

Model  
172  
Skyhawk  
Series

1977

**SERVICE  
MANUAL**

**1 JULY 1976**

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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.

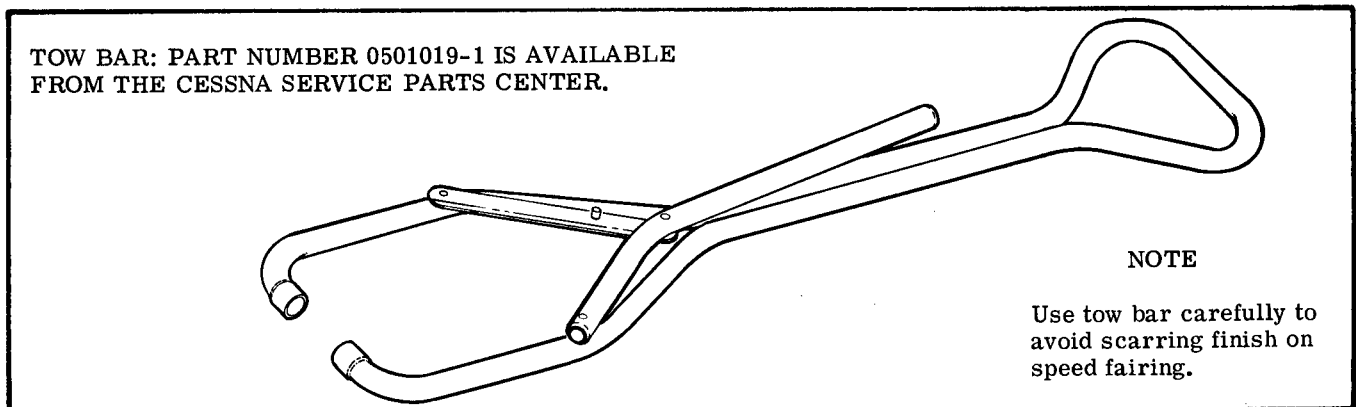


Figure 2-1. Tow Bar

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 trim clean prolongs upholstery fabric and interior trim life. To clean the interior proceed as follows:

- Empty all ash trays and refuse containers.
- Brush or vacuum clean the upholstery and carpet to remove dust and dirt.
- Wipe leather and plastic trim with a damp cloth.
- Soiled upholstery fabrics and carpet may be cleaned with a foam-type detergent used according to the manufacturer's instructions.
- Oil spots and stains 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 in the fabric to be cleaned. Never saturate the fabric with volatile solvent; it may damage the padding and backing material.
- Scrape sticky material from fabric with a dull knife, then spot clean the area.

2-37. PROPELLER. Wash hub and blade with a soft cloth and Stoddard cleaning solvent or equivalent, then dry thoroughly with compressed air. The propeller should be wiped occasionally with an oily cloth, then wiped with a dry cloth. In salt water areas this will assist in corrosion proofing the propeller.

2-38. WHEELS. The wheels should be washed periodically and examined for corrosion, chipped paint,

and cracks or dents in the wheel halves or in the flanges or hubs. If defects are found remove and repair in accordance with Section 5. Discard cracked wheel halves, flanges or hubs and install new parts.

2-39. LUBRICATION.

2-40. Lubrication requirements are shown in figure 2-5. Before adding grease to grease fittings, wipe dirt from fitting. Lubricate until grease appears around parts being lubricated, and wipe excess grease from parts. The following paragraphs supplement figure 2-5 by adding details.

2-41. WHEEL BEARINGS. Clean and repack the wheel bearings at first 100-hour inspection and at each 500-hour inspection thereafter. If more than the usual number of take-offs and landings are made, extensive taxiing is required, or the aircraft is operated in dusty areas or under seacoast conditions, cleaning and lubrication of the wheel bearings shall be accomplished at each 100-hour inspection.

2-42. NOSE GEAR TORQUE LINKS. Lubricate nose gear torque links every 50 hours. When operating in dusty conditions, more frequent lubrication is required.

2-43. WING FLAP ACTUATOR. Clean and lubricate wing flap actuator jack screw each 100 hours as follows:

- Expose jack screw by operating flaps to full-down position.
- Clean jack screw threads with solvent rag and dry with compressed air.

### **NOTE**

It is not necessary to remove actuator from aircraft to clean or lubricate threads.

- With oil can, apply light coat of No. 10 weight, non-detergent oil to threads of jack screw.

2-44. FUEL SELECTOR VALVE. At each 100 hour inspection, check the fuel selector valve and drive shaft for the following:

- Valve control detent plate for cleanliness and excessive wear. Dirt accumulation on this plate can cause binding, poor detent feel and rapid wear of the plate.
- All drive shaft attach points for security, binding, excessive wear and lubrication, if required.
- Operate valve handle through all positions and check for proper operation, detent feel and freedom of movement.

(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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drilled out and retainer strips loosened or removed.  
e. Reverse preceding steps for installation. Apply felt strip and sealing compound to all edges of window to prevent leaks. Check fit and carefully file or grind away excess plastic. Use care not to crack plastic when installing.

3-17. OVERHEAD. (Refer to figure 3-2.) Overhead cabin windows, located in the cabin top, may be installed. These windows are one-piece acrylic plastic panels set in sealing strips and held in place by retaining strips.

3-18. REMOVAL AND INSTALLATION.  
a. Remove headliner and trim panels.  
b. Drill out rivets as necessary to remove retainer strips.  
c. Reverse preceding steps for installation. Apply felt strip and sealing compound to all edges of window to prevent leaks. Check fit and carefully file or grind away excess plastic. Use care not to crack plastic when installing.

3-19. FIXED. (Refer to figure 3-2.) Fixed windows, mounted in sealing strips and sealing compound, are held in place by various retainer strips. To replace side windows, remove upholstery and trim panels as necessary and drill out rivets securing retainers. Apply felt strip and sealing compound to all edges of window to prevent leaks. Check fit and file or grind away excess plastic. Use care not to crack plastic when installing.

3-20. CABIN DOORS. (Refer to figure 3-3.)

3-21. DESCRIPTION. A cabin door is installed on each side of the aircraft consisting of a sheet outer skin chemically bonded to a formed inner panel assembly. To this rigid structure are attached the door latch assembly, a remote inside handle, a pair of external hinges and an integral doorstop assembly. A openable window is installed on the LH door and may also be optionally installed on the RH door.

3-22. REMOVAL AND INSTALLATION. Removal of cabin doors is accomplished either by removing screws attaching the door hinges or by removing hinge pins.

**NOTE**

Ensure clevis pin (index 21, figure 3-3) is removed before removing door.

During reinstallation permanent-type hinge pins may be replaced with clevis pins secured with cotter pins.

3-23. ADJUSTMENT. Cabin doors should be adjusted so that door skin fairs smoothly with fuselage skin. Slots at door latch plate permit re-positioning of latch assembly and hence bolt engagement with rotary clutch on door post. If fitting a new door assembly, some trimming of door flange may be necessary but gap between door skin and fuselage skin should be .09 inch or less.

**CAUTION**

Reforming of bonded door flange by striking with soft mallet etc. is NOT permissible due to possible damage to bonded areas.

3-24. CABIN DOOR WEATHERSTRIP. A hollow fluted-type, rubber weatherstrip is cemented around all edges of the cabin door. When replacing weatherstrip, ensure that contact surfaces are clean and dry. Cut new weatherstrip to length using old weatherstrip as a guide. Cut small notch in butt ends of new weatherstrip to allow for drainage. Position splice with notch at door low point and apply a thin, even coat of EC-880 adhesive (3-M Company) or equivalent to both surfaces. Allow to dry until tacky before pressing into place on door. Do not stretch weatherstrip around door corners.

3-25. LATCHES. (Refer to figure 3-4.)

3-26. DESCRIPTION. The cabin door latch is a push-pull bolt type, utilizing a rotary clutch for posi-

**SHOP NOTES:**

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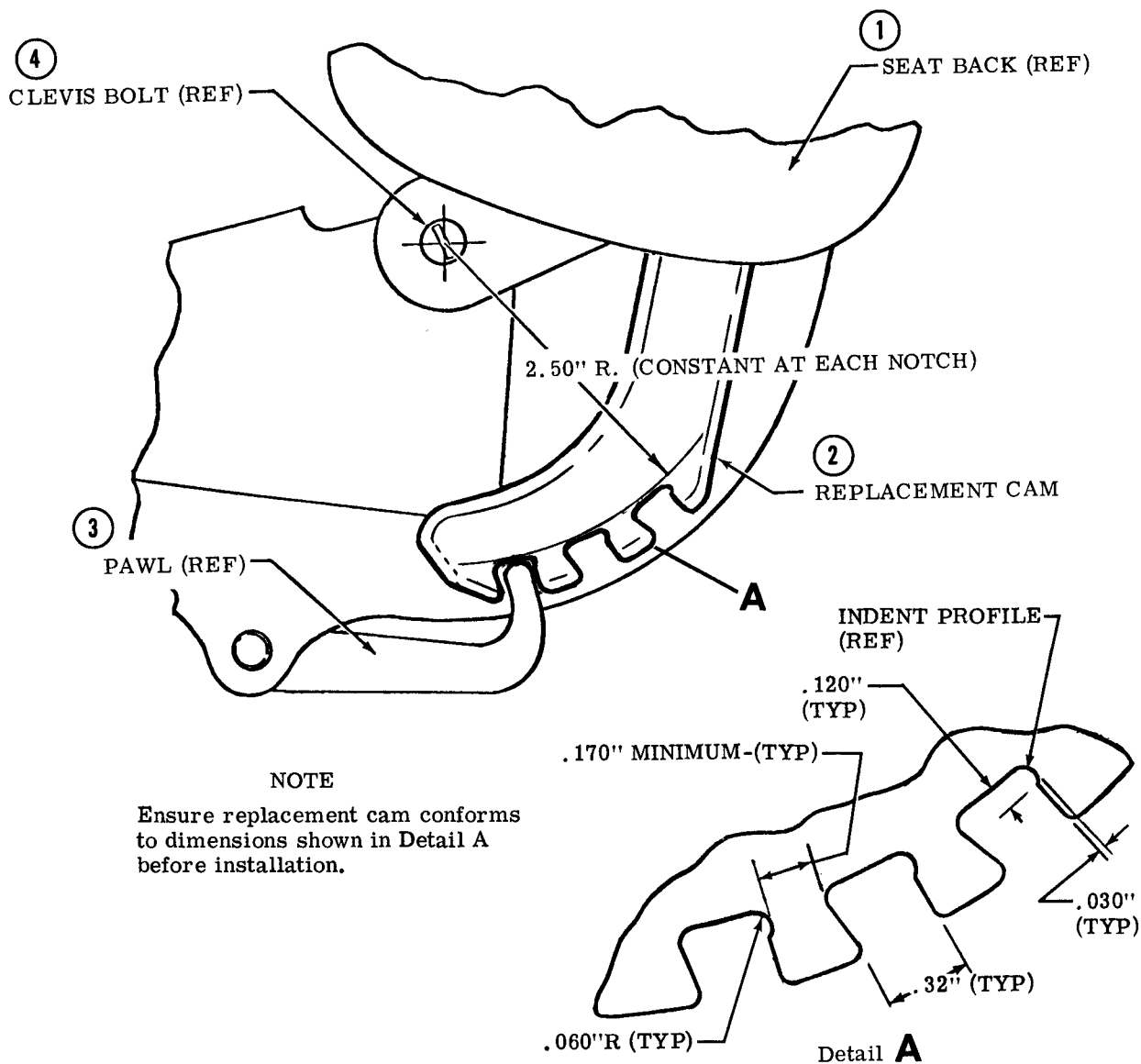
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**REPLACEMENT PROCEDURE:**

- a. Remove seat from aircraft.
- b. Remove plastic upholstery panels from aft side of seat back, then loosen upholstery retaining rings and upholstery material as required to expose rivets retaining old cam assembly.
- c. Drill out existing rivets and insert new cam assembly (2). Position seat back so pawl (3) engages first cam slot as illustrated.
- d. Position cam so each slot bottom aligns with the 2.50" radius as illustrated.
- e. Clamp securely in this position and check travel of cam. Pawl must contact bottom of each cam slot. Using existing holes in seat frame, drill through new cam and secure with MS20470AD6 rivets.
- f. Reinstall upholstery, upholstery panels and seat.

