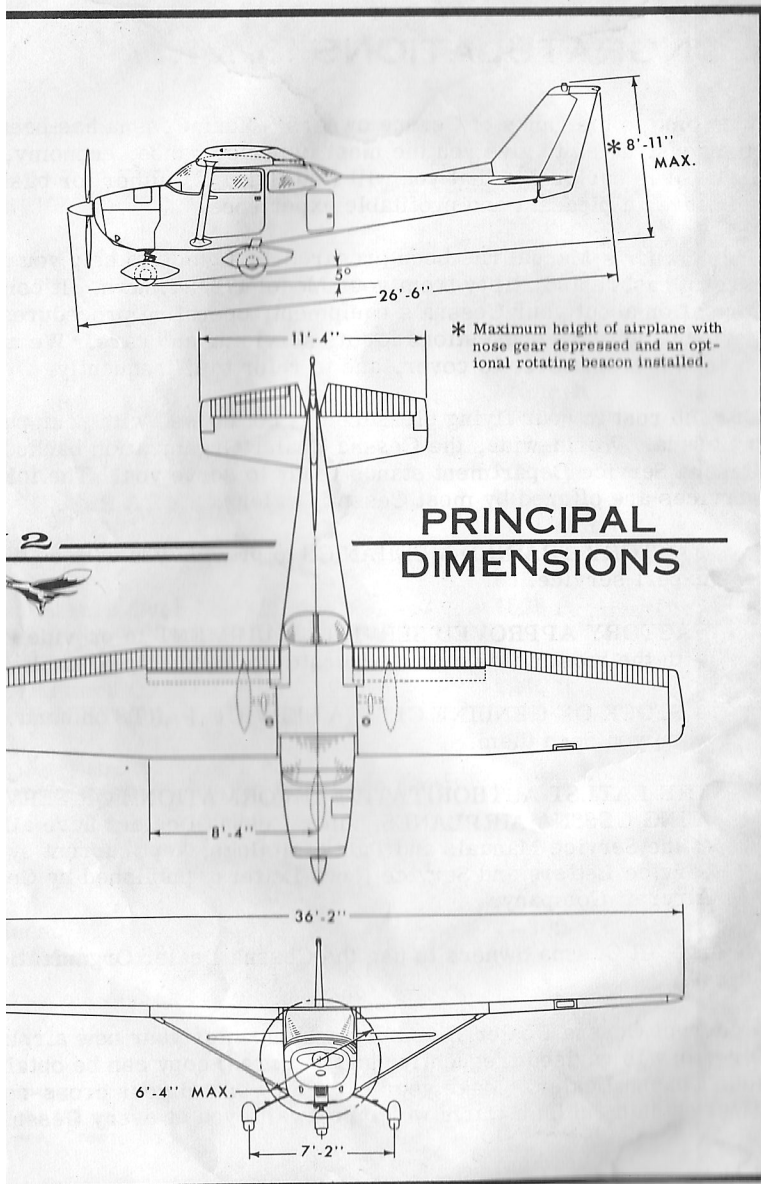


TABLE OF CONTENTS

| | Page = |
|---|---------|
| SECTION I - OPERATING CHECK LIST | 1-1 |
| SECTION II - DESCRIPTION AND OPERATING DETAILS | 2-1 |
| SECTION III - OPERATING LIMITATIONS | 3-1 |
| SECTION IV - CARE OF THE AIRPLANE | 4-1 |
| OWNER FOLLOW-UP SYSTEM | 4-8 |
| SECTION V - OPERATIONAL DATA | 5-1 |
| SECTION VI - OPTIONAL SYSTEMS | 6-1 |
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This manual describes the operation and performance of both the Cessna Model 172 and the Cessna Skyhawk. Equipment described as "Optional" denotes that the subject equipment is optional on the Model 172. Much of this equipment is standard on the Skyhawk model.

OPERATING CHECK LIST

One of the first steps in obtaining the utmost performance, service, and flying enjoyment from your Cessna is to familiarize yourself with your airplane's equipment, systems, and controls. This can best be done by reviewing this equipment while sitting in the airplane. Those items whose function and operation are not obvious are covered in Section II.

Section I lists, in Pilot's Check List form, the steps necessary to operate your airplane efficiently and safely. It is not a check list in its true form as it is considerably longer, but it does cover briefly all of the points that you should know for a typical flight.

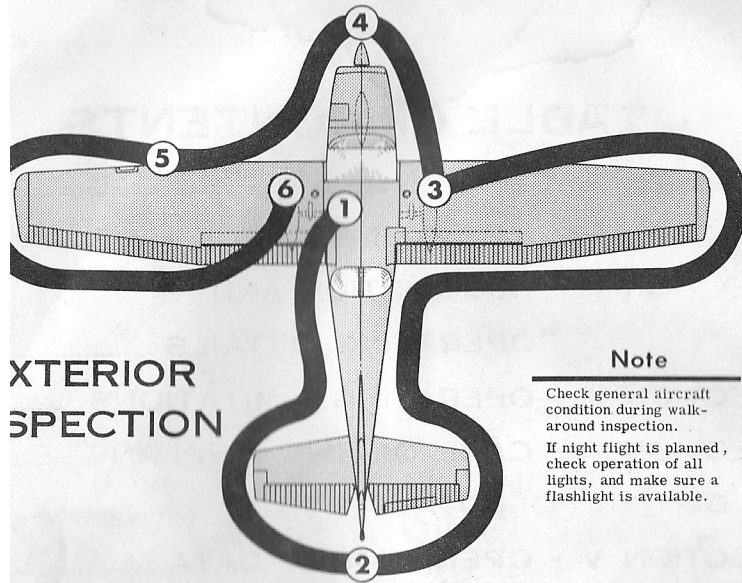
The flight and operational characteristics of your airplane are normal in all respects. There are no "unconventional" characteristics or operations that need to be mastered. All controls respond in the normal way within the entire range of operation. All airspeeds mentioned in Sections I and II are indicated airspeeds. Corresponding calibrated airspeed may be obtained from the Airspeed Correction Table in Section V.

BEFORE ENTERING THE AIRPLANE.

- (1) Make an exterior inspection in accordance with figure 1-1.

BEFORE STARTING THE ENGINE.

- (1) Seats and Seat Belts -- Adjust and lock.
 (2) Brakes -- Test and set.
 (3) Master Switch -- "ON,"
 (4) Fuel Selector -- "BOTH ON,"



Note

Check general aircraft condition during walk-around inspection.

If night flight is planned, check operation of all lights, and make sure a flashlight is available.

EXTERIOR
INSPECTION

Turn on master switch and check fuel quantity indicators, then turn master switch off. Check ignition switch "OFF." Check fuel selector valve handle "BOTH ON." On first flight of day and after each fueling, pull out strainer drain knob for about four seconds, to clear fuel strainer of possible water and sediment. Remove control wheel lock. Check baggage door for security.

- (4) a. Check oil level. Do not operate with less than six quarts. Fill for extended flight.
 b. Check propeller and spinner for nicks and security.
 c. Check nose wheel strut and tire for proper inflation.
 d. Disconnect tie-down rope.
 e. Make visual check to insure that fuel strainer drain valve is closed after draining operation.
 f. Check carburetor air filter for restrictions by dust or other foreign matter.

Remove rudder gust lock, if installed. Disconnect tail tie-down.

- (5) a. Remove pitot tube cover, if installed, and check pitot tube opening for stoppage.
 b. Check fuel tank vent opening for stoppage.

Check main wheel tire for proper inflation. Inspect airspeed static source hole on side of fuselage for stoppage (left side only). Disconnect wing tie-down.

- (6) Same as (3).

Figure 1-1.

NG THE ENGINE.

Carburetor Heat -- Cold.
Mixture -- Rich.
Primer -- As required.
Ignition Switch -- "BOTH."
Throttle -- Open 1/8".
Propeller Area -- Clear.
Starter -- Engage.

E TAKE-OFF.

Throttle Setting -- 1600 RPM.
Engine Instruments -- Within green arc and generator light out.
Magnetos -- Check (75 RPM maximum differential between magnets).

Carburetor Heat -- Check.
Flight Controls -- Check.
Trim Tab -- "TAKE-OFF" setting.
Cabin Doors -- Closed and locked.
Flight Instruments and Radios -- Set.

OFF.

AL TAKE-OFF.

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

UM PERFORMANCE TAKE-OFF.

-) Wing Flaps -- 0°
-) Carburetor Heat -- Cold.

- (3) Brakes -- Apply.
- (4) Power -- Full throttle.
- (5) Brakes -- Release.
- (6) Elevator Control -- Slightly tail low.
- (7) Climb Speed -- 65 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.

ORE LANDING.

- (1) Fuel Selector -- "BOTH ON."
- (2) Mixture -- Rich.
- (3) Airspeed -- 70 - 80 MPH (flaps up).
- (4) Carburetor Heat -- Apply before closing throttle.
- (5) Wing Flaps -- As desired (below 100 MPH).
- (6) Airspeed -- 65 to 75 MPH (flaps down).

ORMAL LANDING.

- (1) Touchdown -- Main wheels first.
- (2) Landing Roll -- Lower nosewheel gently.
- (3) Braking -- Minimum required.

ER LANDING.

- (1) Wing Flaps -- Up
- (2) Carburetor Heat -- Cold.

URE AIRCRAFT.

- (1) Mixture -- Full lean.
- (2) All Switches -- Off.
- (3) Brakes -- Set.
- (4) Control Lock -- Installed.

Section

172

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 2-1 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 | 19.5 gal. | 1.0 gal. | 0.5 gal. | 21.0 gal. |
| RIGHT WING | 1 | 19.5 gal. | 1.0 gal. | 0.5 gal. | 21.0 gal. |

Figure 2-1.

