

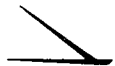
THERE ARE MORE CESSNAS FLYING THAN ANY OTHER MAKE

1967



"TAKE YOUR CESSNA HOME  
FOR SERVICE AT THE SIGN  
OF THE CESSNA SHIELD".

CESSNA AIRCRAFT COMPANY



WICHITA, KANSAS



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**SUPER  
SKYLANE**

**OWNER'S MANUAL**

WORLD'S LARGEST PRODUCER OF GENERAL AVIATION AIRCRAFT SINCE 1956

# PERFORMANCE - SPECIFICATIONS

## SUPER SKYLANE

GROSS WEIGHT . . . . .	3600 lbs
SPEED, BEST POWER MIXTURE:	
Top Speed at Sea Level . . . . .	174 mph
Cruise, 75% Power at 6000 ft . . . . .	163 mph
RANGE, NORMAL LEAN MIXTURE:	
Cruise, 75% Power at 6000 ft . . . . .	650 mi
63 Gallons, No Reserve . . . . .	4.0 hrs
	162 mph
Cruise, 75% Power at 6000 ft . . . . .	830 mi
80 Gallons, No Reserve . . . . .	5.1 hrs
	162 mph
Optimum Range at 10,000 ft . . . . .	810 mi
63 Gallons, No Reserve . . . . .	6.1 hrs
	134 mph
Optimum Range at 10,000 ft . . . . .	1020 mi
80 Gallons, No Reserve . . . . .	7.6 hrs
	134 mph
RATE OF CLIMB AT SEA LEVEL . . . . .	920 fpm
SERVICE CEILING . . . . .	14,800 ft
TAKE-OFF:	
Ground Run . . . . .	910 ft
Total Distance Over 50-foot Obstacle . . . . .	1810 ft
LANDING:	
Landing Roll . . . . .	735 ft
Total Distance Over 50-foot Obstacle . . . . .	1395 ft
EMPTY WEIGHT (Approximate) . . . . .	1795 lbs
USEFUL LOAD . . . . .	1805 lbs
WING LOADING: Pounds/Sq Foot . . . . .	20.5
POWER LOADING: Pounds/HP . . . . .	12.6
FUEL CAPACITY: Total	
Standard Tanks . . . . .	65 gal.
Optional Long Range Tanks . . . . .	84 gal.
OIL CAPACITY: Total . . . . .	12 qts
*PROPELLER: 2-Bladed Constant Speed (Dia) . . . . .	82 inches
ENGINE:	
Continental Fuel Injection Engine . . . . .	IO-520-A
285 rated BHP at 2700 RPM	

\*Performance with a 3-bladed propeller is essentially the same as above.

# CONGRATULATIONS . . . . .

Welcome to the ranks of Cessna Owners! Your Cessna has been designed and constructed to give you the most in performance, economy, and comfort. It is our desire that you will find flying it, either for business or pleasure, a pleasant and profitable experience.

This Owner's Manual has been prepared as a guide to help you get the most pleasure and utility from your Super Skylane. It contains information about your Cessna's equipment, operating procedures, and performance; and suggestions for its servicing and care. We urge you to read it from cover to cover, and to refer to it frequently.

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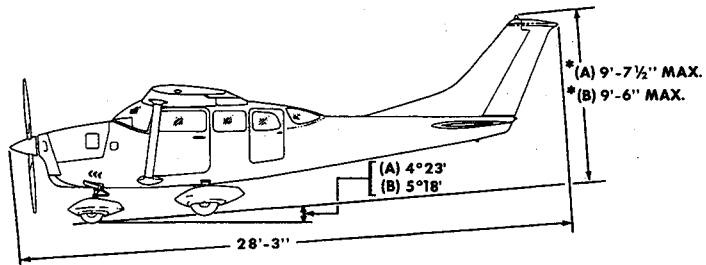
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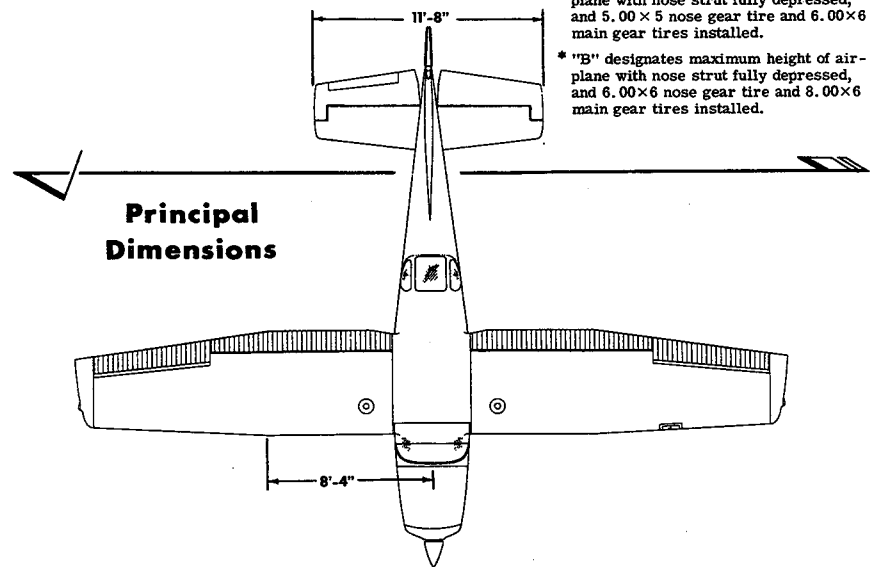
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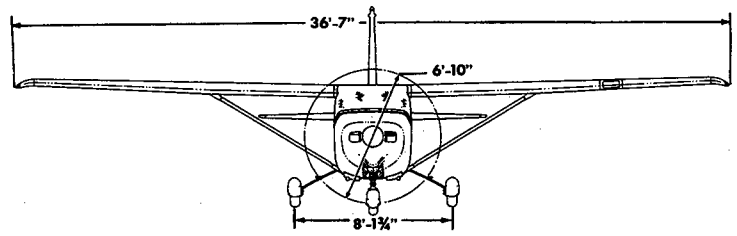


\* "A" designates maximum height of airplane with nose strut fully depressed, and 5.00 x 5 nose gear tire and 6.00 x 6 main gear tires installed.

\* "B" designates maximum height of airplane with nose strut fully depressed, and 6.00 x 6 nose gear tire and 8.00 x 6 main gear tires installed.



**Principal Dimensions**



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## 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.

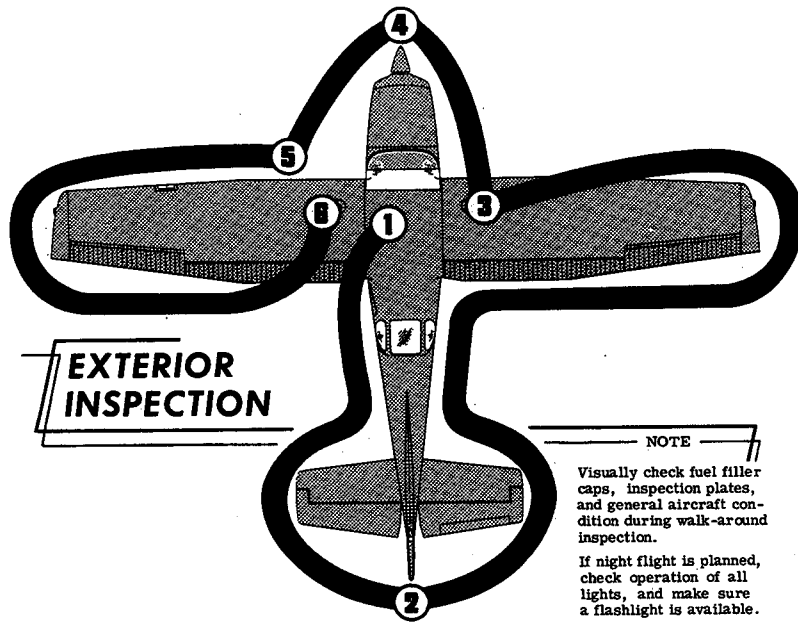
The flight and operational characteristics of your airplane are normal in all respects. There are no "unconventional" characteristics or operations that need to be mastered. All controls respond in the normal way within the entire range of operation. All airspeeds mentioned in Sections I and II are indicated airspeeds. Corresponding calibrated airspeeds 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) Cowl Flaps -- "OPEN." (Move lever out of locking hole to reposition.)
- (5) Fuel Selector -- Fullest tank.
- (6) Turn all radio switches "OFF."



### EXTERIOR INSPECTION

#### NOTE

Visually check fuel filler caps, inspection plates, and general aircraft condition during walk-around inspection.

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

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1 a. Turn on master switch and check fuel quantity indicators, then turn master switch "OFF."</li> <li>b. Check ignition switch "OFF."</li> <li>c. Check that fuel tank selector valve handle is on fullest tank.</li> <li>d. On first flight of day and after each refueling, pull out strainer drain knob for about four seconds, to clear fuel strainer of possible water and sediment.</li> <li>e. Remove control wheel lock.</li> <li>f. Check baggage door securely latched.</li> </ol> | <ol style="list-style-type: none"> <li>4 a. Check propeller and spinner for nicks and security, and propeller for oil leaks.</li> <li>b. Make visual check to insure that fuel strainer drain valve is closed after draining operation.</li> <li>c. Check nose wheel strut and tire for proper inflation.</li> <li>d. Disconnect nose tie-down.</li> <li>e. Check oil level. Do not operate with less than nine quarts. Fill for extended flight.</li> <li>f. Inspect airspeed static source holes on sides of fuselage for stoppage.</li> </ol> |
| <ol style="list-style-type: none"> <li>2 a. Remove rudder gust lock, if installed.</li> <li>b. Disconnect tail tie-down.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                  | <ol style="list-style-type: none"> <li>5 a. Remove pitot tube cover, if installed, and check pitot tube opening for stoppage.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ol style="list-style-type: none"> <li>3 a. Check main wheel tire for proper inflation.</li> <li>b. Disconnect wing tie-down.</li> <li>c. Check fuel tank vent opening for stoppage.</li> </ol>                                                                                                                                                                                                                                                                                                                                      | <ol style="list-style-type: none"> <li>6 Same as 3</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Figure 1-1.

## STARTING ENGINE.

- (1) Mixture -- Full Rich.
- (2) Propeller -- High RPM.
- (3) Throttle -- Closed.
- (4) Auxiliary Fuel Pump Switch -- On "LO."

### NOTE

The auxiliary fuel pump will not operate until the ignition switch is turned to the "START" position.

- (5) Ignition Key -- "START."
- (6) Slowly advance throttle.
- (7) Release ignition key when engine starts.

### NOTE

If engine fails to continue running, start again from step (3).

- (8) Reset throttle to desired idle speed.
- (9) Auxiliary Fuel Pump Switch -- Off.

## BEFORE TAKE-OFF.

- (1) Induction Air -- Cold.
- (2) Cowl Flaps -- Full "OPEN."
- (3) Flight Controls -- Check.
- (4) Engine Instruments -- Check.
- (5) Throttle Setting -- 1700 RPM.
- (6) Magnetos -- Check (50 RPM maximum differential between magnetos).
- (7) Propeller -- Cycle from high to low RPM; return to high RPM (full in).
- (8) Ammeter -- Check.
- (9) Suction Gage -- Check (4.6 to 5.4 inches of mercury).
- (10) Elevator and Rudder Trim -- Take-off settings.
- (11) Cabin Doors and Window -- Closed and locked.
- (12) Flight Instruments and Radios -- Set.

## TAKE-OFF.

### NORMAL TAKE-OFF.

- (1) Wing Flaps -- 0° to 20°.