Figure 3-7. Seat Back Cam Replacement



#### 5-17. MAIN WHEEL INSTALLATION.

- a. Place wheel assembly on axle.
- b. Install axle nut and tighten axle nut until a slight bearing drag is obvious when the wheel is rotated. Back off nut to nearest castellation and install cotter pin.
- c. Place brake back plate in position and secure with bolts and washers.
- d. Install hub cap. Install speed fairing (if used) as outlined in paragraph 5-12A.

#### **CAUTION**

Always check scraper-to-tire clearance after installing speed fairings, whenever a tire has been changed, and whenever scraper adjustment has been disturbed. If the aircraft is flown from surfaces with mud, snow, or ice, the fairing should be checked to make sure there is no accumulation which could prevent normal wheel rotation. Refer to paragraph 5-12A for correct scraper-to-tire clearance.

#### 5-18. MAIN WHEEL AXLE REMOVAL.

##### NOTE

This procedure should be used if the axle is not bonded to the tubular strut. If the axle is bonded to the strut, refer to paragraph 5-20.

- a. Remove speed fairing, if installed, in accordance with paragraph 5-12.
- b. Remove wheel in accordance with paragraph 5-13.
- c. Disconnect, drain and cap or plug hydraulic brake line at the wheel brake cylinder.
- d. Remove bolts attaching brake torque plate and speed fairing mounting plate to axle.
- e. Remove cotter pin, nut, washer and bolt attaching axle to tubular strut.
- f. Remove axle from spring-strut.

#### 5-19. MAIN WHEEL AXLE INSTALLATION.

##### NOTE

This procedure should be used if the axle is not to be bonded to the tubular strut. If the axle is to be bonded to the strut, refer to paragraph 5-21.

- a. Install axle on spring-strut, using wet primer on faying surfaces of axle and spring-strut. Axle is installed with tapered edges to bottom.
- b. Install bolt, washer and nut attaching axle to spring-strut. After tightening nut, install cotter pin.
- c. Install brake components and speed fairing mounting plate to axle.
- d. Install wheel on axle in accordance with paragraph 5-17.
- e. Connect hydraulic brake line to wheel brake cylinder.
- f. Fill and bleed hydraulic brake system in accordance with applicable paragraph in this section.

- g. Install speed fairing, if used, in accordance with paragraph 5-12A.

#### 5-20. BONDED MAIN WHEEL AXLE REMOVAL. (Refer to figure 5-4.)

##### NOTE

On some aircraft, due to axle looseness, axles have been bonded to the tubular landing gear strut. The following procedure should be used to remove a bonded axle.

- a. Remove speed fairings, if installed, according to procedures outlined in applicable paragraph of this section.
- b. Remove wheels in accordance with procedures outlined in applicable paragraph of this section.
- c. Disconnect, drain and cap or plug hydraulic brake line at the wheel brake cylinder.
- d. Remove cotter pin, nut and bolt attaching axle to spring strut.
- e. Remove brake components and speed fairing plate from axle.

##### NOTE

Axles are bonded to the struts of some tubular gear aircraft with EA9309-25GR adhesive, which is available from the Cessna Service Parts Center. The bond is too strong to allow the axle to be removed without first weakening the bond strength. The only methods of weakening the bond are with heat or cryogenic cold; heat being the most practical. A temperature of approximately 500°F is sufficient to weaken the bond so the axle can be removed. This is still a low enough temperature to prevent damage to the tubular strut.

- f. Remove axles as follows:

##### NOTE

Axles should be removed from strut, using electric heating tape, available from most scientific supply companies. One type can be obtained from Curtin Scientific Co., 6550 East 42nd St., P.O. Box 747, Tulsa, Oklahoma 74101. Tape should conform to the following: 192 watts, 24" long, 1" wide, flexible and heavily insulated.

- g. Wrap heating tape around axle from base head to outer end of axle and tie it on with string provided with the tape, as shown in the figure.

#### **CAUTION**

Do not place tape in direct contact with tubular gear spring.

- h. Plug electric tape into 110 volt wall socket and heat for 20 to 30 minutes.
- i. Unplug tape and remove from axle. Remove axle by striking axle base head with a few sharp blows.

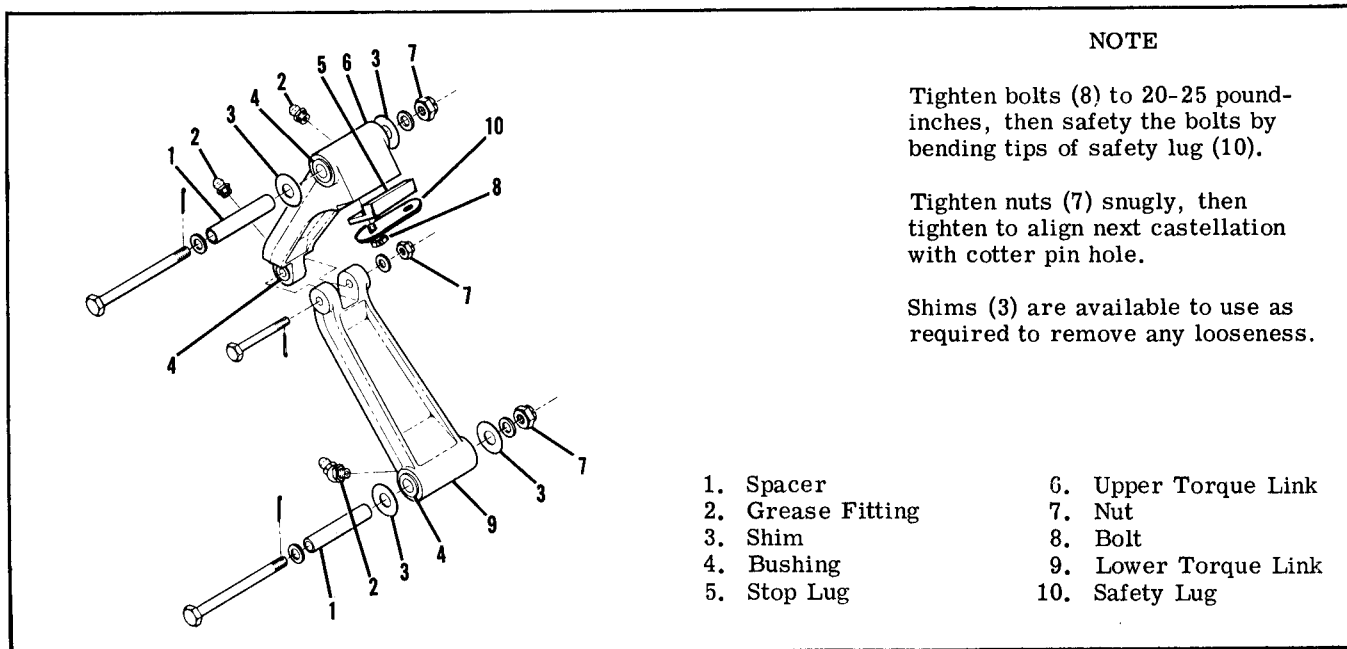


Figure 5-10. Torque Links

bar spacer on threaded end of bolt, install and tighten nut.

i. Install lock ring (17), retaining ring (16) and scraper ring (15) on lower strut, making sure they are installed in same positions as they were removed.

j. Install O-rings (25) and (26) and back-up rings in packing support ring (14); slide packing support ring over lower strut (13).

k. Install bearing (12) and lock ring (11) at upper end of lower strut assembly. Note top side of bearing.

l. Install upper strut assembly over lower strut assembly.

m. Install lock ring (17) in groove in lower end of upper strut. Position lock ring so that one of its ends covers the small access hole in the lock ring groove (Section view C-C.)

n. Install torque links, positioning washers, shims and spacers exactly in positions as removed.

o. Install shimmy dampener.

p. After shock strut assembly is complete, install strut on aircraft as outlined in paragraph 5-28.

q. After strut is installed on aircraft, fill and inflate shock strut in accordance with procedures outlined in Section 2 of this manual.

5-40. TORQUE LINKS. (Refer to figure 5-10.)

5-41. DESCRIPTION. Torque links keep the lower strut aligned with the nose gear steering system, but permit shock strut action.

5-42. TORQUE LINK REMOVAL.

### WARNING

Completely deflate strut before removing torque links.

- |                   |                      |
|-------------------|----------------------|
| 1. Spacer         | 6. Upper Torque Link |
| 2. Grease Fitting | 7. Nut               |
| 3. Shim           | 8. Bolt              |
| 4. Bushing        | 9. Lower Torque Link |
| 5. Stop Lug       | 10. Safety Lug       |

### NOTE

Tighten bolts (8) to 20-25 pound-inches, then safety the bolts by bending tips of safety lug (10).

Tighten nuts (7) snugly, then tighten to align next castellation with cotter pin hole.

Shims (3) are available to use as required to remove any looseness.

- Completely deflate shock strut.
- Disconnect upper and lower attaching bolts, spacers, shims and nuts; remove torque links.