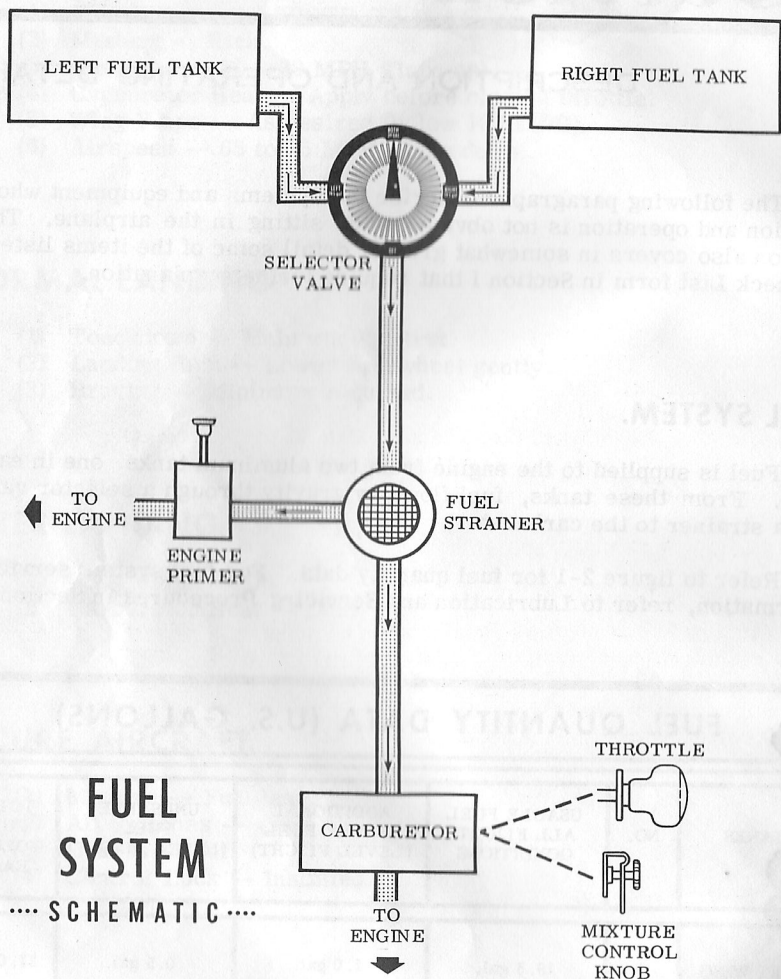


Figure 2-2.

FUEL STRAINER DRAIN KNOB.

Refer to fuel strainer servicing procedures, Section IV.

ELECTRICAL SYSTEM.

Electrical energy is supplied by a 14-volt, direct-current system powered by an engine-driven generator. A 12-volt battery is located on the left-hand forward portion of the firewall.

CIRCUIT BREAKERS.

All electrical circuits in the airplane, except the clock circuit, are protected by circuit breakers. The clock has a separate fuse mounted adjacent to the battery. The stall warning transmitter and horn circuit and turn-and-bank indicator circuit are protected by a single automatically resetting circuit breaker mounted behind the instrument panel. The remaining circuits are protected by "push-to-reset" breakers on the instrument panel.

GENERATOR WARNING LIGHT.

The red generator warning light indicates generator output. The light remains off as long as the generator functions properly. If a malfunction interrupts generator output, the light will illuminate. It also will illuminate when the battery or external power is on, before starting the engine, and whenever engine speed is insufficient to produce generator output. The light does not show battery drain.

LANDING LIGHTS (OPT).

A three-position, push-pull switch controls the optional landing lights. To turn one lamp on for taxiing, pull the switch out to the first stop. To turn both lamps on for landing, pull the switch out to the second stop.

ROTATING BEACON (OPT).

The rotating beacon should not be used when flying through clouds or overcast; the moving beams reflected from water droplets or particles in the atmosphere, particularly at night, can produce vertigo and loss of orientation.

J HEATING AND VENTILATION SYSTEM.

For cabin ventilation, pull the "CABIN AIR" knob out. To raise the temperature, pull the "CABIN HT" knob out approximately 1/4" to get a small amount of cabin heat. Additional heat is available by pulling the knob out farther; maximum heat is available with the "CABIN HT" knob pulled full out and the "CABIN AIR" knob pushed full in. When maximum heat is desired in the cabin, the "CABIN HT" knob is pushed full in.

Outlet cabin heat and ventilating air is supplied by outlet holes spaced around a cabin manifold just forward of the pilot's and copilot's feet. Rear seat heat and air is supplied by two ducts from the manifold, one extending to each side of the cabin. Windshield defrost air is also supplied by ducts leading from the cabin manifold.

Separate adjustable ventilators supply additional air; one near each corner of the windshield supplies air for the pilot and copilot, and additional ventilators in the rear cabin ceiling supply air to the rear passengers.

STARTING ENGINE.

Ordinarily the engine starts easily with one or two strokes of the starter in warm temperatures to six strokes in cold weather, with the throttle open approximately 1/8 inch. In extremely cold temperatures, more strokes may be necessary to continue priming while cranking.

Weak intermittent explosions followed by puffs of black smoke from the exhaust stack indicates overpriming or flooding. Excess fuel can be cleared from the combustion chambers by the following procedure: Set the mixture control full lean and the throttle full open; then crank the engine through several revolutions with the starter. Repeat the start-up procedure without any additional priming.

If the engine is underprimed (most likely in cold weather with a cold battery) it will not fire at all, and additional priming will be necessary. As soon as the cylinders begin to fire, open the throttle slightly to keep the engine running.

After starting, if the oil gage does not begin to show pressure within 30 seconds in the summertime and about twice that long in very cold weather, stop engine and investigate. Lack of oil pressure can cause

TAXIING DIAGRAM

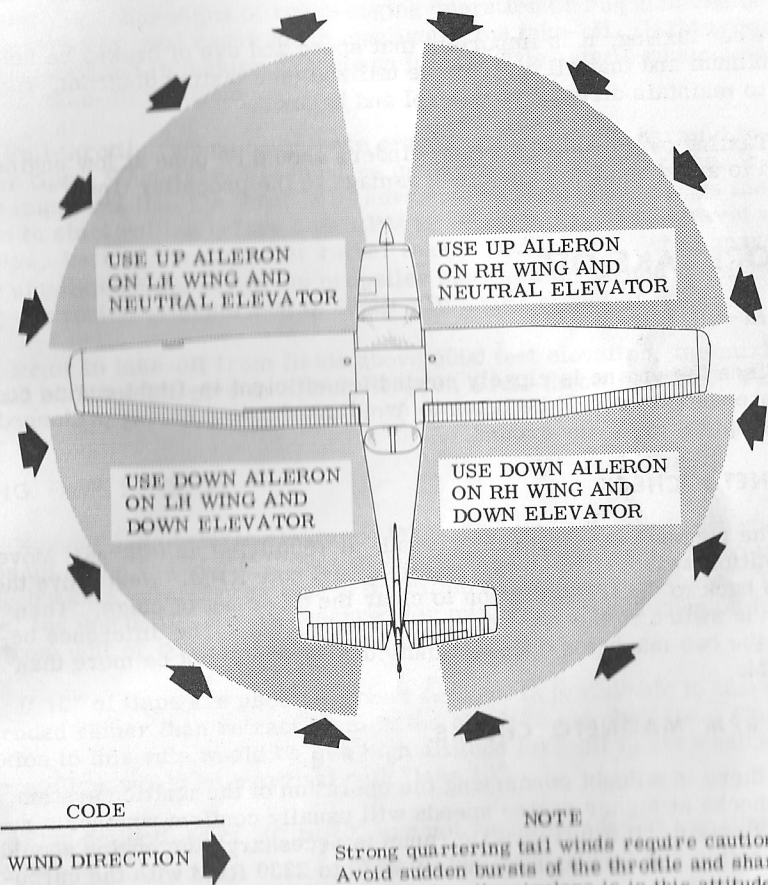


Figure 2-3.

engine damage. After starting, avoid the use of carburetor less icing conditions prevail.

NG.

When taxiing, it is important that speed and use of brakes be held to a minimum and that all controls be utilized (see taxiing diagram, figure 1) to maintain directional control and balance.

Runup over loose gravel or cinders should be done at low engine speed to avoid abrasion and stone damage to the propeller tips.

BEFORE TAKE-OFF.

WARM-UP.

Once the engine is closely cowlled for efficient in-flight engine cooling, precautions should be taken to avoid overheating during prolonged operation on the ground.

MAGNETO CHECK.

The magneto check should be made at 1600 RPM as follows: Move the ignition switch first to "R" position, and note RPM. Next move the switch back to "BOTH" position to clear the other set of plugs. Then move the switch to the "L" position and note RPM. The difference between the two magnetos operated individually should not be more than 200 RPM.

RPM MAGNETO CHECKS.

If there is a doubt concerning the operation of the ignition system, checks at higher engine speeds will usually confirm whether a deficiency exists. If a full throttle runup is necessary, the engine should be run smoothly and turn approximately 2230 to 2330 RPM with the carburetor heat off.

An absence of RPM drop may be an indication of faulty grounding of one side of the ignition system or should be cause for suspicion that the magneto timing has been "bumped-up" and is set in advance of the setting specified.

TAKE-OFF.

POWER CHECK.

It is important to check full-throttle engine operation early in the take-off run. Any signs of rough engine operation or sluggish engine acceleration is good cause for discontinuing the take-off. If this occurs, you are justified in making a thorough full-throttle, static runup before another take-off is attempted.

Full-throttle runups over loose gravel are especially harmful to propeller tips. When take-offs must be made over a gravel surface, it is very important that the throttle be advanced slowly. This allows the airplane to start rolling before high RPM is developed, and the gravel will be blown back of the propeller rather than pulled into it. When unavoidable small dents appear in the propeller blades, they should be immediately corrected as described in Section IV under propeller care.

