

CESSNA AIRCRAFT COMPANY
MODEL 310R
MAINTENANCE MANUAL

MAIN LANDING GEAR - REMOVAL/INSTALLATION

1. Main Landing Gear

A. Removal (Refer to Figure 401).

- (1) Jack the airplane, refer to Chapter 7, Jacking - Description and Operation.
- (2) Remove wheel and tire assembly.
- (3) Remove screws, clamps, and spacers securing brake line (16) and wire bundle (17) to strut assembly.
- (4) Remove brake assembly from axle flange and leave suspended by supporting safety wire or place on a box out of the immediate work area.

NOTE: Using the method outlined in step (4), it is not necessary to drain brake fluid and bleed brakes.

- (5) Remove safety switch (13) and tie so switch will not interfere with gear removal.
- (6) Release tension on retracting linkage by engaging manual extension crank and operating a few turns toward the UP position.
- (7) Disconnect door link (21) by removing nut and washer.
- (8) Disconnect drag link (12) from trunnion assembly (10) by removing nut (20), washers, spacers, and bolt.
- (9) Disconnect bell crank (9) from trunnion assembly (10) by removing nut and bolt. Retain spacer in bell crank (9). Break down lock of drag brace and bell crank assembly and tie assemblies where they will not interfere with gear removal.

NOTE: Remove grease plugs (21) before attempting to remove pins (8).

- (10) Remove grease plugs (21) and pins (8) from trunnion assembly (10) and shaft (7) and insert an AN6 bolt or puller tool in shafts (7).

NOTE: Note the number and location of washers between bearing (6) and trunnion (10). These washers should be installed exactly as they were located before removal to insure proper alignment of side link assemblies.

- (11) Support the gear and pull attaching shafts (11). Remove gear from airplane.

NOTE: Needle bearings (6) in which the attaching shafts pivot are a press fit and should be removed only for replacement. Inspect the bearing for protruding inner race, cracked inner race flange, or other indications or mechanical failure. Check bearing for smooth function, by sliding shaft (7) into bearing, and turning, while applying side loading by hand. Refer to Figure 402 for removal of bearing.

B. Disassembly (Refer to Figure 403).

- (1) Completely deflate strut. After air is expelled, remove valve body (1) and drain fluid.
- (2) Remove piston assembly (10) from trunnion assembly (32) and disassemble as follows:

CAUTION: Tag washers (34) (P/N 5045018) during removal to assure proper installation position.

