

SECTION 2

GROUND HANDLING, SERVICING, CLEANING LUBRICATION AND INSPECTION

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2-1. GROUND HANDLING.

2-2. TOWING. Moving the aircraft by hand is accomplished by using the wing/struts and landing gear struts as push points. A tow bar attached to the nose gear should be used for steering and maneuvering the aircraft on the ground. When no tow bar is available, press down at the horizontal stabilizer front spar adjacent to the fuselage to raise the nose wheel off the ground. With the nose wheel clear of the ground, the aircraft can be turned by pivoting it about the main wheels.

**CAUTION**

When towing the aircraft, never turn the nose wheel more than 30 degrees either side of center or the nose gear will be damaged. Do not push on control surfaces or outboard empennage surfaces. When pushing on the tailcone, always apply pressure at a bulkhead to avoid buckling the skin.

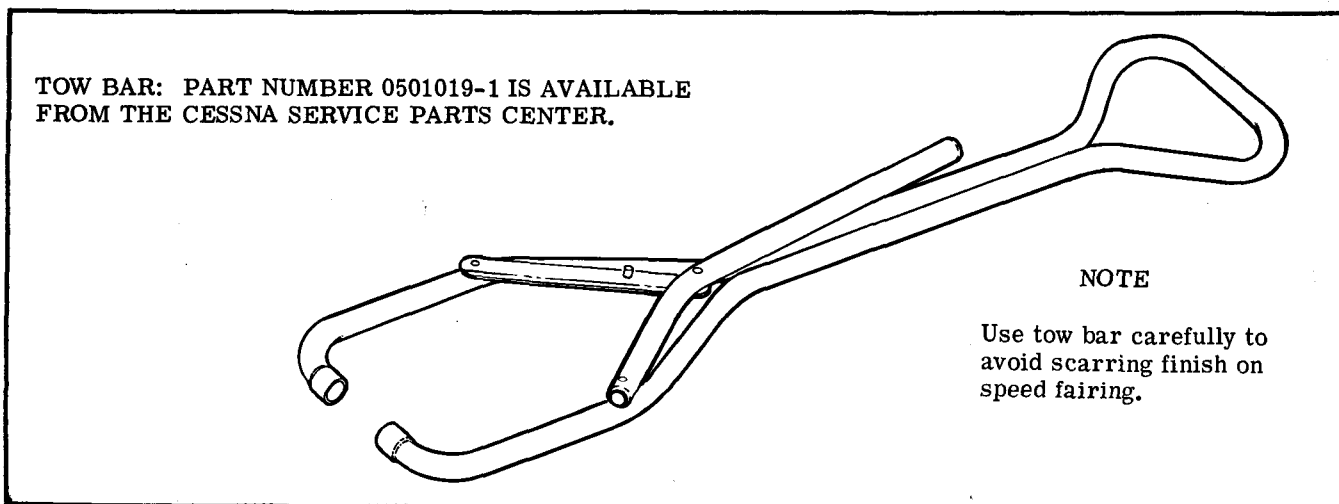
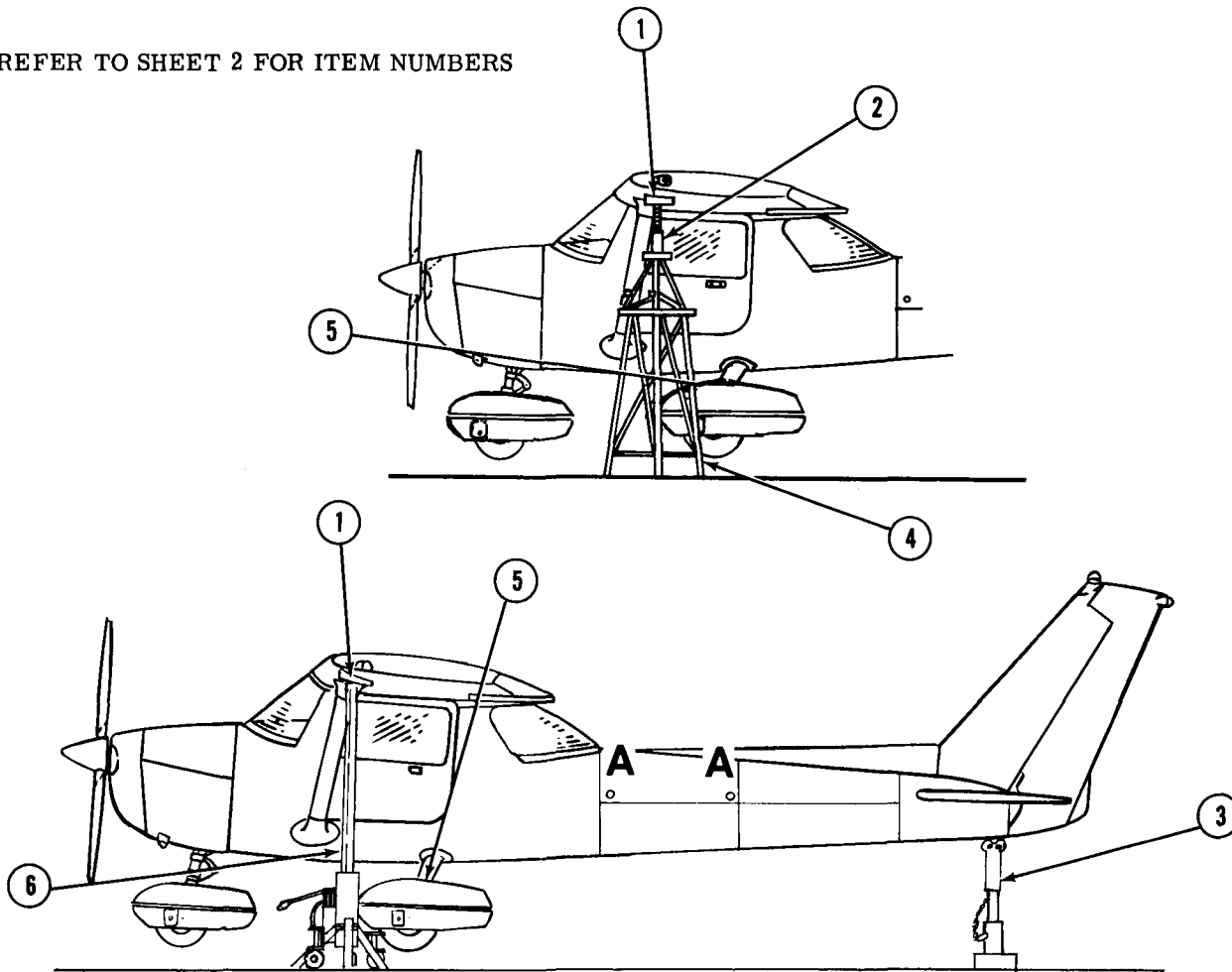


Figure 2-1. Tow Bar

REFER TO SHEET 2 FOR ITEM NUMBERS



NOTE

Corresponding points on both upper door sills may be used to level the aircraft laterally.

Reference points for longitudinal leveling of aircraft are two screws on left side of tailcone at zero waterline. These are indicated in illustration by **A**.

(Also refer to paragraph 2-5)

Figure 2-2. Jacking and Leveling (Sheet 1 of 2)

## JACKING INFORMATION

ITEM NUMBER	TYPE AND NUMBER	REMARKS
①	Block (Jack point not available)	1x4x4 padded with 1/4" rubber
②	Jack	Any short jack of capable capacity
③	Universal tail stand	Any tail stand of capable capacity
④	Cessna #SE-576 (41-1/2" high)	Universal jack stand (FOR USE WITH ITEM 2)
⑤	Built-in jack pad	Part of step bracket (SEE CAUTION)
⑥	#2-170 Basic jack (includes #2-71 Slide tube: Liftstroke 22-1/2") #2-70 Slide tube: Liftstroke 22-1/2" #2-64 Extension cap #2-109 Leg extension	Min. closed height: 34" Max. extension height: 56-1/2" Min. closed height: 57-1/2" Max. extension height: 80" Adds 4" Adds 12"

1. Wing jacks are placed under front spar of wing just outboard of wing strut, and must extend far enough to raise wheels off ground, and must be of adequate strength.
2. Attach a suitable stand to the tie-down ring. Be sure tail stand weighs enough to keep tail down and under all conditions that it is strong enough to support any weight that might be placed on it (place shot bags or sand bags on tail stand. In addition, the base of adjustable tail stand is to be filled with concrete for additional weight as a safety factor.
3. Operate jacks evenly until desired height is reached.

### CAUTION

When using built-in jack pad, flexibility of the gear strut will cause the main wheel to slide inboard as the wheel is raised, tilting the jack. The jack must be lowered for a second operation. Jacking both wheels simultaneously at built-in jack pads is not recommended. Jack pad may be used to raise only one main wheel. DO NOT USE brake casting as a jack point.