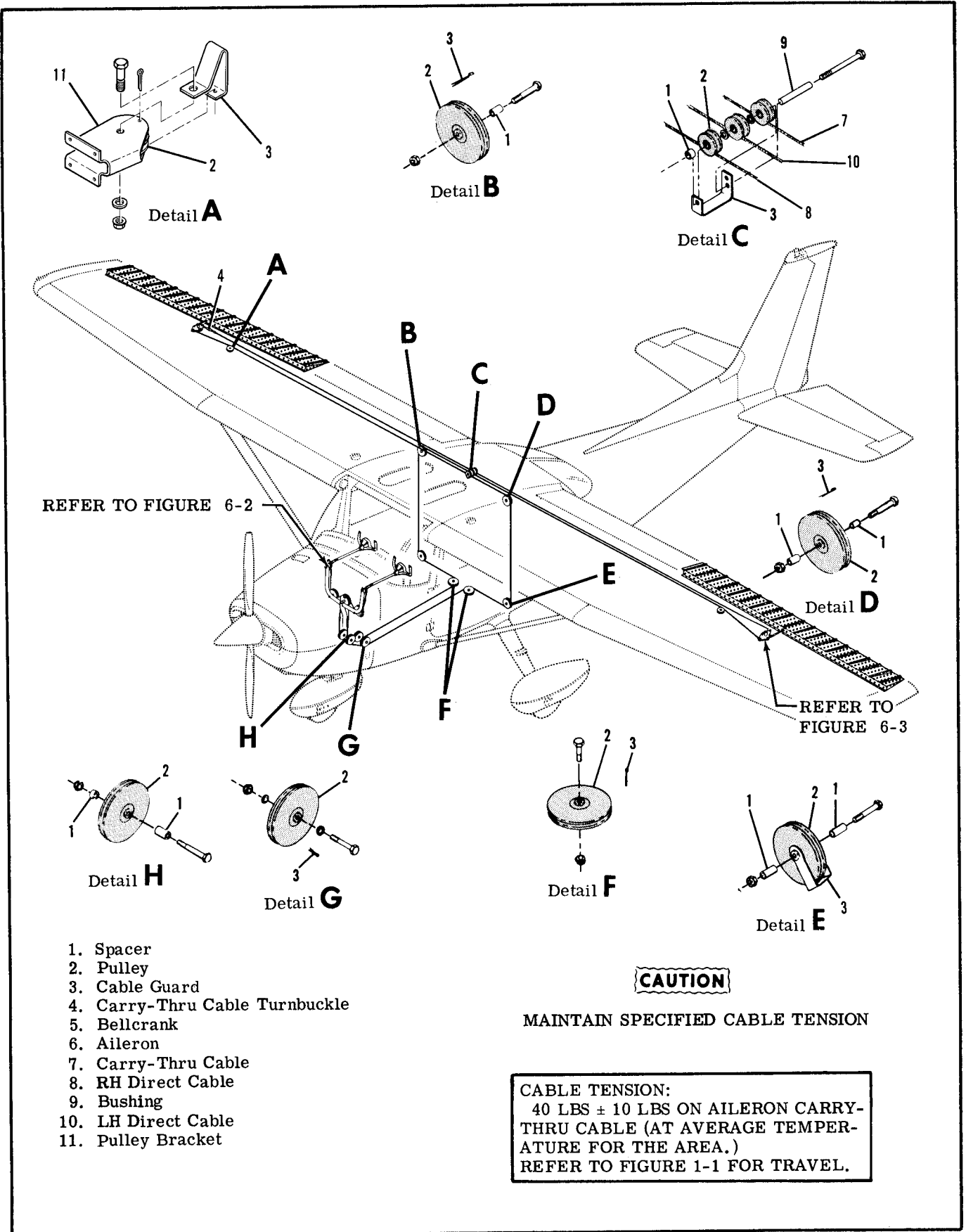
5-43. TORQUE LINK INSPECTION AND REPAIR. (Refer to figure 5-10.) Torque link bushings should not be removed except for replacement of parts; replace if excessively worn.

5-44. TORQUE LINK INSTALLATION. (Refer to figure 5-10.)

### NOTE

If bolts (8), safety lug (10) and stop lug (5) were removed, upon installation, tighten bolts (8) to 20-25 pound-inches, then safety the bolts by bending tips of safety lug (10).

- With shock strut completely deflated, install upper and lower torque link assemblies.
- Install bolt attaching upper and lower assemblies.
- Tighten nuts (7) snugly, then tighten to align next castellation with cotter pin hole in bolt.
- Check upper torque link (6) and lower torque link (9) for looseness. If looseness is apparent, remove nuts (7) and bolts (8) and install shims (3) as necessary to take up any looseness. This will assist in preventing nose wheel shimmy.
- Retighten nuts (7) snugly, then tighten to align next castellation with cotter pin hole in bolt; install cotter pin.
- Fill and inflate shock strut in accordance with procedures outlined in Section 2 of this manual.



REFER TO FIGURE 6-2

REFER TO FIGURE 6-3

- 1. Spacer
- 2. Pulley
- 3. Cable Guard
- 4. Carry-Thru Cable Turnbuckle
- 5. Bellcrank
- 6. Aileron
- 7. Carry-Thru Cable
- 8. RH Direct Cable
- 9. Bushing
- 10. LH Direct Cable
- 11. Pulley Bracket

**CAUTION**

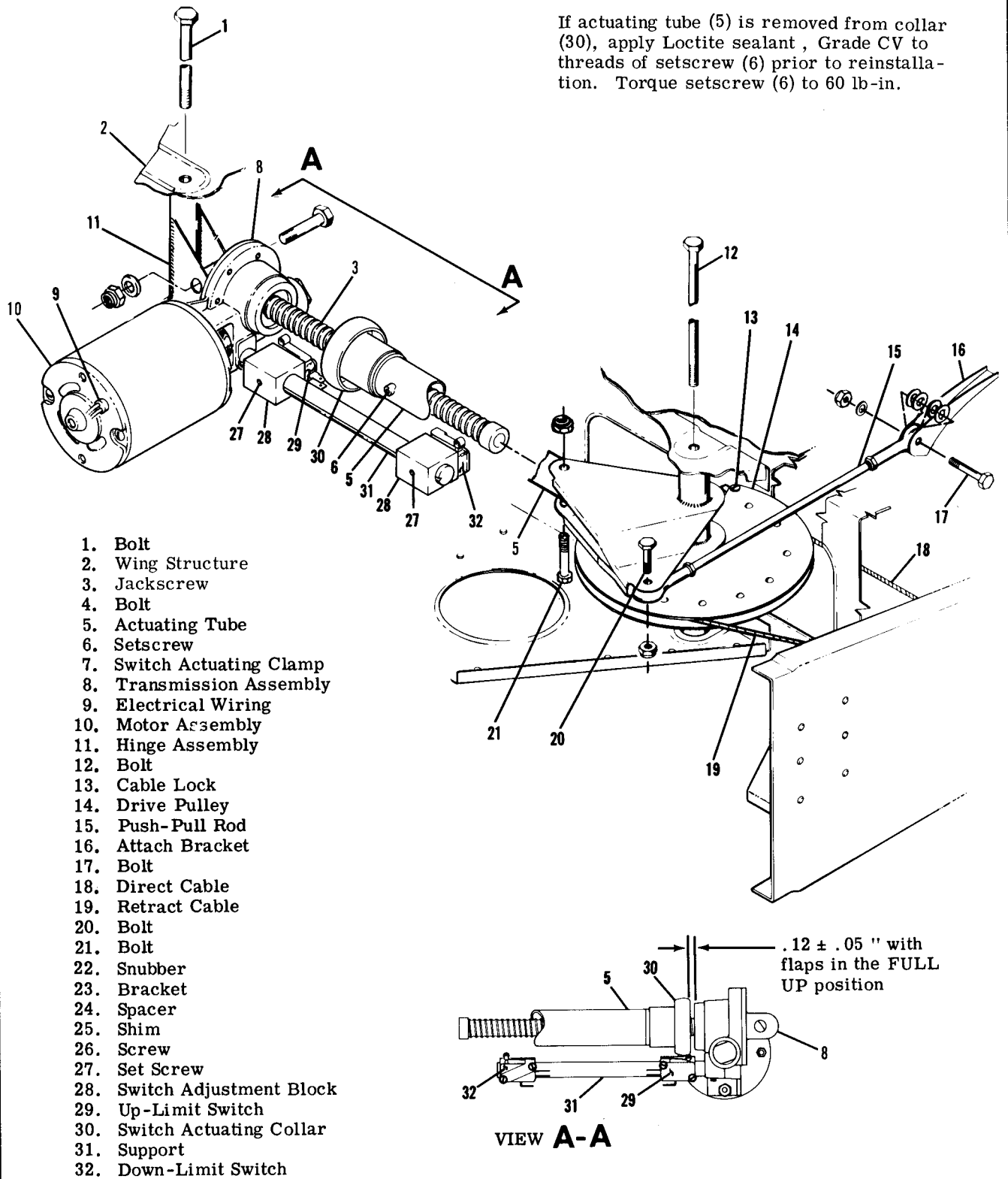
MAINTAIN SPECIFIED CABLE TENSION

CABLE TENSION:  
 40 LBS ± 10 LBS ON AILERON CARRY-THRU CABLE (AT AVERAGE TEMPERATURE FOR THE AREA.)  
 REFER TO FIGURE 1-1 FOR TRAVEL.

Figure 6-1. Aileron Control System

NOTE

If actuating tube (5) is removed from collar (30), apply Loctite sealant, Grade CV to threads of setscrew (6) prior to reinstallation. Torque setscrew (6) to 60 lb-in.



1. Bolt
2. Wing Structure
3. Jackscrew
4. Bolt
5. Actuating Tube
6. Setscrew
7. Switch Actuating Clamp
8. Transmission Assembly
9. Electrical Wiring
10. Motor Assembly
11. Hinge Assembly
12. Bolt
13. Cable Lock
14. Drive Pulley
15. Push-Pull Rod
16. Attach Bracket
17. Bolt
18. Direct Cable
19. Retract Cable
20. Bolt
21. Bolt
22. Snubber
23. Bracket
24. Spacer
25. Shim
26. Screw
27. Set Screw
28. Switch Adjustment Block
29. Up-Limit Switch
30. Switch Actuating Collar
31. Support
32. Down-Limit Switch

Figure 7-2. Flap Motor and Transmission Installation

e. To remove left elevator use same procedure, omitting step "a".

f. Reverse preceding steps for installation. Rig system in accordance with applicable paragraph in this section if necessary.

8-6. REPAIR. Repair may be accomplished as outlined in Section 18. If repair has affected static balance, check and rebalance as required.

8-7. BELLCRANKS.

8-8. FORWARD. (Refer to figure 8-1.)

8-9. REMOVAL AND INSTALLATION.

- a. Remove seats, upholstery and access plates as necessary.
- b. Relieve cable tension at turnbuckles (13) and disconnect cables from bellcrank (11).
- c. Disconnect push-pull tube (10) from bellcrank (11).
- d. Remove pivot bolt and remove bellcrank.
- e. Reverse preceding steps for installation. Rig system in accordance with applicable paragraph in this section, safety turnbuckles and reinstall all items removed in step "a".

