PERFORMANCE - SPECIFICATIONS

	SUPER SKYLANE
	3600 STC
GROSS WEIGHT	3300 lbs
SPEED, BEST POWER MIXTURE:	
Top Speed at Sea Level	177 mph
Cruise, 75% Power at 6000 ft	166 mph
RANGE, NORMAL LEAN MIXTURE:	
Cruise 75% Power at 6000 ft.	665 mi
63.5 Gallons, No Reserve	4.0 hrs
	165 mph
Cruise, 75% Power at 6000 ft	840 mi
80 Gallons, No Reserve	5.1 hrs
	165 mph
Optimum Range at 10,000 ft.	825 mi
63.5 Gallons, No Reserve	6.4 hrs
	129 mph
Optimum Range at 10,000 ft.	1040 mi
80 Gallons, No Reserve	8.1 hrs
	129 mph
RATE OF CLIMB AT SEA LEVEL	1075 fpm
SERVICE CEILING	16,700 ft
TAKE-OFF:	
Ground Run	675 ft
Total Distance Over 50-foot Obstacle	1265 ft
LANDING:	
Landing Roll	735 ft
Total Distance Over 50-foot Obstacle	1340 ft
EMPTY WEIGHT	1790 lbs
USEFUL LOAD	1510 lbs
WING LOADING: Pounds/Sq Foot	18.8
POWER LOADING: Pounds/HP	11.6
FUEL CAPACITY: Total	
Standard Tanks	65 gal.
Optional Long Range Tanks	84 gal.
OIL CAPACITY: Total	12 qts
PROPELLER: Constant Speed (Diameter)	82 inches
ENGINE:	
Continental Fuel Injection Engine	IO-520-A
285 rated HP at 2700 RPM	

Gross Wt. STC Placard

THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS AS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS. NO ACROBATIC MANEUVERS, INCLUDING SPINS, APPROVED.

MAXIMUMS

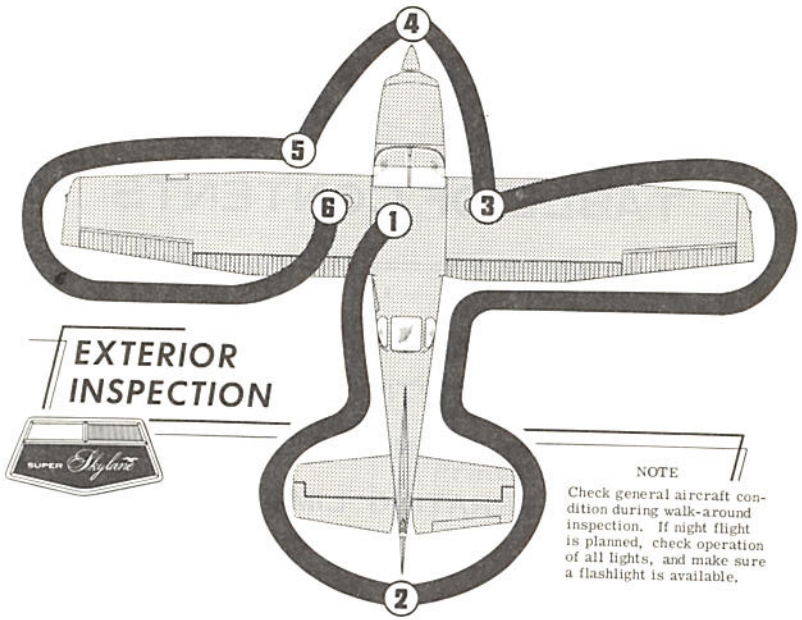
	LANDPLANE	SKIPLANE
DESIGN WEIGHT	3600 LB	3300 LB
MANEUVERING SPEED	144 MPH-CAS	138 MPH-CAS
CROSS WIND CONTROLABILITY	20 KNOTS	10 KNOTS

LOAD FACTOR FLAPS UP + 3.8; -1.52 FLAPS DOWN + 2.6
ALTITUDE LOSS IN STALL RECOVERY - 240 FT
FLAP EXTENSION SPEED 110 MPH-CAS 0°-40° 160 MPH-CAS 0° -10°
KNOWN ICING CONDITIONS TO BE AVOIDED. THIS AIRPLANE IS CERTIFIED FOR THE FOLLOWING FLIGHT OPERATIONS AS OF DATE OF ORIGINAL AIRWORTHINESS CERTIFICATE:
VFR - DAY - NIGHT
1205001-32

ICING CESSNA AIRPLANES, since Cessna Dealers have all of the Service Manuals and Parts Catalogs, kept current by Service Letters and Service News Letters, published by Cessna Aircraft Company.

We urge all Cessna owners to use the Cessna Dealer Organization to the fullest.

A current Cessna Dealer Directory accompanies your new airplane. The Directory is revised frequently, and a current copy can be obtained from your Cessna Dealer. Make your Directory one of your cross-country flight planning aids; a warm welcome awaits you at every Cessna Dealer.



(1) a. Turn on master switch and check fuel quantity indicators, then turn master switch "OFF".
b. Check ignition switch "OFF."
c. Check that fuel tank selector valve handle is on fullest tank.
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.
e. Remove control wheel lock.
f. Check baggage door securely latched.

(2) a. Remove rudder gust lock, if installed.
b. Disconnect tail tie-down.

(3) a. Check main wheel tire for proper inflation.
b. Disconnect wing tie-down.
c. Check fuel tank vent opening for stoppage.

(4) a. Check propeller and spinner for nicks and security, and propeller for oil leaks.
b. Make visual check to insure that fuel strainer drain valve is closed after draining operation.
c. Check nose wheel strut and tire for proper inflation.
d. Disconnect nose tie-down.
e. Check oil level. Do not operate with less than nine quarts. Fill for extended flight.
f. Check induction air filter for restrictions by dust or other foreign matter.
g. Inspect airspeed static source holes on sides of fuselage for stoppage.