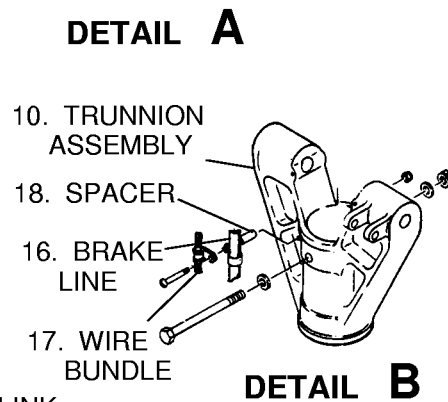
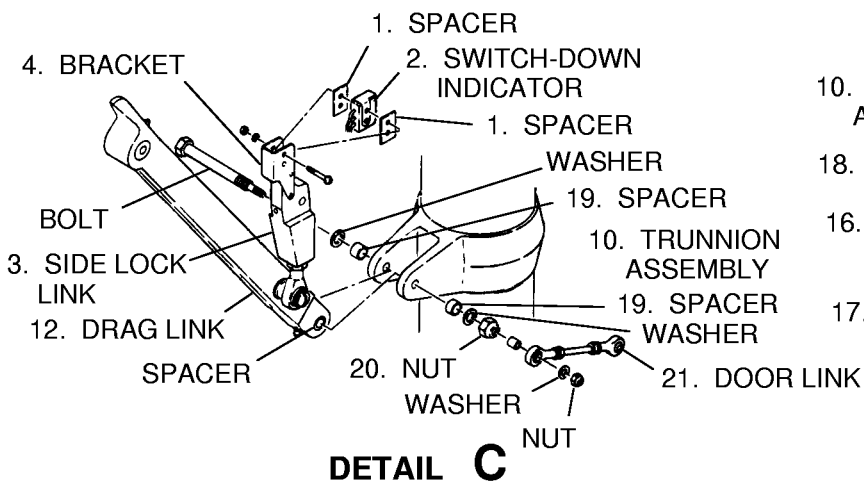
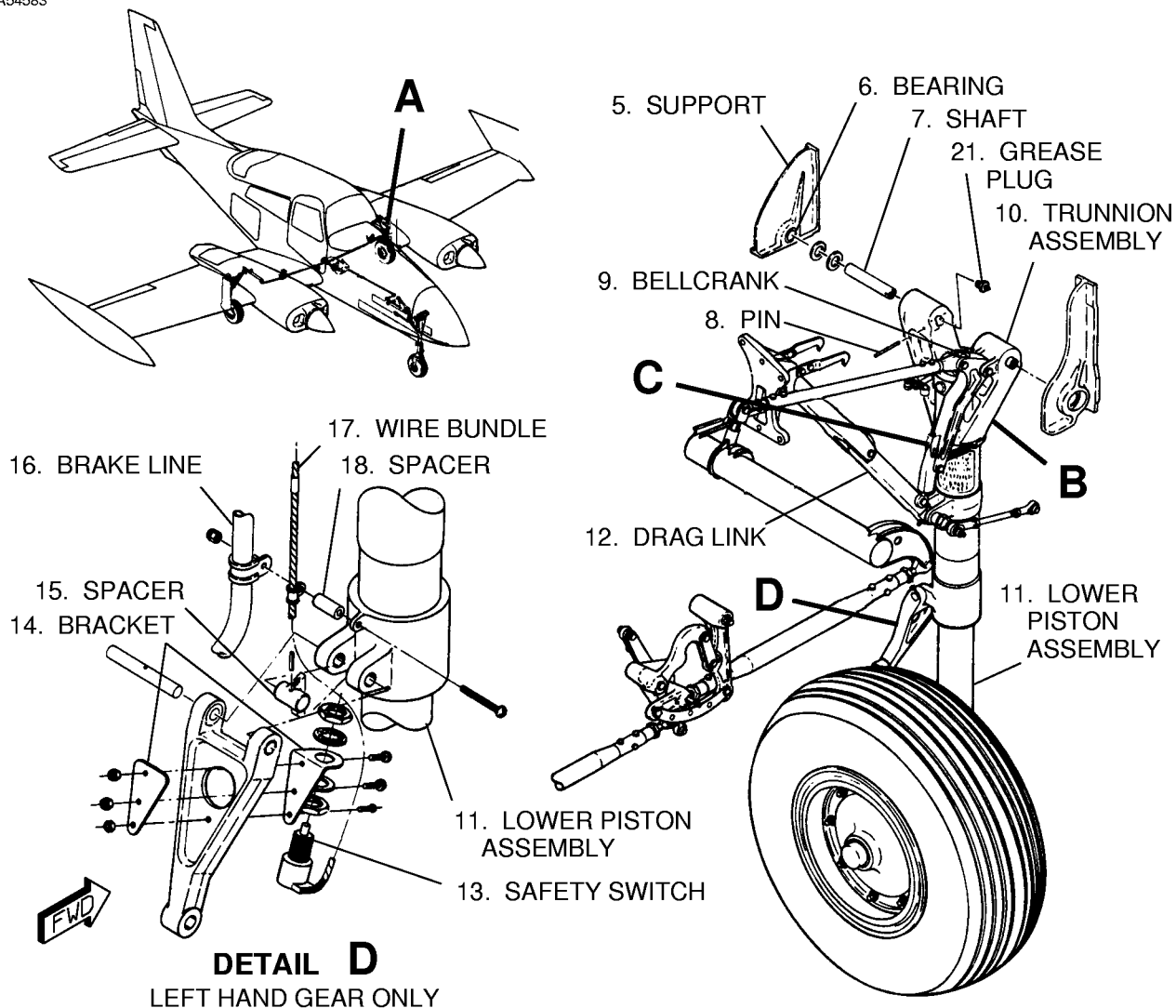
- (a) Disconnect torque link at apex by removing cotter pin, nut (35), washers (34), clamp (16), spacer (18), and bolt (33).