- (2) Power -- Full throttle and 2700 RPM.
- (3) Mixture -- Lean for field elevation per fuel flow indicator placard.
- (4) Elevator Control -- Lift nosewheel at 60 MPH.
- (5) Climb Speed -- 100 MPH until all obstacles are cleared, then set up climb speed as shown in "NORMAL CLIMB" paragraph.
- (6) Wing Flaps -- Retract (if extended) after obstacles are cleared.

### MAXIMUM PERFORMANCE TAKE-OFF.

- (1) Wing Flaps -- 20°
- (2) Brakes -- Apply.
- (3) Power -- Full throttle and 2700 RPM.
- (4) Mixture -- Lean for field elevation per fuel flow indicator placard.
- (5) Brakes -- Release.
- (6) Elevator Control -- Maintain slightly tail-low attitude.
- (7) Climb Speed -- 78 MPH until all obstacles are cleared, then set up climb speed as shown in "MAXIMUM PERFORMANCE CLIMB" paragraph.
- (8) Wing Flaps -- Retract (after obstacles are cleared and 90 MPH is reached).

### NOTE

Do not reduce power until wing flaps have been retracted.

## CLIMB.

### NORMAL CLIMB.

- (1) Air Speed -- 110 to 120 MPH.
- (2) Power -- 24.5 inches and 2500 RPM.
- (3) Mixture -- Lean to 16.5 gal/hr. fuel flow.
- (4) Cowl Flaps -- Open as required.

### MAXIMUM PERFORMANCE CLIMB.

- (1) Air Speed -- 100 MPH (sea level) to 93 MPH (10,000 feet).
- (2) Power -- Full throttle and 2700 RPM.
- (3) Mixture -- Lean for altitude per fuel flow indicator placard.
- (4) Cowl Flaps -- Full "OPEN."

## CRUISING.

- (1) Power -- 15-24.5 inches of manifold pressure and 2200-2500 RPM.

- (2) Cowl Flaps -- Open as required.
- (3) Mixture -- Lean for cruise fuel flow as determined from your Cessna Power Computer or the OPERATIONAL DATA in Section V.

## LET-DOWN.

- (1) Mixture -- Rich.
- (2) Power -- As desired.
- (3) Cowl Flaps -- "CLOSED."

## BEFORE LANDING.

- (1) Fuel Selector -- Fullest tank.
- (2) Mixture -- Rich.
- (3) Propeller -- High RPM.
- (4) Wing Flaps -- Down 0°-10° (below 160 MPH), 10°-40° (below 110 MPH).
- (5) Airspeed -- 90-100 MPH (flaps retracted), 80-90 MPH (flaps extended).
- (6) Elevator Trim -- Adjust for landing.

## NORMAL LANDING.

- (1) Landing Technique -- Conventional for all flap settings.

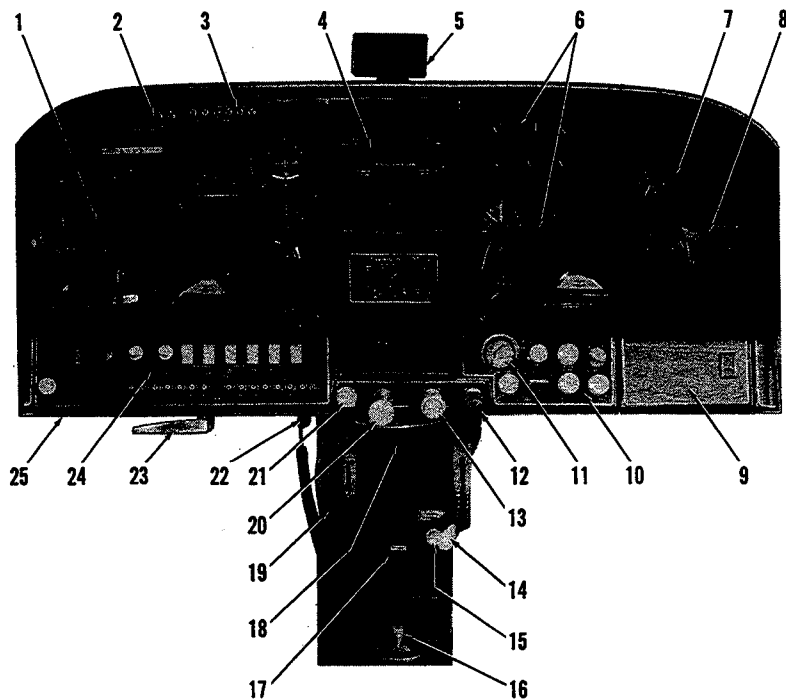
## AFTER LANDING.

- (1) Cowl Flaps -- "OPEN."
- (2) Wing Flaps -- Retract.

## SECURE AIRCRAFT.

- (1) Mixture -- Idle cut-off.
- (2) All Switches -- Off.
- (3) Brakes -- Set.
- (4) Control Lock -- Installed.

## INSTRUMENT PANEL



- |                                                       |                                        |
|-------------------------------------------------------|----------------------------------------|
| 1. Flight Instrument Group                            | 13. Propeller Control Knob             |
| 2. Marker Beacon Indicator Lights and Switches (Opt.) | 14. Cowl Flap Control Handle           |
| 3. Radio Selector Switches (Opt.)                     | 15. Engine Primer (Opt.)               |
| 4. Radios (Opt.)                                      | 16. Fuel Selector Valve Handle         |
| 5. Rear View Mirror (Opt.)                            | 17. Microphone                         |
| 6. Engine Instrument Group                            | 18. Rudder Trim Control Wheel          |
| 7. Optional Instrument Space                          | 19. Elevator Trim Control Wheel        |
| 8. Radio (Opt.)                                       | 20. Throttle                           |
| 9. Map Compartment                                    | 21. Induction Air Control Knob         |
| 10. Right Hand Switch and Control Panel               | 22. Mike Jack                          |
| 11. Wing Flap Position Indicator                      | 23. Parking Brake Handle               |
| 12. Mixture Control Knob                              | 24. Left Hand Switch and Control Panel |
|                                                       | 25. Phone Jack                         |

Figure 2-1.

## 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 tanks, one in each wing. Usable fuel in each tank, for all flight conditions, is 31.5 gallons for standard tanks and 40 gallons for long range tanks.

#### NOTE

Unusable fuel is at a minimum due to the design of the fuel system. However, with 1/4 tank or less, prolonged uncoordinated flight such as slips or skids can uncover the fuel tank outlets, causing fuel starvation and engine stoppage. Therefore, with low fuel reserves, do not allow the airplane to remain in uncoordinated flight for periods in excess of one minute.

Fuel from each wing tank flows through a fuel reservoir tank to the fuel selector valve. Depending upon the setting of the selector valve, fuel from the left or right tank flows through a fuel strainer and by-pass in the electric auxiliary fuel pump (when it is not operating) to the engine-driven fuel pump. From here fuel is distributed to the engine cylinders via a fuel control unit and manifold.

#### NOTE

Fuel cannot be used from both fuel tanks simultaneously.

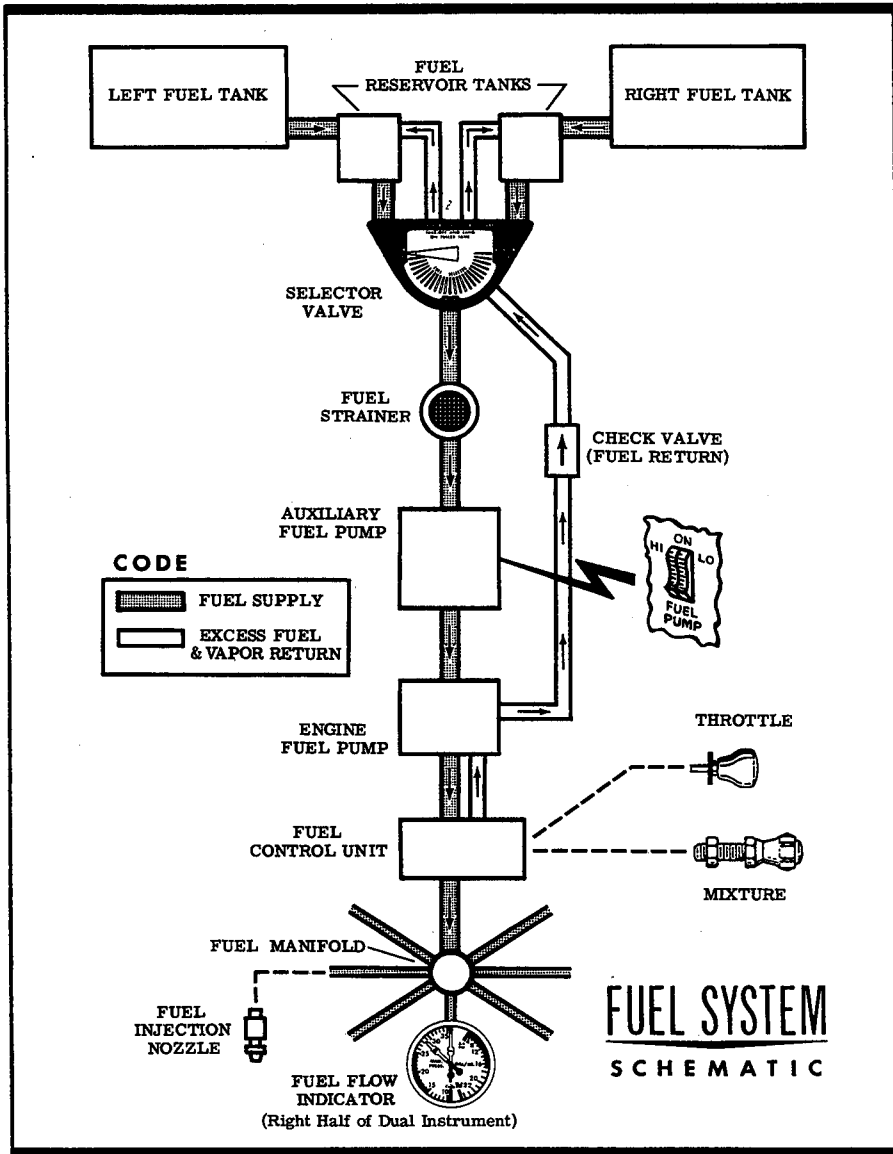


Figure 2-2.

Vapor and excess fuel from the engine-driven fuel pump and fuel control unit are returned by way of the selector valve to the reservoir tank of the wing tank system being used.

#### AUXILIARY FUEL PUMP SWITCH:

The right half of the auxiliary fuel pump switch, labeled "LO," is used for starting. With the switch in the "LO" position, and the ignition-starter switch turned to "START," the auxiliary fuel pump will operate at a low flow rate (providing proper fuel mixture for starting) as the engine is being turned over with the starter.

#### NOTE

The auxiliary fuel pump will not operate in the "LO" position until the ignition switch is turned to the "START" position.

The left half of the switch, labeled "HI," is used for engine operation if the engine-driven pump should fail. When the switch is in this position, the pump operates at one of two flow rates depending upon the setting of the throttle. With the throttle at a cruise setting, the pump is operating at maximum capacity, supplying sufficient fuel flow to maintain flight. When the throttle is moved toward the closed position (as during let-down, landing and taxiing), the auxiliary fuel pump flow rate is automatically reduced, preventing an excessively rich mixture during these periods of reduced engine speed.

The auxiliary fuel pump is not to be turned on "HI" during normal operation, because, with the engine-driven pump functioning, a fuel/air ratio considerably richer than best power is produced.

#### NOTE

If the auxiliary fuel pump switch is accidentally turned on "HI" (with master switch on) with the engine stopped, the intake manifolds will be flooded.