4. Items (4) and (6) are available from the Cessna Service Parts Center.

Figure 2-2. Jacking and Leveling (Sheet 2 of 2)

2-3. **HOISTING.** The aircraft may be lifted with a hoist of two-ton capacity by using hoisting rings, which are optional equipment, or by means of suitable slings. The front sling should be hooked to each upper engine mount at the firewall, and the aft sling should be positioned around the fuselage at the first bulkhead forward of the leading edge of the stabilizer. If the optional hoisting rings are used, a minimum cable length of 60 inches for each cable is required to prevent bending of the eyebolt-type hoisting rings. If desired, a spreader jig may be fabricated to apply vertical force to the eyebolts.

2-4. **JACKING.** Refer to figure 2-2 for jacking procedures.

2-5. **LEVELING.** Corresponding points on both upper door sills may be used to level the aircraft laterally. The reference points for longitudinal leveling of the aircraft are the two screws on the left side of the tailcone at zero waterline.

2-6. **PARKING.** Parking precautions depend principally on local conditions. As a general precaution, set parking brake or chock the wheels and install the controls lock. In severe weather and high wind conditions, tie down the aircraft as outlined in paragraph 2-7 if a hangar is not available.

2-7. **TIE-DOWN.** When mooring the aircraft in the open, head into the wind if possible. Secure control surfaces with the internal control lock and set brakes.

### **CAUTION**

Do not set parking brakes during cold weather when accumulated moisture may freeze the brakes or when the brakes are overheated.

After completing the preceding, proceed to moor the aircraft as follows:

- a. Tie ropes, cables, or chains to the wing tie-down fittings located at the upper end of each wing strut. Secure the opposite ends of ropes, cables, or chains to ground anchors.
- b. Secure a tie-down rope (no chains or cables) to the exposed portion of the engine mount and secure opposite end of rope to a ground anchor.
- c. Secure the middle of a rope to the tail tie-down ring. Pull each end of rope away at a 45 degree angle and secure to ground anchors at each side of tail.
- d. Secure control lock on pilot control column. If control lock is not available, tie pilot control wheel back with front seat belt.
- e. These aircraft are equipped with a spring-loaded steering system which affords protection against normal wind gusts. However, if extremely high wind gusts are anticipated, additional external locks may be installed.

2-8. **FLYABLE STORAGE.** Flyable storage is defined as a maximum of 30 days non-operational storage and/or the first 25 hours of intermittent engine operation.

### **NOTE**

The aircraft is delivered from Cessna with a corrosion preventative aircraft engine oil (MIL-C-6529, Type II). This engine oil is a blend of aviation grade straight mineral oil and a corrosion preventative compound. This engine oil should be used for the first 25 hours of engine operation. In the event it is necessary to add oil during the first 25 hours of operation, use only aviation grade straight mineral oil of the correct viscosity.

During the 30 day non-operational storage or the first 25 hours of intermittent engine operation, every seventh day the propeller shall be rotated through five revolutions, without running the engine.

### **WARNING**

When rotating engine by hand, always take proper precautions to make sure the engine cannot fire or start when the propeller is moved.

If the aircraft is stored outside, tie-down in accordance with paragraph 2-7. In addition, the pitot tube static air vents, air vents, openings in the engine cowling, and other similar openings shall have protective covers installed to prevent entry of foreign material. After 30 days, aircraft should be flown for 30 minutes or ground run-up until oil has reached operating temperature.

### **CAUTION**

Excessive ground operation shall be avoided.

2-9. **RETURNING AIRCRAFT TO SERVICE.** After flyable storage, returning the aircraft to service is accomplished by performing a thorough pre-flight inspection. At the end of the first 25 hours of engine operation, drain engine oil and clean oil pressure screen (or change external oil filter element). Service engine with correct grade and quantity of engine oil. Refer to figure 2-4 and paragraph 2-21 for correct grade of engine oil.

2-10. **TEMPORARY STORAGE.** Temporary storage is defined as aircraft in a non-operational status for a maximum of 90 days. The aircraft is constructed of corrosion resistant clad aluminum, which will last indefinitely under normal conditions if kept clean, however, these alloys are subject to oxidation. The first indication of corrosion on unpainted surfaces is in the form of white deposits or spots. On painted surfaces, the paint is discolored or blistered. Storage in a dry hangar is essential to good preservation and should be procured if possible. Varying conditions will alter the measures of preservation, but under normal conditions in a dry hangar, and for storage periods not to exceed 90 days, the following methods of treatment are suggested:

- a. Fill fuel tanks with correct grade of gasoline.
- b. Clean and wax aircraft thoroughly.

c. Clean any oil or grease from tires and coat tires with a tire preservative. Cover tires to protect against grease and oil.

d. Either block up fuselage to relieve pressure on tires or rotate wheels every 30 days to change supporting points and prevent flat spotting the tires.

e. Lubricate all airframe items and seal or cover all openings which could allow moisture and/or dust to enter.

#### NOTE

The aircraft battery serial number is recorded in the aircraft equipment list. To assure accurate warranty records, the battery should be re-installed in the same aircraft from which it was removed. If the battery is returned to service in a different aircraft, appropriate record changes must be made and notification sent to the Cessna Claims Department.

f. Remove battery and store in a cool dry place; service the battery periodically and charge as required.

#### NOTE

An engine treated in accordance with the following may be considered protected against normal atmospheric corrosion for a period not to exceed 90 days.

g. Disconnect spark plug leads and remove upper and lower spark plugs from each cylinder.

#### NOTE

The preservative oil must be Lubricating Oil-Contact and Volatile, Corrosion Inhibited, MIL-L-46002, Grade 1 or equivalent. The following oils are approved for spraying operations by Teledyne Continental Motors, Nucle Oil 105 - Daubert Chemical Co., 4700 So. Central Ave., Chicago, Illinois, Petractec VA - Pennsylvania Refining Co., Butler Pennsylvania. Ferro-Gard 1009G - Ranco Laboratories, Inc., 3617 Brownsville Rd., Pittsburgh, Pennsylvania.

h. Using a portable pressure sprayer, atomize spray preservative oil through the upper spark plug hole of each cylinder with the piston in a down position. Rotate crankshaft as each pair of cylinders is sprayed.

i. After completing step "h," rotate crankshaft so that no piston is at a top position. If the aircraft is to be stored outside, stop two-bladed propeller so that blades are as near horizontal as possible to provide maximum clearance with passing aircraft.

j. Again spray each cylinder without moving the crankshaft to thoroughly cover all interior surfaces of the cylinder above the piston.

k. Install spark plugs and connect spark plug leads.

l. Apply preservative oil to the engine interior by spraying approximately two ounces of the preservative oil through the oil filler tube.

m. Seal all engine openings exposed to the atmosphere using suitable plugs or non-hygroscopic tape. Attach a red streamer at each point that a plug or tape is installed.

n. If the aircraft is to be stored outside, perform the procedures outlined in paragraph 2-7. In addition, the pitot tube, static source vents, air vents, openings in the engine cowling and other similar openings should have protective covers installed to prevent entry of foreign material.

o. Attach a warning placard to the propeller to the effect that the propeller shall not be moved while the engine is in storage.

#### 2-11. INSPECTION DURING STORAGE.

a. Inspect airframe for corrosion at least once a month and remove dust collections as frequently as possible. Clean and wax as required.

b. Inspect the interior of at least one cylinder through the spark plug hole for corrosion at least once a month.

#### NOTE

Do not move crankshaft when inspecting interior of cylinder for corrosion.

c. If at the end of the 90 day period, the aircraft is to be continued in non-operational storage, again perform the procedural steps "g thru o" of paragraph 2-10.

2-12. RETURNING AIRCRAFT TO SERVICE. After temporary storage, use the following procedures to return the aircraft to service.

a. Remove aircraft from blocks and check tires for proper inflation. Check for proper nose gear strut inflation.

b. Check battery and install.

c. Check that oil sump has proper grade and quantity of engine oil.

d. Service induction air filter and remove warning placard from propeller.

e. Remove materials used to cover openings.

f. Remove, clean, and gap spark plugs.

g. While spark plugs are removed, rotate propeller several revolutions to clear excess rust preventive oil from cylinders.

h. Install spark plugs. Torque spark plugs to value specified in Section 11 and connect spark plug leads.

i. Check fuel strainer. Remove and clean filter screen if necessary. Check fuel tanks and fuel lines for moisture and sediment, drain enough fuel to eliminate moisture and sediment.

j. Perform a thorough pre-flight inspection, then start and warm up engine.

2-13. INDEFINITE STORAGE. Indefinite storage is defined as aircraft in a non-operational status for an indefinite period of time. Engines treated in accordance with the following may be considered protected against normal atmosphere corrosion, provided the procedures outlined in paragraph 2-14 are performed at the intervals specified.

a. Operate engine until oil temperature reaches normal operating range. Drain engine oil sump and reinstall drain plug.

b. Fill oil sump to normal operating capacity with corrosion preventive mixture which has been thoroughly mixed and pre-heated to a minimum of 221°F at the time it is added to the engine.