WARNING: Make certain all air is expelled from strut assembly before proceeding to the next step.

- (b) Remove internal lock ring (24), lock ring (25), and scraper ring (26). Withdraw piston assembly against ring pack support (28) to remove ring pack support and piston from upper trunnion.

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DETAIL C

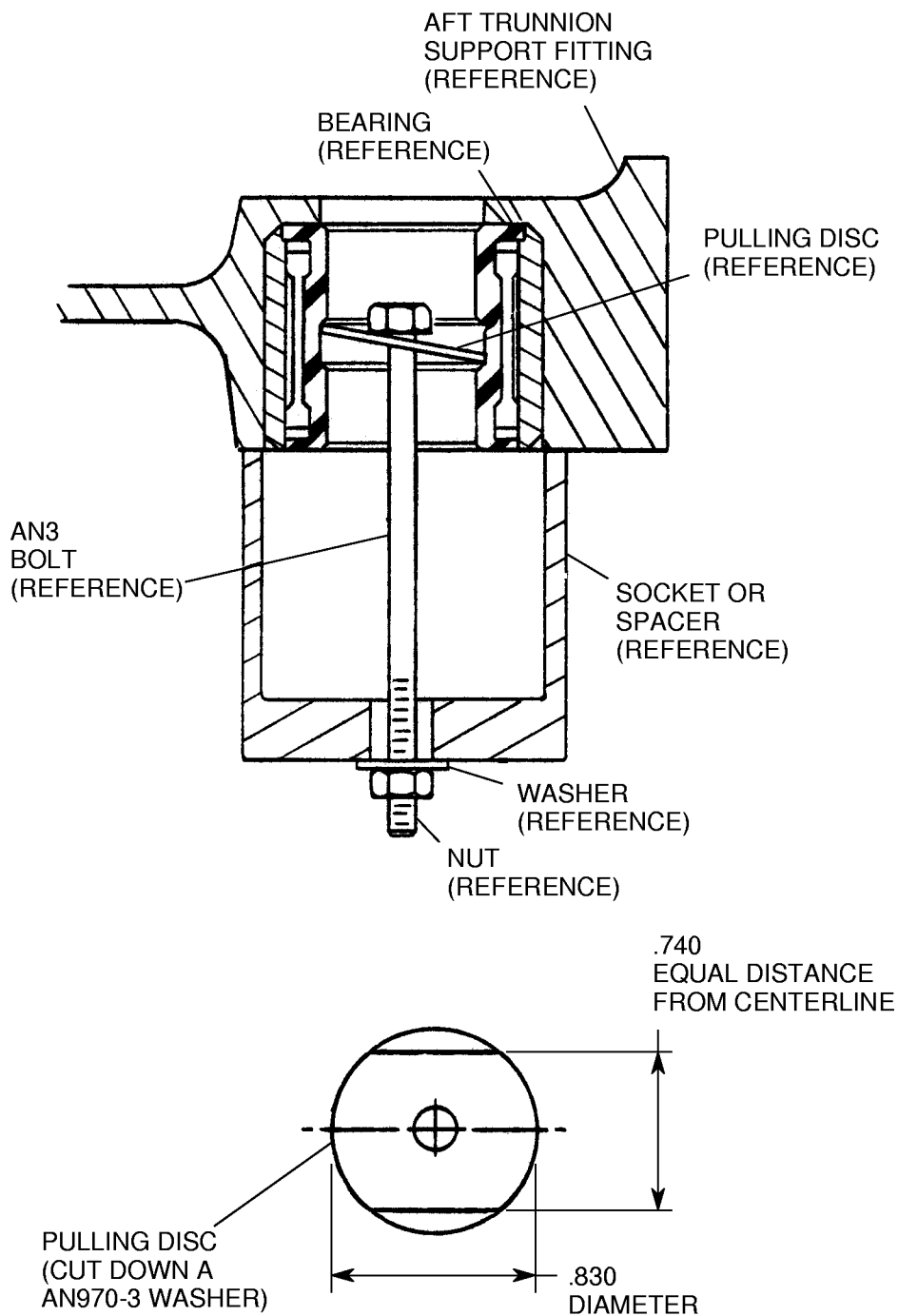
DETAIL B

Main Landing Gear Installation
 Figure 401 (Sheet 1)

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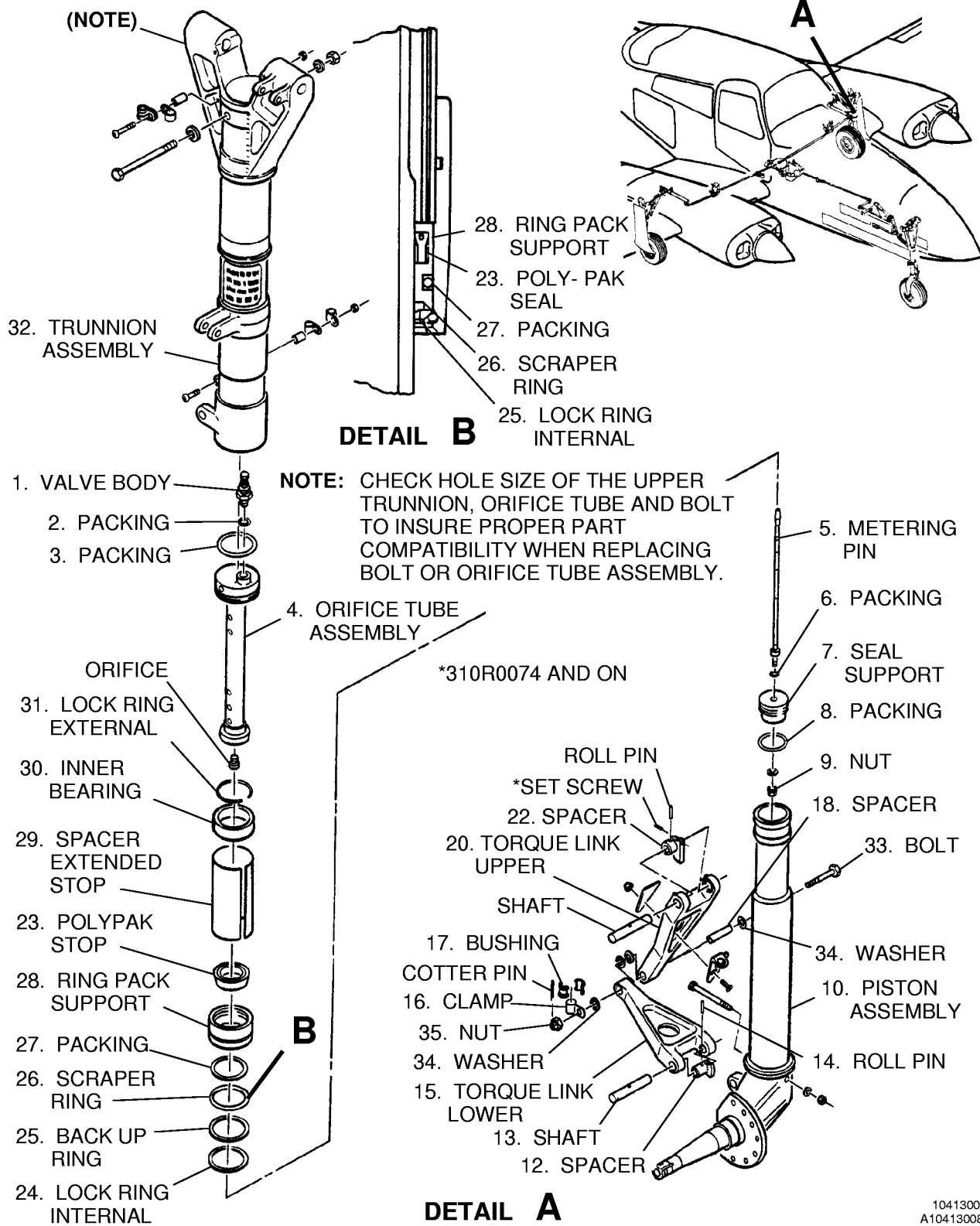