(5) a. Remove pitot tube cover, if installed, and check pitot tube opening for stoppage.

(6) Same as (3).

Figure 1-1.

Section I

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."

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 (4.5 inches of mercury desired, 3.75 to 5.0 acceptable).
(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 -- 70 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 92 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) Airspeed -- 90-100 MPH (flaps retracted).
(4) Propeller -- High RPM.
(5) Wing Flaps -- Down 10° - 40° (below 110 MPH).
(6) Airspeed -- 80-90 MPH (flaps extended).
(7) Elevator and Rudder 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.

Section II

SUPER Skylane

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 31.7 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.

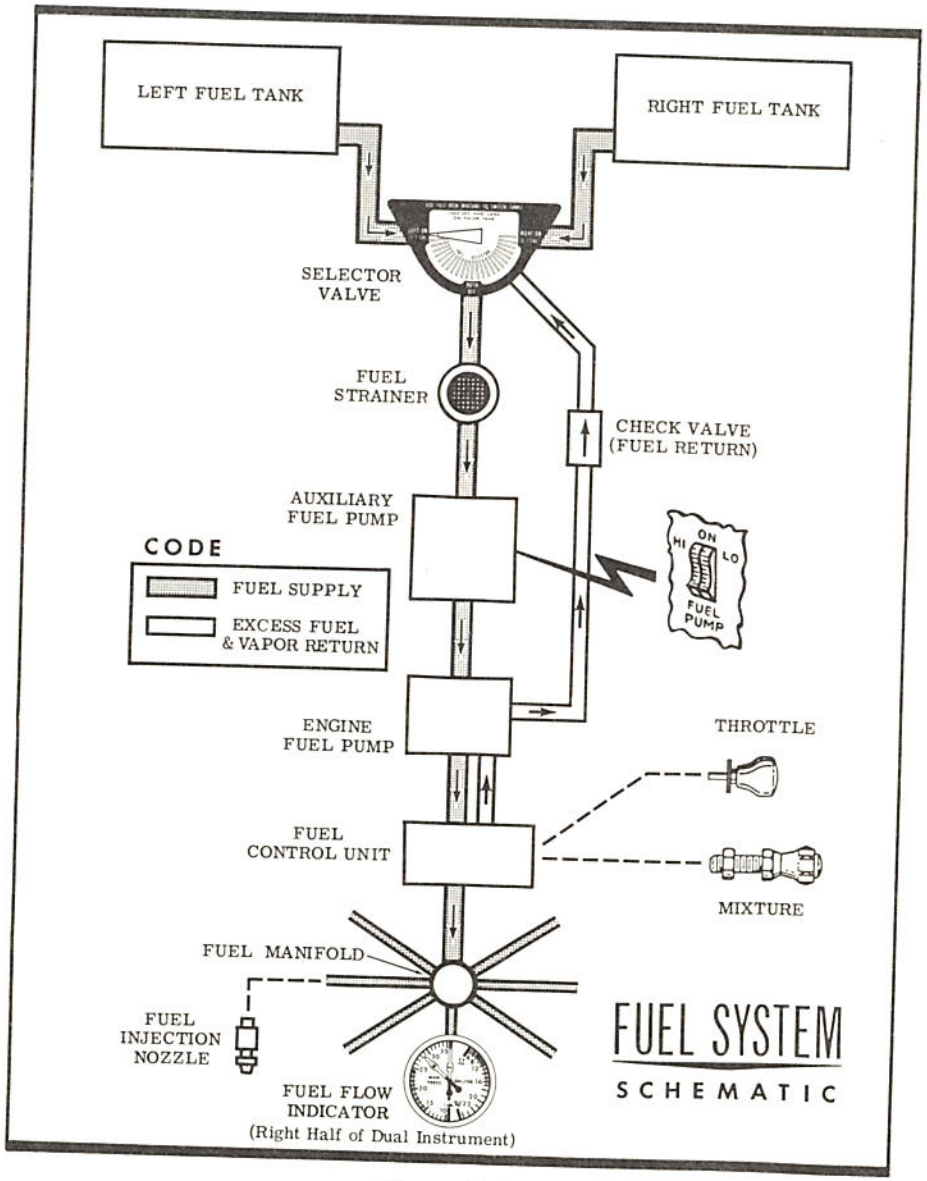


Figure 2-1.

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. The 12-volt battery is located on the upper right-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 unit and turn-and-bank indicator circuits are protected by a single automatically resetting circuit breaker mounted behind the instrument panel. The cigar lighter is protected by a manually-reset type circuit breaker mounted directly on the back of the lighter behind the instrument panel. The remaining circuits are protected by "push-to-reset" breakers on the instrument panel.

ROTATING BEACON.

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.

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 airflow 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."

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.