#### ELECTRICAL SYSTEM.

Electrical energy is supplied by a 14-volt, direct-current system powered by an engine-driven alternator (see figure 2-3). The 12-volt



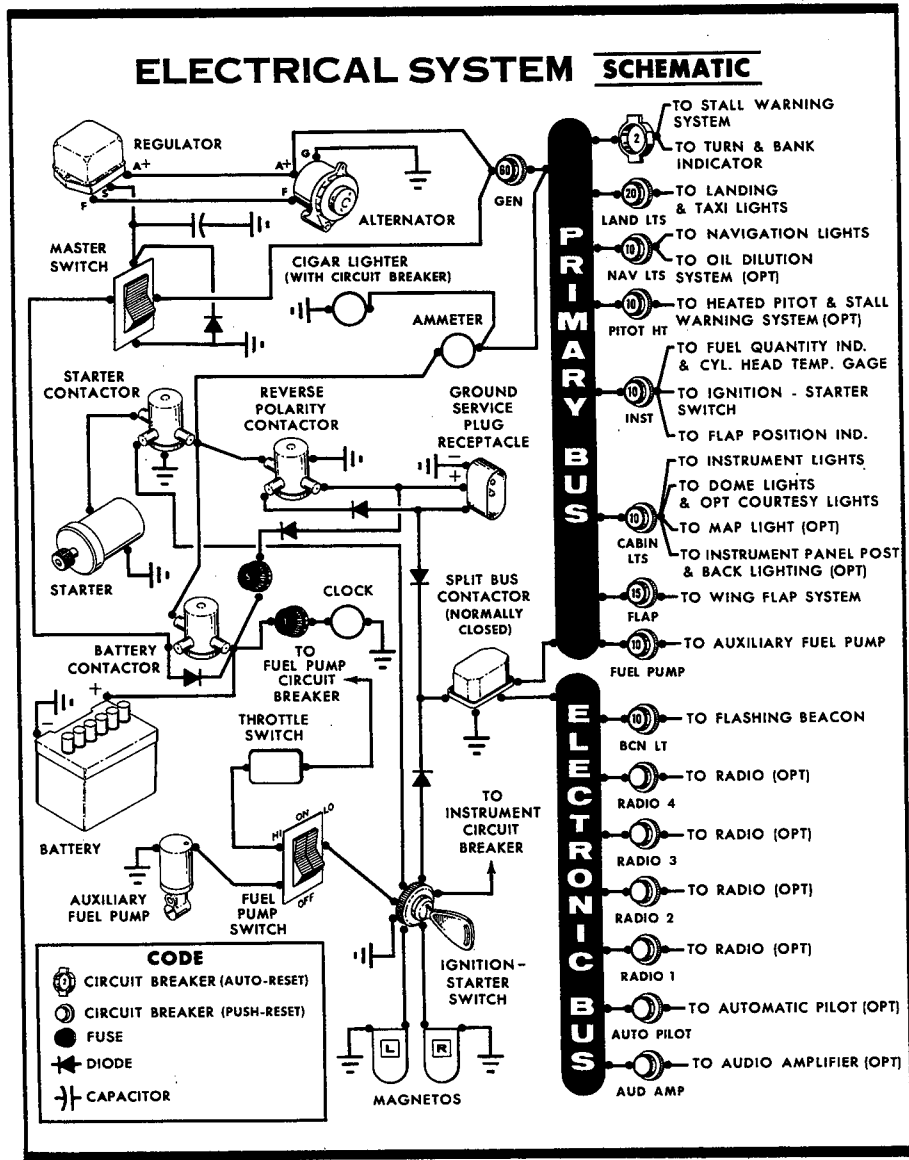


Figure 2-3.

battery is located on the upper left-hand forward portion of the firewall. Power is supplied to all electrical circuits through a split bus bar, one side containing electronic system circuits and the other side having general electrical system circuits. Both sides of the bus are on at all times except when either an external power source is connected or the starter switch is turned on; then a power contactor is automatically activated to open the circuit to the electronics bus. Isolating the electronic circuits in this manner prevents harmful transient voltages from damaging the semi-conductors in the electronics equipment.

### AMMETER.

The ammeter indicates flow of current, in amperes, from the alternator to the battery or from the battery to the aircraft electrical system. When the engine is operating and the master switch is "ON," the ammeter indicates the charging rate applied to the battery. In the event the alternator is not functioning or the electrical load exceeds the output of the alternator, the ammeter indicates the discharge rate of the battery.

### CIRCUIT BREAKERS AND FUSES.

Most of the electrical circuits in the airplane are protected by "push-to-reset" circuit breakers mounted on the instrument panel. Exceptions to this are the clock circuit and battery contactor closing (external power) circuit which have fuses mounted near the battery. Also, the cigar lighter is protected by a manually-reset type circuit breaker mounted directly on the back of the lighter behind the instrument panel. An automatically-resetting circuit breaker mounted behind the instrument panel protects the stall warning transmitter and horn circuit and the turn-and-bank indicator circuit.

### FLASHING BEACON.

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

### CABIN HEATING, VENTILATING AND DEFROSTING SYSTEM.

The temperature and volume of airflow into the cabin can be regulated

to any degree desired by manipulation of the push-pull "CABIN HEAT" and "CABIN AIR" knobs. Additional outside air for summer ventilation is provided through the heat and vent system by operation of the push-pull "AUX CABIN AIR" knob. The rotary type "DEFROST" knob regulates the air-flow for windshield defrosting.

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

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

## STARTING ENGINE.

Proper fuel management and throttle adjustments are the determining factors in securing an easy start from your continuous-flow fuel-injection engine. The procedure outlined in Section I should be followed closely as it is effective under nearly all operating conditions, including hot and cold weather conditions. Slight variations from this procedure may be necessary at times to compensate for extreme conditions.

Conventional full rich mixture and high RPM propeller settings are used for starting; the throttle, however, should be fully closed initially. When ready to start, depress the right half of the auxiliary fuel pump switch to "LO" and turn the ignition-starter switch to the "START" position. At the same time the starter engages and turns the engine, the auxiliary fuel pump will operate at a low flow rate, supplying the fuel for starting. While cranking, slowly advance the throttle until the engine starts. Slow throttle advancement is essential since the engine will start readily when the correct fuel/air ratio is obtained. On the other hand, fast throttle movement may prevent starting since an excessively rich mixture will be obtained due to the greater fuel flow metered by the throttle position. In this case, another starting attempt must be made. When the engine has started, reset the throttle to the desired idle speed and turn the auxiliary fuel pump switch "OFF."

Engine starting in hot weather or with a hot engine is sometimes hampered by vapor formation in the fuel lines. To purge the vapor,

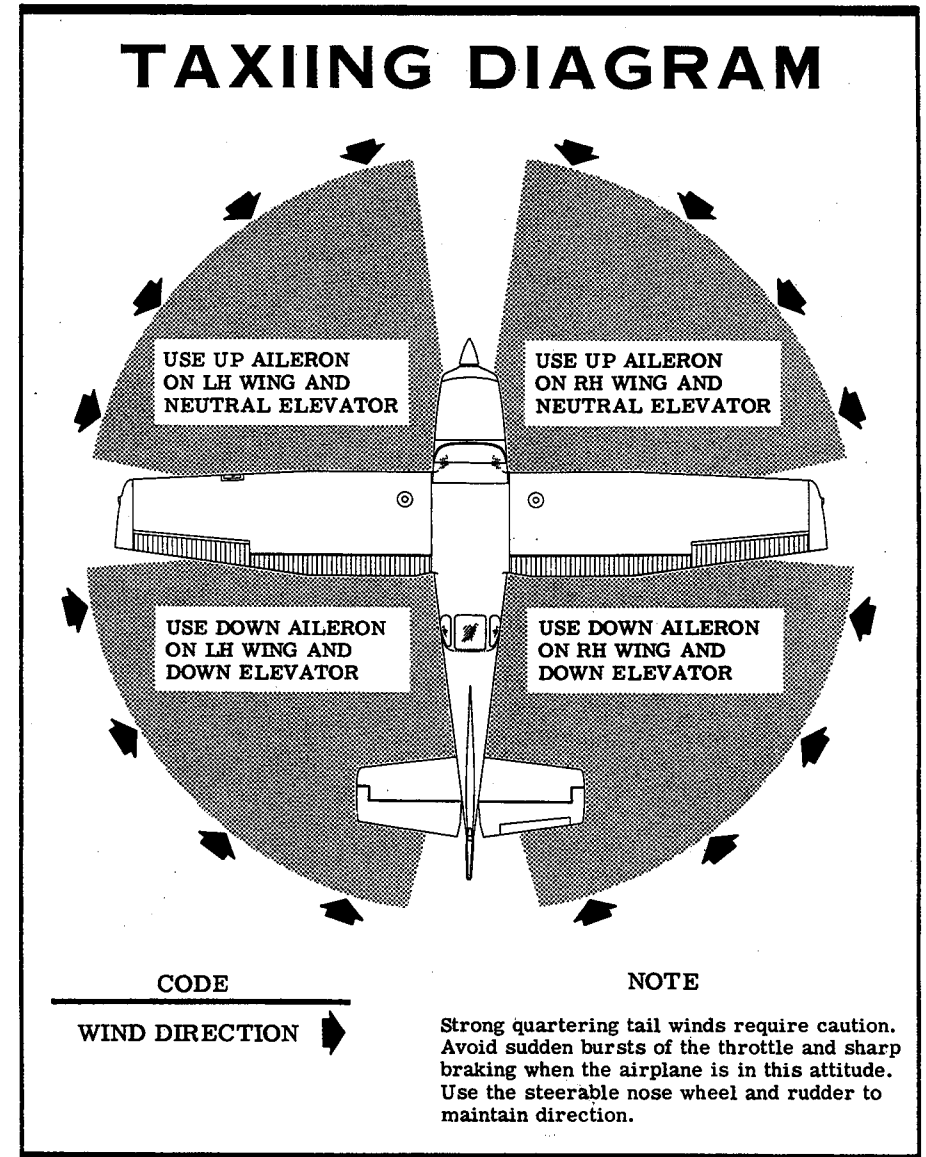


Figure 2-4.

move the mixture control to full rich, open the throttle 1 1/2 inches, and prime with the auxiliary fuel pump switch in the "HI" position until the fuel flow indicator reads 4 - 6 gal/hr. Then shut off the fuel pump switch and engage the starter. As the flooded mixture becomes progressively leaner, reaching a combustible mixture, the engine will start. If the engine tends to die, turn the auxiliary fuel pump switch momentarily to "HI" at appropriate intervals until the vapor is fully cleared and the engine runs smoothly.

If prolonged cranking is necessary, allow the starter motor to cool at frequent intervals, since excessive heat may damage the armature.

## TAXIING.

The induction hot air knob should be pushed full in during all ground operations unless heat is absolutely necessary for smooth engine operation. When the knob is pulled out to the heat position, air entering the engine is not filtered. Do not use an intermediate position.

Taxiing 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.

Since the engine is closely cowled for efficient in-flight cooling, precautions should be taken to avoid overheating on the ground. Full throttle checks on the ground are not recommended unless the pilot has good reason to suspect that the engine is not turning up properly.

The magneto check should be made at 1700 RPM with the propeller in flat pitch as follows: Move the ignition switch first to "R" position and note RPM. Then move switch back to "BOTH" position to clear the other set of plugs. Then move switch to "L" position and note RPM. The difference between the two magnetos operated singly should not be more than 50 RPM. If there is a doubt concerning the operation of the ignition system, RPM checks at a higher engine speed will usually confirm whether a deficiency exists.

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 is set in advance of the setting specified.

## TAKE-OFF.

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.

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.

For maximum engine power, the mixture should be adjusted during the initial take-off roll to the fuel flow corresponding to the field elevation. (Refer to Maximum Performance Take-Off and Climb Settings placard located adjacent to fuel flow indicator.) The power increase is significant above 3000 feet and this procedure always should be employed for field elevations greater than 5000 feet above sea level.