8-10. REAR. (Refer to figure 8-2.)

8-11. REMOVAL AND INSTALLATION.

- a. Remove rudder. (Refer to Section 10.)
- b. Relieve cable tension at turnbuckles (index 13, figure 8-1) and disconnect cables from rear bellcrank (9).
- c. Remove bolts (6) securing elevators to bellcrank.
- d. Remove bellcrank pivot bolt (8) and slide bellcrank from between tube assemblies (7).

NOTE

It may be necessary to remove one of the stabilizer attaching bolts for clearance when removing the bellcrank pivot bolt.

e. Reverse preceding steps for installation. Rig system in accordance with applicable paragraph in this section, safety turnbuckles and reinstall all items removed for access.

8-12. CABLES AND PULLEYS. (Refer to figure 8-1.)

8-13. REMOVAL AND INSTALLATION.

- a. Remove seats, upholstery and access plates as necessary.
- b. Relieve cable tension at turnbuckles (13).
- c. Disconnect cables at forward bellcrank (11).
- d. Disconnect cables at rear bellcrank (7).
- e. Remove cable guards and pulleys as necessary to work cables free of aircraft.

NOTE

To ease routing of cables, a length of wire may be attached to end of cable before being withdrawn from aircraft. Leave wire in place, routed through structure, attach cable being installed and pull cable into position.

- f. After cable is routed in position, install pulleys and cable guards. Ensure cable is positioned in pulley groove before installing guards.
- g. Rig system in accordance with applicable paragraph in this section, safety turnbuckles and reinstall all items removed in step "a".

**SHOP NOTES:**

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SECTION 10

RUDDER AND RUDDER TRIM CONTROL SYSTEM

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10-1. RUDDER CONTROL SYSTEM. (Refer to figure 10-1.)

10-2. DESCRIPTION. Rudder control is maintained through use of conventional rudder pedals which also control nose wheel steering. The system is com-

prised of rudder pedals, cables and pulleys, all of which link the pedals to the rudder and nose wheel steering. Cable tension is automatically determined when the rudder pedals are rigged against return springs 6.50 inches from firewall.

10-3. TROUBLE SHOOTING.

NOTE

Due to remedy procedures in the following trouble shooting chart it may be necessary to re-rig system, refer to paragraph 10-11.

TROUBLE	PROBABLE CAUSE	REMEDY
RUDDER DOES NOT RESPOND TO PEDAL MOVEMENT.	Broken or disconnected cables.	Open access plates and check visually. Connect or replace cables.

11-8. ENGINE DATA.

MODEL (Lycoming)	O-320-H2AD
BHP at RPM	160 BHP at 2700 RPM
Number of Cylinders	4-Horizontally Opposed
Displacement	319.8 Cubic Inches
Bore	5.125 Inches
Stroke	3.875 Inches
Compression Ratio	9.0:1
Magnetos (Dual)	Bendix D4RN-2021
Right Magneto	Fires 25° BTC 1-3 Lower and 2-4 Upper
Left Magneto	Fires 25° BTC 1-3 Upper and 2-4 Lower
Firing Order	1-3-2-4
Spark Plugs	18MM (Refer to Current Avco Lycoming Active Factory Approved Spark Plug Chart)
Torque Value	390±30 Lb-In.
Carburetor (Marvel-Schebler)	MA-4SPA
Oil Sump Capacity	6 U. S. Quarts
With Filter Change	7 U. S. Quarts
Tachometer	Mechanical
Approximate Dry Weight	283 Pounds (Weight is Approximate and Will Vary with Optional Equipment Installed)
With Standard Accessories	
Oil Pressure	
Minimum Idling	25 PSI
Normal	60 to 90 PSI
Maximum (Cold Oil Starting)	100 PSI
Oil Temperature	
Normal Operation	Within Green Arc
Maximum Permissible	Red Line (245° F)
Cylinder Head Temperature	500° F Maximum

11-9. TIME BETWEEN OVERHAUL (TBO). Refer to the latest Revision of Avco Lycoming Service Instruction No. 1009, and all applicable Service Letters or Service Bulletins, for recommendations applicable to O-320-H Series engines. At the time of overhaul engine accessories should be overhauled.

11-9A. OVERSPEED LIMITATIONS. The engine must not be operated above specified maximum continuous RPM. However, should inadvertant overspeed occur refer to the latest issue of Avco Lycoming Service Bulletin No. 369 and all applicable Service Letters and Service Instructions for obligatory recommendations.

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11-33. TROUBLE SHOOTING (Cont).

TROUBLE	PROBABLE CAUSE	REMEDY
HIGH OIL PRESSURE.	High viscosity oil.	Drain sump and refill with proper grade and quantity of oil.
	Relief valve defective.	Remove and check for dirty or defective parts. Clean and install; replace valve if defective.
	Defective oil pressure gage.	Check with a known good gage. If second reading is normal, replace gage.
LOW OIL TEMPERATURE.	Defective oil temperature gage or temperature bulb.	Check with a known good gage. If second reading is normal, replace gage. If reading is similar, the temperature bulb is defective. Replace bulb.
	Oil cooler thermostatic valve/bypass valve defective or stuck.	Remove valve and check for proper operation. Replace valve if defective.
HIGH OIL TEMPERATURE.	Oil cooler air passages clogged.	Inspect cooler core. Clean air passages.
	Oil cooler oil passages clogged.	Attempt to drain cooler. Inspect for sediment. Remove cooler and flush thoroughly.
	Thermostatic valve or bypass valve damaged or held open by solid matter.	Feel front of cooler core with hand. If core is cold, oil is bypassing cooler. Remove and clean valve and seat. If still inoperative, replace.
	Low oil supply.	Check with dipstick. Fill sump with proper grade and quantity of oil. Refer to Section 2.
	Oil viscosity too high.	Drain sump and refill with proper grade and quantity of oil.
	Prolonged high speed operation on the ground.	Hold ground running above 1500 RPM to a minimum.
	Defective oil temperature gage.	Check with a known good gage. If second reading is normal. Replace gage.
	Defective oil temperature bulb.	Check for correct oil pressure, oil level and cylinder head temperature. If they are correct, check oil temperature gage for being defective; if similar reading is observed, bulb is defective. Replace bulb.

and tight and that the wiring insulation is sound. Check that the brushes slide freely in their holders and make full contact on the commutator. When brushes are worn to one-half of their original length, install new brushes (compare brushes with new ones). Check the commutator for uneven wear, excessive glazing or evidence of excessive arcing. If the commutator is only slightly dirty, glazed or discolored, it may be cleaned with a strip of No. 00 or No. 000 sandpaper. If the commutator is rough or worn, it should be turned in a lathe and the mica undercut. Inspect the armature shaft for rough bearing surfaces. New brushes should be properly seated when installing by wrapping a strip of No. 00 sandpaper around the commutator (with sanding side out) 1-1/4 to 1-1/2 times maximum. Drop brushes on sandpaper covered commutator and turn armature slowly in the direction of normal rotation. Clean sanding dust from motor after sanding.

#### 11-68. STARTER MOTOR.

#### 11-69. REMOVAL AND INSTALLATION.

a. Remove engine cowling in accordance with paragraph 11-3.

### **CAUTION**

When disconnecting or connecting the starter cable, do not permit starter terminal bolt to rotate. Rotation of the bolt could break the conductor between terminal and field coils causing the starter to be inoperative.

b. Disconnect electrical cable at starter motor. Insulate the disconnected cable terminal as a safety precaution.

c. Remove three nuts and washers and one bolt securing starter to crankcase. Work starter from engine.

d. To install starter, position starter on mounting pad, aligning dowel pins in starter mounting pad with holes in mounting pad on engine.

e. Secure starter with washer, lockwasher and nut in three places and install bolt and washers.

f. Tighten nuts and bolt evenly to a torque value of 150 lb-in.

g. Connect electrical cable to starter terminal and install engine cowling.

#### 11-70. EXHAUST SYSTEM. (Refer to figure 11-4.)

11-71. DESCRIPTION. The exhaust system consists of an exhaust pipe from each cylinder to the muffler located beneath the engine. The muffler assembly is enclosed in a shroud which captures exhaust heat that is used to heat the aircraft cabin. A shroud on number three exhaust pipe is used to capture carburetor heat for the engine intake system. The tailpipe welded to the muffler routes the exhaust gasses overboard.

#### 11-72. REMOVAL AND INSTALLATION.

a. Remove engine cowling in accordance with paragraph 11-3.

b. Disconnect flexible ducts from shrouds on muffler assembly and exhaust pipe.

c. Remove nuts, bolts, washers and clamps attach-

ing exhaust pipes to muffler assembly.

d. Loosen nuts attaching exhaust pipes to the cylinders and remove muffler assembly.

e. Remove nuts and washers attaching exhaust pipes to the cylinders and remove pipes and gaskets.

f. Reverse the preceding steps for reinstallation. Install a new copper-asbestos gasket between each exhaust pipe and its mounting pad. When installing the attaching nuts, install a plain washer, an internal tooth washer and nut. Make sure all clamps attaching muffler to exhaust pipes are tight and all air ducts are installed.

#### 11-73. INSPECTION.

### **WARNING**

Any time exhaust fumes are detected in the cabin, an immediate inspection must be performed.

The exhaust system must be thoroughly inspected, especially the heat exchange section of the muffler. An inspection of the exhaust system must be performed every 100 hours of operating time. All components that show cracks and general deterioration must be replaced with new parts. Using a flashlight and mirror inspect diffuser tubes through the tailpipe. Replace muffler if defective.

a. Remove engine cowling in accordance with paragraph 11-3.

b. Loosen or remove shrouds so that ALL surfaces of the exhaust system are visible.

c. Check for holes, cracks and burned spots. Especially check the areas adjacent to welds. Look for exhaust gas deposits in surrounding areas which indicate an exhaust leak.

d. Where a surface is not accessible for visual inspection or for a positive test, proceed as follows:

1. Remove exhaust pipes and muffler.

2. Remove shrouds.

3. Seal openings with expansion rubber plugs.

4. Using a manometer or gage, apply approximately  $3 \pm 1/2$  psi (6 inches of mercury) air pressure while the unit is submerged in water. Any leaks will appear as bubbles and can be readily detected.

5. It is recommended that any components found defective be replaced with new parts before the next flight.

6. If no defects are found, remove plugs and dry components with compressed air.

e. Install the exhaust system and engine cowling.

#### 11-74. EXTREME WEATHER MAINTENANCE.

11-75. COLD WEATHER. Cold weather starting is made easier by the installation of the manually-operated engine primer system. Fuel is supplied by a line from the fuel strainer to the plunger type primer. Operating the primer forces fuel to the intake valve port of the cylinder. Primer lines should be replaced when crushed or broken and should be properly clamped to prevent vibration and chafing. With an external power receptacle installed, an external power source may be connected to assist in cold weather or low battery starting. Refer to paragraph 11-82 for use of the external power receptacle.