Prior to take-off from fields above 5000 feet elevation, the mixture should be leaned to give maximum RPM in a full-throttle, static runup.

WING FLAP SETTINGS.

Normal and obstacle clearance take-offs are performed with wing flaps up. The use of 10° flaps will shorten the ground run approximately 10%, but this advantage is lost in the climb to a 50-foot obstacle. Therefore, the use of 10° flap is reserved for minimum ground runs or for take-off from soft or rough fields with no obstacles ahead.

If 10° of flaps are used in ground runs, it is preferable to leave them extended rather than retract them in the climb to the obstacle. The exception to this rule would be in a high altitude take-off in hot weather where climb would be marginal with flaps 10°.

Flap deflections of 30° to 40° are not recommended at any time for take-off.

PERFORMANCE CHARTS.

Consult the take-off chart in Section V for take-off distances under various gross weight, altitude, and headwind conditions.

5 WIND TAKE-OFFS.

Take-offs into strong crosswinds normally are performed with the full flap setting necessary for the field length, to minimize the angle immediately after take-off. The airplane is accelerated to a speed slightly higher than normal, then pulled off abruptly to prevent the airplane settling back to the runway while drifting. When clear of the runway, make a coordinated turn into the wind to correct for drift.

1 B.

3 DATA.

For detailed data, refer to the Maximum Rate-of-Climb Data chart in Section V.

B SPEEDS.

Normal climbs are performed at 80 to 90 MPH with flaps up and full throttle for best engine cooling. The mixture should be full rich unless the engine is rough due to too rich a mixture. The best rate-of-climb range is from 80 MPH at sea level to 77 MPH at 10,000 feet. If the obstacle dictates the use of a steep climb angle, the best angle-of-climb speed should be used with flaps up and full throttle. These speeds range from 65 MPH at sea level to 71 MPH at 10,000 feet.

NOTE

Steep climbs at these low speeds should be of short duration to improve engine cooling.

AROUND CLIMB.

In a balked landing (go-around) climb, the wing flap setting should be reduced to 20° immediately after full power is applied. Upon reaching a safe airspeed, the flaps should be slowly retracted to the full up position.

1 ISE.

Normal cruising is done between 65% and 75% power. The power

settings required to obtain these powers at various altitudes and outside air temperatures can be determined by using your Cessna Power Computer.

Cruising can be done most efficiently at high altitudes because of lower air density and therefore lower airplane drag. This is illustrated in the following table which shows performance at 75% power at various altitudes.

OPTIMUM CRUISE PERFORMANCE

| ALTITUDE | RPM | TRUE AIRSPEED | RANGE |
|-----------|----------------|---------------|-------|
| Sea Level | *2450 | 123 | 565 |
| 5000 ft. | *2560 | 128 | 585 |
| 7000 ft. | *Full Throttle | 130 | 595 |

*75% Power

All figures are based on lean mixture, 39 gallons of fuel (no reserve), zero wind, standard atmospheric conditions, and 2300 pounds gross weight.

STALLS.

The stall characteristics are conventional and aural warning is provided by a stall warning horn which sounds between 5 and 10 MPH above the stall in all configurations.

Power-off stall speeds at maximum gross weight and aft c.g. condition are presented on page 5-2 as calibrated airspeeds since indicated air speeds are unreliable near the stall.

LANDING.

Normal landings are made power-off with any flap setting. Slips are prohibited in full flap approaches because of a downward pitch encountered under certain combinations of airspeed and sideslip angle.

T FIELD LANDINGS.

or a short field landing, make a power-off approach at approximately 67 MPH with flaps 40°, and land on the main wheels first. Immediately after touchdown, lower the nose gear to the ground and apply braking as required. Raising the flaps after landing will provide efficient braking.

SWIND LANDINGS.

When landing in a strong crosswind, use the minimum flap setting recommended for the field length. Use a wing-low, crab, or a combination of drift correction and land in a nearly level attitude. Hold a light course with the steerable nosewheel and occasional braking if necessary.

COLD WEATHER OPERATION.

Prior to starting on a cold morning, it is advisable to pull the primer through several times by hand to "break loose" or "limber" the primer, thus conserving battery energy. In extremely cold (0°F and lower) weather, the use of an external preheater for both the engine and battery is recommended whenever possible to reduce wear and abuse to the engine and the electrical system. When using an external power source, the position of the master switch is important. Refer to Section VI, **ENGINE SERVICE PLUG RECEPTACLE**, for operating details. Cold starting procedures are as follows:

With Preheat:

- (1) Clear propeller.
- (2) Pull master switch "ON."
- (3) With magneto switch "OFF" and throttle closed, prime the engine four to ten strokes as the engine is being turned over.

NOTE

Use heavy strokes of primer for best atomization of fuel. After priming, push primer all the way in and turn to locked position to avoid possibility of engine drawing fuel through the primer.

- (4) Turn magneto switch to "BOTH."
- (5) Open throttle 1/4" and engage starter.

Without Preheat:

- (1) Prime the engine 8 to 10 strokes while the propeller is being turned by hand.
- (2) Clear propeller.
- (3) Pull master switch "ON."
- (4) Turn magneto switch to "BOTH."
- (5) Open throttle 1/4".
- (6) Pull carburetor air heat knob full on.
- (7) Engage starter and continue to prime engine until it is running smoothly.
- (8) Keep carburetor heat on until engine has warmed up.

NOTE

If the engine does not start the first time, it is probable that the spark plugs have been frosted over. Preheat must be used before another start is attempted.

During cold weather operations, no indication will be apparent on the oil temperature gage prior to take-off if outside air temperatures are very cold. After a suitable warm-up period (2 to 5 minutes at 1000 RPM), accelerate the engine several times to higher engine RPM. If the engine accelerates smoothly and the oil pressure remains normal and steady, the airplane is ready for take-off.

When operating in sub-zero temperature, avoid using partial carburetor heat. Partial heat may increase the carburetor air temperature to the 32° to 80°F range, where icing is critical under certain atmospheric conditions.

Refer to Section VI for cold weather equipment.

Section
172
III

OPERATING LIMITATIONS

OPERATIONS AUTHORIZED.

Your Cessna, with standard equipment as certificated under FAA Type Certificate No. 3A12, is approved for day and night operation under VFR.

Additional optional equipment is available to increase its utility and to make it authorized for use under IFR day and night. An owner of a properly equipped Cessna is eligible to obtain approval for its operation on single-engine scheduled airline service on VFR. Your Cessna Dealer will be happy to assist you in selecting equipment best suited to your needs

MANEUVERS - NORMAL CATEGORY.

The airplane exceeds the requirements for airworthiness of the Federal Air Regulations, Part 3, set forth by the United States Government. Spins and aerobatic maneuvers are not permitted in normal category airplanes in compliance with these regulations. In connection with the foregoing, the following gross weights and flight load factors apply:

| | |
|--|------------|
| Gross Weight | 2300 lbs. |
| Flight Load Factor *Flaps Up | +3.8 -1.52 |
| Flight Load Factor *Flaps Down | +3.5 |

*The design load factors are 150% of the above, and in all cases, the structure meets or exceeds design loads.

Your airplane must be operated in accordance with all FAA approved markings, placards and check lists in the airplane. If there is any information in this section which contradicts the FAA approved markings, placards and check lists, it is to be disregarded.

MANEUVERS - UTILITY CATEGORY.

This airplane is not designed for purely aerobatic flight. However, the acquisition of various certificates such as commercial pilot, instrument pilot and flight instructor, certain maneuvers are required by the FAA. All of these maneuvers are permitted in this airplane when operated in the utility category. In connection with the utility category, the following gross weight and flight load factors apply, with recommended entry speeds for maneuvers as shown.

| | |
|--|------------|
| Maximum Design Weight | 2000 lbs. |
| Flight Maneuvering Load Factor, Flaps Up | +4.4 -1.76 |
| Flight Maneuvering Load Factor, Flaps Down | +3.5 |

No acrobatic maneuvers are approved except those listed below:

| <u>MANEUVER</u> | <u>RECOMMENDED ENTRY SPEED</u> |
|---------------------------------------|--------------------------------|
| Chandelles | 122 mph (106 knots) |
| Lazy Eights | 122 mph (106 knots) |
| Steep Turns | 122 mph (106 knots) |
| Spins | Slow Deceleration |
| Stalls (Except Whip Stalls) | Slow Deceleration |

The baggage compartment and rear seat must not be occupied.

Aerobatics that may impose high inverted loads should not be attempted. The important thing to bear in mind in flight maneuvers is that your Cessna is clean in aerodynamic design and will build up speed quickly with the nose down. Proper speed control is an essential requirement for execution of any maneuver, and care should always be exercised to avoid excessive speed which in turn can impose excessive loads. In the execution of all maneuvers, avoid abrupt use of controls.

AIRSPEED LIMITATIONS.

The following are the certificated calibrated airspeed limits for your Cessna:

| | |
|---|--------------------------|
| Maximum (Glide or dive, smooth air) | 174 MPH (red line) |
| Caution Range | 140-174 MPH (yellow arc) |
| Normal Range | 59-140 MPH (green arc) |

| | |
|--------------------------------|------------------------|
| 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 |
|------------------|---------------------|

ENGINE INSTRUMENT MARKINGS.

OIL TEMPERATURE GAGE.

| | |
|----------------------------------|-----------|
| Normal Operating Range | Green Arc |
| Maximum Allowable | Red Line |

OIL PRESSURE GAGE.

| | |
|----------------------------------|-----------------------|
| Minimum Idling | 10 psi (red line) |
| Normal Operating Range | 30-60 psi (green arc) |
| Maximum | 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) |

WEIGHT AND BALANCE.