#### NOTE

Corrosion preventive mixture consists of one part compound MIL-C-6529, Type I, mixed with three parts new lubricating oil of the grade recommended for service. Continental Motors Corporation recommends Cosmoline No. 1223, supplied by E. F. Houghton & Co., 305 W. LeHigh Avenue, Philadelphia, Pa. During all spraying operation corrosion mixture is pre-heated to 221° to 250°F.

c. Immediately after filling the oil sump with corrosion preventative mixture, fly the aircraft for a period of time not to exceed a maximum of 30 minutes.

d. With engine operating at 1200 to 1500 RPM and induction air filter removed, spray corrosion preventive mixture into induction airbox, at the rate of one-half gallon per minute, until heavy smoke comes from exhaust stack, then increase the spray until the engine is stopped.

#### **CAUTION**

Injecting corrosion-preventative mixture too fast can cause hydrostatic lock.

e. Do not rotate propeller after completing step "d."

f. Remove all spark plugs and spray corrosion-preventive mixture, which has been pre-heated to 221° to 250°F, into all spark plug holes to thoroughly cover interior surfaces of cylinders.

g. Install lower spark plug or install solid plugs, and install dehydrator plugs in upper spark plug holes. Be sure that dehydrator plugs are blue in color when installed.

h. Cover spark plug lead terminals with shipping plugs (AN4060-1) or other suitable covers.

i. With throttle in full open position, place a bag of desiccant in the carburetor intake and seal opening with moisture resistant paper and tape.

j. Place a bag of desiccant in the exhaust tail-pipe(s) and seal openings with moisture resistant tape.

k. Seal cold air inlet to the heater muff with moisture resistant tape.

l. Seal engine breather by inserting a protex plug in the breather hose and clamping in place.

m. Seal all other engine openings exposed to atmosphere using suitable plugs or non-hygroscopic tape.

#### NOTE

Attach a red streamer to each place plugs or tape is installed. Either attach red streamers outside of the sealed area with tape or to the inside of the sealed area with safety wire to prevent wicking of moisture into the sealed area.

n. Drain corrosion-preventive mixture from engine sump and reinstall drain plug.

#### NOTE

The corrosion-preventive mixture is harmful to paint and should be wiped from painted surfaces immediately.

o. Attach a warning placard on the throttle control knob, to the effect that the engine contains no lubricating oil. Placard the propeller to the effect that it should not be moved while the engine is in storage.

p. Prepare airframe for storage as outlined in paragraph 2-10 thru step "f."

#### NOTE

As an alternate method of indefinite storage, the aircraft may be serviced in accordance with paragraph 2-10 providing the aircraft is run-up at maximum intervals of 90 days and then reserviced per paragraph 2-10.

2-14. INSPECTION DURING STORAGE. Aircraft in indefinite storage shall be inspected as follows:

a. Inspect cylinder protex plugs each seven days.

b. Change protex plugs if their color indicates an unsafe condition.

c. If the dehydrator plugs have changed color in one-half of the cylinders, all desiccant material in the engine shall be replaced with new material.

d. Every six months, respray the cylinder interiors with corrosion-preventative mixture.

#### NOTE

Before spraying, inspect the interior of one cylinder for corrosion through the spark plug hole and remove at least one rocker box cover and inspect the valve mechanism.

2-15. RETURNING AIRCRAFT TO SERVICE. After indefinite storage, use the following procedure to return the aircraft to service.

a. Remove aircraft from blocks and check tires for correct inflation. Check for correct nose gear strut inflation.

b. Check battery and install.

c. Remove all materials used to seal and cover openings.

d. Remove warning placards posted at throttle and propeller.

e. Remove and clean engine oil screen, then re-install and safety. On aircraft that are equipped with an external oil filter, install new filter element.

f. Remove oil sump drain plug and drain sump. Install and safety drain plug.

#### NOTE

The corrosion-preventive mixture will mix with the engine lubricating oil, so flushing the oil system is not necessary. Draining the oil sump will remove enough of the corrosion-preventive mixture.

- g. Service and install the induction air filter.
- h. Remove dehydrator plugs and spark plugs or plugs installed in spark plug holes and rotate propeller by hand several revolutions to clear corrosion-preventive mixture from cylinders.
- i. Clean, gap, and install spark plugs. Torque plugs to the value listed in Section 11.
- j. Check fuel strainer. Remove and clean filter screen. Check fuel tanks and fuel lines for moisture and sediment, and drain enough fuel to eliminate.
- k. Perform a thorough pre-flight inspection, then start and warm-up engine.
- l. Thoroughly clean aircraft and flight test aircraft.

## 2-16. SERVICING.

2-17. Servicing requirements are shown in figure 2-4. The following paragraphs supplement this figure by adding details not included in the figure.

2-18. FUEL. Fuel tanks should be filled immediately after flight to lessen moisture condensation. Tank capacities are listed in Section 1. The recommended fuel grade to be used is given in figure 2-4.

2-19. FUEL DRAINS. Fuel drains are located in the fuel tanks, fuel line, fuel strainer and carburetor. Drain plugs are installed in the fuel line forward of the ON-OFF valve and carburetor. The fuel tanks and fuel strainer have drain valves. To activate the tank drain valve for fuel sampling, place cup up to valve and depress valve with rod protruding from cup. See Section 12 for illustration of fuel tank drain valve. The strainer drain valve is an integral part of the fuel strainer assembly. The strainer drain is equipped with a control which is located adjacent to the oil dipstick. Access to the control is through the oil dipstick access door. Open drains and remove drain plugs at intervals specified in figure 2-4. Also, during daily inspection of the fuel strainer and tanks, if water is found in the system, all fuel drain plugs should be removed and all water drained from the system.

2-20. CARBURETOR DRAIN PLUG INSPECTION. In order to prevent the possibility of thread sealant contamination in the carburetor float chamber, cleaning and inspection of the carburetor should be accomplished at each 100-hour inspection and anytime water in the fuel is suspected.

- a. With the fuel valve OFF, remove carburetor drain plug and clean off any sealant present on the end of the plug or in the threads on the plug.
- b. Inspect drain plug hole in the carburetor and remove any sealant remaining in the hole.
- c. Turn fuel valve to ON to flush float chamber and drain plug chamber while probing drain plug hole to ascertain that all residue of sealant material is dislodged and washed out of the chamber. Flushing operation should last 15 to 30 seconds.
- d. A second flushing should then be accomplished and the drained fuel retained for inspection to insure that no sealant particles are present.
- e. Install drain plug as follows:
  - 1. Install drain plug in carburetor 1-1/2 to 2 turns.
  - 2. Apply sealant to drain plug threads (use

NS-40 (RAS-4) or equivalent).

- 3. Tighten and safety drain plug.
- f. Turn fuel valve ON and inspect for evidence of fuel leakage.

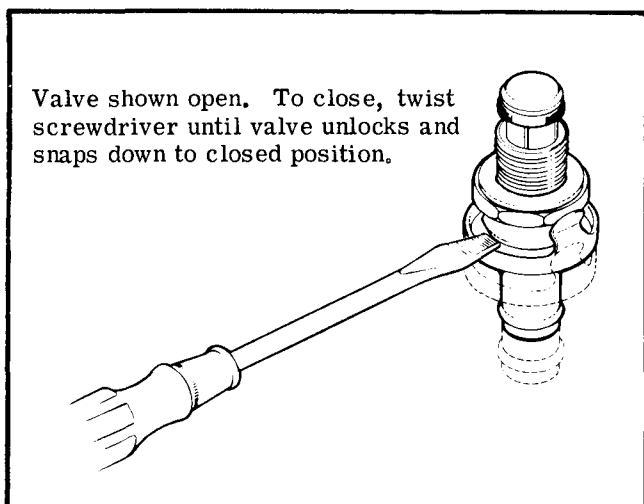
2-21. ENGINE OIL. Check engine lubricating oil with the oil dipstick five to ten minutes after the engine has been stopped. Engine oil should be drained while the engine is still hot so that more positive draining is obtained. Refer to the inspection charts for required intervals for oil and filter changes. Change oil every six months even though less than the specified hours have accumulated. Reduce these periods for prolonged operation in dusty areas, in cold climate where sludging conditions exist, or where short flights and long idle periods are encountered, which cause sludging conditions. Always change oil and install a new filter element or clean screen whenever oil on dipstick appears dirty. Oil capacity is six quarts total with a normal operating capacity of five quarts for flights of less than three hours. For extended flight, fill to the six quart level on the dipstick. DO NOT operate with less than the minimum for flight quantity of four quarts. If the engine is equipped with an external oil filter, an additional quart of oil is required when the filter element is changed. When adding or changing engine oil, use aviation grade oil in accordance with figure 2-4.

## NOTE

The aircraft is delivered from Cessna with a corrosion preventative aircraft engine oil (MIL-C-6259, Type II). If oil must be added during the first 25 hours of operation, use only aviation grade straight mineral oil conforming to Specification MIL-L-6082 of the correct grade. After the first 25 hours of operation, drain engine oil sump and clean the oil pressure screen. If an optional oil filter is installed, change filter element at this time. Refill sump with correct quantity and grade of aviation grade straight mineral oil and use until a total of 50 hours has accumulated or oil consumption has stabilized, then change to ashless dispersant oil conforming to Continental Motors Specification MHS-24 and with current Continental Aircraft Engine Service Bulletins. Newly overhauled engines should also be operated on aviation grade straight mineral oil conforming to Specification MIL-L 6082 until a total of 50 hours has accumulated or oil consumption has stabilized.