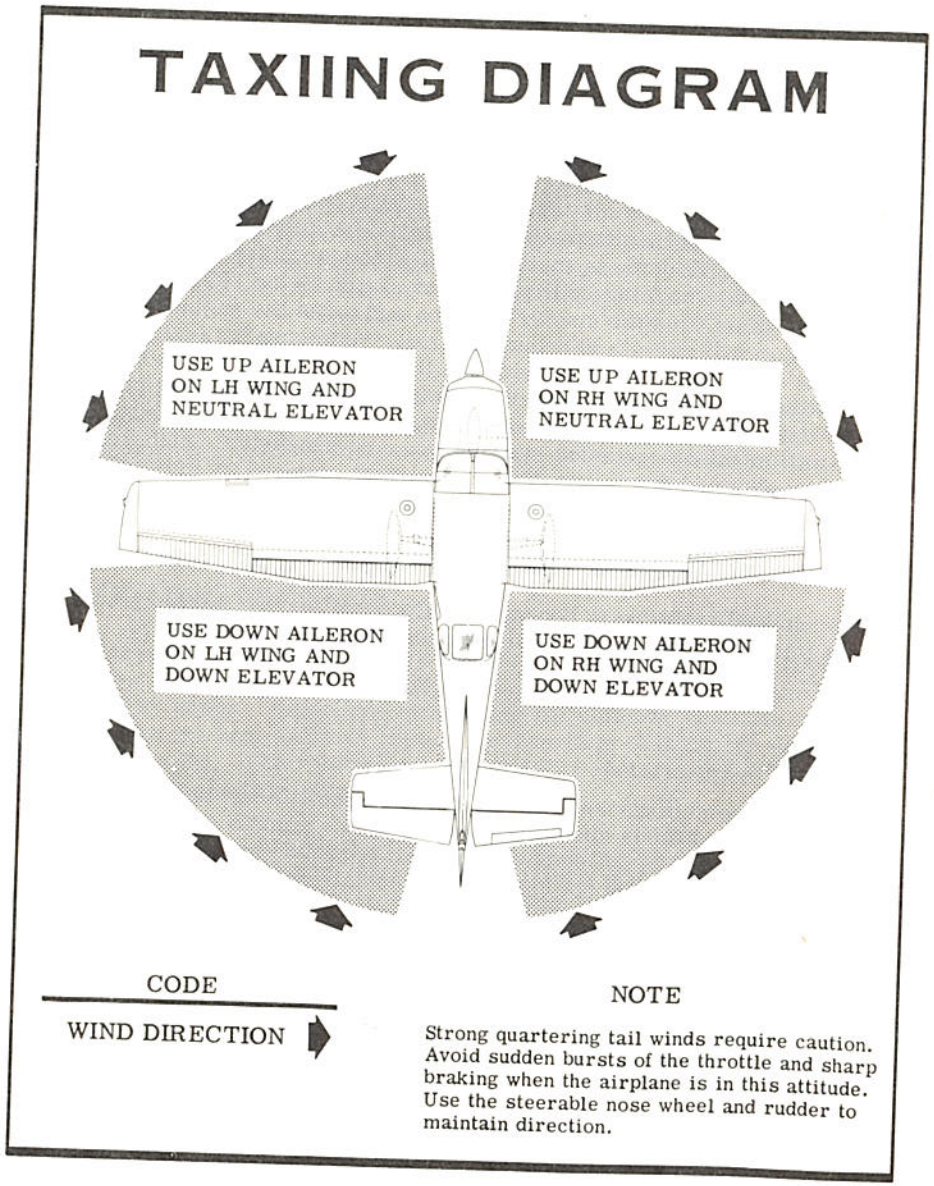


Figure 2-2.

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 has been "bumped-up" and 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 75 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 better 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 78 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.

OPTIMUM CRUISE PERFORMANCE

% BHP	GAL/HR	ALTITUDE	TRUE AIRSPEED	RANGE (STD. TANKS)
75	15.5	6000	164	670
70	14.5	8000	162	710
65	13.5	10,000	159	750

Figure 2-3.

The Optimum Cruise Performance table (figure 2-3) 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.

The cowl flaps should be adjusted to maintain the cylinder head temperature near the middle of the normal operating (green arc) range to assure prolonged engine life.

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 70 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.

To improve elevator effectiveness in the landing flare at the extreme forward center of gravity position, use less than full flap deflection, and, if possible, avoid steep descents that require rapid airplane rotation to check the rate of descent prior to landing. In power approaches at low speed, power should be reduced gradually to prevent a sudden nose heavy condition in the landing flare.

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, with standard equipment as certificated under FAA Type Certificate No. A4CE, 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 exceeds the requirements for airworthiness of the Federal Aviation 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 weight and flight load factors apply:

Maximum Gross Weight	3300 lbs.
Flight Load Factor *Flaps Up	+3.8, -1.52
Flight Load Factor *Flaps Down	+3.0

*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.

AIRSPEED 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 (Level flight or climb)	170 MPH
Normal Operating Range	70-170 MPH (green arc)
Maximum Speed, Flaps Extended 40°	110 MPH
Flap Operating Range	61-110 MPH (white arc)
Maneuvering Speed*	138 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	275-450° F (green arc)
Do Not Exceed	450° F (red line)

TACHOMETER.

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

FUEL QUANTITY INDICATORS.

Empty (.8 gallon unusable each tank)	E (red line)

FUEL FLOW INDICATOR.

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

United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

This STC is for the use of Cessna C-GRAV, Ser. NOF206-0061 ONLY — John Morgan Lane

Number SA1939CE

This certificate, issued to Lane's Lebanon Air Service, Inc.
2460 Greentree Road
Lebanon, Ohio 45036

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations. Effective May 15, 1956 as amended by 3-1 thru 3-8

Original Product — Type Certificate Number: A4CE
Make: Cessna
Model: P206

Description of Type Design Change: Increase in gross weight from 3,300 to 3,600 lbs. with the following center of gravity limits:
(+33.0) to (+47.4) at 2500 lbs. or less
(+42.5) to (+47.4) at 3600 lbs.
Straight line variation between points given

Limitations and Conditions: The existing operating limitations placard must be removed and replaced with one of the following as appropriate:

1. Cessna P/N 1205001-32 for VFR, night, day
2. Cessna P/N 1205001-33 for IFR, VFR, night, day

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: February 1, 1984 Date reissued:

Date of issuance: February 4, 1984 Date amended:

By direction of the Administrator

Robert A. Gambrill Jr.
(Signature)

Robert A. Gambrill, Jr., Manager
Wichita Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA Form 8110-2 (10-68)