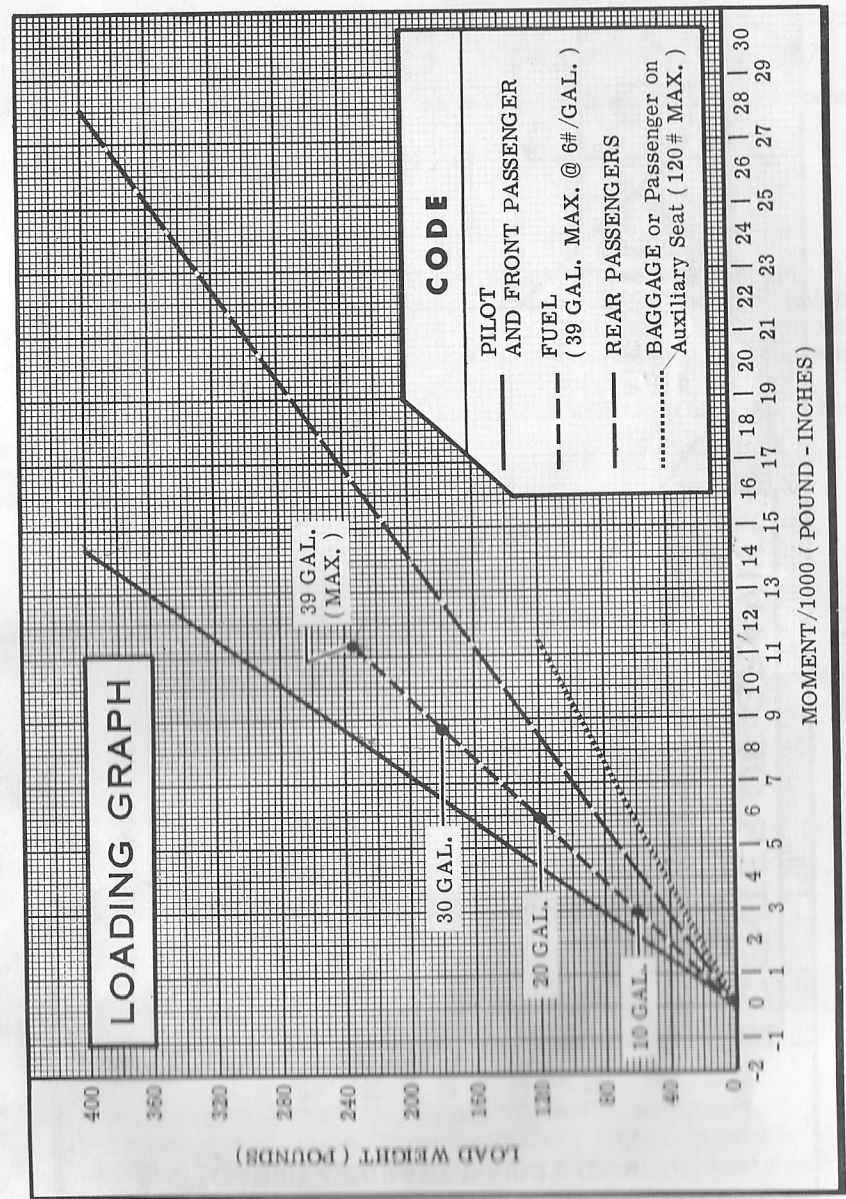
The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To figure weight and balance for your particular airplane, use the Sample Loading Graph, Loading Graph, and Center of Gravity Moment Envelope as follows:

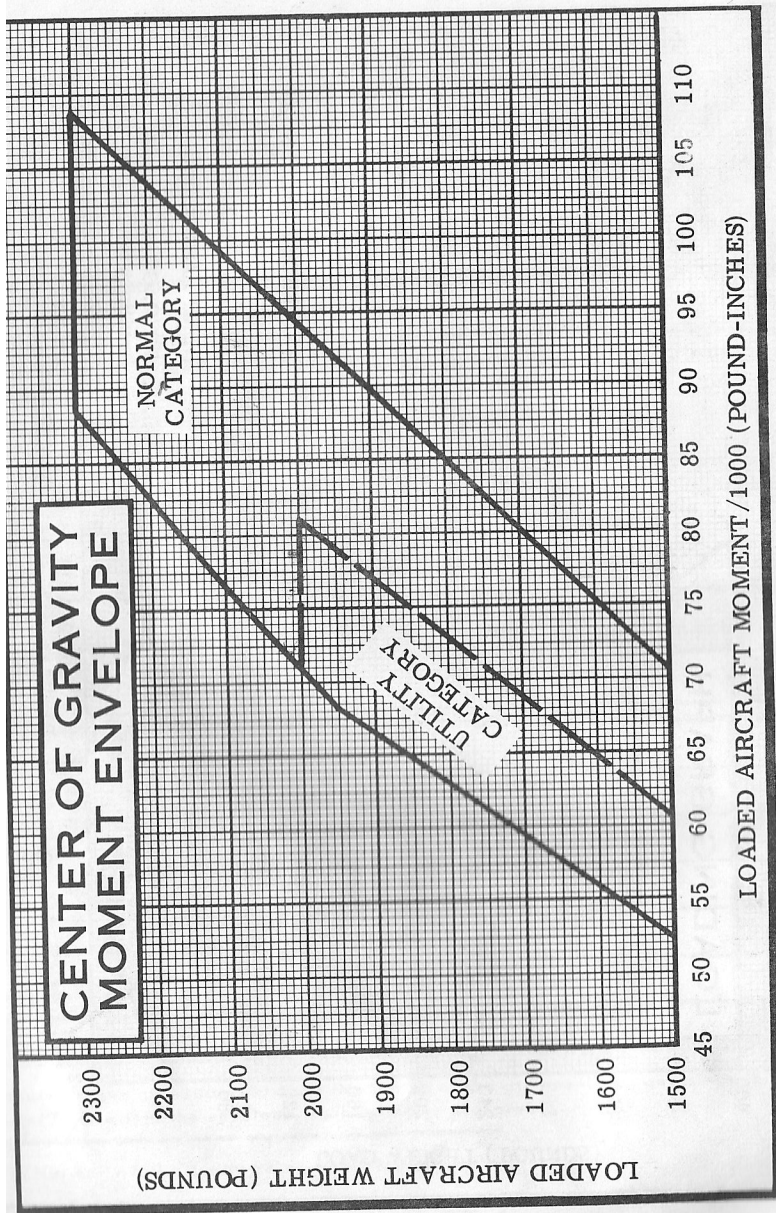
Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, filed in your airplane, and write them down in the proper columns. Use the Loading Graph, determine the moment/1000 of each item to be carried. Total the weights and moments/1000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

| SAMPLE LOADING PROBLEM | Sample Airplane | | Your Airplane | |
|--|-----------------|--------------------------|---------------|--------|
| | Weight (lbs) | Moment (lb - ins. /1000) | Weight | Moment |
| Licensed Empty Weight (Sample Airplane) ... | 1321 | 50.4 | | |
| Oil - 8 Qts.* | 15 | -0.3 | 15 | -0.3 |
| Pilot & Front Passenger | 340 | 12.2 | | |
| Fuel - (39 Gal at 6#/Gal) | 234 | 11.2 | | |
| Rear Passengers | 340 | 23.8 | | |
| Baggage (or Passenger on Auxiliary Seat) | 50 | 4.7 | | |
| Total Aircraft Weight (Loaded) | 2300 | 102.0 | | |

Locate this point (2300 at 102.0) on the center of gravity envelope, and since this point falls within the envelope the loading is acceptable.

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





Section

172

IV

CARE OF THE AIRPLANE

If your airplane is to retain that new plane performance and dependability, certain inspection and maintenance requirements must be followed. It is wise to follow a planned schedule of lubrication and preventative maintenance based on climatic and flying conditions encountered in your locality.

Keep in touch with your Cessna Dealer and take advantage of his knowledge and experience. He knows your airplane and how to maintain it. He will remind you when lubrications and oil changes are necessary, and about other seasonal and periodic services.

GROUND HANDLING.

The airplane is most easily and safely maneuvered by hand with the tow-bar attached to the nosewheel.

NOTE

When using the tow-bar, never exceed the turning angle of 30°, either side of center, or damage to the gear will result.

MOORING YOUR AIRPLANE.

Proper tie-down procedure is your best precaution against damage to your parked airplane by gusty or strong winds. To tie-down your airplane securely, proceed as follows:

- (1) Set the parking brake and install the control wheel lock.
- (2) Tie sufficiently strong ropes or chains (700 pounds tensile strength) to wing, tail, and nose tie-down fittings and secure each rope to a ramp tie-down.

- (3) Install a surface control lock over the fin and rudder.
- (4) Install a pitot tube cover.

WINDSHIELD - WINDOWS.

The plastic windshield and windows should be kept clean and waxed at intervals. To prevent scratches and crazing, wash them carefully with plenty of soap and water, using the palm of the hand to feel and dislodge dirt and mud. A soft cloth, chamois or sponge may be used, but only with clean water to the surface. Rinse thoroughly, then dry with a clean, soft chamois. Rubbing the surface of the plastic with a dry cloth builds up an electrostatic charge so that it attracts dust particles in the air. Rubbing with a moist chamois will remove both the dust and this charge.

Remove oil and grease with a cloth moistened with kerosene. Never use gasoline, benzine, alcohol, acetone, carbon tetrachloride, fire extinguisher or anti-ice fluid, lacquer thinner or glass cleaner. These materials will soften the plastic and may cause it to craze.

After removing dirt and grease, if the surface is not badly scratched, it should be waxed with a good grade of commercial wax. The wax will fill in minor scratches and help prevent further scratching. Apply a thin, even coat of wax, and bring it to a high polish by rubbing lightly with a clean, dry, soft flannel cloth. Do not use a power buffer; the heat generated by the buffing pad may soften the plastic.