Using 20° wing flaps reduces the ground run and total distance over the obstacle by approximately 10 per cent. Soft field take-offs are performed with 20° flaps by lifting the nosewheel off the ground as soon as practical and leaving the ground in a slightly tail-low attitude. However, the airplane should be leveled off immediately to accelerate to a safe climb speed of 70 to 80 MPH.

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

## CLIMB.

A cruising climb at 24.5 inches of manifold pressure, 2500 RPM (approximately 75% power) and 110 to 120 MPH is recommended to save time and fuel for the overall trip. In addition, this type of climb provides bet-

ter engine cooling, less engine wear, and more passenger comfort due to lower noise level.

Cruising climbs should be conducted at approximately 16.5 GPH up to 6500 feet and at 1 GPH more than the normal lean fuel flow shown on the Cessna Power Computer at higher altitudes and lower power.

If it is necessary to climb rapidly to clear mountains or reach favorable winds at high altitudes, the best rate-of-climb speed should be used with maximum power (full throttle and 2700 RPM). This speed is 100 MPH at sea level, decreasing approximately 1 MPH for each 1000 feet above sea level. The mixture should be leaned as shown by the Maximum Performance Take-Off and Climb Settings placard located adjacent to the fuel flow indicator.

If an obstruction ahead requires a steep climb angle, the airplane should be flown at the best angle of climb with flaps up and maximum power. This speed is 81 MPH at sea level, increasing 1/2 MPH for each 1000 feet above sea level.

In a balked landing (go-around) climb, the wing flap setting should be reduced to 20° immediately after full power is applied. After all obstacles are cleared and a safe altitude and airspeed are obtained, the wing flaps should be retracted.

## CRUISE.

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 or the OPERATIONAL DATA, Section V.

The Optimum Cruise Performance table (figure 2-5) shows that cruising can be done most efficiently at higher altitudes because very nearly the same cruising speed can be maintained at much less power.

For greater cruising range at a given throttle setting, select the lowest engine RPM in the green arc range that will give smooth engine operation.

Cowl flaps should be adjusted to maintain the cylinder head temperature at approximately two thirds of the normal operating (green arc) range to assure prolonged engine life.

## OPTIMUM CRUISE PERFORMANCE

% BHP	GAL/HR	ALTITUDE	TRUE AIRSPEED	RANGE (STD. TANKS)
75	15.5	6000	162	650
70	14.5	8000	160	701
65	13.5	10,000	158	743

Figure 2-5.

The fuel injection system employed on this engine is considered to be non-icing. An induction air heat system is incorporated, however, to assure satisfactory operation in the event that unusual atmospheric conditions should cause intake system icing. The induction hot air knob should be left in the full cold position for all normal operations. Should intake system icing be encountered, the knob should be pulled out to the full heat position.

## 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. position are presented on page 5-2 as calibrated airspeeds since indicated airspeeds are unreliable near the stall.

## SPINS.

Intentional spins are prohibited in this airplane. Should an inadvertent spin occur, standard light plane recovery techniques should be used.

## LANDINGS.

Landings are usually made on the main wheels first to reduce the landing speed and subsequent need for braking in the landing roll. The nose wheel is lowered to the runway after the speed has diminished to avoid unnecessary nose gear load. This procedure is especially important in rough field landings.

For short field landings, make a power-off approach at 76 MPH with 40° flaps and land on main wheels first. Immediately after touchdown, lower the nose gear and apply heavy braking as required. For maximum brake effectiveness after all three wheels are on the ground, retract the flaps, hold full nose up elevator and apply maximum possible brake pressure without sliding the tires.

At light operating weights, during ground roll with full flaps, hold the control wheel full back to insure maximum weight on the main wheels for braking. Under these conditions, full nose down elevator (control wheel full forward) will raise the main wheels off the ground.

## COLD WEATHER OPERATION.

The use of an external pre-heater and an external power source is recommended whenever possible to reduce wear and abuse to the engine and the electrical system.

Pre-heat will thaw the oil trapped in the oil cooler, which probably will be congealed prior to starting in extremely cold temperatures. When using an external power source, the position of the master switch is important. Refer to Section VI, paragraph GROUND SERVICE PLUG RECEPTACLE, for operating details.

In very cold weather, no oil temperature indication need be apparent before take-off. After a suitable warm-up period (2 to 5 minutes at 1000 RPM), the engine is ready for take-off if it accelerates smoothly and the oil pressure is normal and steady.

During let-down, observe engine temperatures closely and carry sufficient power to maintain them in the recommended operating range.

# Section III

## OPERATING LIMITATIONS

### OPERATIONS AUTHORIZED.

Your Cessna exceeds the requirements for airworthiness as set forth by the United States Government, and is certificated under FAA Type Certificate No. A4CE.

With standard equipment, the airplane 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 under VFR. Your Cessna Dealer will be happy to assist you in selecting equipment best suited to your needs.

### MANEUVERS—NORMAL CATEGORY.

The airplane is certificated in the normal category. The normal category is applicable to airplanes intended for non-aerobatic operations. These include any maneuvers incidental to normal flying, stalls (except whip stalls) and turns in which the angle of bank is not more than 60°. In connection with the foregoing, the following gross weight and flight load factors apply:

Gross Weight . . . . .	3600 lbs.
Flight Load Factor *Flaps Up . . . . .	+3.8 -1.52
Flight Load Factor *Flaps Down . . . . .	+2.6

\*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.

## AIRSPED LIMITATIONS.

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

Never Exceed (Glide or dive, smooth air) . . . .	210 MPH (red line)
Caution Range . . . . .	170-210 MPH (yellow arc)
Maximum Structural Cruising Speed . . . . .	170 MPH (Level flight or climb)
Normal Operating Range . . . . .	70-170 MPH (green arc)
Maximum Speed, Flaps Extended	
Flaps 10° . . . . .	160 MPH
Flaps 10°-40° . . . . .	110 MPH
Flap Operating Range . . . . .	61-110 MPH (white arc)
Maneuvering Speed* . . . . .	144 MPH

\*The maximum speed at which abrupt control travel can be used without exceeding the design load factor.

## ENGINE OPERATION LIMITATIONS.

Power and Speed . . . . . 285 BHP at 2700 RPM

## ENGINE INSTRUMENT MARKINGS.

### OIL TEMPERATURE GAGE.

Normal Operating Range . . . . . Green Arc  
Do Not Exceed . . . . . 240°F (red line)

### OIL PRESSURE GAGE.

Idling Pressure . . . . . 10 psi (red line)  
Normal Operating Range . . . . . 30-60 psi (green arc)  
Maximum Pressure . . . . . 100 psi (red line)

### MANIFOLD PRESSURE GAGE.

Normal Operating Range . . . . . 15-24.5 in. Hg (green arc)

## CYLINDER HEAD TEMPERATURE GAGE.

Normal Operating Range . . . . . 200-460°F (green arc)  
Do Not Exceed . . . . . 460°F (red line)

## TACHOMETER.

Normal Operating Range . . . . . 2200-2500 RPM (green arc)  
Maximum (Engine rated speed) . . . . . 2700 RPM (red line)

## FUEL QUANTITY INDICATORS.

Empty (1.0 gallons unusable each standard tank) . . . . E (red line)  
(2.0 gallons unusable each long range tank)

## FUEL FLOW INDICATOR.

Normal Operating Range . . . . . 7.0-17.0 gal/hr (green arc)  
Minimum and Maximum . . . . . 3.5 and 18.5 psi (24.2 gal/hr)(red lines)

## NOTE

A placard, located adjacent to the fuel flow indicator, provides maximum performance (full throttle and 2700 RPM) take-off and climb fuel flow settings at altitude. These settings, as called out on the placard, are as follows:

Sea Level . . . . .	22 gal/hr
4000 Feet . . . . .	20 gal/hr
8000 Feet . . . . .	18 gal/hr

## WEIGHT AND BALANCE.

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.

When an optional cargo pack is installed, it is necessary to determine the c.g. arm and calculate the moment/1000 of items carried in the pack. The arm (the c.g. arm is the same as the station) for any location in the pack can be determined from the diagram on page 3-8. Multiply the weight of the item by the c.g. arm, then divide by 1000 to get the moment/1000. The maximum loading capacity of the pack is 300 pounds.

### NOTE

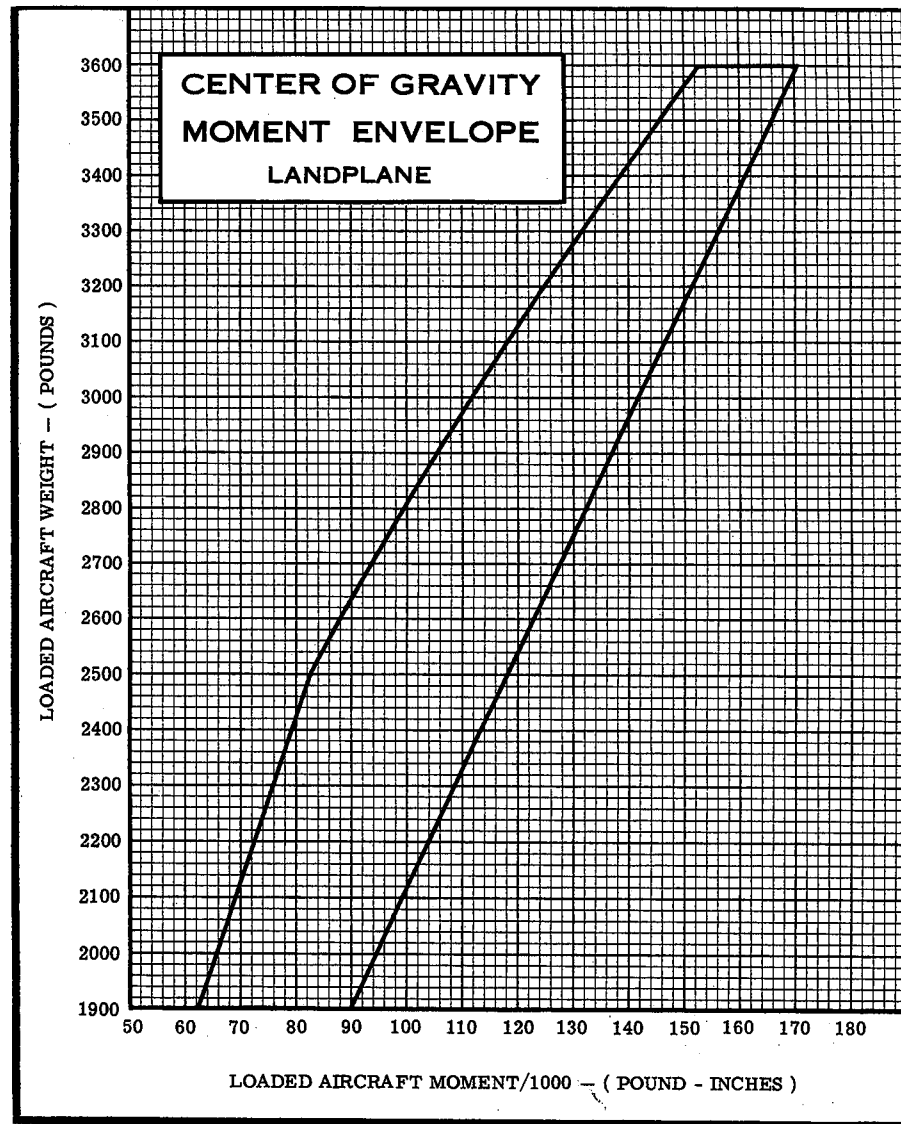
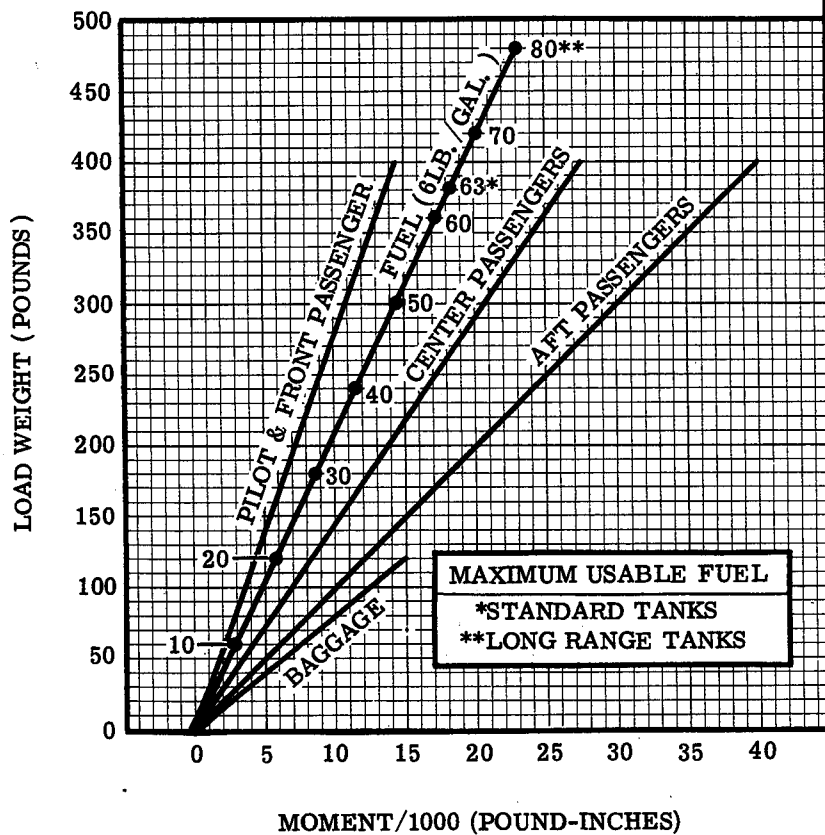
Each loading should be figured in accordance with the above paragraphs. When loading is light (such as pilot and copilot, and no rear seats or cargo), be sure to check the forward balance limits. When loading is heavy (near gross weight), be sure to check the aft balance limits.