Bearing Replacement
 Figure 402 (Sheet 1)

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Main Landing Gear Strut
 Figure 403 (Sheet 1)

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CAUTION: Removal and handling of the lower piston assembly should be done with care to prevent the possibility of damage to exposed parts.

- (3) Remove external lock ring (31) from piston assembly (10) and remove inner bearing (30), extended stop spacer (29) and ring pack support (28).
- (4) Remove poly pak seal (23) from ring pack support.
- (5) Remove lower torque link (15) and spacer (12) by removing roll pin (14) and shaft (13).

NOTE: Lower piston and axle fitting is a press fit and drilled on assembly. Disassembly is not recommended.

- (6) If further disassembly of torque links is required, the bushings may be pressed out for replacement.
- (7) Remove upper torque link (15) and spacer (22) from trunnion assembly by removing roll pin and shaft.
- (8) Remove orifice tube assembly (4) from trunnion assembly by removing nut, washers, and bolt and pull orifice tube straight out from the trunnion.
- (9) Press metering pin (5) and seal support assembly from piston assembly.

C. Assembly (Refer to Figure 403).

NOTE: Torque link bushing diameters and flange interfaces may be dressed to provide free nonbinding operation.

- (1) Assemble lower torque link (15) and spacer (12) to piston assembly (10) with shaft (13). Secure shaft in place with roll pin (14) through shaft and spacer. Safety wire roll pin with wire through center of roll pin and around shaft.

NOTE: Stop plate on spacers (12 and 22) must be positioned toward landing gear piston assembly.

- (2) Carefully work packing (6) over the threads of metering pin (5) and install on seal support (7) with nut (9). Install packing (8) in groove on outside of seal support (7).

NOTE: Lubricate packings, seals, and mating parts liberally with clean MIL-H-5606 hydraulic fluid before installation and assembly.

- (3) Press metering pin (5) and seal support (7) assembly into piston assembly (10). Make certain the seal support is completely seated.
- (4) Assemble upper torque link (20) and spacer (22) to trunnion assembly (32) with shaft. Secure shaft in place with roll pin through shaft and spacer. Safety wire roll pin with wire through center of pin and around shaft.
- (5) Carefully work packing (3) into groove in orifice tube (4) and insert into trunnion assembly (32) from the bottom end to avoid damage to the packing that usually happens when passing the holes at the top.
- (6) Leave bottom end of orifice tube exposed to aid in the alignment of metering pin.
- (7) Slide internal lock ring (24), lock ring (25), and scraper ring (26) on piston assembly (10).

CAUTION: Install scraper ring with groove DOWN (toward back-up O-ring), refer to Detail B, Figure 403.

- (8) Install poly-pak seal (23) on inside of ring pack support (28), work packing (27) over outside into groove on ring pack support, and slide ring pack support assembly on piston assembly (10).