Do not use a canvas cover on the windshield unless freezing rain or sleet is anticipated. Canvas covers may scratch the plastic surface.

PAINTED SURFACES.

The painted exterior surfaces of your new Cessna require an initial curing period which may be as long as 90 days after the finish is applied. During this curing period some precautions should be taken to avoid damaging the finish or interfering with the curing process. The finish should be cleaned only by washing with clean water and mild soap, followed by a rinse with water and drying with cloths or a chamois. Do not use polish or wax, which would exclude air from the surface, during this 90-day curing period. Do not rub or buff the finish, and avoid flying through rain, sleet or hail.

Once the finish has cured completely, it may be waxed with a good

automotive wax. A heavier coating of wax on the leading edges of the wings and tail and on the engine nose cap and propeller spinner will help reduce the abrasion encountered in these areas.

ALUMINUM SURFACES.

The clad aluminum surfaces of your Cessna may be washed with clear water to remove dirt; oil and grease may be removed with gasoline, naphtha, carbon tetrachloride or other non-alkaline solvents. Dull aluminum surfaces may be cleaned effectively with an aircraft aluminum polish.

After cleaning, and periodically thereafter, waxing with a good automotive wax will preserve the bright appearance and retard corrosion. Regular waxing is especially recommended for airplanes operated in salt water areas as a protection against corrosion.

PROPELLER CARE.

Preflight inspection of propeller blades for nicks, and wiping them occasionally with an oily cloth to clean off grass and bug stains will assure long, trouble-free service. It is vital that small nicks on the propellers, particularly near the tips and on the leading edges, are dressed out as soon as possible since these nicks produce stress concentrations, and if ignored, may result in cracks. Never use an alkaline cleaner on the blades; remove grease and dirt with carbon tetrachloride or Stoddard solvent.

INTERIOR CARE.

To remove dust and loose dirt from the upholstery and carpet, clean the interior regularly with a vacuum cleaner.

Blot up any spilled liquid promptly, with cleansing tissue or rags. Don't pat the spot; press the blotting material firmly and hold it for several seconds. Continue blotting until no more liquid is taken up. Scrape off sticky materials with a dull knife, then spot-clean the area.

Oily spots may be cleaned with household spot removers, used sparingly. Before using any solvent, read the instructions on the container.

st it on an obscure place on the fabric to be cleaned. Never saturate the fabric with a volatile solvent; it may damage the padding and gluing materials.

oiled upholstery and carpet may be cleaned with foam-type detergent, according to the manufacturer's instructions. To minimize wetting fabric, keep the foam as dry as possible and remove it with a vacuum cleaner.

The plastic trim, headliner, instrument panel and control knobs need to be wiped off with a damp cloth. Oil and grease on the control wheel and control knobs can be removed with a cloth moistened with kerosene. Mild solvents, such as mentioned in paragraphs on care of the windshield, must never be used since they soften and craze the plastic.

PROTECTION SERVICE AND INSPECTION PERIODS.

With your airplane you will receive an Owner's Service Policy. Coupled with the policy entitle you to an initial inspection and the first 100-hour inspection at no charge. If you take delivery from your Dealer, you will perform the initial inspection before delivery of the airplane to you.

If you pick up the airplane at the factory, plan to take it to your Dealer as soon as reasonably soon after you take delivery on it. This will permit you to check it over and to make any minor adjustments that may appear necessary. Also, plan an inspection by your Dealer at 100 hours or 180 hours, whichever comes first. This inspection also is performed by your Dealer for you at no charge. While these important inspections will be performed for you by any Cessna Dealer, in most cases you will prefer to have the Dealer from whom you purchased the airplane accomplish the work.

Federal Air Regulations require that all airplanes have a periodic (annual) inspection as prescribed by the administrator, and performed by a person designated by the administrator. In addition, 100-hour periodic inspections made by an "appropriately-rated mechanic" are required if the airplane is flown for hire. The Cessna Aircraft Company recommends the 100-hour periodic inspection for your airplane. The procedure for this 100-hour inspection has been carefully worked out by the factory and is followed by the Cessna Dealer Organization. The close familiarity of the Cessna Dealer Organization with Cessna equipment and with factory-approved procedures provides the highest type of inspection possible at lower cost.

AIRPLANE FILE.

There are miscellaneous data, information and licenses that are a part of the airplane file. The following is a check list for that file. In addition, a periodic check should be made of the latest Federal Air Regulations to insure that all data requirements are met.

A. To be displayed in the airplane at all times:

- (1) Aircraft Airworthiness Certificate (Form FAA-1362).
- (2) Aircraft Registration Certificate (Form FAA-500A).
- (3) Airplane Radio Station License (Form FCC-404, if transmitter installed).

B. To be carried in the airplane at all times:

- (1) Weight and Balance, and associated papers (latest copy of the Repair and Alteration Form, Form FAA-337, if applicable).
- (2) Airplane Equipment List.

C. To be made available upon request:

- (1) Airplane Log Book.
- (2) Engine Log Book.

NOTE

Cessna recommends that these items, plus the Owner's Manual and the "Cessna Flight Guide" (Flight Computer), be carried in the airplane at all times.

Most of the items listed are required by the United States Federal Air Regulations. Since the regulations of other nations may require other documents and data, owners of exported airplanes should check with their own aviation officials to determine their individual requirements.

LUBRICATION AND SERVICING PROCEDURES

Specific servicing information is provided here for items requiring daily attention. A Servicing Intervals Check List is included to inform the pilot when to have other items checked and serviced.

DAILY

FUEL TANK FILLERS:

Service after each flight with 80/87 minimum grade fuel. The capacity of each wing tank is 21 gallons.

FUEL STRAINER:

On the first flight of the day and after each refueling, pull out fuel strainer drain knob for about four seconds, to clear fuel strainer of possible water and sediment. Release drain knob, then check that strainer drain is closed after draining.

OIL FILLER:

When preflight check shows low oil level, service with aviation grade engine oil; SAE 20 below 40°F, and SAE 40 above 40°F. Your Cessna was delivered from the factory with straight mineral oil (non-detergent) and should be operated with straight mineral oil for the first 25 hours. The use of mineral oil during the 25-hour break-in period will help seat the piston rings and will result in less oil consumption. After the first 25 hours, either mineral oil or detergent oil may be used. If a detergent oil is used, it must conform to Continental Motors Corporation Specification MHS-24. Your Cessna Dealer can supply an approved brand.

OIL DIPSTICK:

Check oil level before each flight. Do not operate on less than 6 quarts. To minimize loss of oil through breather, fill to 7 quart level for normal flights of less than 3 hours. For extended flight, fill to 8 quarts. If optional oil filter is installed, one additional quart is required when the filter element is changed.

SERVICING INTERVALS CHECK LIST

EACH 50 HOURS

BATTERY -- Check and service. Check oftener (at least every 30 days) if operating in hot weather.

ENGINE OIL AND OIL FILTER -- Change engine oil and replace filter element. If optional oil filter is not installed, change oil and clean screen every 25 hours. Change engine oil at least every four months even though less than 50 hours have been accumulated. Reduce periods for prolonged operation in dusty areas, cold climates, or when short flights and long idle periods result in sludging conditions.

CARBURETOR AIR FILTER -- Clean or replace. Under extremely dusty conditions, daily maintenance of the filter is recommended.

NOSE GEAR TORQUE LINKS -- Lubricate.

EACH 100 HOURS

BRAKE MASTER CYLINDERS -- Check and fill.

SHIMMY DAMPENER -- Check and fill.

FUEL STRAINER -- Disassemble and clean.

FUEL TANK SUMP DRAINS -- Drain water and sediment.

FUEL LINE DRAIN PLUG -- Drain water and sediment.

VACUUM SYSTEM OIL SEPARATOR (OPT) -- Clean.

SUCTION RELIEF VALVE INLET SCREEN (OPT) -- Clean.

EACH 500 HOURS

VACUUM SYSTEM AIR FILTER (OPT) -- Replace filter element. Replace sooner if suction gage reading drops below 3.75 in. Hg.

WHEEL BEARINGS -- Lubricate. Lubricate at first 100 hours and at 500 hours thereafter.

AS REQUIRED

NOSE GEAR SHOCK STRUT -- Keep inflated and filled.

GYRO INSTRUMENT AIR FILTERS (OPT) -- Replace at instrument overhaul.

OWNER FOLLOW-UP SYSTEM



172

Your Cessna Dealer has an owner follow-up system to notify when he receives information that applies to your Cessna. In addition, if you wish, you may choose to receive similar notification directly from the Cessna Service Department. A subscription card applied in your airplane file for your use, should you choose to test this service. Your Cessna Dealer will be glad to supply with details concerning these follow-up programs, and stand ready through his Service Department to supply you with fast, efficient, low cost service.



Section

172

V

OPERATIONAL DATA

The operational data shown on the following pages are compiled from actual tests with airplane and engine in good condition and using average piloting technique and best power mixture. You will find this data a valuable aid when planning your flights. However, inasmuch as the number of variables included precludes great accuracy, an ample fuel reserve should be provided. The range performance shown makes no allowance for wind, navigational error, pilot technique, warm-up, take-off, climb, etc. All of these factors must be considered when estimating reserve fuel.

A power setting selected from the range charts usually will be more efficient than a random setting, since it will permit you to estimate your fuel consumption more accurately. You will find that using the charts and your Power Computer will pay dividends in overall efficiency.

Range and endurance figures shown in the charts are based on flight test using McCauley 1C172/EM 7653 propeller. Other conditions of the tests are shown in the chart headings. Allowances for fuel reserve, headwinds, take-offs, and climb, and variations in mixture leaning technique should be made and are in addition to those shown on the charts. Other indeterminate variables such as carburetor metering-characteristics, engine and propeller conditions, and turbulence of atmosphere may account for variations of 10% or more in maximum range.