To avoid time consuming delays in cargo and/or passenger shifting, plan your load so that the heaviest cargo and/or passengers are in the forward part of the aircraft or cargo pack, and the lightest in the rear. Always plan to have any vacant space at the rear of the aircraft or pack. For example, do not have passengers occupy the aft seat unless the front and center seats are to be occupied.

SAMPLE LOADING PROBLEM	Sample Airplane		Your Airplane	
	Weight (lbs)	Moment (lb-ins. /1000)	Weight	Moment
1. Licensed Empty Weight (Sample Airplane) —	1961	66.9		
2. Oil - 12 Qts.* —	22	-0.4	22	-0.4
3. Pilot & Front Passenger —	340	12.2		
4. Fuel - (80.0 Gal. at 6#/Gal) —	480	23.0		
5. Center Passengers —	340	23.5		
6. Aft Passengers —	340	34.0		
7. Baggage —	70	8.7		
8. Total Aircraft Weight (Loaded) —	3553	167.9		
9. Locate this point ( 3553 at 167.9 ) on the center of gravity envelope, and since this point falls within the envelope the loading is acceptable.				

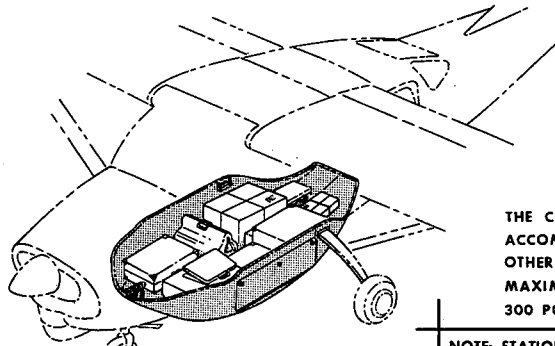
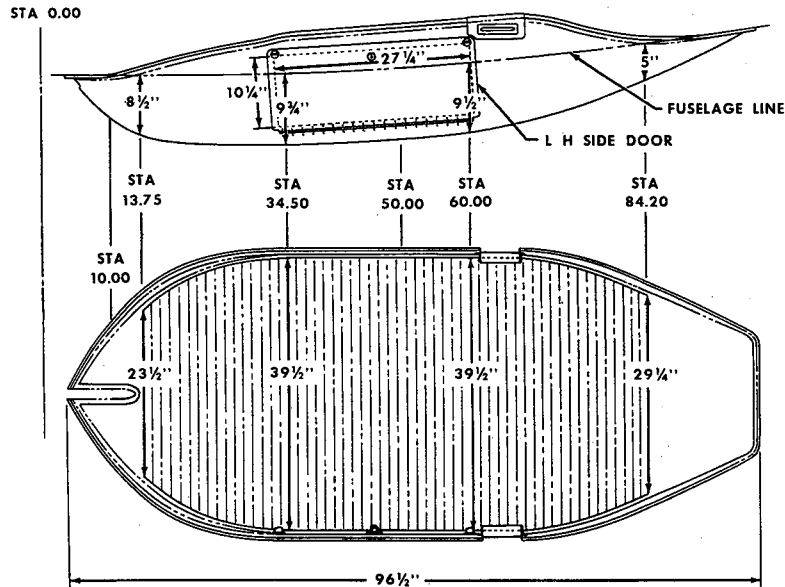
\*Note: Normally full oil may be assumed for all flights.

# LOADING GRAPH





## CARGO PACK



THE CARGO PACK WAS DESIGNED TO ACCOMMODATE THREE "TWO-SUITERS", PLUS OTHER SMALL MISCELLANEOUS ARTICLES. MAXIMUM LOADING FOR CARGO PACK IS 300 POUNDS.

NOTE: STATION LOCATION AND C.G. ARM ARE IDENTICAL

## 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 during ground handling by the tow-bar attached to the nosewheel.

### NOTE

When using the tow-bar, do not exceed the nosewheel turning angle of 35° either side of center.

## 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) Install a surface control lock over the fin and rudder.
- (3) Tie sufficiently strong ropes or chains (700 pounds tensile strength) to the wing, tail, and nose tie-down fittings and secure each rope to a ramp tie-down.
- (4) Install a pitot tube cover.

## WINDSHIELD-WINDOWS.

The plastic windshield and windows should be cleaned with an aircraft windshield cleaner. Apply the cleaner sparingly with soft cloths, and rub with moderate pressure until all dirt, oil scum and bug stains are removed. Allow the cleaner to dry, then wipe it off with soft flannel cloths.

If a windshield cleaner is not available, the plastic can be cleaned with soft cloths moistened with Stoddard solvent to remove oil and grease.

### NOTE

Never use gasoline, benzine, alcohol, acetone, carbon tetrachloride, fire extinguisher or anti-ice fluid, lacquer thinner or glass cleaner to clean the plastic. These materials will attack the plastic and may cause it to craze.

Follow by carefully washing with a mild detergent and plenty of water. Rinse thoroughly, then dry with a clean moist chamois. Do not rub the plastic with a dry cloth since this builds up an electrostatic charge which attracts dust. Waxing with a good commercial wax will finish the cleaning job. A thin, even coat of wax, polished out by hand with clean soft flannel cloths, will fill in minor scratches and help prevent further scratching.

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

## PAINTED SURFACES.

The painted exterior surfaces of your new Cessna have a durable, long lasting finish which, when cured completely, requires no special care other than periodic washing to remove dirt and occasional waxing to preserve the bright luster. Approximately 90 days are required for the paint to cure completely. In the event that polishing or buffing is required within the curing period, it is recommended that the work be done by someone experienced in handling uncured paint. Any Cessna Dealer can accomplish this work.

Wash the airplane with water and mild soap, and follow by rinsing with water and drying with cloths or a chamois. Harsh or abrasive soaps or detergents which cause corrosion or make scratches should never be used. Remove stubborn oil and grease with a cloth moistened with Stoddard solvent.

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.

## 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 propeller, 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 fabric 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 and test 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 backing materials.

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

If your airplane is equipped with leather seating, cleaning of the seats is accomplished using a soft cloth or sponge dipped in mild soap suds. The soap suds, used sparingly, will remove traces of dirt and grease. The

soap can be removed with a clean damp cloth.

The headliner, instrument panel, plastic trim and control knobs need only 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 Stoddard solvent. Volatile solvents, such as mentioned in paragraphs on care of the windshield, must never be used since they soften and craze the plastic.

## INSPECTION SERVICE AND INSPECTION PERIODS.

With your airplane you will receive an Owner's Service Policy. Coupons attached to the policy entitle you to an initial inspection and the first 100-hour inspection at no charge. If you take delivery from your Dealer, he 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 reasonably soon after you take delivery on it. This will permit him 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 days, 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 this work.

Federal Aviation 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 complete familiarity of the Cessna Dealer Organization with Cessna equipment and with factory-approved procedures provides the highest type of service possible at lower cost.

## AIRCRAFT FILE.

There are miscellaneous data, information and licenses that are a part of the aircraft file. The following is a check list for that file. In

addition, a periodic check should be made of the latest Federal Aviation Regulations to insure that all data requirements are met.

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

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

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

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

C. To be made available upon request:

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

### NOTE

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

Most of the items listed are required by the United States Federal Aviation Regulations. Since the regulations of other nations may require other documents and data, owners of exported aircraft 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 100/130 minimum grade fuel. The capacity of each tank is 32.5 gallons. When optional long range fuel tanks are installed, the capacity of each tank is 42.0 gallons.

### FUEL STRAINER:

Drain approximately two ounces of fuel before initial flight and after refueling to remove water and sediment. Make sure drain valve is closed after draining.

### OIL FILLER:

When preflight check shows low oil level, service with aviation grade engine oil; SAE 50 above 40°F and SAE 10W30 or SAE 30 below 40°F. (Multi-viscosity oil with a range of SAE 10W30 is recommended for improved starting in cold weather.) Detergent or dispersant oil, conforming to Continental Motors Specification MHS-24, must be used. The aircraft is delivered from the factory with detergent oil. Your Cessna Dealer can supply approved brands of detergent oil.

### OIL DIPSTICK:

Check oil level before each flight. Do not operate on less than 9 quarts. To minimize loss of oil through breather, fill to 10 quart level for normal flights of less than 3 hours. For extended flight, fill to 12 quarts. If optional oil filter is installed, one additional quart is required when the filter element is changed.

### OXYGEN CYLINDER AND FILLER VALVE (OPT):

Check oxygen pressure gage for anticipated requirements before each flight. Use filler valve on left side of rear baggage compartment wall to refill cylinder with aviator's breathing oxygen (Spec. No. MIL-O-27210). Maximum pressure (cylinder temperature stabilized after filling), 1800 psi at 70°F. Refer to page 6-9 for filling pressures.

# 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.

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

**NOSE GEAR TORQUE LINKS** -- Lubricate. When operating under dusty conditions, more frequent lubrication is recommended.

**SHIMMY DAMPENER** -- Refer to Service Manual for detailed instructions on checking and filling.

## EACH 100 HOURS

**FUEL STRAINER** -- Disassemble and clean.

**FUEL TANK SUMP DRAIN PLUGS** -- Drain.

**FUEL RESERVOIR DRAIN PLUGS** -- Drain.

**FUEL/AIR CONTROL UNIT SCREEN** -- Clean.

**BRAKE MASTER CYLINDERS** -- Check and fill.

**VACUUM SYSTEM OIL SEPARATOR (OPT)** -- Clean.

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

## EACH 500 HOURS

**WHEEL BEARINGS** -- Lubricate at first 100 hours and at 500 hours thereafter. Reduce lubrication interval to 100 hours when operating in dusty or seacoast areas, during periods of extensive taxiing, or when numerous take-offs and landings are made.

**VACUUM SYSTEM AIR FILTER (OPT)** -- Replace filter element. Replace sooner if suction gage reading drops to 4.6 in. Hg.