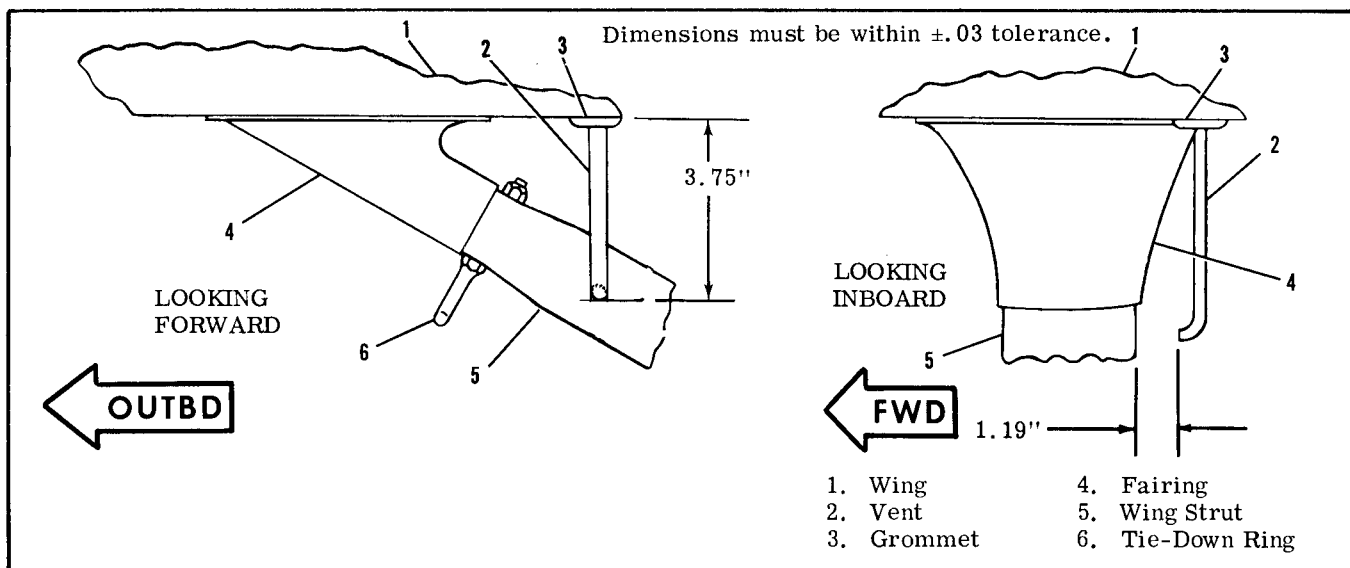


Figure 12-4. Fuel Vent Location

12-12. FUEL SELECTOR VALVE. (Refer to figure 12-5.)

12-13. DESCRIPTION. A four position fuel selector valve is located beneath the floorboard just aft and slightly to the left of the pedestal structure. A shaft incorporating two universal joints links the valve to a handle and shaft assembly mounted on the pedestal structure. The positions of the handle are labelled "OFF, LEFT, BOTH ON and RIGHT". Valve repair is limited to replacement of component parts only.

12-14. REMOVAL AND INSTALLATION. (Refer to figure 12-2)

- Drain all fuel from wing tanks, fuel strainer, lines and selector valve, observing precautions outlined in paragraph 12-3.
- Remove selector valve handle(11)and pedestal cover.
- Peel back carpet as required to gain access to inspection plates aft of pedestal structure.
- Disconnect lower universal joint(14)at valve shaft.
- Disconnect and cap inlet and outlet fuel lines to valve.
- Remove screws(21)attaching valve to mounting bracket(13)and withdraw valve.
- Reverse preceding steps for installation. Service aircraft in accordance with section 2, turn fuel selector valve to ON position and check for leaks.
- Replace items removed for access.

12-15. DISASSEMBLY. (Refer to figure 12-5)

- Remove fuel selector valve in accordance with paragraph 12-14.
- Remove screws (1) securing cover (2) to valve

body (7) and carefully remove cover. Retain ball (3) and spring (4).

- Slowly withdraw rotor (5) from valve body.

#### NOTE

Removal of rotor (5) will allow seal (8), "O"-ring (9), washer (10) and spring (11) (one each installed in both inlet ports) to pop free.

- Remove "O"-ring (6), plug (13) and "O"-ring (12).

12-15. CLEANING, INSPECTION AND REPAIR.

#### NOTE

Repair of damaged or worn parts of the selector valve assembly is NOT authorized and therefore, is limited to replacement of component parts only.

- Clean disassembled parts by washing in Stoddard solvent or equivalent. Blow parts dry using clean compressed air.
- Inspect all parts for obvious wear or damage as follows:
  - Check detent holes in cover (2) for excessive wear and examine bearing surfaces with rotor (5).
  - Inspect shaft and bearing surfaces of rotor (5) for removal of black anodized finish indicating wear. Check for internal corrosion of drilled passages.
  - Examine valve body (7) for wear, cracks distortion and internal corrosion. Any damage to thread surfaces at inlet and outlet ports or cover attach screw holes is cause for rejection.

SECTION 15

INSTRUMENTS AND INSTRUMENT SYSTEMS

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15-1. INSTRUMENTS AND INSTRUMENT SYSTEMS.

15-2. GENERAL. This section describes typical instrument installations and their respective operating systems. Emphasis is placed on trouble shooting and corrective measures only. It does NOT deal with specific instrument repairs since this usually requires special equipment and data and should be handled by instrument specialists. Federal Aviation Regulations require malfunctioning instruments be sent to an approved instrument overhaul and repair station or returned to manufacturer for servicing. Our concern here is with preventive maintenance on various instrument systems and correction of system faults which result in instrument malfunctions. The descriptive material, maintenance and trouble shooting

information in this section is intended to help the mechanic determine malfunctions and correct them, up to the defective instrument itself, at which point an instrument technician should be called in. Some instruments, such as fuel quantity and oil pressure gages, are so simple and inexpensive, repairs usually will be more costly than a new instrument. On the other hand, aneroid and gyro instruments usually are well worth repairing. The words "replace instrument" in the text, therefore, should be taken only in the sense of physical replacement in aircraft. Whether replacement is to be with a new instrument, an exchange one, or original instrument is to be repaired must be decided on basis of individual circumstances.

15-30. TROUBLE SHOOTING--VACUUM SYSTEM

TROUBLE	PROBABLE CAUSE	REMEDY
HIGH SUCTION GAGE READINGS.	Gyros function normally-relief valve screen clogged, relief valve malfunction.	Check screen, than valve. Compare gage readings with new gage. Clean screen, reset valve. Replace gage.
NORMAL SUCTION GAGE READING, SLUGGISH OR ERRATIC GYRO RESPONSE.	Instrument air filters clogged.	Check filter, if dirty replace filter.
LOW SUCTION GAGE READINGS.	Leaks or restriction between instruments and relief valve, relief valve out of adjustment, defective pump.	Check lines for leaks, disconnect and test pump. Repair or replace lines, adjust or replace relief valve, repair or replace pump.
	Central air filter dirty.	Check filter, if dirty replace filter.
SUCTION GAGE FLUCTUATES.	Defective gage or sticking relief valve.	Check suction with test gage. Replace gage. Clean sticking valve with Stoddard solvent. Blow dry and test. If valve sticks after cleaning, replace valve.

15-31. TROUBLE SHOOTING--GYROS.

TROUBLE	PROBABLE CAUSE	REMEDY
HORIZON BAR FAILS TO RESPOND.	Central filter dirty.	Check filter. Clean or replace filter.
	Suction relief valve improperly adjusted.	Adjust or replace relief valve.
	Faulty suction gage.	Substitute known-good suction gage and check gyro response. Replace suction gage.
	Vacuum pump failure.	Check pump. Replace pump.
	Vacuum line kinked or leaking.	Check lines for damage and leaks. Repair or replace damaged lines, tighten connections.
HORIZON BAR DOES NOT SETTLE.	Defective mechanism.	Substitute known-good gyro and check indication. Replace instrument.
	Insufficient vacuum.	Adjust or replace relief valve.
	Excessive vibration.	Check panel shock-mounts. Replace defective shock-mounts.

15-63. TURN-AND-SLIP INDICATOR.

is an electrically operated instrument powered by the aircraft electrical system, therefore, operating only when the master switch is ON.

15-64. DESCRIPTION. The turn-and-slip indicator

15-65. TROUBLE SHOOTING.

TROUBLE	PROBABLE CAUSE	REMEDY
INDICATOR POINTER FAILS TO RESPOND.	Internal fuse blown.	Check wiring for continuity, check voltage at indicator. Replace fuse, if fuse still blows, replace instrument.
	Master switch "OFF" or switch defective.	Check switch "ON." Replace defective switch.
	Broken or grounded lead to indicator.	Check circuit wiring. Repair or replace defective wiring.
	Indicator not grounded.	Check ground wire. Repair or replace defective wire.
	Defective mechanism.	Replace instrument.
HAND SLUGGISH IN RETURNING TO ZERO.	Defective mechanism.	Replace instrument.
	Low voltage.	Check voltage at indicator. Correct voltage.
POINTER DOES NOT INDICATE PROPER TURN.	Defective mechanism.	Replace instrument.
HAND DOES NOT SIT ON ZERO.	Gimbal and rotor out of balance.	Replace instrument.
	Hand incorrectly sits on rod.	Replace instrument.
	Sensitivity spring adjustment pulls hand off zero.	Replace instrument.
IN COLD TEMPERATURES, HAND FAILS TO RESPOND OR IS SLUGGISH.	Oil in indicator becomes too thick.	Replace instrument.
	Insufficient bearing end play.	Replace instrument.
	Low voltage.	Check voltage at indicator. Correct voltage.
NOISY GYRO.	High voltage.	Check voltage at indicator. Correct voltage.
	Loose or defective rotor bearings.	Replace instrument.