SAMPLE LOADING PROBLEM

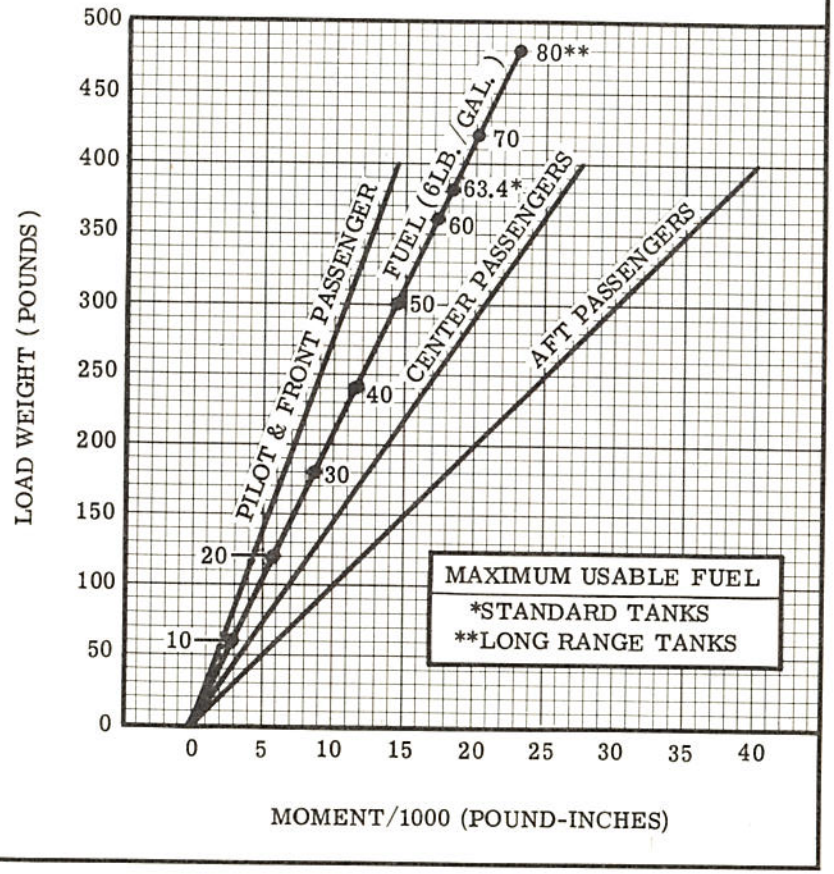
6 PLACE SEATING AND OPTIONAL CARGO PACK

	Sample Airplane		Your Airplane	
	Weight (lbs)	Moment (lb-ins. /1000)	Weight	Moment
1. Licensed Empty Weight (Sample Airplane)	1892	66.4		
2. Oil - 12 Qts.*	22	-0.4	22	-0.4
3. Pilot & Front Passenger	340	12.2		
4. Fuel - (52.0 Gal. at 6#/Gal).	312	15.0		
5. Center Passengers	340	23.5		
6. Aft Passengers	340	34.0		
7. Baggage - Cargo Pack	54	2.7		
8. Total Aircraft Weight (Loaded)	3300	153.4		

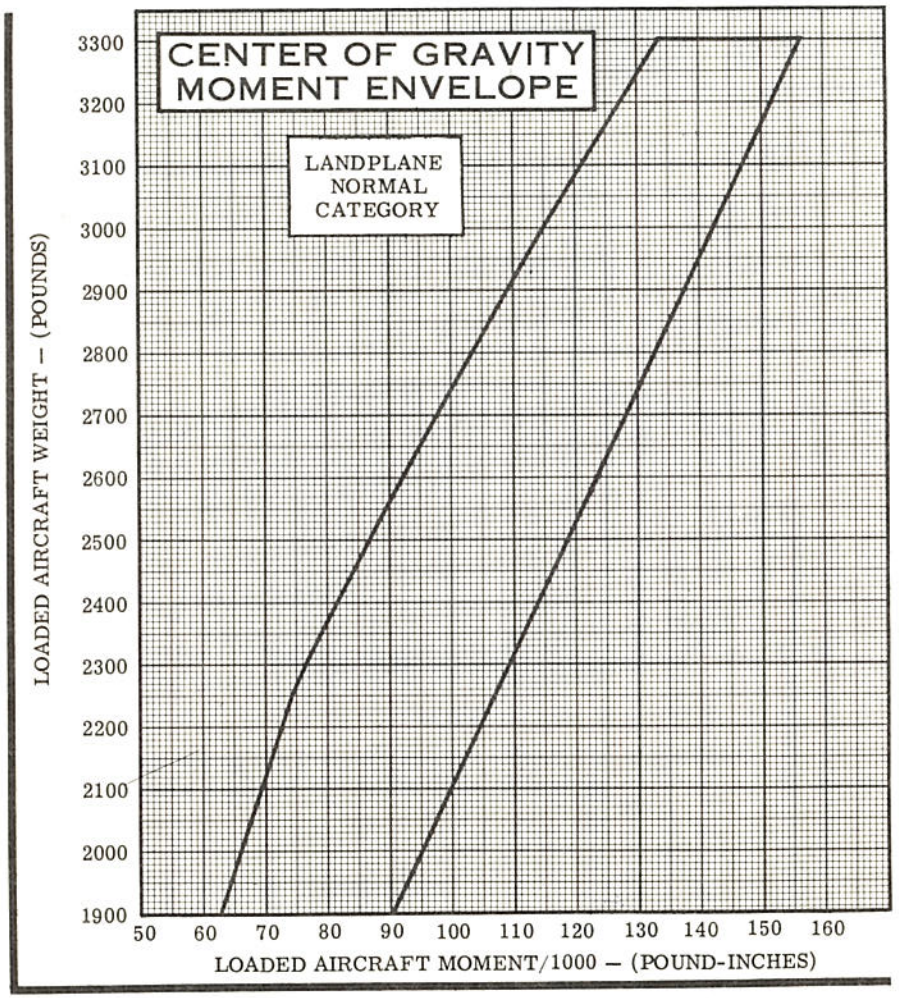
9. Locate this point (3300 at 153.4) on the center of gravity envelope, and since this point falls within the envelope the loading is acceptable.