## AS REQUIRED

**NOSE GEAR SHOCK STRUT** -- Keep filled with fluid and inflated to 80 psi.

Your Cessna Dealer has an owner follow-up system to notify you 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 is supplied in your aircraft file for your use, should you choose to request this service. Your Cessna Dealer will be glad to supply you with details concerning these follow-up programs, and stands ready through his Service Department to supply you with fast, efficient, low cost service.

## PUBLICATIONS

Included in your aircraft file are various manuals which describe the operation of the equipment in your aircraft. These manuals, plus many other supplies that are applicable to your aircraft, are available from your Cessna Dealer, and, for your convenience, are listed below.

- OWNER'S MANUALS FOR YOUR AIRCRAFT  
ELECTRONICS - 300, 500 AND 800 SERIES  
AUTOPILOT - NAV-O-MATIC 300 AND 400
- SERVICE MANUALS AND PARTS CATALOGS FOR YOUR AIRCRAFT  
ENGINE AND ACCESSORIES  
ELECTRONICS - 300, 500 AND 800 SERIES  
AUTOPILOT - NAV-O-MATIC 300 AND 400
- COMPUTERS
- SALES AND SERVICE DEALER DIRECTORY
- DO'S AND DON'TS ENGINE BOOKLET

Your Cessna Dealer has a current catalog of all Customer Services Supplies that are available, many of which he keeps on hand. Supplies which are not in stock, he will be happy to order for you.

## OPERATIONAL DATA





The operational data charts on the following pages are presented for two purposes: first, so that you may know what to expect from your airplane under various conditions; and second, to enable you to plan your flights in detail and with reasonable accuracy.

The data in the charts has been compiled from actual flight tests with the airplane and engine in good condition and using average piloting techniques. Note also that the range charts make no allowances for wind, navigational errors, warm-up, take-off, climb, etc. You must estimate these variables for yourself and make allowances accordingly.

Remember that the charts contained herein are based on standard day conditions. For more precise power, fuel consumption, and endurance information, consult the Cessna Flight Guide (Power Computer) supplied with your aircraft. With the Flight Guide, you can easily take into account temperature variations from standard at any flight altitude.

AIRSPEED CORRECTION TABLE							
<b>FLAPS 0°</b>							
IAS - MPH	60	80	100	120	140	160	180
CAS - MPH	68	82	100	118	138	157	177
<b>*FLAPS 20°</b>							
IAS - MPH	50	60	70	80	90	100	110
CAS - MPH	62	68	75	82	91	100	110
<b>*FLAPS 40°</b>							
IAS - MPH	50	60	70	80	90	100	110
CAS - MPH	58	65	73	82	92	102	113
*Maximum flap speed 110 MPH - CAS							

Figure-5-1.

STALL SPEED, POWER OFF				
CONFIGURATION	ANGLE OF BANK			
	0°	20°	40°	60°
Gross Weight 3600 lbs.				
FLAPS UP	70	72	80	99
FLAPS 20°	64	66	73	90
FLAPS 40°	61	63	70	86

**SPEEDS ARE MPH, CAS**

Figure 5-2.

TAKE-OFF DATA												
TAKE-OFF DISTANCE WITH 20° FLAPS FROM HARD SURFACE RUNWAY												
GROSS WEIGHT POUNDS	IAS @ 50' MPH	HEAD WIND KNOTS	AT SEA LEVEL & 59°F		AT 2500 FT & 50°F		AT 5000 FT & 41°F		AT 7500 FT & 32°F		TOTAL TO CLEAR 50 FT OBS	TOTAL TO CLEAR 50 FT OBS
			GROUND RUN	TOTAL TO CLEAR 50 FT OBS	GROUND RUN	TOTAL TO CLEAR 50 FT OBS	GROUND RUN	TOTAL TO CLEAR 50 FT OBS	GROUND RUN	TOTAL TO CLEAR 50 FT OBS		
3600	78	0	910	1810	1055	2095	1260	2510	1495	3015	1495	3015
		10	650	1425	770	1660	935	2010	1120	2440	935	2440
		20	440	1075	530	1270	655	1555	800	1910	655	1910
3100	72	0	650	1365	760	1560	905	1830	1075	2145	1075	2145
		10	460	1060	540	1215	655	1440	785	1700	655	1700
		20	295	780	360	905	440	1045	540	1300	440	1300
2600	62	0	410	800	480	915	570	1070	670	1250	570	1250
		10	275	590	325	680	390	805	465	950	390	950
		20	160	405	195	470	240	565	295	680	240	680

NOTES: 1. Increase distance 10% for each 20° above standard temperature for particular altitude.  
 2. For operation on a dry, grass runway, increase distances (both "ground run" and "total to clear 50 ft. obstacle") by 5% of the "total to clear 50 ft. obstacle" figure.

### MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT POUNDS	IAS MPH	RATE OF CLIMB FT/MIN.	AT SEA LEVEL & 59°F		AT 5000 FT & 41°F		AT 10,000 FT & 23°F		AT 15,000 FT & 5°F		AT 20,000 FT & -12°F	
			GAL. 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	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED
3600	100	920	2	96	640	4.3	93	7.6	90	15.1	—	—
3100	95	1190	2	91	890	3.7	87	5.9	83	280	9.3	—
2600	90	1560	2	85	1205	3.3	81	4.8	77	515	6.9	150

NOTES: 1. Full throttle, 2700 RPM, mixture at recommended leaning schedule, flaps up.  
 2. Fuel used includes warm-up and take-off allowance.  
 3. For hot weather, decrease rate of climb 30 ft/min for each 10°F above standard day temperature for particular altitude.  
 4. With cargo pack, climb performance is 45 ft/min less than shown.

Figure 5-3.

## CRUISE PERFORMANCE

### NORMAL LEAN MIXTURE

Standard Conditions  $\setminus$  Zero Wind  $\setminus$  Gross Weight-3600 Pounds

### 2500 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	63 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	24.0	74	156	15.4	4.1	640	5.2	810
	23.0	70	153	14.6	4.3	665	5.5	835
	22.0	66	149	13.9	4.6	685	5.8	860
	21.0	62	146	13.1	4.9	705	6.1	890
2400	24.5	71	154	14.9	4.3	655	5.4	825
	23.0	66	149	13.8	4.6	685	5.8	865
	22.0	62	146	13.1	4.9	710	6.1	890
	21.0	59	142	12.4	5.1	725	6.5	915
2300	24.5	66	150	13.9	4.6	685	5.7	860
	23.0	61	145	12.9	4.9	710	6.2	895
	22.0	58	141	12.2	5.2	730	6.5	920
	21.0	54	137	11.6	5.5	750	6.9	945
	20.0	51	132	10.9	5.8	770	7.3	970
2200	24.5	62	146	13.1	4.9	710	6.1	890
	23.0	57	140	12.1	5.2	735	6.6	925
	22.0	54	136	11.5	5.5	755	7.0	950
	21.0	51	132	10.9	5.8	770	7.4	970
	20.0	47	127	10.3	6.2	785	7.8	990
	19.0	44	121	9.7	6.6	795	8.3	1000
	18.0	41	114	9.0	7.0	800	8.8	1005
	17.0	38	105	8.4	7.5	790	9.5	995

NOTE: For cargo pack performance, refer to page 6-10.

Figure 5-4 (Sheet 1 of 5).

## CRUISE PERFORMANCE

### NORMAL LEAN MIXTURE

Standard Conditions  $\setminus$  Zero Wind  $\setminus$  Gross Weight-3600 Pounds

### 5000 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	63 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	24.0	75	161	15.8	4.0	650	5.1	815
	23.0	72	158	15.0	4.2	670	5.3	845
	22.0	68	154	14.2	4.5	690	5.6	870
	21.0	64	150	13.4	4.7	715	6.0	900
2400	24.5	73	159	15.2	4.2	665	5.3	835
	23.0	67	154	14.1	4.5	695	5.7	875
	22.0	64	150	13.4	4.7	715	6.0	900
	21.0	60	146	12.7	5.0	735	6.3	925
2300	24.5	68	155	14.3	4.4	690	5.6	865
	23.0	63	149	13.2	4.8	715	6.0	905
	22.0	59	145	12.6	5.1	735	6.4	925
	21.0	56	142	11.9	5.3	755	6.7	955
	20.0	53	137	11.2	5.7	775	7.1	975
2200	24.5	64	150	13.4	4.7	715	6.0	900
	23.0	59	145	12.4	5.1	740	6.4	930
	22.0	56	141	11.8	5.4	760	6.8	955
	21.0	52	137	11.2	5.7	775	7.2	975
	20.0	49	131	10.6	6.0	790	7.6	995
	19.0	46	125	10.0	6.4	800	8.0	1005
	18.0	42	118	9.3	6.8	800	8.6	1010
	17.0	39	109	8.7	7.3	795	9.2	1005

NOTE: For cargo pack performance, refer to page 6-10.

Figure 5-4 (Sheet 2 of 5).

## CRUISE PERFORMANCE

### NORMAL LEAN MIXTURE

Standard Conditions \ Zero Wind \ Gross Weight-3600 Pounds

### 7500 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	63 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	22.0	69	159	14.5	4.4	700	5.5	880
	21.0	65	155	13.7	4.6	720	5.8	905
	20.0	61	151	12.9	4.9	740	6.2	935
	19.0	57	146	12.2	5.2	765	6.6	960
2400	22.0	65	155	13.7	4.6	720	5.8	905
	21.0	62	151	13.0	4.9	740	6.2	930
	20.0	58	147	12.2	5.2	760	6.5	960
	19.0	54	142	11.6	5.5	780	6.9	980
2300	22.0	61	150	12.9	4.9	740	6.2	935
	21.0	58	146	12.2	5.2	765	6.6	960
	20.0	54	142	11.5	5.5	780	6.9	985
	19.0	51	136	10.9	5.8	795	7.4	1000
2200	22.0	57	146	12.1	5.2	765	6.6	965
	21.0	54	141	11.5	5.5	780	7.0	985
	20.0	51	136	10.9	5.8	795	7.4	1000
	19.0	47	130	10.2	6.2	805	7.8	1010
	18.0	44	122	9.6	6.6	805	8.3	1015
	17.0	41	114	9.0	7.1	800	8.9	1010
	16.0	37	104	8.4	7.6	790	9.5	995

NOTE: For cargo pack performance, refer to page 6-10.

Figure 5-4 (Sheet 3 of 5).

## CRUISE PERFORMANCE

### NORMAL LEAN MIXTURE

Standard Conditions \ Zero Wind \ Gross Weight-3600 Pounds

### 10,000 FEET

RPM	MP	% BHP	TAS MPH	GAL/HOUR	63 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	20.0	63	156	13.2	4.8	750	6.1	940
	19.0	59	151	12.4	5.1	770	6.4	970
	18.0	55	145	11.7	5.4	790	6.8	995
	17.0	51	139	11.0	5.8	805	7.3	1010
	16.0	47	133	10.4	6.1	810	7.7	1020
2400	20.0	59	152	12.5	5.1	770	6.4	965
	19.0	56	146	11.8	5.4	785	6.8	990
	18.0	52	140	11.1	5.7	800	7.2	1005
	17.0	48	133	10.4	6.1	810	7.7	1020
2300	20.0	56	146	11.8	5.4	785	6.8	990
	19.0	52	140	11.2	5.7	800	7.2	1005
	18.0	49	134	10.5	6.1	810	7.6	1020
	17.0	45	125	9.8	6.5	810	8.1	1020
2200	20.0	52	140	11.2	5.7	800	7.2	1005
	19.0	49	134	10.5	6.0	810	7.6	1020
	18.0	46	127	9.9	6.4	810	8.1	1020
	17.0	42	118	9.3	6.8	805	8.6	1015
	16.0	39	108	8.7	7.3	795	9.2	1000
	15.0	35	100	8.1	7.8	790	9.7	995

NOTE: For cargo pack performance, refer to page 6-10.