AIRSPEED CORRECTION TABLE

| APS | IAS | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 |
|------|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| UP | CAS | 55 | 60 | 66 | 72 | 80 | 89 | 98 | 108 | 117 | 127 | 136 |
| DOWN | CAS | 52 | 58 | 65 | 73 | 82 | 91 | 101 | • | • | • | • |

Figure 5-1.

POWER OFF STALLING SPEEDS MPH - CAS

| CONDITION | | ANGLE OF BANK | | | |
|------------------------|-----------|---------------|-----|-----|-----|
| | | 0° | 20° | 40° | 60° |
| 1000 LBS. GROSS WEIGHT | FLAPS UP | 57 | 59 | 65 | 81 |
| | FLAPS 10° | 52 | 54 | 59 | 74 |
| | FLAPS 40° | 49 | 51 | 56 | 69 |

Figure 5-2.

TAKE-OFF DATA

TAKE-OFF DISTANCE FROM HARD SURFACE RUNWAY, FLAPS UP

| GROSS WEIGHT LBS. | IAS AT 50' FT. MPH | HEAD WIND KNOTS | @ 5000 ft. & 59° F | | @ 2500 ft. & 50° F | | @ 5000 ft. & 41° F | | @ 7500 ft. & 32° F | |
|-------------------|--------------------|-----------------|--------------------|-------------------------|--------------------|-------------------------|--------------------|-------------------------|--------------------|-------------------------|
| | | | GROUND RUN | TOTAL TO CLEAR 50' OBS. | GROUND RUN | TOTAL TO CLEAR 50' OBS. | GROUND RUN | TOTAL TO CLEAR 50' OBS. | GROUND RUN | TOTAL TO CLEAR 50' OBS. |
| 17000 | 60 | 0 | 435 | 780 | 520 | 920 | 625 | 1095 | 765 | 1370 |
| | | 10 | 290 | 570 | 355 | 680 | 430 | 820 | 535 | 1040 |
| | | 20 | 175 | 385 | 215 | 470 | 270 | 575 | 345 | 745 |
| 20000 | 65 | 0 | 630 | 1095 | 755 | 1325 | 905 | 1625 | 1120 | 2155 |
| | | 10 | 435 | 820 | 530 | 1005 | 645 | 1250 | 810 | 1685 |
| | | 20 | 275 | 580 | 340 | 720 | 425 | 910 | 595 | 1255 |
| 23000 | 70 | 0 | 865 | 1525 | 1040 | 1910 | 1255 | 2480 | 1565 | 3855 |
| | | 10 | 615 | 1170 | 750 | 1485 | 920 | 1955 | 1160 | 3110 |
| | | 20 | 405 | 850 | 505 | 1100 | 630 | 1480 | 810 | 2425 |

Note: Increase distance 10% for each 25°F above standard temperature for particular altitude.

MAXIMUM RATE-OF-CLIMB DATA

| GROSS WEIGHT LBS. | @ 5000 ft. & 59° F | | | @ 10,000 ft. & 23° F | | | @ 15,000 ft. & 5° F | | |
|-------------------|--------------------|------------------------|-------------------|----------------------|------------------------|---------------------|---------------------|------------------------|---------------------|
| | IAS MPH | RATE OF CLIMB FT./MIN. | GALS OF FUEL USED | IAS MPH | RATE OF CLIMB FT./MIN. | FROM S.L. FUEL USED | IAS MPH | RATE OF CLIMB FT./MIN. | FROM S.L. FUEL USED |
| 17000 | 75 | 1085 | 1.0 | 71 | 570 | 2.9 | 70 | 315 | 4.4 |
| 20000 | 77 | 840 | 1.0 | 74 | 380 | 3.6 | 73 | 155 | 6.3 |
| 23000 | 80 | 645 | 1.0 | 77 | 230 | 4.8 | 76 | 22 | 11.5 |

Note: Flaps up, full throttle and mixture leaned for smooth operation above 5000 ft. Fuel used includes warm-up and take-off allowance.

Figure 5-3.

2 SKYHAWK CRUISE & RANGE PERFORMANCE

Gross Weight- 2300 Lbs. *
Standard Conditions *
Zero Wind * Lean Mixture *
39 Gal. of Fuel (No Reserve)

NOTE: Maximum cruise is normally limited to 75% power. For standard performance, subtract 1 MPH from the higher cruise speeds shown.

| LT. | RPM | % BHP | TAS MPH | GAL. / HOUR | ENDR. HOURS | RANGE MILES |
|-------|------|-------|---------|-------------|-------------|-------------|
| 00 | 2700 | 93 | 138 | 10.5 | 3.7 | 510 |
| | 2600 | 84 | 131 | 9.5 | 4.1 | 540 |
| | 2500 | 75 | 125 | 8.5 | 4.6 | 575 |
| | 2400 | 67 | 119 | 7.6 | 5.1 | 610 |
| | 2300 | 59 | 113 | 6.8 | 5.7 | 645 |
| | 2200 | 52 | 106 | 6.2 | 6.3 | 675 |
| | 2100 | 46 | 100 | 5.7 | 6.9 | 690 |
| 00 | 2700 | 87 | 136 | 9.8 | 4.0 | 540 |
| | 2600 | 78 | 130 | 8.8 | 4.4 | 575 |
| | 2550 | 74 | 127 | 8.4 | 4.7 | 590 |
| | 2500 | 70 | 124 | 7.9 | 4.9 | 610 |
| | 2400 | 62 | 118 | 7.1 | 5.5 | 645 |
| | 2300 | 55 | 111 | 6.4 | 6.1 | 675 |
| | 2200 | 49 | 105 | 5.9 | 6.6 | 695 |
| 2100 | 44 | 98 | 5.5 | 7.1 | 700 | |
| 00 | 2650 | 77 | 132 | 8.7 | 4.5 | 595 |
| | 2600 | 73 | 129 | 8.2 | 4.7 | 610 |
| | 2500 | 65 | 123 | 7.4 | 5.3 | 645 |
| | 2400 | 58 | 116 | 6.7 | 5.8 | 675 |
| | 2300 | 52 | 110 | 6.1 | 6.4 | 700 |
| | 2200 | 47 | 103 | 5.7 | 6.9 | 710 |
| | 2100 | 42 | 97 | 5.3 | 7.3 | 710 |
| 000 | 2700 | 71 | 131 | 8.1 | 4.8 | 630 |
| | 2600 | 68 | 128 | 7.7 | 5.1 | 650 |
| | 2500 | 61 | 121 | 7.0 | 5.6 | 680 |
| | 2400 | 55 | 115 | 6.4 | 6.1 | 705 |
| | 2300 | 49 | 108 | 5.9 | 6.6 | 715 |
| | 2200 | 45 | 102 | 5.5 | 7.1 | 720 |
| | 2100 | 41 | 96 | 5.2 | 7.4 | 715 |
| 1,500 | 2600 | 63 | 126 | 7.2 | 5.4 | 685 |
| | 2500 | 57 | 120 | 6.6 | 5.9 | 710 |
| | 2400 | 52 | 113 | 6.1 | 6.4 | 725 |
| | 2300 | 47 | 107 | 5.7 | 6.8 | 730 |
| | 2200 | 43 | 101 | 5.4 | 7.2 | 725 |

Figure 5-4.

LANDING DATA LANDING DISTANCE ON HARD SURFACE RUNWAY NO WIND - 40° FLAPS - POWER OFF

| GROSS WEIGHT LBS. | APPROACH IAS MPH | @ S.L. & 59° F | | @ 2500 ft. & 50° F | | @ 5000 ft. & 41° F | | @ 7500 ft. & 32° F | |
|-------------------|------------------|----------------|-------------------------|--------------------|-------------------------|--------------------|-------------------------|--------------------|-------------------------|
| | | GROUND ROLL | TOTAL TO CLEAR 50' OBS. | GROUND ROLL | TOTAL TO CLEAR 50' OBS. | GROUND ROLL | TOTAL TO CLEAR 50' OBS. | GROUND ROLL | TOTAL TO CLEAR 50' OBS. |
| 2300 | 65 | 520 | 1250 | 560 | 1310 | 605 | 1385 | 650 | 1455 |

Note: Reduce landing distance 10% for each 5 knot headwind.

Figure 5-5.

OPTIONAL SYSTEMS

This section contains a description, operating procedures, and performance data (when applicable) for some of the optional equipment which may be installed in your Cessna. Owner's Manual Supplements are provided to cover operation of other optional equipment systems when installed in your airplane. Contact your Cessna Dealer for a complete list of available optional equipment.

AUXILIARY FUEL TANK SYSTEM

An optional auxiliary fuel tank system (figure 6-1) is available to increase the airplane operating range. System components include an 18 gallon fuel tank (17.55 gallons usable) installed on the baggage compartment floor, an electric fuel transfer pump behind the tank, an electrically-operated fuel quantity indicator and fuel transfer pump switch on the instrument panel, a fuel tank filler provision on the right side of the fuselage, a fuel tank sump drain valve at the front of the tank on the bottom of the fuselage, and the necessary plumbing.

The auxiliary fuel system is connected to the right main fuel tank plumbing above the right cabin door.

AUXILIARY FUEL SYSTEM OPERATION.

To operate the auxiliary fuel system, proceed as follows:

PRE-FLIGHT CHECK:

- (1) Turn on master switch and check fuel quantity indicator for reading.