When changing engine oil, remove and clean oil screen, or install a new filter element on aircraft equipped with an external oil filter. An oil quick-drain valve may be installed. This valve provides a quicker and cleaner method of draining engine oil. The valve is installed in the oil drain port of the oil sump and allows oil to be drained by inserting a hose over the fitting end and pushing up to lock the valve open, allowing the oil to drain through the hose into a container. To drain the engine oil, proceed as follows:

- a. Operate engine until oil temperature is at normal operating temperature.



Valve shown open. To close, twist screwdriver until valve unlocks and snaps down to closed position.

Figure 2-3. Quick-Drain Valve

- b. (With Quick-Drain Valve.) Attach a hose to the quick-drain valve in the oil sump. Push up on quick-drain valve until it locks open, and allow oil to drain through hose into container.
- c. (Without Quick-Drain Valve.) Remove oil drain plug from oil sump and allow oil to drain into a container.
- d. After engine oil has drained, close quick-drain valve as shown in figure 2-3 and remove hose, or install and safety drain plug.
- e. Remove and clean oil screen, or change external oil filter element.
- f. On aircraft equipped with oil cooler, remove drain plug in adapter (using Allen wrench) and drain oil cooler at each oil change. After oil cooler has drained, reinstall plug in adapter.

**NOTE**

When servicing aircraft equipped with an oil cooler, refer to Continental Aircraft Engine Service Bulletin M76-5 and any revisions or supplements thereto.

- g. Service engine with correct quantity of aviation grade engine oil as specified herein.

**NOTE**

Check oil with dipstick after the first engine run-up when oil cooler is drained or external filter element in changed. Add oil as required to bring oil in sump to correct level.

**2-22. ENGINE INDUCTION AIR FILTER.** The induction air filter keeps dust and dirt from entering the induction system. The value of maintaining the air filter in a good clean condition can never be overstressed. More engine wear is caused through the use of dirty or damaged air filter than is generally believed. The frequency with which the filter should be removed, inspected, and cleaned will be determined primarily by aircraft operating conditions. A good general rule however, is to remove, inspect and clean the filter at least every 50 hours of engine op-

erating time and more frequently if warranted by operating conditions. Some operators prefer to hold a spare induction air filter at their home base of operation so that a clean filter is always readily available for use. Under extremely dusty conditions, daily servicing of the filter is recommended. Two types of filters are used. One is a flock-coated, oiled filter and the other is a dry, paper-media filter.

**NOTE**

The aircraft is equipped with the flock-coated, oiled filter when it leaves the factory. However, new filters ordered from the Cessna Service Parts Center will be the dry, paper-media filter with an improved element.

To service the flock-coated, oiled filter, proceed as follows:

- a. Remove filter from aircraft.
- b. Wash filter thoroughly in solvent (Federal Specification P-S-661 or equivalent). Wash with soiled face down in solvent.
- c. Drain and dry filter, then dip flock-coated screen filter in the same grade of oil used in the engine and allow excess oil to drain from the filter.
- d. Be sure airbox is cleaned, inspect filter. If filter is damaged, install a new filter.

**NOTE**

A damaged filter may have broken filtering panels or the flock coating may be missing from the filtering panels, which will allow unfiltered air to enter the induction system. Any filter that appears doubtful, shall have a new filter installed in its place.

- e. Install filter at entrance to air box with gasket on aft face of filter frame and with air flow arrow on filter pointed in the correct direction.

To service the dry type filter, proceed as follows:

- a. Remove filter from aircraft.

**NOTE**

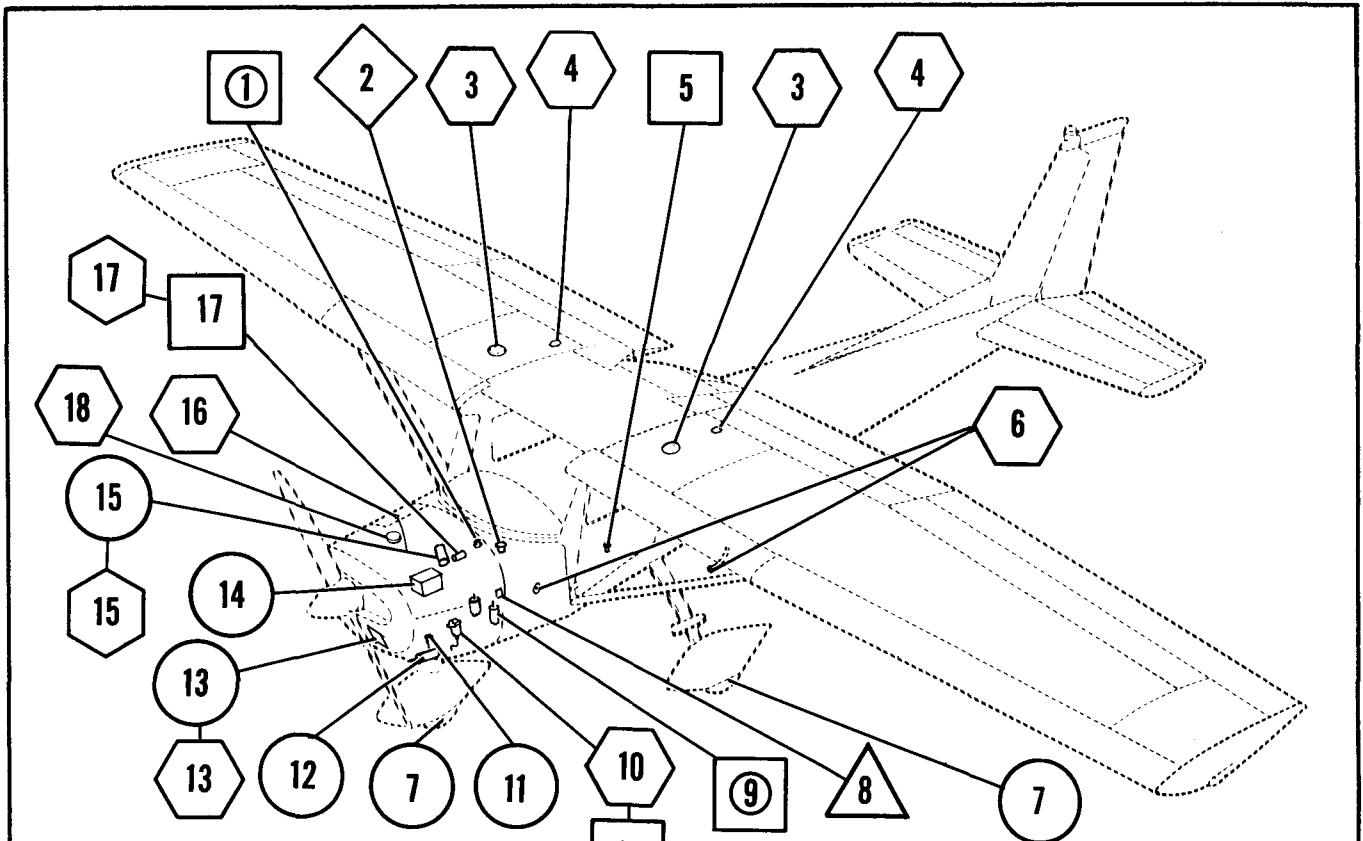
Use care to prevent damage to filter element when cleaning filter with compressed air.

- b. Clean filter by blowing with compressed air (not over 100 psi) from direction opposite of normal air flow. Arrows on filter case indicate direction of normal air flow.

**CAUTION**

Do not use solvent or cleaning fluids to wash filter. Use only a water and household detergent solution when washing the filter.

- c. After cleaning as outlined in step "b", the filter may be washed, if necessary, in a solution of warm water and a mild household detergent. A cold water solution may be used.



HYDRAULIC FLUID:  
SPEC. NO. MIL-H-5606

SPECIFIED AVIATION GRADE FUELS:

**WARNING**

ONLY AVIATION GRADE FUELS ARE APPROVED FOR USE.

ENGINE MODEL	APPROVED FUEL GRADES	NOTE
CONTINENTAL O-200-A	80 (red) (formerly 80/87)	1
	100LL (blue)	1
	100 (green) (formerly 100/130)	1

NOTE

1. Compliance with Continental Aircraft Engine Service Bulletins M74-6 and M75-2, and all supplements or revisions thereto, must be accomplished.

SPECIFIED AVIATION GRADE OIL:

ABOVE 40°F	SAE 40
BELOW 40°F	SAE 20

Aviation grade ashless dispersant oil, conforming to Continental Motors Specification MHS-24, and all revisions and supplements thereto, must be used except as noted in paragraph 2-21, herein. Refer to Continental Aircraft Engine Service Bulletin M75-2, and any superseding bulletins, revisions or supplements thereto, for further recommendations.