Figure 5-4 (Sheet 4 of 5).



CRUISE PERFORMANCE								
NORMAL LEAN MIXTURE								
Standard Conditions \ Zero Wind \ Gross Weight-3600 Pounds								
15,000 FEET								
RPM	MP	% BHP	TAS MPH	GAL/HOUR	63 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	16.0	50	139	10.7	5.9	820	7.5	1035
	15.0	46	128	10.0	6.4	815	8.0	1030
	14.0	42	117	9.3	6.9	805	8.6	1010
	13.0	38	106	8.5	7.4	790	9.4	995
2400	16.0	47	132	10.3	6.2	820	7.8	1030
	15.0	44	122	9.6	6.6	810	8.4	1020
	14.0	40	111	8.9	7.2	795	9.0	1005
2300	16.0	44	124	9.7	6.5	810	8.2	1020
	15.0	41	114	9.0	7.0	800	8.8	1005
	14.0	37	104	8.4	7.6	785	9.6	990
2200	16.0	42	117	9.2	6.9	805	8.7	1010
	15.0	38	107	8.6	7.4	790	9.3	995

NOTE: For cargo pack performance, refer to page 6-10.

Figure 5-4 (Sheet 5 of 5).

LANDING DISTANCE TABLE									
LANDING DISTANCE WITH 40° FLAPS ON HARD SURFACED RUNWAY									
GROSS WEIGHT POUNDS	APPROACH IAS MPH	@ SEA LEVEL & 59° F		@ 2500 FEET & 50° F		@ 5000 FEET & 41° F		@ 7500 FEET & 32° F	
		GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.	GROUND ROLL	TOTAL TO CLEAR 50 FT. OBS.
3600	76	735	1395	780	1480	825	1570	875	1665

NOTES: 1. Distances shown are based on zero wind, power off, and heavy braking.  
 2. Reduce landing distances 10% for each 4 knots headwind.  
 3. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft. obstacle") by 22% of the "total to clear 50 ft. obstacle" figure.

Figure 5-5.

## MAXIMUM GLIDE

- SPEED 85 MPH (IAS) —
- PROPELLER WINDMILLING
- FLAPS UP ● ZERO WIND

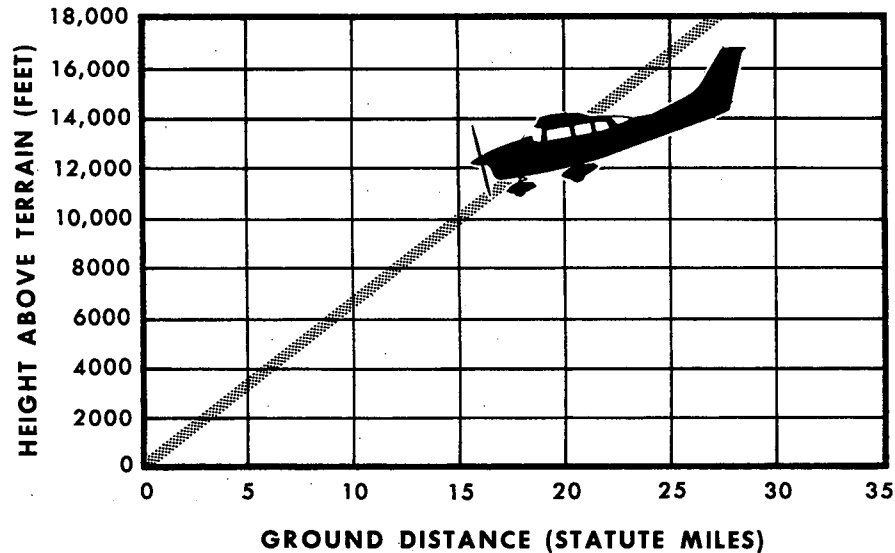


Figure 5-6.

## 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.

### LONG RANGE FUEL TANKS

Special wings with long range fuel tanks are available to replace the standard wings and fuel tanks for greater endurance and range. Each tank has a total capacity of 42 gallons. Usable fuel in each long range tank, for all flight conditions, is 40 gallons.

### COLD WEATHER EQUIPMENT

#### WINTERIZATION KIT AND NON-CONGEALING OIL COOLER.

For continuous operation in temperatures consistently below 20°F, the Cessna winterization kit and non-congealing oil cooler, 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 airplane electrical system (with the exception of electronic equipment).

**NOTE**

Electrical power for the airplane electrical circuits is provided through a split bus bar having all electronic circuits on one side of the bus and other electrical circuits on the other side of the bus. When an external power source is connected, a contactor automatically opens the circuit to the electronic portion of the split bus bar as a protection against damage to the semi-conductors in the electronic equipment by transient voltages from the power source. Therefore, the external power source can not be used as a source of power when checking electronic components.

Just before connecting an external power source (generator type or battery cart), the master switch should be turned "ON."

The ground service plug receptacle circuit incorporates a polarity reversal protection. Power from the external power source will flow only if the ground service plug is correctly connected to the airplane. If the plug is accidentally connected backwards, no power will flow to the airplane's electrical system, thereby preventing any damage to electrical equipment.

The battery and external power circuits have been designed to completely eliminate the need to "jumper" across the battery contactor to close it for charging a completely "dead" battery. A special fused circuit in the external power system supplies the needed "jumper" across the contacts so that with a "dead" battery and an external power source applied, turning the master switch "ON" will close the battery contactor.

**ENGINE PRIMER SYSTEM.**

A manually-operated, plunger type engine primer may be installed in the control pedestal.

For quick smooth engine starts in zero degree temperatures, use six strokes of the primer before cranking, with an additional one or two strokes as the engine starts. In colder temperatures, use additional

priming before cranking, and turn the auxiliary fuel pump switch on "HI" while cranking.

**STATIC PRESSURE ALTERNATE SOURCE VALVE.**

A static pressure alternate source valve may be installed in the static system for use when the external static sources are malfunctioning. This valve also permits draining condensate from the static lines.

If erroneous instrument readings are suspected due to water or ice in the static pressure lines, the static pressure alternate source valve should be opened, thereby supplying static pressure from the cabin. Cabin pressures will vary, however, with open cabin ventilators or windows. The most adverse combinations will result in airspeed and altimeter variations of no more than 4 MPH and 20 feet, respectively.

**OIL DILUTION SYSTEM.**

If your airplane is equipped with an oil dilution system and very low temperatures are anticipated, dilute the oil prior to engine shut down by energizing the oil dilution switch with the engine operating at 1000 RPM. (Refer to figure 6-1 for dilution time for the anticipated temperature.) While diluting the oil, the oil pressure should be watched for any unusual fluctuations that might indicate a screen being clogged with sludge washed down by the fuel.

<b>OIL DILUTION TABLE</b>		<b>TEMPERATURE</b>		
		<b>0° F</b>	<b>-10° F</b>	<b>-20° F</b>
<b>DILUTION TIME</b>	_____	2 min.	5 min.	8 min.
<b>FUEL ADDED</b>	_____	1 qt.	2.5 qt.	4 qt.
<b>Maximum Sump Capacity - 16 quarts</b>		_____		
<b>Maximum for Take-off - 13 quarts</b>		_____		

Figure 6-1.

## NOTE

On the first operation of the oil dilution system each season, use the full dilution period, drain the oil, clean the screen, refill with new oil and redilute as required.

If the full dilution time was used, beginning with a full oil sump (12 quarts), subsequent starts and engine warm-up should be prolonged to evaporate enough of the fuel to lower the oil sump level to 13 quarts prior to take-off. Otherwise, the sump may overflow when the airplane is nosed up for climb.

To avoid progressive dilution of the oil, flights of at least two hours' duration should be made between oil dilution operations.

## 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 has two positions. When two transmitters are installed, it is necessary 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.

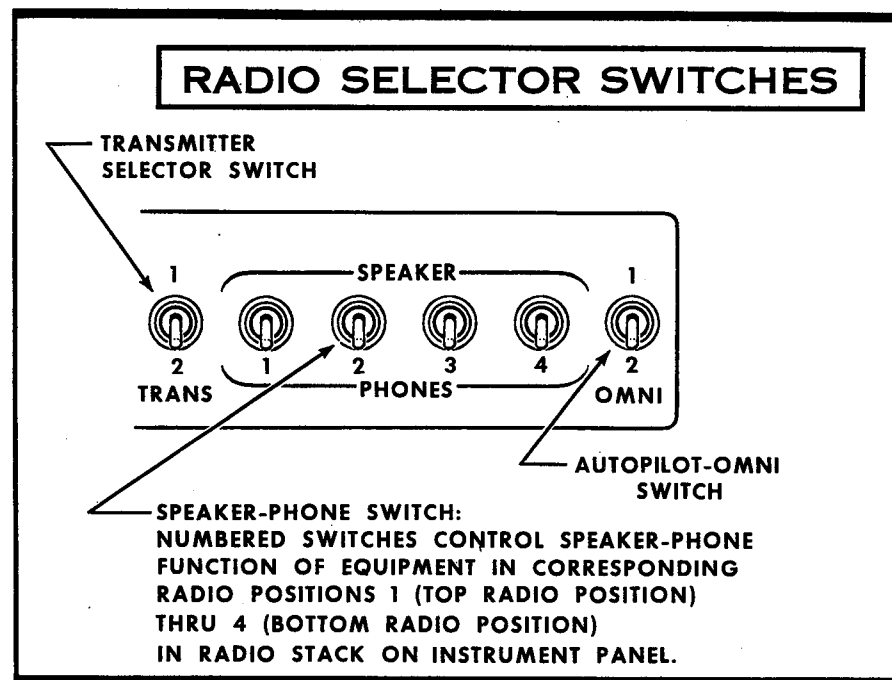


Figure 6-2.

### SPEAKER-PHONE SWITCHES.

The speaker-phone switches 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 up position selects the upper omni receiver in the radio panel stack and the down position selects the lower omni receiver.

## OXYGEN SYSTEM

An oxygen cylinder, located behind the rear baggage compartment wall, supplies oxygen for the system. Cylinder pressure is reduced to an operating pressure of 70 psi by a pressure regulator attached to the cylinder. A shut-off valve is included as part of the regulator assembly. An oxygen cylinder filler valve is located on the left side of the rear baggage compartment wall. Cylinder pressure is indicated by a pressure gage located at the upper center of the rear wall.

Six oxygen outlets are provided in the cabin ceiling just above the side windows; one at each of the seating positions. Partial rebreathing type oxygen masks, complete with vinyl plastic hoses and flow indicators, are provided.

A remote shut-off valve control, located adjacent to the pilot's oxygen outlet, is used to shut off the supply of oxygen to the system when not in use. The control is mechanically connected to the shut-off valve at the cylinder. With the exception of the shut-off function, the system is completely automatic and requires no manual regulation for change of altitude.

### OXYGEN SYSTEM OPERATION.

Prior to flight, check to be sure that there is an adequate oxygen supply for the trip, by noting the oxygen pressure gage reading. Refer to paragraph OXYGEN DURATION CALCULATION, and to the Oxygen Duration Chart (figure 6-3). Also, check that the face masks and hoses are accessible and in good condition.