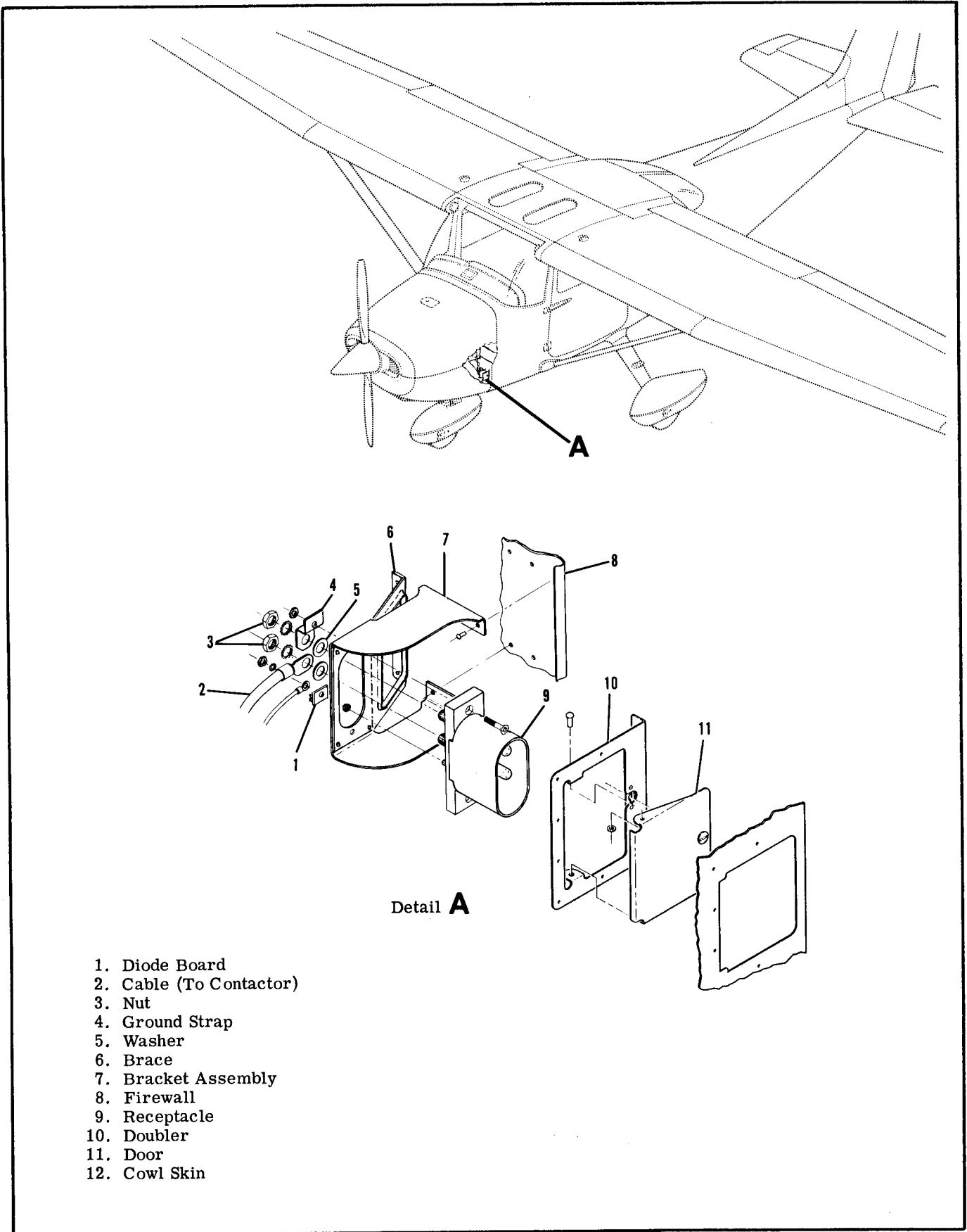


Figure 16-2. Ground Service Receptacle Installation.

16-47. LANDING AND TAXI LIGHT.

16-48. DESCRIPTION. The landing and taxi light is mounted in the nose cap of the lower engine cowl. The lamp is controlled by a rocker type switch on the instrument panel. A circuit breaker on the panel protects the system.

16-49. REMOVAL AND INSTALLATION. (Refer to figure 16-5.)

- a. Remove upper half of engine cowl.
- b. Disconnect lamp wires then remove lower half of cowl.
- c. Remove screws (7) and remove lamp assembly.

NOTE

Note position and number of washers between support (2) and bracket (3).

- d. Remove screws (9) and remove lamp.
- e. To install reverse the preceding steps.

16-50. ADJUSTMENT OF LANDING AND TAXI LIGHT (Refer to figure 16-5.) Adjustment of the landing and taxi light is pre-set at the factory, however changes to this adjustment may be made as desired by adding or subtracting from the number of washers (8). A maximum of two washers may be used.

16-51. LANDING AND TAXI LIGHTS (DUAL).

16-52. DESCRIPTION. Optional, dual, cowl mounted landing and taxi lights may be installed. The left hand light is used for taxi and the right hand for landing. Two rocker type switches on the pilots switch panel control the lights. A 20 amp circuit breaker is installed to protect the system.

16-53. REMOVAL AND INSTALLATION. (Refer to figure 16-5.)

- a. Remove screws (1) and pull bracket assembly (2) from nose cap to gain access to electrical leads.
- b. Disconnect electrical leads from lamps making sure switches are off and leads do not short out.
- c. Remove screws (9) from plate (7) and remove lamp assembly from bracket (2). If left hand (taxi) light is being removed, note position of spacers (3) and (11) for reinstallation.
- d. Remove screws (10) from bracket (4) to disassemble lamp assembly.
- e. Install new lamp and reassemble.

16-54. NAVIGATION LIGHTS.

16-55. DESCRIPTION. The navigation lights are mounted on each wing tip and the aft end of the vertical fin tip. The lights are controlled by a rocker type switch located on the instrument panel. A circuit breaker is installed on the panel to protect the system.

16-56. REMOVAL AND INSTALLATION. For removal and installation of navigation lights refer to figure 16-6.

16-57. ANTI-COLLISION STROBE LIGHTS.

16-58. DESCRIPTION. A white strobe light may be installed on each wing tip with the navigation lights. Strobe lights are vibration resistant and operate on the principle of a capacitor discharge into a xenon tube, producing an extremely high intensity flash. Energy is supplied to the lights from individual power supplies mounted on each wing tip rib.

16-59. REMOVAL AND INSTALLATION. For removal and installation of strobe light and power supply refer to figure 16-6.

**WARNING**

The anti-collision system is a high voltage device. Do not remove or touch tube assembly while in operation. Wait at least 5 minutes after turning off power before starting work.

16-60. OPERATIONAL REQUIREMENTS.

**CAUTION**

The capacitors in the strobe light power supplies must be reformed if not used for a period of (6) months. The following procedure must be used.

Connect the power supply, red wire to plus, black to ground to 6 volt DC source. Do Not connect strobe tube. Turn on 6 volt supply. Note current draw after one minute. If less than 1 ampere, continue operation for 24 hours. Turn off DC power source. Then connect to the proper voltage, 12 volt. Connect tube to output of strobe power supply and allow to operate, flashing, for 15 minutes. Remove strobe tube. Operating power supply at 12 volts, note the current drain after one minute. If less than 0.5 amperes, operate for 6 hours. If current draw is greater than 0.5 amperes, reject the unit.

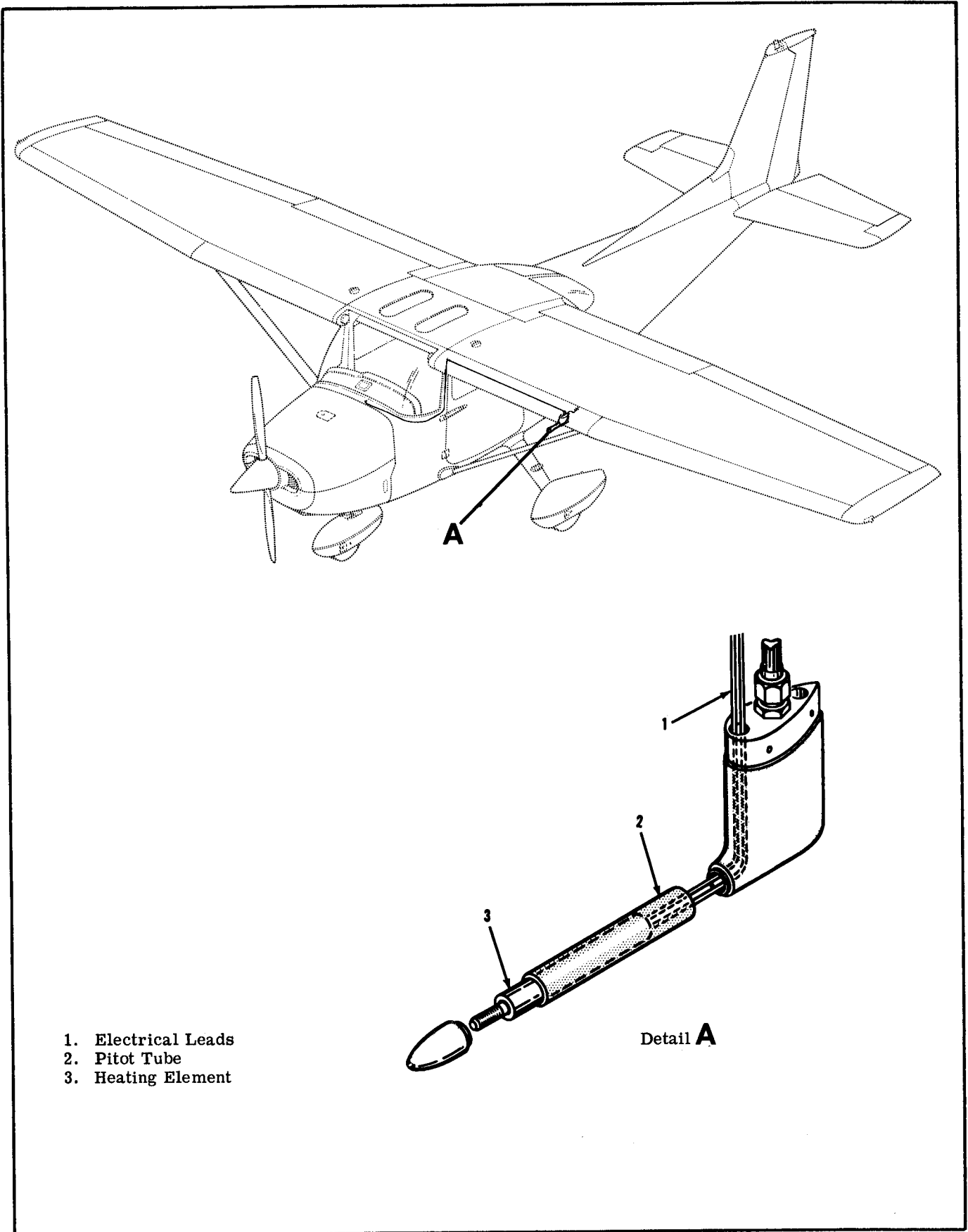


Figure 16-12. Heated Pitot Installation

18-57. REPAIRABLE DAMAGE. Fuselage skin repairs may be accomplished in the same manner as wing skin repairs outlined in paragraph 18-14. Stringers, formed skin flanges, bulkhead channels and similar parts may be repaired as shown in figure 18-5.