Figure 2-4. Servicing (Sheet 1 of 3)



#### DAILY

- 3 FUEL TANK FILLER**  
Service after each flight. Keep full to retard condensation. Refer to paragraph 2-18 for details.
- 4 FUEL TANK SUMP DRAINS**  
Drain off any water and sediment before first flight of the day.
- 6 PITOT AND STATIC PORTS**  
Check for obstructions before first flight of the day.
- 10 FUEL STRAINER**  
Drain off any water and sediment before the first flight of the day. Refer to paragraph 2-19 for details.
- 13 INDUCTION AIR FILTER**  
Inspect and service under dusty conditions. Refer to paragraph 2-22 for details.
- 16 OIL DIPSTICK**  
Check oil on preflight. Add oil as necessary. Refer to paragraph 2-21 for details.
- 18 OIL FILLER CAP:**  
Whenever oil is added, check that filler cap is tight and oil filler door is secure.



#### FIRST 25 HOURS

- 15, 17 ENGINE OIL SYSTEM**  
Refill with straight mineral oil, non-detergent, and use until a total of 50 hours have accumulated or oil consumption has stabilized, then change to ashless dispersant oil.



#### 50 HOURS

- 13 INDUCTION AIR FILTER**  
Clean filter per paragraph 2-22. Replace as required.
- 14 BATTERY**  
Check electrolyte level and clean battery compartment each 50 hours or each 30 days.
- 15 ENGINE OIL SYSTEM**  
Change oil each 50 hours if engine is NOT equipped with external oil filter; if equipped with external oil filter, change filter element each 50 hours and oil at each 100 hours, or every 6 months.
- 12 SHIMMY DAMPENER**  
Check fluid level and refill as required with hydraulic fluid. Refer to paragraph 2-27 for details.
- 7 TIRES**  
Maintain correct tire inflation as listed in figure 1-1. Also refer to paragraph 2-25 for details.

Figure 2-4. Servicing (Sheet 2 of 3)



50 HOURS (Cont)

**11 NOSE GEAR SHOCK STRUT**

Keep strut filled and inflate to correct pressure. Refer to paragraph 2-26 for details.



100 HOURS

**5 SHUT-OFF VALVE DRAIN**

Remove plug and drain off any water or sediment. Also refer to paragraph 2-19.

**10 FUEL STRAINER**

Disassemble and clean strainer bowl and screen.

**17 ENGINE OIL SYSTEM**

On aircraft equipped with an external full flow oil filter change engine oil, providing the filter element is changed at 50 hour intervals. Change engine oil at least every six months even though less than the recommended hours have accumulated. Reduce these intervals under severe operating conditions.



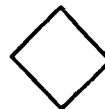
200 HOURS

**1 VACUUM RELIEF FILTER**

Change each 1000 hours, or to coincide with engine overhauls.

**9 BRAKE MASTER CYLINDERS**

Check fluid level and refill as required with hydraulic fluid. Refer to paragraph 2-28 for details.



500 HOURS

**2 VACUUM SYSTEM CENTRAL AIR FILTER**

Replace every 500 hours.



AS REQUIRED

**8 GROUND SERVICE RECEPTACLE**

Connect to 12-volt DC, negative-ground power unit. Refer to Section 11 for details.

Figure 2-4. Servicing (Sheet 3 of 3)

#### NOTE

The filter assembly may be cleaned with compressed air a maximum of 30 times or it may be washed a maximum of 20 times. A new filter should be installed after using 500 hours of engine operating time or one year, whichever should occur first. However, a new filter should be installed at anytime it is damaged. A damaged filter may have sharp or broken edges in the filtering panels which would allow unfiltered air to enter the induction system. Any filter that appears doubtful, shall have a new filter installed in its place.

d. After washing, rinse filter with clear water until rinse water draining from filter is clear. Allow water to drain from filter and dry with compressed air (not over 100 psi).

#### NOTE

The filtering panels of the filter may become distorted when wet, but they will return to their original shape when dry.

e. Be sure air box is clean, inspect filter. If filter is damaged, install a new filter.

f. Install filter at entrance to air box with gasket on aft face of filter frame and with air flow arrow on filter frame pointed in the correct direction.

2-23. VACUUM SYSTEM FILTER. The vacuum system central air filter keeps dust and dirt from entering the vacuum operated instruments. Change central air filter element every 500 hours of operating time and whenever suction gage reading drops below 4.6 inches of mercury. Also, do not operate the vacuum system with the filter removed, or a vacuum line disconnected as particles of dust or other foreign matter may enter the system and damage the gyros.

2-24. BATTERY. Battery servicing involves adding distilled water to maintain the electrolyte level even with the horizontal baffle plate or split ring at the bottom of the filler holes, checking cable connections, and neutralizing and cleaning off any spilled electrolyte or corrosion. Use bicarbonate of soda (baking soda) and clean water to neutralize electrolyte or corrosion. Follow with a thorough flushing with clean water. Do not allow bicarbonate of soda to enter battery. Brighten cable and terminal connections with a wire brush, then coat with petroleum jelly before connecting cables. Check the battery every 50 hours (or at least every 30 days), oftener in hot weather. Add only distilled water, not acid or "rejuvenators", to maintain electrolyte level in the battery. Inspect the battery box and surrounding area and clean and remove any evidence of corrosion. Refer to Section 16 for detailed battery removal, installation, and testing.

2-25. TIRES. Maintain tire pressure at the air pressure specified in figure 1-1. When checking tire pressure, examine tires for wear, cuts, bruises, and slippage. Remove oil, grease and mud from tires with soap and water.

#### NOTE

Recommended tire pressures should be maintained. Especially in cold weather, remember that any drop in temperature of the air inside a tire causes a corresponding drop in air pressure.

2-26. NOSE GEAR SHOCK STRUT. The nose gear shock strut requires periodic checking to ascertain that the strut is filled with hydraulic fluid and is inflated to the correct air pressure. To fill the nose gear strut with hydraulic fluid and inflate with air, proceed as follows:

a. Remove filler valve cap and depress valve core to completely deflate nose strut.

b. Remove filler valve from strut.

c. With nose gear strut compressed to its shortest length, fill strut with hydraulic fluid to the bottom of the filler hole.

d. Raise nose of aircraft, extend and compress strut several times to expel any entrapped air, then lower nose of aircraft and repeat step "c".

e. With strut compressed to its shortest length, install filler valve assembly.

f. With nose wheel off ground, inflate strut. Shock strut pressure is listed in figure 1-1.

#### NOTE

The nose landing gear shock strut will normally require only a minimum amount of service. Maintain the strut extension pressure, as shown in figure 1-1. Lubricate landing gear as shown in figure 2-5. Check the landing gear daily for general cleanliness, security of mounting, and for hydraulic fluid leakage. Keep machined surfaces wiped free of dirt and dust, using a clean lint-free cloth saturated with MIL-H-5606 hydraulic fluid or kerosene. All surfaces should be wiped free of excessive hydraulic fluid.

2-27. NOSE GEAR SHIMMY DAMPENER. The shimmy dampener should be serviced at least every 50 hours. The shimmy dampener must be filled completely with fluid, free of entrapped air, to serve its purpose. To service the shimmy dampener, proceed as follows:

a. Remove shimmy dampener from aircraft.

b. While holding the dampener in a vertical position with fitting end pointed downward, pull fitting end of the dampener shaft to its limit of travel.

c. While holding dampener in this position, fill dampener through open end of cylinder.

d. Push the shaft upward slowly to seal off the filler hole.

e. Clean dampener with solvent. Be sure to keep the shaft protruding through the filler hole until dampener is installed on the aircraft.

f. Install dampener on aircraft.

#### NOTE

Keep shimmy dampener, especially the exposed portions of the dampener piston shaft,

clean to prevent collection of dust and grit which could cut the seals in the dampener barrel. Keep machined surfaces wiped free of dirt and dust, using a clean lint-free cloth saturated with MIL-H-5606 hydraulic fluid or kerosene. All surfaces should be wiped free of excessive hydraulic fluid.

**2-28. HYDRAULIC BRAKE SYSTEMS.** Check brake master cylinders and refill with hydraulic fluid as specified in the inspection charts. Bleed the brake system of entrapped air whenever there is a spongy response to the brake pedals. Refer to paragraph 5-58 for filling and bleeding the brake system.

**2-29. CLEANING.**

**2-30.** Keeping the aircraft clean is important. Besides maintaining the trim appearance of the aircraft, cleaning lessens the possibility of corrosion and makes inspection and maintenance easier.

**2-31. WINDSHIELD AND WINDOWS.** Windshield and windows should be cleaned carefully with plenty of fresh water and a mild detergent, using the palm of the hand to feel and dislodge any caked dirt or mud. A sponge, soft cloth, or chamois may be used, but only as a means of carrying water to the plastic. Rinse thoroughly, then dry with a clean moist chamois. Do not rub the plastic with a dry cloth as this builds up an electrostatic charge which attracts dust. Oil and grease may be removed by rubbing lightly with a soft cloth moistened with Stoddard solvent.

#### **CAUTION**

Do not use gasoline, alcohol, benzene, acetone, carbon tetrachloride, fire extinguisher fluid, de-icer fluid, lacquer thinner, or glass window cleaning spray. These solvents will soften and craze the plastic.