To use the oxygen system, proceed as follows:

#### NOTE

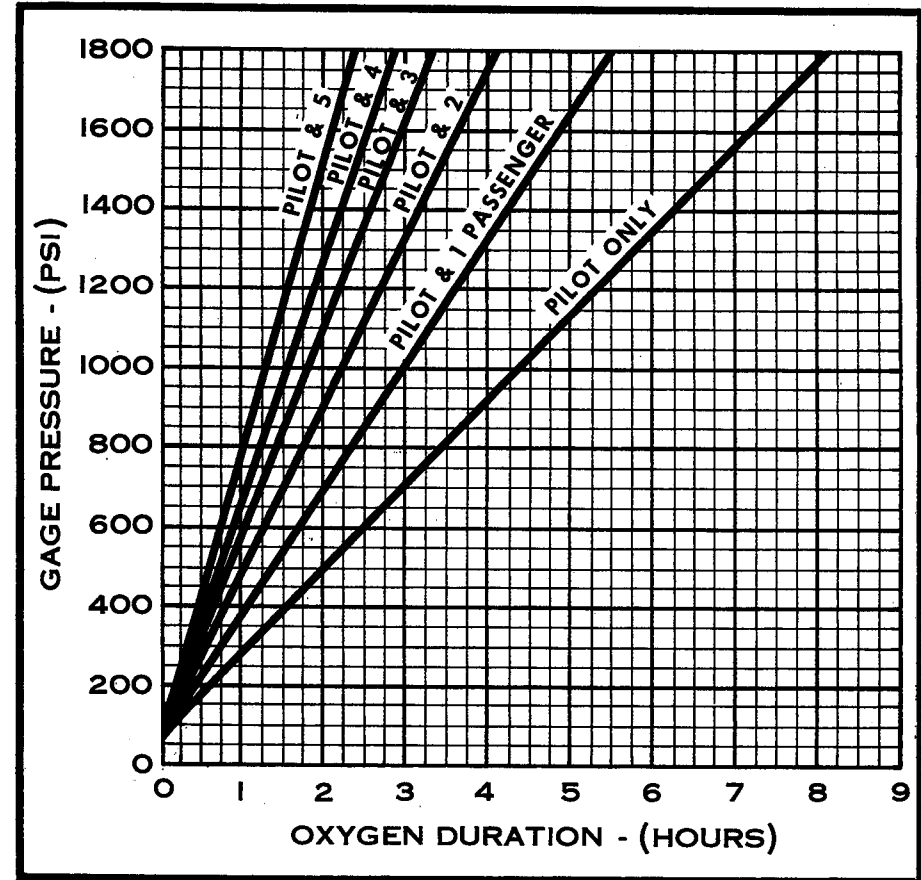
Permit no smoking when using oxygen.

- (1) Position oxygen supply control knob "ON."
- (2) Select mask and hose.

#### NOTE

The hose assembly provided for the pilot is of a higher flow rate than those for the passengers; it is color-coded with an orange band adjacent to the plug-in fit-

## OXYGEN DURATION CHART



NOTE: This chart is based on a pilot with an orange color-coded oxygen line fitting and passengers with green color-coded line fittings.

Figure 6-3.

ting. The hoses provided for the passengers are color-coded with a green band. If the aircraft owner prefers to do so, he may provide higher flow rate hoses for all passengers. In any case, it is recommended that the pilot use the larger capacity hose. The pilot's mask is equipped with a microphone to facilitate the use of the radio while using oxygen.

- (3) Attach mask to face and adjust metallic nose strap for snug mask fit.
- (4) Select oxygen outlet located nearest to the seat you are occupying, and plug delivery hose into it. Oxygen will flow continuously at the proper rate of flow for any altitude without any manual adjustments.
- (5) Check the flow indicator in the face mask hose. Oxygen is flowing if the indicator is being forced toward the mask.
- (6) Unplug the delivery hose from the outlet coupling when discontinuing use of oxygen system. This automatically stops the flow of oxygen.

## OXYGEN DURATION CALCULATION.

The Oxygen Duration Chart (figure 6-3) should be used in determining the usable duration (in hours) of the oxygen supply in your airplane. The following procedure outlines the method of finding the duration from the chart:

- (1) Note the available oxygen pressure shown on the pressure gage.
- (2) Locate this pressure on the scale on the left side of the chart, then go across the chart horizontally to the right until you intersect the line representing the number of persons making the flight. After intersecting the line, drop down vertically to the bottom of the chart and read the duration in hours given on the scale.
- (3) As an example of the above procedure, 1400 psi of pressure will safely sustain the pilot only for nearly 6 hours and 15 minutes. The same pressure will sustain the pilot and three passengers for approximately 2 hours and 30 minutes.

### NOTE

The Oxygen Duration Chart is based on a standard configuration oxygen system having one orange color-coded hose assembly for the pilot and green color-coded hoses for the passengers. If orange color-coded hoses are

provided for the passengers in your airplane, it will be necessary to estimate new duration figures due to the greater consumption of oxygen with these hoses.

## OXYGEN SYSTEM SERVICING.

The oxygen cylinder, when fully charged, contains approximately 48 cubic feet of oxygen, under a pressure of 1800 psi at 70° F. Filling pressures will vary, however, due to the ambient temperature in the filling area, and because of the temperature rise resulting from compression of the oxygen. Because of this, merely filling to 1800 psi will not result in a properly filled cylinder. Fill to the pressures indicated in the following table for the ambient temperature.

### IMPORTANT

Oil, grease, or other lubricants in contact with oxygen create a serious fire hazard, and such contact must be avoided when handling oxygen equipment.

AMBIENT TEMPERATURE °F	FILLING PRESSURE PSIG	AMBIENT TEMPERATURE °F	FILLING PRESSURE PSIG
0	1600	50	1825
10	1650	60	1875
20	1700	70	1925
30	1725	80	1975
40	1775	90	2000

## CARGO PACK

### FLIGHT OPERATION WITH A CARGO PACK.

All flight characteristics for a cargo pack equipped aircraft are identical to an aircraft without a cargo pack. There is, however, a slight climb and cruise performance differential between the two aircraft.

The climb performance of the aircraft equipped with a cargo pack is approximately 45 ft/min less than that shown in the MAXIMUM RATE-OF-CLIMB DATA table for the standard airplane.

To obtain the speed performance for the aircraft equipped with a cargo pack, the speed differentials shown in the table below should be subtracted from the TAS MPH figures shown in the CRUISE PERFORMANCE tables for the standard airplane. Cruising range is computed by multiplying the cargo pack TAS by the endurance.

For cargo loading, refer to Section III.

### SPEED DIFFERENTIAL TABLE

% BHP	SPEED DIFFERENTIAL MPH
75	-5
65	-5
55	-5
45	-6
35	-8

Figure 6-4.

## CESSNA ECONOMY MIXTURE INDICATOR

The Cessna Economy Mixture Indicator is an exhaust gas temperature sensing device which is used to aid the pilot in selecting the most desirable fuel-air mixture for cruising flight at less than 75% power. Exhaust gas temperature (EGT) varies with the ratio of fuel-to-air mixture entering the engine cylinders.

### OPERATING INSTRUCTIONS.

(1) In take-off and full power climb, lean mixture as indicated by altitude markings on the fuel flow placard adjacent to the fuel flow indicator.

#### NOTE

Leaning in accordance with altitude markings on the fuel flow placard will provide sufficiently rich mixture for engine cooling. Leaner mixtures are not recommended for climb power settings in excess of 75%.

(2) In level flight (or cruising climb at less than 75% power), lean the mixture to peak EGT, then enrichen as desired using the following table as a guide:

Mixture Description	EGT	TAS Loss From Best Power	Range Increase From Best Power
BEST POWER (Maximum Speed)	Peak Minus 75° (enrichen)	0 MPH	0%
NORMAL LEAN (Owner's Manual & Computer Per- formance)	Peak Minus 25° (enrichen)	2 MPH	6%

Figure 6-5.

## NOTES

Changes in altitude or power setting require the EGT to be re-checked and the mixture re-set.

Operation at peak EGT is not authorized for normal continuous operation, except to establish peak EGT for reference. Operation on the lean side of peak EGT or within 25° of peak EGT is not approved. The yellow reference pointer may be set to provide a specific point to lean to. It can be positioned manually by turning the screw adjustment on the face of the meter.

- (3) Use rich mixture (or mixture appropriate for field elevation) in idle descents or landing approaches. Leaning technique for cruise descents may be with EGT reference method (at least every 5000 feet) or by simply enriching to avoid engine roughness, if numerous power reductions are made.

## TRUE AIRSPEED INDICATOR

A true airspeed indicator is available to replace the standard airspeed indicator in your airplane. The true airspeed indicator has a calibrated rotatable ring which works in conjunction with the airspeed indicator dial in a manner similar to the operation of a flight computer.

**TO OBTAIN TRUE AIRSPEED**, rotate ring until pressure altitude is aligned with outside air temperature in degrees Fahrenheit. Then read true airspeed on rotatable ring opposite airspeed needle.

### NOTE

Pressure altitude should not be confused with indicated altitude. To obtain pressure altitude, set barometric scale on altimeter to "29.92" and read pressure altitude on altimeter. Be sure to return altimeter barometric scale to original barometric setting after pressure altitude has been obtained.

## STOWABLE RUDDER PEDALS

Stowable right-hand rudder pedals are available as part of the optional right-hand flight controls installation. The pedals fold forward and stow against the firewall, thereby permitting the right front passenger to extend his feet forward for greater comfort, and also to rest his feet on the rudder pedals during flight without, in any way, interfering with the flight operation of the pilot's rudder pedals.

A push-pull control on the instrument panel actuates the pedal unlocking mechanism. The pedals are stowed simply by squeezing the double buttons of the control knob and pulling the knob out to release the pedals; the pedals can then be pushed forward against the firewall where they are retained by spring clips within a bracket. The pedals are restored to their operating positions by pushing the control knob full in, and inserting the toe of the shoe underneath each pedal and pulling each pedal aft until it snaps into position. The pedals are again ready for flight use by the right front passenger.

## 3-BLADED PROPELLER

A Cessna-Crafted three-bladed propeller is optionally offered. There is no significant performance change with the three-bladed propeller.



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## WARRANTY

The Cessna Aircraft Company (Cessna) warrants each new aircraft manufactured by it, 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 anyone to assume for it any other obligation or liability in connection with such aircraft, equipment and accessories.**

## SERVICING REQUIREMENTS

### FUEL:

AVIATION GRADE -- 100/130 MINIMUM GRADE  
CAPACITY EACH STANDARD TANK -- 32.5 GALLONS  
CAPACITY EACH LONG RANGE TANK -- 42.0 GALLONS

### ENGINE OIL:

AVIATION GRADE -- SAE 50 ABOVE 40° F.  
SAE 10W30 OR SAE 30 BELOW 40° F.  
(MULTI-VISCOSITY OIL WITH A RANGE OF SAE 10W30 IS RECOMMENDED FOR IMPROVED STARTING IN COLD WEATHER. DETERGENT OR DISPERSANT OIL, CONFORMING TO CONTINENTAL MOTORS SPECIFICATION MHS-24, MUST BE USED. THE AIRCRAFT IS DELIVERED FROM THE FACTORY WITH DETERGENT OIL.)  
CAPACITY OF ENGINE SUMP -- 12 QUARTS  
(DO NOT OPERATE ON LESS THAN 9 QUARTS. TO MINIMIZE LOSS OF OIL THROUGH BREATHER, FILL TO 10 QUART LEVEL FOR NORMAL FLIGHTS OF LESS THAN 3 HOURS. FOR EXTENDED FLIGHT, FILL TO 12 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

### OXYGEN:

AVIATOR'S BREATHING OXYGEN -- SPEC. NO. MIL-O-27210  
MAXIMUM PRESSURE -- 1800 PSI AT 70° F.  
(CYLINDER TEMPERATURE STABILIZED AFTER FILLING)  
REFER TO PAGE 6-9 FOR FILLING PRESSURES.

### TIRE PRESSURE:

MAIN WHEELS -- 42 PSI ON 6.00 × 6 TIRES  
-- 35 PSI ON 8.00 × 6 TIRES (OPT)  
NOSE WHEEL -- 49 PSI ON 5.00 × 5 TIRE  
-- 29 PSI ON 6.00 × 6 TIRE (OPT)

### NOSE GEAR SHOCK STRUT:

KEEP FILLED WITH FLUID AND INFLATED TO 80 PSI.