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

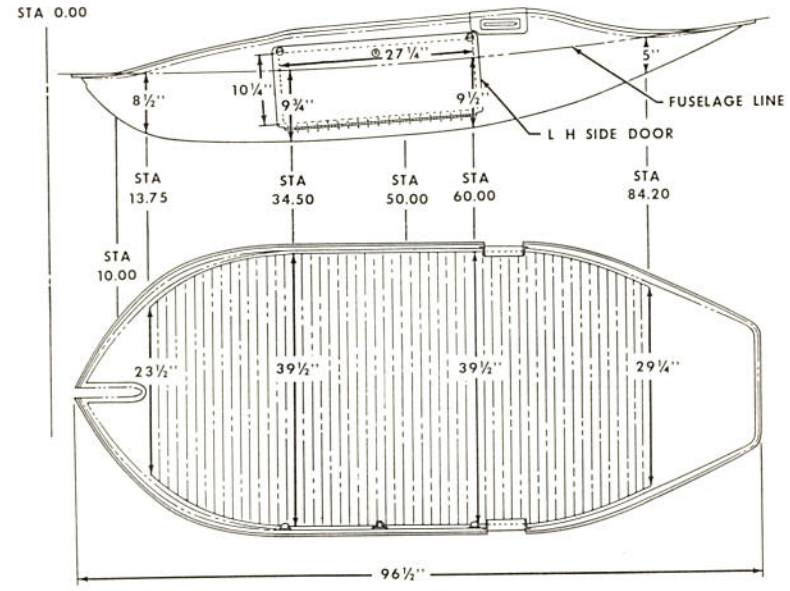
LOADING GRAPH

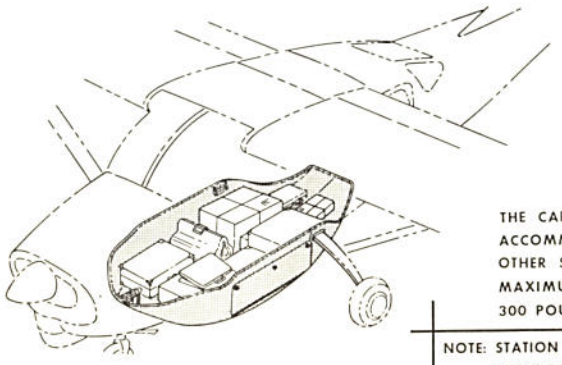


CENTER OF GRAVITY MOMENT ENVELOPE



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

Section SUPER Skylane 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 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 kept clean and waxed at all times. 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 to carry water to the surface. Rinse thoroughly, then dry with a clean, moist 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. Wiping 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, hail or sleet.

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 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 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 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.

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 kerosene. 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. Cou-

pons 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.

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 Aviation 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 Aviation 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 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 30 below 40° F. and SAE 50 above 40° F. Detergent oil, conforming to Continental Motors Specification MHS-24, must be used. Your Cessna Dealer can supply an approved brand.

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. Whenever pressure drops below 300 psi, use filler valve on left side of utility shelf and refill cylinder with aviator's breathing oxygen (Spec. No. MIL-O-27210). Maximum pressure, 1800 psi.

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.

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.
SHIMMY DAMPENER -- Check and fill.
VACUUM SYSTEM OIL SEPARATOR (OPT) -- Clean.
SUCTION RELIEF VALVE INLET SCREEN (OPT) -- Clean.

EACH 500 HOURS

WHEEL BEARINGS -- Lubricate. Lubricate at first 100 hours and at 500 hours thereafter.
VACUUM SYSTEM AIR FILTER (OPT) -- Replace filter element. Replace sooner if suction gage reading drops below 3.75 in. Hg.

AS REQUIRED

NOSE GEAR SHOCK STRUT -- Keep inflated and filled.
GYRO INSTRUMENT AIR FILTERS (OPT) -- Replace at instrument overhaul.

SUPER Skylane OWNER FOLLOW-UP SYSTEM

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 airplane 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.

Section SUPER Skylane V

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

FLAPS 0°							
IAS - MPH	60	80	100	120	140	160	180
CAS - MPH	70	86	102	120	139	158	178
*FLAPS 20°							
IAS - MPH	50	60	70	80	90	100	110
CAS - MPH	65	69	76	84	93	102	112
*FLAPS 40°							
IAS - MPH	50	60	70	80	90	100	110
CAS - MPH	61	68	76	84	93	102	111

*Maximum Flap Speed 110 MPH - CAS

Figure 5-1.

STALL SPEED, POWER OFF

Gross Weight 3300 lbs.

CONFIGURATION	ANGLE OF BANK 0°	20°	40°	60°
FLAPS UP	69	72	79	98
FLAPS 20°	64	66	73	90
FLAPS 40°	60	62	69	85

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	
			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
3300	70	0	675	1265	790	1480	945	1800	1115	2205
		10	470	960	560	1135	675	1395	810	1735
		20	300	690	365	825	450	1035	550	1310
2800	64	0	475	910	555	1045	660	1240	780	1465
		10	320	675	380	785	455	940	550	1120
		20	190	470	235	550	290	670	355	815
2300	58	0	315	645	365	730	435	845	510	975
		10	200	465	240	530	290	620	345	725
		20	110	310	135	360	170	425	210	505

NOTE: Increase distance 10% for each 20° F above standard temperature for particular altitude.

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT POUNDS	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		
	IAS MPH	RATE OF CLIMB FT/MIN.	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	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S. L. FUEL USED
2300	90	1830	2	85	1445	3.1	80	1070	4.3	75	690	5.9	69	315	8.3
2800	95	1395	2	91	1065	3.4	86	740	5.2	81	415	7.6	76	90	12.9
3300	100	1075	2	96	785	3.9	92	493	6.4	88	200	10.7	--	--	---

NOTES:
1. Full throttle, 2700 RPM, mixture at recommended leaning schedule, flaps up.
2. Fuel used includes warm-up and take-off allowance.
3. With cargo pack, climb performance is 45 ft/min less than shown.

Figure 5-3.