After washing, the plastic windshield and windows should be cleaned with an aircraft windshield cleaner. Apply the cleaner with soft cloths and rub with moderate pressure. Allow the cleaner to dry, then wipe it off with soft flannel cloths. A thin, even coat of wax, polished out by hand with soft flannel cloths, will fill in minor scratches and help prevent further scratching. Do not use a canvas cover on the windshield or windows unless freezing rain or sleet is anticipated since the cover may scratch the plastic surface.

**2-32. PLASTIC TRIM.** The instrument panel, plastic trim, and control knobs need only be wiped 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 paragraph 2-31, must never be used since they soften and craze the plastic.

**2-33. PAINTED SURFACES.** The painted exterior surfaces of the aircraft, under normal conditions, require a minimum of polishing and buffing. Approximately 15 days are required for acrylic or lacquer paint to cure completely; in most cases, the curing

period will have been completed prior to delivery of the aircraft. In the event that polishing or buffing is required within the curing period, it is recommended that the work be done by an experienced painter. Generally, the painted surfaces can be kept bright by washing with water and mild soap, followed by a rinse with water and drying with cloths or chamois. Harsh or abrasive soaps or detergents which could cause corrosion or make scratches should never be used. Remove stubborn oil and grease with a cloth moistened with Stoddard solvent. After the curing period, the aircraft may be waxed with a good automotive wax. A heavier coating of wax on the leading edges of the wing and tail and on the engine nose cap will help reduce the abrasion encountered in these areas.

**2-34. ALUMINUM SURFACES.** The aluminum surfaces require a minimum of care, but should never be neglected. The aircraft may be washed with clean water to remove dirt and may be washed with non-alkaline grease solvents to remove oil and/or grease. Household type detergent soap powders are effective cleaners, but should be used cautiously since some of them are strongly alkaline. Many good aluminum cleaners, polishes, and waxes are available from commercial suppliers of aircraft products.

**2-35. ENGINE AND ENGINE COMPARTMENT.** The engine should be kept clean since dirty cooling fins and baffle plates can cause overheating of the engine. Also, cleaning is essential to minimize any danger of fire and provide for easier inspection of components. The entire engine cowling may be removed to facilitate engine and interior cowl cleaning. Wash down the engine and components with a suitable solvent, such as Stoddard solvent or equivalent, then dry thoroughly with compressed air.

#### **CAUTION**

Particular care should be given to electrical equipment before cleaning. Solvent should not be allowed to enter magnetos, starters, alternators, voltage regulators, and the like. Hence, these components should be protected before saturating the engine with solvent. Any fuel, oil, and air openings should be covered before washing the engine with solvent. Caustic cleaning solutions should not be used. After cleaning engine re-lubricate all control arms and moving parts.

**2-36. UPHOLSTERY AND INTERIOR.** Keeping the upholstery and interior clean prolongs upholstery fabric and interior trim life. To clean the interior, proceed as follows:

- a. Empty all ash trays and refuse containers.
- b. Brush or vacuum clean the upholstery and carpet to remove dust and dirt.
- c. Wipe leather and plastic trim with a damp cloth.
- d. Soiled upholstery fabrics and carpet may be cleaned with a foam-type detergent used according to the manufacturer's instructions.
- e. Oil spots and stains may be cleaned with household spot removers, used sparingly. Before using any solvent, read the instructions on the container



FREQUENCY (HOURS)

50

100

500

1000

METHOD OF APPLICATION

HAND

GREASE GUN

OIL CAN

SYRINGE (FOR POWDERED GRAPHITE)

WHERE NO INTERVAL IS SPECIFIED, LUBRICATE AS REQUIRED AND WHEN ASSEMBLED OR INSTALLED.

NOTE

The military specifications listed are not mandatory, but are intended as guides in choosing satisfactory materials. Products of most reputable manufacturers meet or exceed these specifications.

LUBRICANTS

PG	—	SS-G-659	.....	POWDERED GRAPHITE
GR	—	MIL-G-81322	.....	GENERAL PURPOSE GREASE
GH	—	MIL-G-23827	.....	AIRCRAFT AND INSTRUMENT GREASE
GL	—	MIL-G-21164	.....	MOLYBDENUM DISULFIDE GREASE
OG	—	MIL-L-7870	.....	GENERAL PURPOSE OIL
PL	—	VV-P-236	.....	PETROLATUM
G5	—	MIL-S-8660	.....	DC4 (DOW CORNING)
GP	—	.....	.....	NO. 10-WEIGHT, NON-DETERGENT OIL

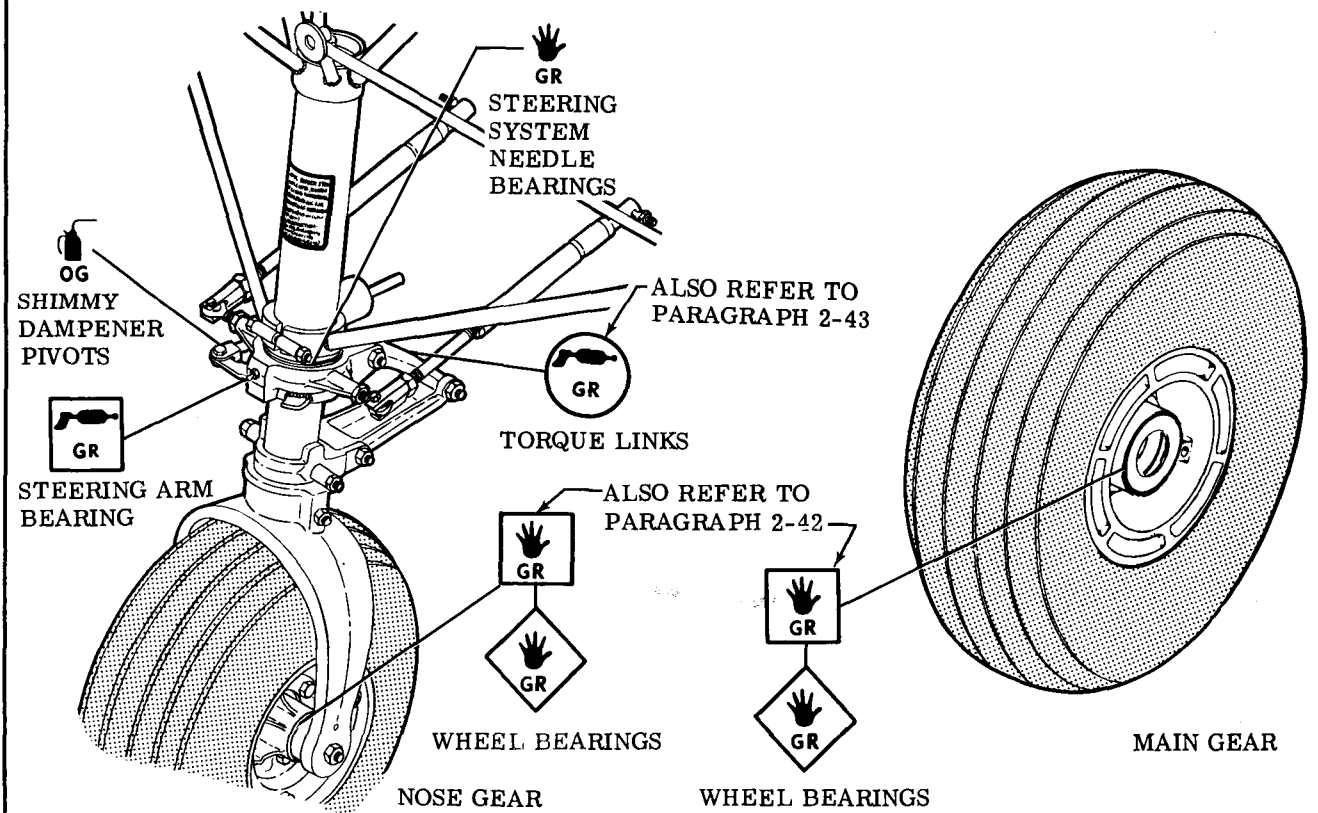


Figure 2-5. Lubrication (Sheet 1 of 3)

