

SECTION V

ALIGHTING GEAR

5-1. GENERAL.

5-2. DESCRIPTION. (See figure 5-1.) The alighting gear is of tricycle design, hydraulically retractable, consisting of two main gear assemblies, a nose gear assembly, wheels and tires for each gear and up-locks with normal and emergency control linkage.

5-3. MAIN LANDING GEAR.

5-4. DESCRIPTION. (See figure 5-1.) The main gear assemblies are attached to the wing structure by ball-socket fittings and trunnion pins; pivot on the trunnion pins and retract inboard into the wing panels. Extension of the main gear is accomplished by the movement of the hinged side brace which drops past center and locks in the down position. The gear is held in the up position by an uplock. Shock loads caused during takeoff, landing and taxiing are absorbed by the air-fluid combination of the shock strut.

5-5. NEGLIGIBLE DAMAGE. Small, smooth isolated nicks and scratches up to 1/32 inch in depth may be classified as negligible if free from cracks, sharp corners and abrasions. No damage is permitted to the shock strut inner cylinder, as defects would result in leakage of air and oil.

5-6. REPAIRABLE DAMAGE. Fittings containing worn bushings may be repaired by the replacement of these bushings, reamed to the correct diameter as in the original part.

5-7. AXLE - STRUT HOUSING FORGING CONTAINING CRACKS. Main landing gear housings (axle forging) containing cracks in the upper edge may be reworked. Should visual inspection reveal the presence of a crack, or cracks, the housing should be removed as follows:

5-8. REMOVAL OF HOUSING.

a. Jack up the airplane and relieve all of the air pressure in the strut with cracked housing. Remove the 145-33205 piston and axle assembly. Refer to AN 01-100LAA-2, "Erection and Maintenance Instructions", Figures 3-2 and 4-23.

b. Remove wheel and tire, and disassemble strut until only the shock strut piston and the housing remain.

c. Remove bolt securing cylinder to housing.

d. Measure distance from top of housing to top of cylinder, and note for future reference.

e. Locate short length (six to eight inches) of heavy gage pipe having an inner diameter just slightly larger than the cylinder outer diameter. Slide this pipe over cylinder.

f. Wrap several layers of masking tape around top of cylinder to provide hand-hold.

g. Hold assembly so that housing is immersed in boiling water. Periodically pull assembly from water and shake in an up and down movement so that the pipe on the cylinder acts as a hammer to drive the housing from the cylinder.

5-9. REWORK OF HOUSING. After removing the housing from the cylinder according to paragraph 5-8, preceding, rework the housing as follows:

a. Using file, milling machine, or other convenient method; cut into the forging to remove the crack and adjacent material. Cut a 1/2 inch radius slot to a depth as necessary, but not to exceed 7/16 inch. All surfaces should have a gentle radius when cutting is

finished. See Figure 5-2.

b. Clean the cut surfaces and check for continuation of the crack. If it is not possible to clean out cracked material without cutting below housing axle extension (7/16 inch maximum), the housing must be replaced.

WARNING

If crack is not in the area as indicated in Figure 5-2, (forging part line), part must be replaced.

5-10. RE-INSTALLATION OF HOUSING. To install reworked or new housing, proceed as follows:

a. Heat housing in boiling water, dry socket area.
b. If facilities are available, chill cylinder.
c. Paint end of cylinder and housing socket with zinc chromate primer.

d. Before primer dries, place cylinder 90° from old position in housing and press into position. Check cylinder length with dimension taken in step d, of paragraph 5-8 to check that cylinder is full in.

e. Drill cylinder to match housing lock bolt holes, and install lock bolt.

f. Reinstall wheel and tire and install in gear.

g. Make an operational check to ascertain that all adjustments are functioning properly and clearances are adequate.

5-11. MAIN LANDING GEAR STRUT TRUNNION REPAIR. The L-17A had the trunnion attached to the strut by furnace brazing only. In the event of a failure of these parts, it may be repaired as shown in Figure 5-3. Shape a block of normalized 4130 steel to size, insert into top of strut and arc weld. Drill and ream to .250 + .0015, - .0006 hole and install an AN4-34A Bolt, Nut and Washer.

WARNING

If any copper is evident in the area to be welded, the copper must be removed prior to welding or repair will not be acceptable.

The L-17B airplanes have a 1-1/4 inch arc weld across each side of the trunnion at the strut, which was welded prior to furnace brazing. Any failures occurring on this improved strut may be repaired by the same procedure. The repair does not impair the heat treat value of strut nor will it cause cracks in the weld from copper inclusion, both of which will occur if any other type of repair is attempted.

CAUTION

Pad cylinder with asbestos during welding operation.

NOTE

Each welded part should be magnafluxed after being repaired.