CRUISE PERFORMANCE

NORMAL LEAN MIXTURE

Standard Conditions — Zero Wind — Gross Weight-3300 Pounds

2500 FEET

RPM	MP	% BHP	TAS MPH	GAL/ HOUR	63.5 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	24.5	76	160	15.8	4.0	645	5.1	815
	23.0	70	155	14.6	4.3	675	5.5	850
	22.0	66	151	13.8	4.6	695	5.8	875
	21.0	62	147	13.1	4.9	715	6.1	900
2400	24.5	71	156	14.8	4.3	665	5.4	840
	23.0	66	151	13.8	4.6	695	5.8	875
	22.0	62	147	13.1	4.9	715	6.1	900
	21.0	58	143	12.4	5.1	735	6.5	925
2300	24.5	66	151	13.9	4.6	690	5.8	870
	23.0	61	146	12.9	4.9	720	6.2	905
	22.0	58	142	12.2	5.2	735	6.5	930
	21.0	54	138	11.6	5.5	755	6.9	950
	20.0	51	133	10.9	5.8	775	7.3	975
2200	24.5	62	147	13.0	4.9	715	6.1	900
	23.0	57	141	12.1	5.2	740	6.6	935
	22.0	54	137	11.5	5.5	760	7.0	955
	21.0	51	133	10.9	5.8	775	7.4	975
	20.0	47	128	10.3	6.2	790	7.8	995
	19.0	44	122	9.6	6.6	805	8.3	1010
	18.0	41	115	9.0	7.0	810	8.9	1020
	17.0	38	107	8.4	7.5	810	9.5	1020

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

Figure 5-4 (Sheet 1 of 5).

CRUISE PERFORMANCE

NORMAL LEAN MIXTURE

Standard Conditions — Zero Wind — Gross Weight-3300 Pounds

5000 FEET

RPM	MP	% BHP	TAS MPH	GAL/ HOUR	63.5 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	24.5	77	165	16.1	3.9	650	5.0	820
	23.0	71	160	14.9	4.3	680	5.4	855
	22.0	68	156	14.1	4.5	700	5.7	880
	21.0	64	152	13.4	4.7	720	6.0	905
2400	24.5	73	161	15.2	4.2	675	5.3	850
	23.0	67	156	14.1	4.5	700	5.7	885
	22.0	64	152	13.4	4.8	720	6.0	910
	21.0	60	147	12.7	5.0	740	6.3	930
2300	24.5	68	156	14.2	4.5	695	5.6	880
	23.0	63	151	13.2	4.8	725	6.1	915
	22.0	59	147	12.5	5.1	745	6.4	935
	21.0	56	142	11.9	5.3	760	6.7	960
	20.0	52	138	11.2	5.7	780	7.1	980
2200	24.5	64	152	13.4	4.8	720	6.0	910
	23.0	59	146	12.4	5.1	745	6.4	940
	22.0	55	142	11.8	5.4	765	6.8	960
	21.0	52	137	11.2	5.7	780	7.2	985
	20.0	49	132	10.6	6.0	795	7.6	1000
	19.0	46	126	9.9	6.4	810	8.1	1020
	18.0	42	120	9.3	6.8	815	8.6	1030
	17.0	39	112	8.7	7.3	815	9.2	1025

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-3300 Pounds

7500 FEET

RPM	MP	% BHP	TAS MPH	GAL/ HOUR	63.5 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	22.0	69	161	14.4	4.4	705	5.5	890
	21.0	65	157	13.7	4.6	725	5.9	915
	20.0	61	152	12.9	4.9	750	6.2	940
	19.0	57	147	12.2	5.2	770	6.6	970
2400	22.0	65	157	13.7	4.6	725	5.9	915
	21.0	61	152	13.0	4.9	745	6.2	940
	20.0	58	148	12.2	5.2	765	6.5	965
	19.0	54	143	11.5	5.5	785	6.9	985
2300	22.0	61	152	12.9	4.9	750	6.2	945
	21.0	58	147	12.2	5.2	765	6.6	965
	20.0	54	142	11.5	5.5	785	6.9	990
	19.0	50	137	10.9	5.9	800	7.4	1010
2200	22.0	57	147	12.1	5.2	770	6.6	970
	21.0	54	142	11.5	5.5	785	7.0	990
	20.0	50	137	10.8	5.9	800	7.4	1010
	19.0	47	131	10.2	6.2	815	7.8	1025
	18.0	44	124	9.6	6.6	820	8.3	1035
	17.0	41	116	9.0	7.1	820	8.9	1035
	16.0	37	106	8.4	7.6	805	9.6	1015

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-3300 Pounds

10,000 FEET

RPM	MP	% BHP	TAS MPH	GAL/ HOUR	63.5 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	20.0	63	157	13.2	4.8	755	6.1	950
	19.0	59	152	12.4	5.1	775	6.4	975
	18.0	55	146	11.7	5.4	795	6.9	1000
	17.0	51	140	10.9	5.8	810	7.3	1020
2400	20.0	59	152	12.5	5.1	770	6.4	975
	19.0	56	147	11.8	5.4	790	6.8	995
	18.0	52	141	11.1	5.7	805	7.2	1015
	17.0	48	135	10.4	6.1	820	7.7	1030
2300	20.0	56	147	11.8	5.4	790	6.8	995
	19.0	52	141	11.1	5.7	805	7.2	1015
	18.0	48	135	10.5	6.1	820	7.6	1030
	17.0	45	128	9.8	6.5	825	8.2	1040
2200	20.0	52	142	11.1	5.7	805	7.2	1015
	19.0	49	136	10.5	6.0	820	7.6	1030
	18.0	45	129	9.9	6.4	825	8.1	1040
	17.0	42	121	9.3	6.8	825	8.6	1040
	16.0	39	111	8.6	7.3	810	9.3	1025