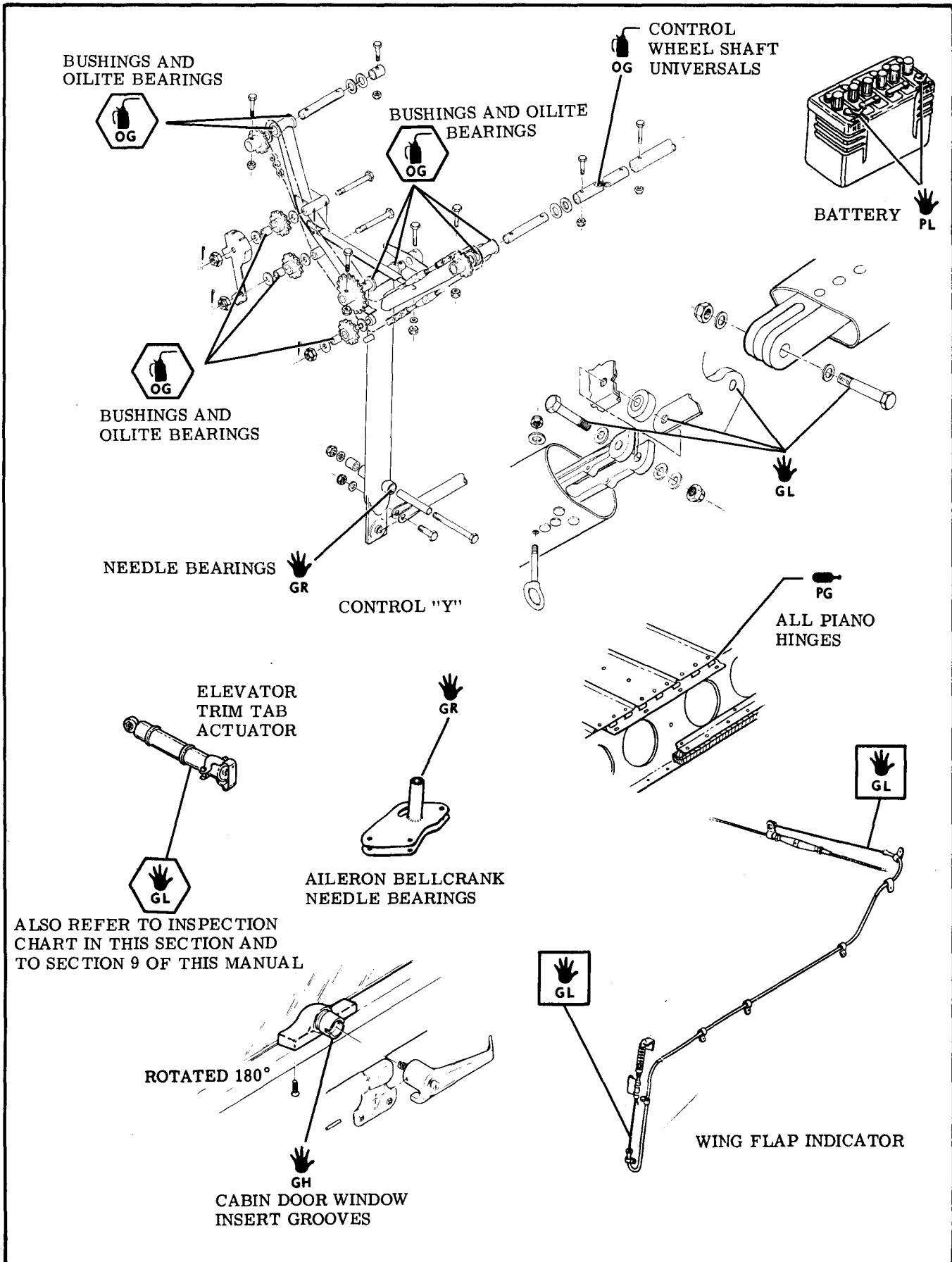


Figure 2-5. Lubrication (Sheet 2 of 3)

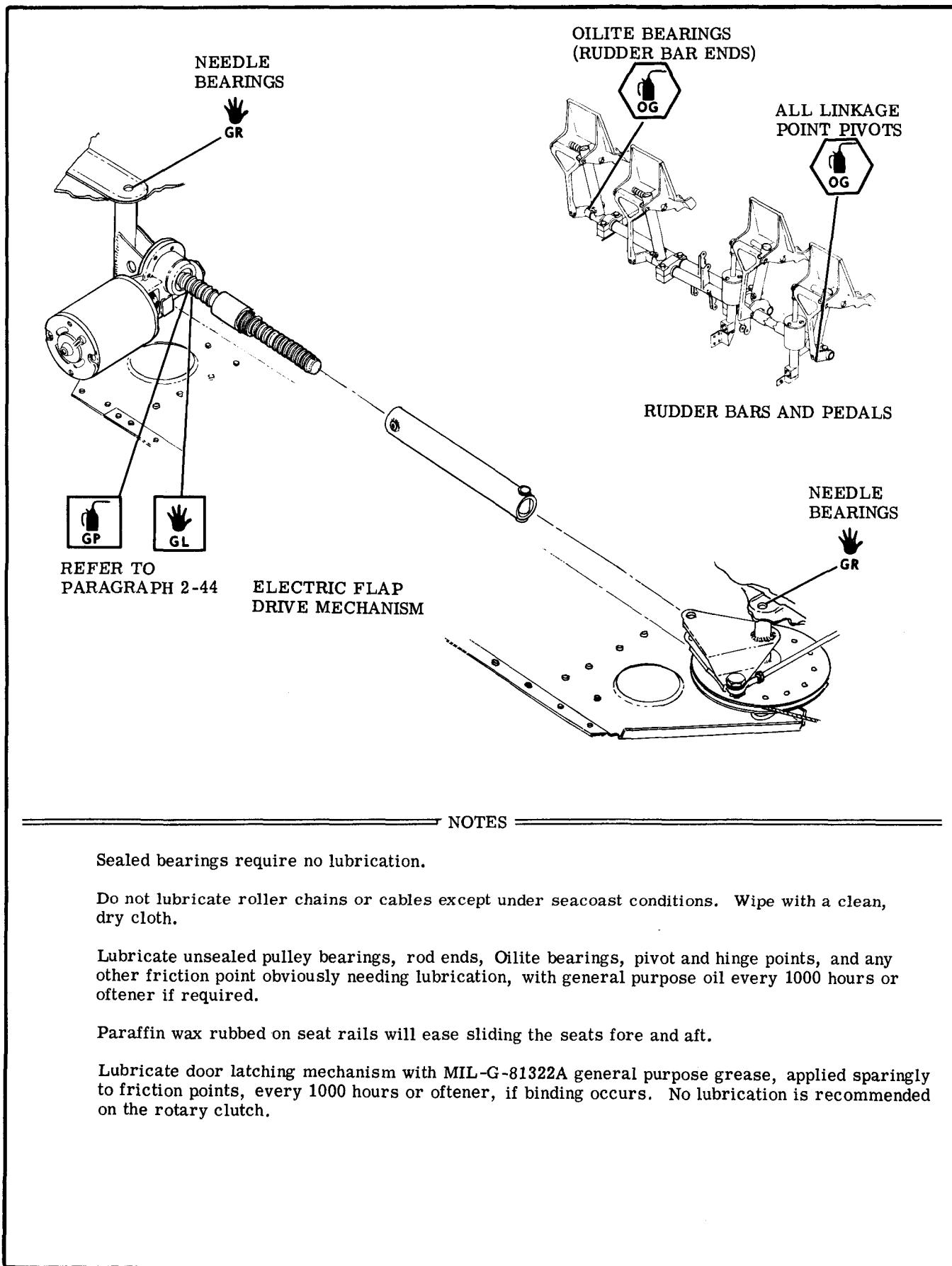


Figure 2-5. Lubrication (Sheet 3 of 3)

## I INSPECTION REQUIREMENTS.

As required by Federal Aviation Regulations, all civil aircraft of U.S. registry must undergo a COMPLETE INSPECTION (ANNUAL) each twelve calendar months. In addition to the required ANNUAL inspection, aircraft operated commercially (for hire) must also have a COMPLETE AIRCRAFT INSPECTION every 100 hours of operation.

In lieu of the above requirements, an aircraft may be inspected in accordance with a progressive inspection schedule, which allows the work load to be divided into smaller operations that can be accomplished in shorter time periods.

Therefore, the Cessna Aircraft Company recommends PROGRESSIVE CARE for aircraft that are being flown 200 hours or more per year, and the 100 HOUR inspection for all other aircraft.

## II INSPECTION CHARTS.

The following charts show the recommended intervals at which items are to be inspected.

As shown in the charts, there are items to be checked each 50 hours, each 100 hours, each 200 hours, and also Special Inspection items which require servicing or inspection at intervals other than 50, 100 or 200 hours.

- a. When conducting an inspection at 50 hours, all items marked under EACH 50 HOURS would be inspected, serviced or otherwise accomplished as necessary to insure continuous airworthiness.
- b. At each 100 hours, the 50 hour items would be accomplished in addition to the items marked under EACH 100 HOURS as necessary to insure continuous airworthiness.
- c. An inspection conducted at 200 hour intervals would likewise include the 50 hour items and 100 hour items in addition to those at EACH 200 HOURS.
- d. The numbers appearing in the SPECIAL INSPECTION ITEMS column refer to data listed at the end of the inspection charts. These items should be checked at each inspection interval to insure that applicable servicing and inspection requirements are accomplished at the specified intervals.
- e. A COMPLETE AIRCRAFT INSPECTION includes all 50, 100 and 200 hour items plus those Special Inspection Items which are due at the time of the inspection.

## III INSPECTION PROGRAM SELECTION.

### **AS A GUIDE FOR SELECTING THE INSPECTION PROGRAM THAT BEST SUITS THE OPERATION OF THE AIRCRAFT, THE FOLLOWING IS PROVIDED.**

1. IF THE AIRCRAFT IS FLOWN LESS THAN 200 HOURS ANNUALLY.
  - a. IF FLOWN FOR HIRE

An aircraft operating in this category must have a COMPLETE AIRCRAFT INSPECTION each 100 hours and each 12 calendar months of operation. A COMPLETE AIRCRAFT INSPECTION consists of all 50, 100, 200 and Special Inspection Items shown in the inspection charts as defined in paragraph II above.