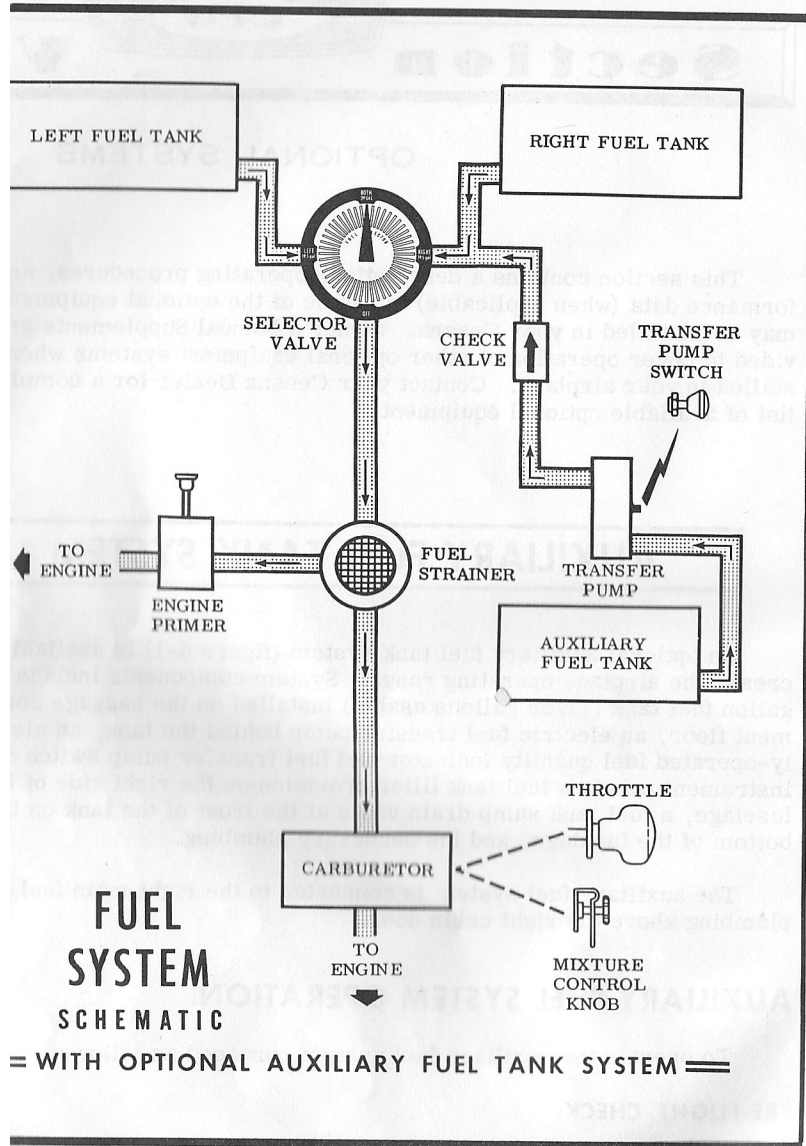


Figure 6-1.

- (2) Momentarily pull on transfer pump switch and listen for pump operation. Turn off master switch.
- (3) Check quantity of fuel in tank for agreement with fuel quantity indicator. Fill tank for anticipated requirements.
- (4) Drain small amount of fuel from fuel tank drain valve to check for possible water and sediment.

DURING FLIGHT:

- (1) Take-off, climb and land with fuel selector valve handle set on "BOTH" for maximum safety.
- (2) After leveling off at cruise altitude, switch to "RIGHT" and operate from this tank until the fuel supply is exhausted.
- (3) Switch to "LEFT" for operation, then pull on transfer pump switch and refill right main fuel tank from auxiliary tank. Push transfer pump switch off when fuel transfer is completed.

NOTE

Transfer of total fuel from the auxiliary tank will take from 45 minutes to 1 hour.

- (4) Return fuel selector valve handle to "BOTH" position after refilling right tank, or if desired switch again to right main tank.

IMPORTANT

Do not operate the transfer pump with the fuel selector turned to either "BOTH" or "RIGHT" positions. Total or partial engine stoppage will result from air being pumped into fuel lines after fuel transfer has been completed. If the pump should accidentally be turned on with the fuel selector in either of these positions, and engine stoppage occurs, the engine will restart in from 3 to 5 seconds after turning off the transfer pump as the air in the fuel line will be evacuated rapidly.

COLD WEATHER EQUIPMENT

WINTERIZATION KIT.

For continuous operation in temperatures consistently below 20°F, Cessna winterization kit, available from your Cessna Dealer, should be installed to improve engine operation.

GROUND SERVICE PLUG RECEPTACLE.

A ground service plug receptacle may be installed to permit the use of an external power source for cold weather starting and during lengthy maintenance work on the electrical system.

When using a battery type cart as an external power source for starting the engine, the master switch should be turned off. This prevents a airplane battery from draining the limited external power available on a battery cart. If a generator type external power source is used for starting, the master switch may be turned off or on, as desired by the pilot.

RADIO SELECTOR SWITCHES

RADIO SELECTOR SWITCH OPERATION.

Operation of the radio equipment is normal as covered in the respective radio manuals. When more than one radio is installed, an audio switching system is necessary. The operation of this switching system is described below.

TRANSMITTER SELECTOR SWITCH.

The transmitter selector switch (figure 6-2) is labeled "TRANS," and has two positions. When two transmitters are installed, it is nec-

RADIO SELECTOR SWITCHES

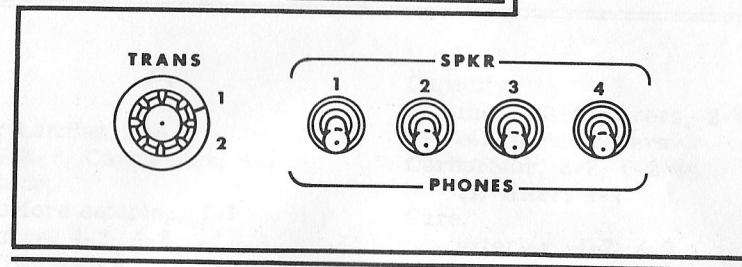


Figure 6-2.

essary to switch the microphone to the radio unit the pilot desires to use for transmission. This is accomplished by placing the transmitter selector switch in the position corresponding to the radio unit which is to be used.

SPEAKER-PHONE SWITCHES.

The speaker-phone switches (figure 6-2) determine whether the output of the receiver in use is fed to the headphones or through the audio amplifier to the speaker. Place the switch for the desired receiving system either in the up position for speaker operation or in the down position for headphones.

AUTOPILOT-OMNI SWITCH.

When a Nav-O-Matic autopilot is installed with two compatible omni receivers, an autopilot-omni switch is utilized. This switch selects the omni receiver to be used for the omni course sensing function of the autopilot. The switch is mounted just to the right of the autopilot control unit at the bottom of the instrument panel. The switch positions, labeled "OMNI 1" and "OMNI 2", correspond to the omni receivers in the radio panel stack.

ALPHABETICAL INDEX

A

After Landing, 1-4
Air Filter, Carburetor, 4-7
Airplane,
 before entering, 1-1
 care, 4-2, 4-3
 file, 4-5
 ground handling, 4-1
 inspection service-periods, 4-4
 lubrication and
 servicing, 4-6, 4-7
 mooring, 4-1
Airspeed Correction Table, 5-2
Airspeed Limitations, 3-2
Aluminum Surfaces, 4-3
Authorized Operations, 3-1
Auxiliary Fuel Tank System, 6-1
 operation, 6-1
 schematic, 6-2

B

Baggage, Weight, inside front cover
Battery, 4-7
Beacon, Rotating, 2-3
Before Entering Airplane, 1-1
Before Landing, 1-4
Before Starting Engine, 1-1
Before Take-off, 1-2, 2-6
 magneto checks, 2-6
 warm-up, 2-6
Brake Master Cylinders, 4-7

C

Cabin Heating and Ventilating
System, 2-4

Capacity,
 fuel, inside covers, 2-1
 oil, inside covers
Carburetor, 2-2, 6-2
 air filter, 4-7
Care,
 exterior, 4-2, 4-3
 interior, 4-3
 propeller, 4-3
Center of Gravity Moment
Envelope, 3-6
Circuit Breakers, 2-3
Climb, 1-3, 2-8
 data, 2-8, 5-3
 go-around climb, 2-8
 maximum performance, 1-3
 normal, 1-3
 speeds, 2-8
Cold Weather Equipment, 6-4
 ground service receptacle, 6-4
 winterization kit, 6-4
Cold Weather Operation, 2-10
Correction Table, Airspeed, 5-2
Crosswind Landing, 2-10
Cruise - Range Performance, 5-4
Cruising, 1-3, 2-8

D

Data,
 climb, 2-8, 5-3
 fuel quantity, 2-1
 landing, 5-5
 take-off, 5-3
Diagram,
 exterior inspection, iv
 principal dimensions, ii
 taxiing, 2-5

ions, Principal, ii
knob, Fuel Strainer, 2-3
plug, Fuel Line, 4-7
plugs, Fuel Tank, 4-7

E

Electrical System, 2-3
Emergency, 4-7
Circuit breakers, 2-3
Generator warning light, 2-3
Ground and service plug
Receptacle, 6-4
Warning lights, 2-3
Rotating beacon, 2-3
Weight, inside front cover
 inside front cover
Engine starting, 1-1
Instrument markings, 3-3
Screen, 4-7
Operation limitations, 3-3
Primer, 2-2, 6-2
Starting, 1-2, 2-4
Scale, Weight and Balance, 3-6
Engine, Cold Weather, 6-4
Engine Inspection Diagram, iv

F

Fuel Airplane, 4-5
 Gyro Instrument Air, 4-7
Oil Specification and Grade,
 inside back cover
Fuel System, 2-1
 Auxiliary fuel system, 6-1
 Capacity, inside covers, 2-1
 Fuel buretor, 2-2, 6-2
 Fuel line drain plug, 4-7
 Fuel tank (auxiliary), 6-2
 Fuel tanks (main), 2-2, 6-2
 Fuel tank sump drains, 4-7
Mixture control knob, 2-2, 6-2