18-58. DAMAGE NECESSITATING REPLACEMENT OF PARTS. Fuselage skin major repairs may be accomplished in the same manner as the wing repairs outlined in paragraph 18-15. Damaged fittings must be replaced. Seat rails serve as structural parts of the fuselage and must be replaced if damaged.

18-58A. BONDED DOORS.

18-58B. REPAIRABLE DAMAGE. Bonded doors may be repaired by the same methods used for riveted structure. Rivets are a satisfactory substitute for bonded seams on these assemblies. The strength of the bonded seams in doors may be replaced by a single 3/32, 2117-AD rivet per running inch of bond seam. The standard repair procedures outlined in AC43.13-1 are also applicable to bonded doors.

18-59. BULKHEADS.

18-60. LANDING GEAR BULKHEADS. Since these bulkheads are highly stressed members, irregularly formed to provide clearance for control cables, fuel lines, etc., the patch-type repairs will be, for the most part, impractical. Minor damage, consisting of small nicks or scratches, may be repaired by dressing out the damaged area, or by replacement of rivets. Any other damage must be repaired by replacing the landing gear support assembly as an aligned unit.

18-61. REPAIR AFTER HARD LANDING. Buckled skin or floorboards, and loose or sheared rivets in the area of the main gear support will give evidence of damage to the structure from an extremely hard landing. When such evidence is present, the entire support structure must be examined, and all support forgings must be checked for cracks, using a dye penetrant and proper magnification. Bulkheads in the damaged area must be checked for alignment, and deformation of the bulkhead webs must be determined with the aid of a straightedge. Damaged support structure, buckled floorboards and skins, and damaged or questionable forgings must be replaced.

18-62. REPLACEMENT OF HI-SHEAR RIVETS. Hi-shear rivet replacement with close tolerance bolts or other commercial fasteners of equivalent strength properties is permissible. Holes must not be elongated, and the Hi-shear substitute must be a smooth push fit. Field replacement of main landing gear forgings in bulkheads may be accomplished by using:

a. NAS464P\* Bolt, MS21042-\* Nut and AN960-\* washer in place of Hi-Shear Rivets for forgings with machined flat surface around attachment holes.

b. NAS464P\* Bolt, ESNA 2935\* (S-1925-1) Mating Base Ring, ESNA LH 2935\* (S-1924-1) Nut for forgings (with draft angle of up to a maximum of 8°)

without machined flat surface around attachment holes.

\*Dash numbers to be determined according to the size of the holes and the grip lengths required. The bolts grip length should be chosen so that No threads remain in the bearing area.

18-63. FIREWALL DAMAGE. Firewalls may be repaired by removing the damaged material and splicing in a new section. The new portion must be lapped over the old material, sealed with Pro-Seal #700 (Coast Pro-Seal Co., Chemical Division, 2235 Beverly Blvd, Los Angeles, California), compound or equivalent, and secured with stainless steel rivets. Damaged or deformed angles and stiffeners may be repaired as shown in figure 18-12, or they may be replaced. A severely damaged firewall must be replaced as a unit.

18-64. ENGINE MOUNT.

18-65. DESCRIPTION. The mount for the aircraft engine is constructed of 4130 chrome-molybdenum steel tubing. A truss structure, fastened to the firewall at four points, supports a cradle arrangement. This cradle arrangement with its supporting lugs, forms the base for rubber shock mounted engine supports.

18-66. GENERAL CONSIDERATIONS. All welding on the engine mount must be of the highest quality since the tendency of vibration is to accentuate any minor defect present and cause fatigue cracks. Engine mount members are preferably repaired by using a larger diameter replacement tube, telescoped over the stub of the original member using fishmouth and rosette type welds. However, reinforced 30-degree scarf welds in place of the fishmouth welds are considered satisfactory for engine mount repair work.

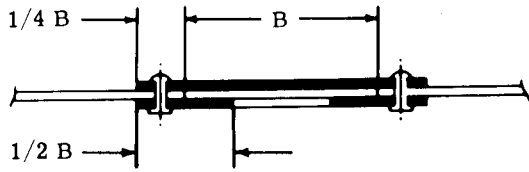
18-67. ENGINE MOUNT SUPPORT CRADLE DAMAGE. Minor damage such as a crack adjacent to an engine attaching lug may be repaired by rewelding the cradle tube and extending a gusset past the damaged area. Extensively damaged parts must be replaced.

18-68. DAMAGE INVOLVING ENGINE MOUNTING LUGS AND ENGINE MOUNT TO FUSELAGE ATTACHING FITTINGS. Engine mounting lugs and engine mount-to-fuselage attaching fittings should not be repaired but must be replaced.

18-69. BAFFLES. Baffles ordinarily require replacement if damaged for cracked. However, small plate reinforcements riveted to the baffle will often prove satisfactory both to the strength and cooling requirements of the unit.

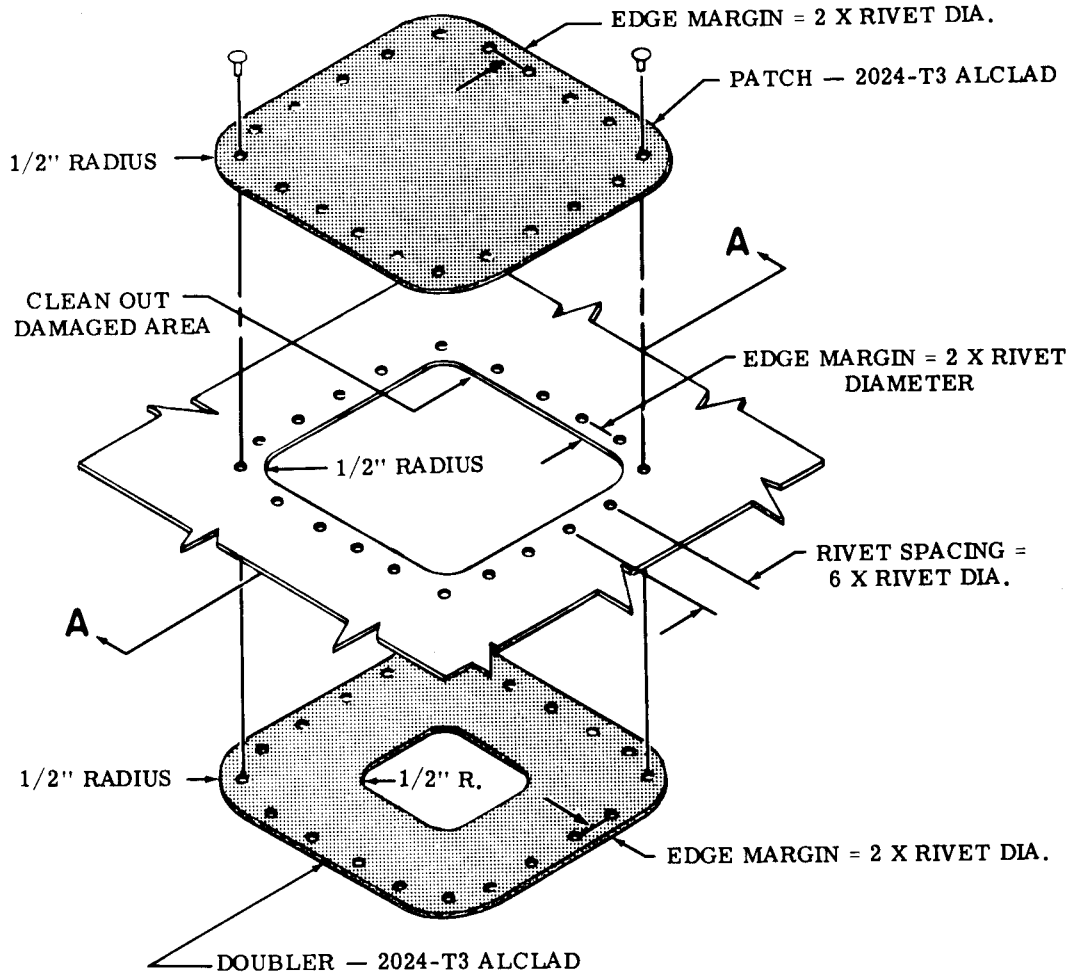
18-70. ENGINE COWLING.

18-71. REPAIR OF COWLING SKINS. If extensively damaged, complete sections of cowling must be replaced. Standard insert-type skin patches, however, may be used if repair parts are formed to fit. Small






SECTION THRU ASSEMBLED PATCH

A-A



OVERLAPPING REC-TANGULAR PATCH

-  ORIGINAL PARTS
-  REPAIR PARTS
-  REPAIR PARTS IN CROSS SECTION

RIVET TABLE	
SKIN GAGE	RIVET DIA.
.020	1/8
.025	1/8
.032	1/8
.040	1/8
.051	5/32

Figure 18-4. Skin Repair (Sheet 2 of 6)