- b. IF NOT FLOWN FOR HIRE

An aircraft operating in this category must have a COMPLETE AIRCRAFT INSPECTION each 12 calendar months (ANNUAL). A COMPLETE AIRCRAFT INSPECTION consists of all 50, 100, 200 and Special Inspection Items shown in the inspection charts as defined in paragraph II above. In addition, it is recommended that between annual inspections, all items be inspected at the intervals specified in the inspection charts.

## 2. IF THE AIRCRAFT IS FLOWN MORE THAN 200 HOURS ANNUALLY.

Whether flown for hire or not, it is recommended that aircraft operating in this category be placed on the CESSNA PROGRESSIVE CARE PROGRAM. However, if not placed on Progressive Care, the inspection requirements for aircraft in this category are the same as those defined under paragraph III 1. (a) and (b).

Cessna Progressive Care may be utilized as a total concept program which insures that the inspection intervals in the inspection charts are not exceeded. Manuals and forms which are required for conducting Progressive Care inspections are available from the Cessna Service Parts Center.

### IV INSPECTION GUIDE LINES.

- (a) **MOVABLE PARTS** for: lubrication, servicing, security of attachment, binding, excessive wear, safeying, proper operation, proper adjustment, correct travel, cracked fittings, security of hinges, defective bearings, cleanliness, corrosion, deformation, sealing and tension.
- (b) **FLUID LINES AND HOSES** for: leaks, cracks, dents, kinks, chafing, proper radius, security, corrosion, deterioration, obstruction and foreign matter.
- (c) **METAL PARTS** for: security of attachment, cracks, metal distortion, broken spotwelds, corrosion, condition of paint and any other apparent damage.
- (d) **WIRING** for: security, chafing, burning, defective insulation, loose or broken terminals, heat deterioration and corroded terminals.
- (e) **BOLTS IN CRITICAL AREAS** for: correct torque in accordance with torque values given in the chart in Section 1, when installed or when visual inspection indicates the need for a torque check.

#### NOTE

Torque values listed in Section 1 are derived from oil-free cadmium-plated threads, and are recommended for all installation procedures contained in this book except where other values are stipulated. They are not to be used for checking tightness of installed parts during service.

- (f) **FILTERS, SCREENS & FLUIDS** for: cleanliness, contamination and/or replacement at specified intervals.
- (g) **AIRCRAFT FILE.**

Miscellaneous data, information and licenses are a part of the aircraft file. Check that the following documents are up-to-date and in accordance with current Federal Aviation Regulations. 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.

To be displayed in the aircraft at all times:

1. Aircraft Airworthiness Certificate (FAA Form 8100-2).
2. Aircraft Registration Certificate (FAA Form 8050-3).
3. Aircraft Radio Station License, if transmitter is installed (FCC Form 556).

To be carried in the aircraft at all times:

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

To be made available upon request:

1. Aircraft Log Book and Engine Log Book.

(h) ENGINE RUN-UP.

Before beginning the step-by-step inspection, start, run up and shut down the engine in accordance with instructions in the Owner's Manual. During the run-up, observe the following, making note of any discrepancies or abnormalities:

1. Engine temperatures and pressures.
2. Static RPM. (Also refer to Section 11 of this Manual.)
3. Magneto drop. (Also refer to Section 11 of this Manual.)
4. Engine response to changes in power.
5. Any unusual engine noises.
6. Fuel selector and/or shut-off valve; operate engine(s) on each tank (or cell) position and OFF position long enough to ensure shut-off and/or selector valve functions properly.
7. Idling speed and mixture; proper idle cut-off.
8. Alternator and ammeter.
9. Suction gage.
10. Fuel flow indicator.

After the inspection has been completed, an engine run-up should again be performed to determine that any discrepancies or abnormalities have been corrected.

**SHOP NOTES:**

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SPECIAL INSPECTION ITEM
EACH 200 HOURS
EACH 100 HOURS
EACH 50 HOURS

22. Starter brushes, brush leads and commutator . . . . .	●	
23. Alternator and electrical connections . . . . .	●	
24. Alternator brushes, brush leads and commutator or slip ring . . . . .	●	7
25. Voltage regulator mounting and electrical leads . . . . .	●	
26. Magnetos (externally) and electrical connections . . . . .	●	
27. Magneto timing . . . . .	●	8
28. Carburetor and drain plug . . . . .	●	
29. Firewall . . . . .	●	
30. Engine cowling . . . . .	●	

FUEL SYSTEM

1. Fuel strainer, drain valve and control . . . . .	●	
2. Fuel strainer screen and bowl . . . . .	●	
3. Fuel tank vents, caps and placards . . . . .	●	
4. Fuel tanks, sump drains and fuel line drains . . . . .	●	
5. Drain fuel and check tank interior, attachment and outlet screens . . . . .	●	5
6. Fuel vent valves . . . . .	●	
7. Fuel vent line drain . . . . .	●	
8. Fuel shut-off valve and placards . . . . .	●	
9. Fuel valve drain plug . . . . .	●	
10. Engine primer . . . . .	●	

LANDING GEAR

1. Main gear wheels and fairings . . . . .	●	
2. Nose gear wheel, torque links, steering rods, boots and fairing . . . . .	●	
3. Wheel bearings . . . . .	●	9
4. Nose gear strut and shimmy dampener (service as required) . . . . .	●	
5. Tires . . . . .	●	
6. Brake fluid, lines and hoses, linings, discs, brake assemblies and master cylinders . . . . .	●	
7. Parking brake system . . . . .	●	
8. Main gear springs . . . . .	●	

SPECIAL INSPECTION ITEM
EACH 200 HOURS
EACH 100 HOURS
EACH 50 HOURS

- 9. Nose steering arm lubrication . . . . .
- 10. Torque link lubrication . . . . .
- 11. Parking brake and toe brakes - operational check . . . . .

**AIRFRAME**

- 1. Aircraft exterior . . . . .
- 2. Aircraft structure . . . . .
- 3. Windows, windshield, doors and seals . . . . .
- 4. Seat belts and shoulder harnesses . . . . .
- 5. Seat stops, seat rails, upholstery, structure and mounting . . . . .
- 6. Control "Y" bearings, sprockets, pulleys, cables, chains and turnbuckles . . . . .
- 7. Control lock, control wheel and control "Y" mechanism . . . . .
- 8. Instruments and markings . . . . .
- 9. Gyros central air filter . . . . .
- 10. Magnetic compass compensation . . . . .
- 11. Instrument wiring and plumbing . . . . .
- 12. Instrument panel, shockmounts, ground straps, cover, decals and labeling . . . . .
- 13. Defrosting, heating and ventilating systems and controls . . . . .
- 14. Cabin upholstery, trim, sunvisors and ash trays . . . . .
- 15. Area beneath floor, lines, hoses, wires and control cables . . . . .
- 16. Lights, switches, circuit breakers, fuses and spare fuses . . . . .
- 17. Exterior lights . . . . .
- 18. Pitot and static systems . . . . .
- 19. Stall warning system . . . . .
- 20. Radios, radio controls, avionics and flight instruments . . . . .
- 21. Antennas and cables . . . . .
- 22. Battery, battery box and battery cables . . . . .
- 23. Battery electrolyte . . . . .
- 24. Emergency locator transmitter . . . . .

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## SPECIAL INSPECTION ITEMS

- 1 First 25 hours: Refill with straight mineral oil (non-detergent) and use until a total of 50 hours have accumulated or oil consumption has stabilized, then change to ashless dispersant oil. Change oil each 50 hours if engine is NOT equipped with external oil filter; if equipped with external oil filter, change filter element each 50 hours and oil at each 100 hours; or every 6 months.
- 2 Clean filters per paragraph 2-22. Replace as required.
- 3 Replace hoses at engine overhaul or after 5 years, whichever comes first.
- 4 General inspection every 50 hours. Refer to Section 11 for 100 hour inspection.
- 5 Each 1000 hours, or to coincide with engine overhauls.
- 6 Each 50 hours for general condition and freedom of movement. These controls are not repairable. Replace as required at each engine overhaul.
- 7 Each 500 hours.
- 8 INTERNAL TIMING: These magnetos cannot be overhauled or timed in the field. The coil, capacitor and breaker assembly are non-replaceable. As a good maintenance practice, and to have the benefit of good ignition at all times, it is recommended that the magnetos be removed at 900 hours of magneto time, and install new exchange magnetos.  
  
MAGNETO-TO-ENGINE TIMING: First 50 hours, first 100 hours and each 200 hours thereafter.
- 9 First 100 hours and each 500 hours thereafter. More often if operated under prevailing wet or dusty conditions.
- 10 Replace each 500 hours.
- 11 Check electrolyte level and clean battery compartment each 50 hours or each 30 days.
- 12 Refer to Section 16 of this Manual.
- 13 Lubrication is required of the actuator each 1000 hours and/or 3 years, whichever comes first. Refer to figure 2-5 for grease specification.  
  
Refer to Section 9 of this Manual for free-play limits, inspection, replacement and/or repair.
- 14 Refer to paragraph 2-44 for detailed instructions.