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-3300 Pounds

15,000 FEET

RPM	MP	% BHP	TAS MPH	GAL/ HOUR	63.5 GAL(NO RESERVE)		80 GAL(NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	16.0	50	141	10.7	5.9	835	7.5	1050
	15.0	46	131	10.0	6.4	835	8.0	1050
	14.0	42	120	9.3	6.9	820	8.6	1035
	13.0	38	105	8.5	7.4	780	9.4	985
2400	16.0	47	135	10.3	6.2	835	7.8	1055
	15.0	44	125	9.5	6.7	830	8.4	1045
	14.0	40	112	8.8	7.2	805	9.0	1015
2300	16.0	44	127	9.7	6.5	835	8.2	1050
	15.0	41	116	9.0	7.0	815	8.9	1025
	14.0	37	101	8.4	7.6	765	9.6	965
2200	16.0	42	119	9.2	6.9	820	8.7	1035
	15.0	38	106	8.6	7.4	785	9.3	990

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.
3300	70	735	1340	780	1420	825	1505	875	1595

NOTE: Distances shown are based on zero wind, power off, and heavy braking.
Reduce landing distances 10% for each 4 knots headwind.

Figure 5-5.

Section VI

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 of the electrical system.

Before connecting a generator type external power source, it is important that the master switch be turned on. This will enable the battery to absorb transient voltages which otherwise might damage the semiconductors in the electronic equipment. When using a battery type external power source, the master switch should be turned off to prevent an unnecessary power drain from the power source batteries to the airplane's battery.

IMPORTANT

Be certain that the polarity of any external power source or batteries is correct (positive to positive and negative to negative). A polarity reversal will result in immediate damage to semiconductors in the airplane's electronic equipment.

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.

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 hour's duration should be made between oil dilution operations.

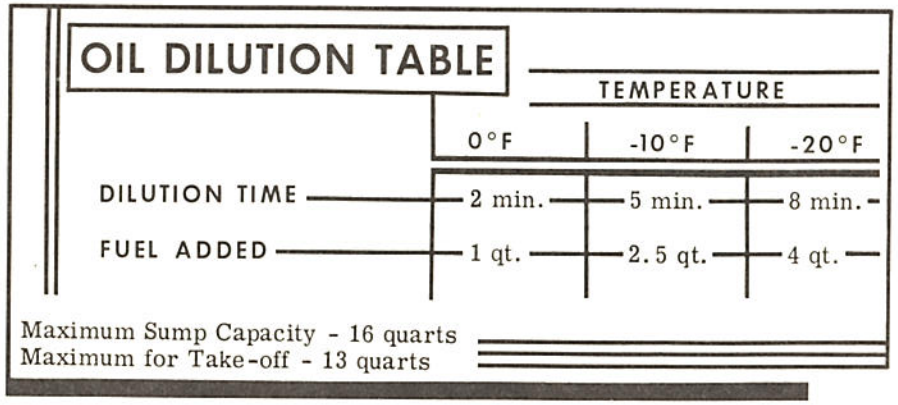


Figure 6-1.

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.

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.

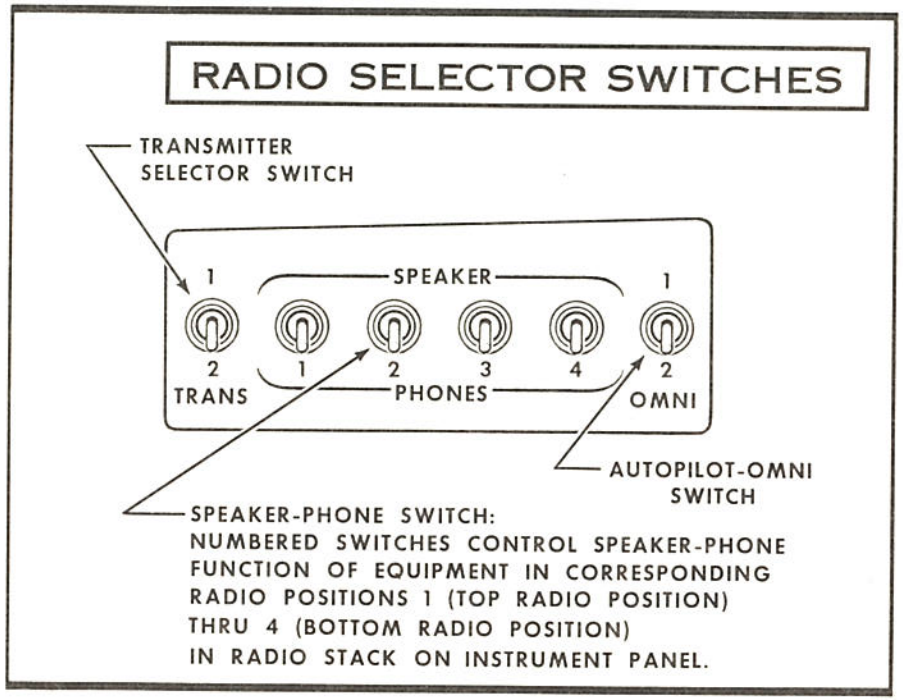


Figure 6-2.

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 utility shelf. Cylinder pressure is indicated by a pressure gage located on the wall behind the utility shelf.

Six oxygen outlets are provided in the cabin ceiling just above the side windows; one at each of the six-place seating positions. Six 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 Table (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) Pull oxygen supply control knob "ON."
(2) Select mask and hose.