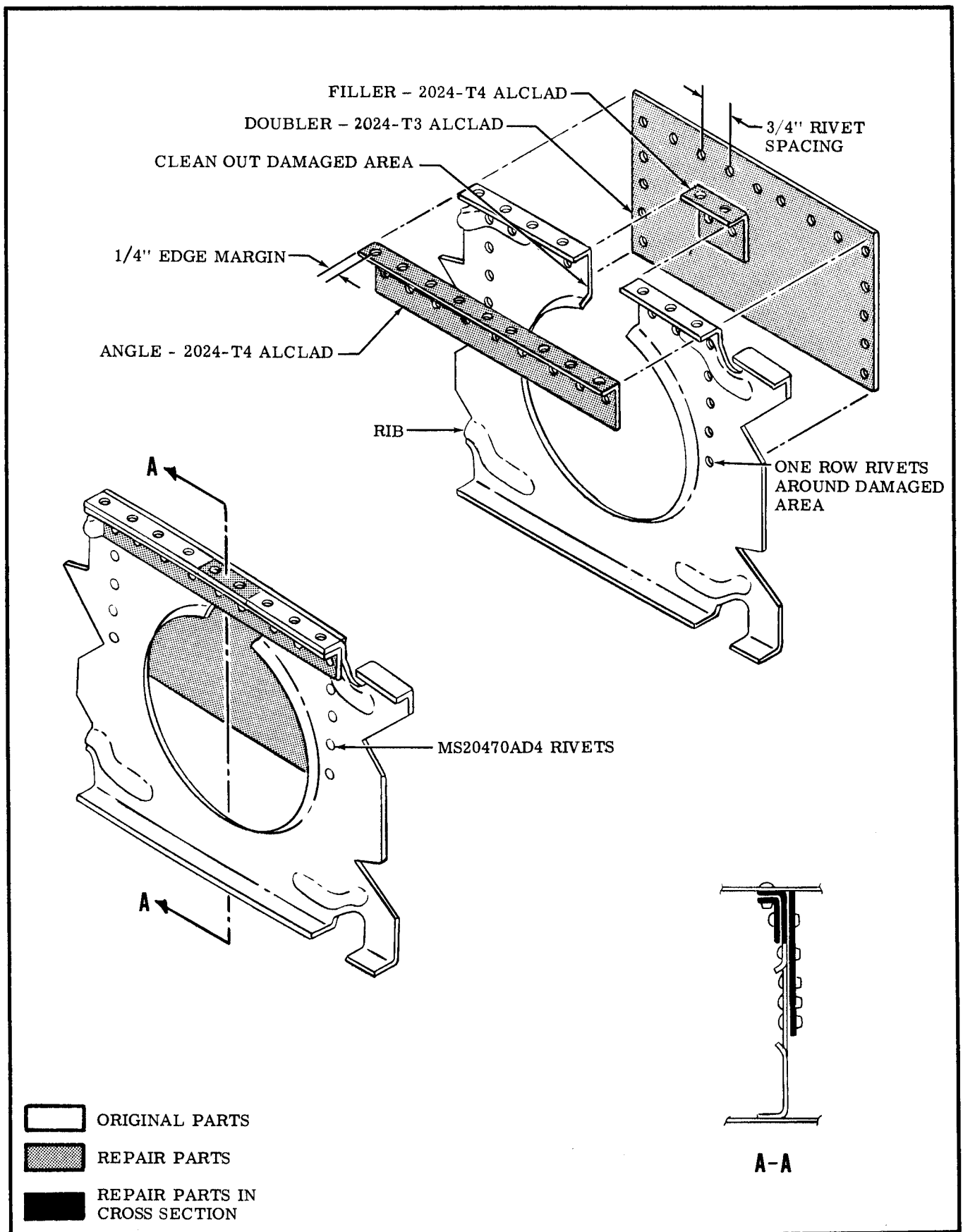


Figure 18-6. Rib Repair (Sheet 2 of 2)

## SECTION 19

## PAINTING

## NOTE

This Section contains standard factory materials listing and area of application. For paint number and color, refer to Aircraft Trim Plate and Parts Catalog. In all cases determine the type of paint on the aircraft as some types of paint are not compatible. Materials may be obtained from Cessna Service Parts Center.

MATERIAL	NO/TYPE	DOMESTIC	FRENCH	AREA OF APPLICATION
PAINT	ACRYLIC LACQUER	X		NOTE 1
	LACQUER		X	
PRIMER	P60G2 WITH R7K44 REDUCER	X	X	NOTE 2
	EX-TR-7 WITH T-ER-4 REDUCER	X	X	
THINNER	T-8402A	X		NOTE 4
	T-6094A	X	X	NOTE 3
SOLVENT	Methyl Ethyl Keytone (MEK)	X	X	NOTE 5

## NOTE

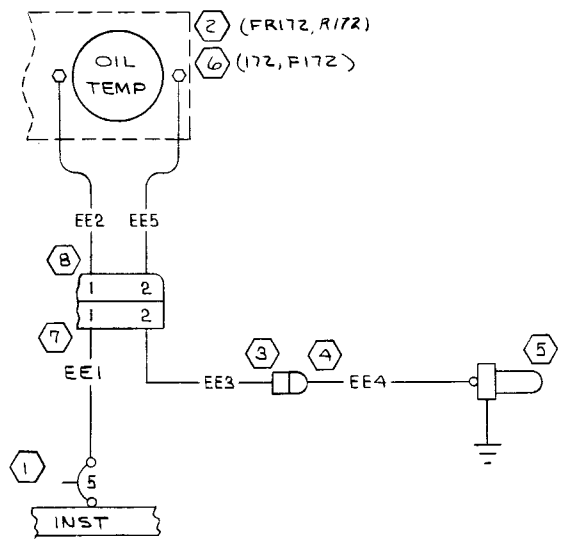
Do not paint Pitot Tube, Gas Caps or Aileron Gap Seals. Also do not paint Antenna Covers which were not painted at the factory.

## NOTES

1. Used on aircraft exterior.
2. Used with lacquer or acrylic lacquer on aircraft exterior.
3. Used to thin lacquer and for burndown.
4. Used to thin acrylic lacquer and for burndown.
5. Used to clean aircraft exterior prior to priming.



REVISION			
LET	DESCRIPTION	DATE	APPD
A	BY REV: C669512-0102 WAS C669511-0102; (SR7904)	BLA 1-22-75	<i>SCOTT</i> <i>RS</i> RF
B	BY REV: DELETE EE2 (SR7903)REF(SR7904)REF	RJP 6-6-75	<i>SCOTT</i> <i>RS</i> RF
C	BY REV: ADD EE2, EE5, S-1640-9 & S-1641-9; S-1636-1 WAS SOLDER / EE1 & EE3, S-1360-5L WAS S-1360-10L, S-1367-1-10 WAS SOLDER / EE5 & EE1, C669512-0102 WAS C669512-0101 (NOW SHOP PRACTICE)	RJP 10-8-75	<i>SCOTT</i> <i>RS</i> RF
D	BY REV: ADD R172 (SR8146)	RJS 2-25-76	<i>SCOTT</i> <i>RS</i> RF



ITEM NO	PART NO.	DESCRIPTION	GA	MATERIAL	LG	TERMINALS	SERIALS
EE5	20	S-1635-1		S-1367-1-10			
EE4	20	S-1635-1		S-1367-1-10			
EE3	20	S-1636-1		S-1636-1			
EE2	20	S-1635-1		S-1367-1-10			
EE1	20	S-1636-1		S-1367-1-8			

8	S-1640-9	CONNECTOR
7	S-1641-9	CONNECTOR
6	C669512-0103	INST CLUSTER
5	S-1630-1	SENDING UNIT
4	S-1637-1	HOUSING
3	S-1637-2	HOUSING
2	C669512-0102	INST CLUSTER
1	S-1360-5L	CIRCUIT BREAKER

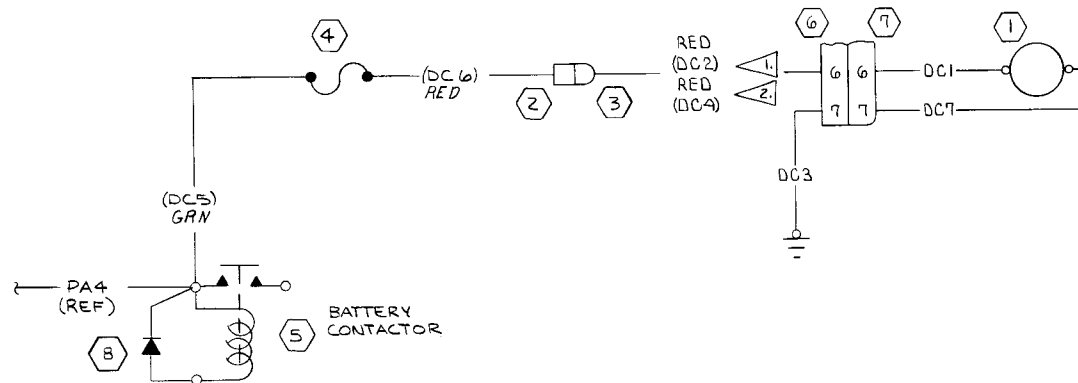
ITEM NO	PART NO.	DESCRIPTION
<b>EQUIPMENT TABLE</b>		
CES-1000 IS APPLICABLE VENDOR CODES PER S-1400 CES-XXXX-CESSNA SPEC. NO. S-XXX OR CMXXXX-CESSNA STD. NO.		
SUPERSEDES:		
SUPERSEDED BY:		

CONTRACT NO:			COMMERCIAL AIRCRAFT DIV. 5800 E. PAWNEE WICHITA, KANSAS		
DESIGN	NAME	DATE	TITLE		
	G STAMM	1-2-75	<b>WIRING DIAGRAM — OIL TEMPERATURE</b>		
GROUP	B. HARDEN	1-2-75			
DRAWN	MERRICK	10-31-74			
CHECK	J. TOUCEL	12-6-74			
STRESS			SIZE	CODE IDENT. NO.	DWG NO
PROJ R. FIFE 1-4-75			C	71379	0570101
APPD <i>RS</i>			SCALE: NONE (SR7903)(SR7904) PAGE: 7, 2, 0		
OTHER					

46-0905



REVISION			
LET	DESCRIPTION	DATE	APPD
A	BY REV: ADD DC1, DC7, S-1690-9, S-1691-9, S-1636-2 WAS S-1367-1-8/DC2 & DC4, S-1636-1 WAS S-1367-1-8/DC3, C664508-0101 WAS S-1317N2; ADD 0770728-1 (NOW SHOP PRACTICE)	RJP 10-8-75	SKY WITH RJS RF
B	BY REV: ADD R172 (SRB146)	JDS 2-25-76	SKY WITH RJS RF



NOTES :

- 1. APPLIES TO FR172 & R172 ONLY
- 2. APPLIES TO 172 & F172 ONLY

ITEM NO.	PART NO.	DESCRIPTION
8	0770728-1	DIODE ASSY
7	S-1690-9	CONNECTOR
6	S-1691-9	CONNECTOR
5	S-1579-2	CONTACTOR
4	S-1091-1	FUSE
3	S-1637-1	HOUSING
2	S-1637-2	HOUSING
1	C664508-0101	CLOCK

EQUIPMENT TABLE	
ITEM NO.	DESCRIPTION
CES-1000 IS APPLICABLE VENDOR CODES PER S-1400 CES-XXXX-CESSNA SPEC. NO. S-XXX OR CMXXXX-CESSNA STD. NO.	SUPERSEDES: 0500062 P 10.2
	SUPERSEDED BY:

WIRE CODE NO.	GA	MATERIAL	LG	TERMINALS	SERIALS
RED (DC6)	22	-22-2		SOLDER S-1636-1	
GRN (DC5)	22	-22-4	10	S-1367-101 SOLDER	
RED (DC2)	22	-22-2	76	S-1635-1 S-1636-2	
DC3	22		18	S-1636-1 S-1367-16	
DC7	22			S-1367-1-8 S-1635-1	
RED (DC2)	22	-22-2	150	S-1635-1 S-1636-2	
DC1	22			S-1635-1 S-1367-1-8	

WIRE TABLE		
CONTRACT NO.:	NAME	DATE
	G. STAMM	12-1-74
	B. HARDEY	1-2-75
	MERRICK	03-74
	S. YOEEL	12-6-74
STRESS		
PROJ	R. F. F. F.	1-4-75
APPD	RJS	
OTHER		

COMMERCIAL AIRCRAFT DIV. 5800 E. PAWNEE WICHITA, KANSAS	
TITLE <b>WIRING DIAGRAM - CLOCK (OPT)</b>	
SIZE <b>C</b>	CODE IDENT. NO. <b>71379</b>
DWG NO. <b>0570101</b>	SCALE: NONE
(SR1903) (SR7904)	PAGE: 10.1.0

172, F172, FR172, R172  
172654 AS, F17201385, FR172005C06542, R1722000

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