Primer, 2-2, 6-2
Quantity data, 2-1
Schematics, 2-2, 6-2
Selector valve, 2-2, 6-2
Strainer drain knob, 2-3
Strainer, 2-2, 4-6, 4-7, 6-2
Tank fillers, 4-6
Throttle, 2-2, 6-2
Transfer pump (auxiliary fuel),
 6-2
Transfer pump switch, 6-2

G

Generator Warning Light, 2-3
Go-Around Climb, 2-8
Gross Weight, inside front cover
Ground Handling, 4-1
Ground Service Receptacle, 6-4
Gyro Instrument Air Filters, 4-7

H

Handling Airplane on Ground, 4-1
Heating and Ventilating System,
 Cabin, 2-4
Hydraulic Fluid Specification,
 inside back cover

I

Inspection Diagram, Exterior, iv
Inspection Service-Periods, 4-4
Instrument Markings, 3-3
Interior Care, 4-3

L

Landing, inside front cover, 2-9
 after, 1-4

before, 1-4
crosswind, 2-10
data, 5-5
lights, 2-3
normal, 1-4
short field, 2-10

Let-Down, 1-3

Light,

 generator warning, 2-3
 landing, 2-3
 rotating beacon, 2-3

Limitations, Airspeed, 3-2

Limitations, Engine Operating, 3-3

Loading Graph, 3-5

Loading Problem, Sample, 3-4

Lubrication and Servicing

 Procedures, 4-6

M

Maneuvers, Normal Category, 3-1
Maneuvers, Utility Category, 3-2
Master Cylinders, Brake, 4-7
Maximum Performance Climb, 1-3
Maximum Performance
 Take-off, 1-2
Maximum Rate-of-Climb Data, 5-3
Mixture Control Knob, 2-2, 6-2
Moment Envelope, Center of
 Gravity, 3-6
Mooring Your Airplane, 4-1

N

Normal Category, Maneuvers, 3-1
Normal Climb, 1-3
Normal Landing, 1-4
Normal Take-off, 1-2
Nose Gear,
 shock strut, 4-7
 torque links, 4-7

O

Oil Specification and Grade,
 inside back cover

Oil System,

 capacity, inside covers
 filter, 4-7
 oil filler and dipstick, 4-6

Operating Limitations, Engine, 3-3

Operation, Auxiliary Fuel

 Tank System, 6-1

Operation, Cold Weather, 2-10

Operations Authorized, 3-1

Optimum Cruise Performance, 2-9

Owner Follow-Up System, 4-8

P

Painted Surfaces, 4-2

Performance, Specifications,
 inside front cover

Power Loading, inside front cover

Primer, Engine, 2-2, 6-2

Principal Dimensions, ii

Propeller, inside front cover
 care, 4-3

Q

Quantity Data, Fuel, 2-1

R

Radio Selector Switches, 6-4, 6-5
 operation, 6-4

 speaker-phone switches, 6-5

 transmitter selector switch, 6-4

Range, inside front cover

Range - Cruise Performance, 5-4

Rate of Climb, inside front cover

Receptacle, Ground Service, 6-4

S

Loading Problem, 3-4
tic, Auxiliary Fuel
System, 6-2
tic, Fuel System, 2-2
Aircraft, 1-4
r Valve, Fuel, 2-2, 6-2
Ceiling, inside front cover
ng Intervals Check List, 4-7
ng Procedures, 4-6
g Requirements Table,
e back cover
Dampener, 4-7
ation and Grade,
l, inside back cover
raulic fluid, inside back cover
, inside back cover
ations - Performance,
e front cover
inside front cover
Speeds Chart, 5-2
2-9
g Engine, 1-2, 2-4
r, Fuel, 2-2, 4-6, 4-7, 6-2
r Drain Knob, Fuel, 2-3
Relief Valve Inlet Screen,

s,
nted, 4-2
imum, 4-3
s, Radio Selector, 6-4, 6-5

xiliary fuel tank, 6-1
bin heating and ventilating,
2-4
ectrical, 2-3
el, 2-1
ner follow-up, 4-8

T

of Contents, iii

Take-off, inside front cover, 1-2,
2-7
before, 1-2, 2-6
crosswind, 2-8
data, 5-3
maximum performance, 1-2
normal, 1-2
performance charts, 2-7
power check, 2-7
wing flap settings, 2-7
Taxiing, 2-6
diagram, 2-5
Throttle, 2-2, 6-2
Tire Pressures, inside back cover
Torque Links, Nose Gear, 4-7
Transfer Pump (Auxiliary Fuel), 6-2
Transfer Pump Switch, 6-2

U

Utility Category, Maneuvers, 3-2

V

Vacuum System Oil Separator, 4-7
Valve, Fuel Selector, 2-2, 6-2

W

Warning Light, Generator, 2-3
Weight,
empty, inside front cover
gross, inside front cover
Weight and Balance, 3-4
loading graph, 3-5
moment envelope, 3-6
sample loading problem, 3-4
Wheel Bearings, 4-7
Windshield and Windows, 4-2
Wing Loading, inside cover
Winterization Kit, 6-4

FAA APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT

For Cessna Model 172F through M, 182E
through K, 205, 205A, 206, P206 through
P206B, TP206A and B, U206 through U206B,
TU206A and B, 210, 210D through F and T210F
airplanes.

Registration Number N8716U

Serial Number 17252620

This supplement must be attached in the FAA approved Airplane Flight Manual (AFM) when the airplane is modified with the Visual Instruments Flap Position Indicator in accordance with STC SA00819SE. The information contained herein, supplements, supercedes the basic manual, only in those areas listed in this supplement. For limitations, procedures and performance not contained in this supplement, consult the Basic AFM.

FAA Approved:

Donald D. Wilson
for Lester H. Berven
Manager, Flight Test Branch
Seattle Aircraft Certification Office
Renton, Washington 98055

Dated: July 18, 2000

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General

The Visual Instrument Flap Position Indicator is an electronic indicator utilizing an LED bar graph display to show the position of the wing flaps. The indicator replaces the original flap indicator and is located in the same position on the instrument panel. The LED bar graph on the display instrument is comprised of 9 LED's arranged vertically. The top LED is illuminated when power is supplied to the instrument from the main bus. The second LED is illuminated as the flaps move to the 5 degree position and each succeeding LED illuminates with each additional 5 degrees of flap position, until all 9 LED's are illuminated at the 40 degree position.

The indicator incorporates an auto dimmer circuit which reduces the brightness of the LED display when the natural light in the cockpit is reduced during night or IFR operations.

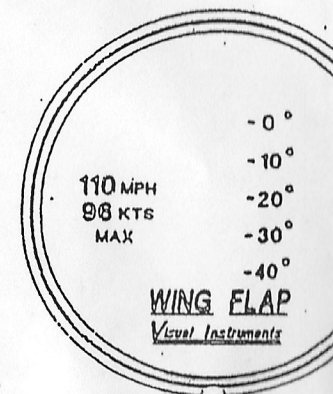
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Dated: July 18, 2000

LIMITATIONS



Placard
CESSNA 172



Placard
CESSNA 182, 205, 206, 210

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Dated: July 18, 2000

WARRANTY

The Cessna Aircraft Company (Cessna) warrants each new aircraft, including factory installed equipment and accessories, and warrants all new aircraft equipment and accessories bearing the name "Cessna," to be free from defects in material and workmanship under normal use and service. Cessna's obligation under this warranty is limited to supplying a part or parts to replace any part or parts which, within six (6) months after delivery of such aircraft or such aircraft equipment or accessories to the original retail purchaser or first user, shall be returned transportation charges prepaid to Cessna at Wichita, Kansas, or such other place as Cessna may designate and which upon examination shall disclose to Cessna's satisfaction to have been thus defective.

■ The provisions of this warranty shall not apply to any aircraft, equipment or accessories which have been subject to misuse, negligence or accident, or which shall have been repaired or altered outside of Cessna's factory in any way so as in the judgment of Cessna to affect adversely its performance, stability or reliability. This warranty is expressly in lieu of any other warranties, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligation or liability on the part of Cessna of any nature whatsoever and Cessna neither assumes nor authorizes any one to assume for it any other obligation or liability in connection with such aircraft, equipment and accessories.

SERVICING REQUIREMENTS

172



FUEL:

AVIATION GRADE -- 80/87 MINIMUM GRADE
CAPACITY EACH TANK -- 21 GALLONS

ENGINE OIL:

AVIATION GRADE -- SAE 40 ABOVE 40° F.
SAE 20 BELOW 40° F.

(AIRCRAFT DELIVERED WITH STRAIGHT MINERAL OIL. EITHER MINERAL OIL OR DETERGENT OIL MAY BE USED. IF DETERGENT OIL IS USED, IT MUST CONFORM TO CONTINENTAL MOTORS SPECIFICATION MHS-24.)

CAPACITY OF ENGINE SUMP -- 8 QUARTS

(DO NOT OPERATE ON LESS THAN 6 QUARTS. TO MINIMIZE LOSS OF OIL THROUGH BREATHER, FILL TO 7 QUART LEVEL FOR NORMAL FLIGHTS OF LESS THAN 3 HOURS. FOR EXTENDED FLIGHT, FILL TO 8 QUARTS. IF OPTIONAL OIL FILTER IS INSTALLED, ONE ADDITIONAL QUART IS REQUIRED WHEN THE FILTER ELEMENT IS CHANGED.)

HYDRAULIC FLUID:

MIL-H-5606 HYDRAULIC FLUID

TIRE PRESSURES:

NOSE WHEEL -----26 PSI ON 5.00x5 TIRE
26 PSI ON 6.00x6 TIRE
MAIN WHEELS -----24 PSI ON 6.00x6 TIRES