NOTE

In a standard oxygen installation, the hose assembly provided for the pilot is of a higher flow rate than those

OXYGEN DURATION (HOURS)

GAGE PRESSURE	PILOT ONLY				PILOT PLUS ONE (1) PASSENGER			
	PRESSURE ALTITUDE				PRESSURE ALTITUDE			
	8000	10,000	15,000	20,000	8000	10,000	15,000	20,000
1800	14.6	13.0	10.2	8.4	8.0	7.2	5.7	4.7
1600	12.9	11.4	9.0	7.4	7.1	6.3	5.0	4.1
1400	11.2	9.9	7.8	6.4	6.2	5.5	4.3	3.6
1200	9.4	8.4	6.6	5.4	5.2	4.6	3.7	3.0
1000	7.7	6.9	5.4	4.4	4.3	3.8	3.0	2.5
800	6.0	5.3	4.2	3.4	3.3	2.9	2.3	1.9
600	4.3	3.8	3.0	2.4	2.4	2.1	1.7	1.3
400	2.6	2.3	1.8	1.4	1.4	1.2	1.0	.8
200	.9	.7	.6	.4	.4	.4	.3	.2

GAGE PRESSURE	PILOT PLUS TWO (2) PASSENGERS				PILOT PLUS THREE (3) PASSENGERS			
	PRESSURE ALTITUDE				PRESSURE ALTITUDE			
	8000	10,000	15,000	20,000	8000	10,000	15,000	20,000
1800	5.6	5.0	3.9	3.2	4.2	3.8	3.0	2.5
1600	4.9	4.4	3.5	2.8	3.7	3.3	2.6	2.2
1400	4.2	3.8	3.0	2.5	3.2	2.9	2.3	1.9
1200	3.6	3.2	2.6	2.1	2.7	2.5	1.9	1.6
1000	2.9	2.6	2.1	1.7	2.2	2.0	1.6	1.3
800	2.3	2.1	1.6	1.3	1.7	1.6	1.2	1.0
600	1.6	1.5	1.2	.9	1.2	1.1	.9	.7
400	1.0	.9	.7	.6	.7	.7	.5	.4

GAGE PRESSURE	PILOT PLUS FOUR (4) PASSENGERS				PILOT PLUS FIVE (5) PASSENGERS			
	PRESSURE ALTITUDE				PRESSURE ALTITUDE			
	8000	10,000	15,000	20,000	8000	10,000	15,000	20,000
1800	3.4	3.1	2.4	2.0	2.9	2.6	2.0	1.7
1600	3.0	2.7	2.2	1.7	2.5	2.3	1.8	1.5
1400	2.6	2.4	1.9	1.5	2.2	2.0	1.5	1.3
1200	2.2	2.0	1.6	1.3	1.8	1.7	1.3	1.1
1000	1.8	1.6	1.3	1.0	1.5	1.4	1.1	.9
800	1.4	1.3	1.0	.8	1.2	1.1	.8	.7
600	1.0	.9	.7	.6	.8	.7	.6	.5

NOTES:
1. All figures based on pilot with orange color - coded oxygen line fitting and passengers with green color - coded line fittings.
2. Duration figures are averages --- actual duration will depend upon accuracy of setting altitude and ambient temperature.
3. Duration times are based on pressure altitude.

Figure 6-3.

for the passengers. The pilot's hose assembly is color-coded with an orange band adjacent to the plug-in fitting. The hoses provided for the passengers are color-coded with a green band. If the aircraft owner prefers to do so, he may provide the higher flow rate hoses for all passengers; these hoses would also be color-coded with an orange band. In any case, it is recommended that the pilot use the larger capacity hose. All masks are identical.

(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 Table (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 table.

(1) Note the available oxygen pressure shown on the pressure gage.
(2) Find this figure in the "GAGE PRESSURE" column adjacent to the block of figures applicable to the number of occupants in the airplane.
(3) Locate the pressure altitude at which you intend to fly; then, read down this column until you intersect the number in line with the gage pressure reading. The resulting number is the usable duration (in hours) of the existing oxygen supply.
(4) As an example of the above procedure, 1400 psi of pressure will safely sustain the pilot only for 9.9 hours at a 10,000 foot pressure altitude. The same pressure will sustain the pilot and three (3) passengers for 2.9 hours at 10,000 feet.

NOTE

Oxygen Duration Table figures are 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 compute new duration figures due to the greater consumption of oxygen with these hoses.

OXYGEN SYSTEM SERVICING.

The oxygen cylinder, when fully charged, contains 48 cubic feet of oxygen, under a pressure of 1800 psi at 70° F. Refer to servicing procedures, page 4-6, for oxygen system servicing requirements.

IMPORTANT

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

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. The EGT will peak at a value that is approximately maximum range mixture.

Operation at peak EGT is not authorized, except to establish peak EGT for reference. A richer mixture which provides a drop of approximately 40° F from peak EGT is recommended for normal cruise at less than 75% power. Leaning in this manner will provide fuel consumption very close to the Cessna Flight Computer and Owner's Manual values and will result in a decrease of only 1 to 2 MPH in airspeed from that obtainable with the same power setting and best power mixture.

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 almost two small divisions (-40° F) below peak EGT.

NOTE

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

(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.

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.

ALPHABETICAL INDEX

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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.

SUPER Skylane

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 30 BELOW 40° F.
SAE 50 ABOVE 40° F.
(DETERGENT OIL, CONFORMING TO CONTINENTAL MOTORS SPECIFICATION MHS-24, MUST BE USED.)
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 --
SPECIFICATION NO. MIL-O-27210
MAXIMUM PRESSURE -- 1800 PSI

TIRE PRESSURE:

MAIN WHEELS -- 42 PSI ON 6.00 × 6 TIRES
-- 35 PSI ON 8.00 × 6 TIRES (OPT)
NOSE WHEEL -- 45 PSI ON 5.00 × 5 TIRE
-- 35 PSI ON 6.00 × 6 TIRE (OPT)

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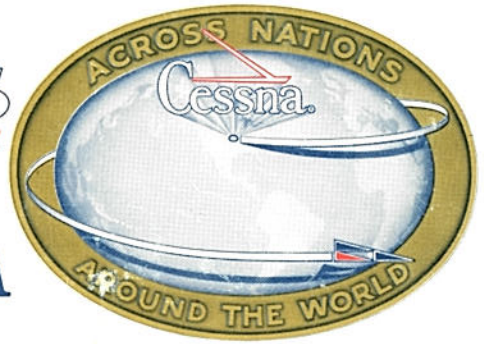

C-GRAV

SUPER SKYLANE

OWNER'S MANUAL

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