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12-9. INSTALLATION OF LANDING GEAR. (Fig. 12-1)

a. Position landing gear under jack-raised fuselage so that the four crossbeam mounting bolt holes are directly under mating holes in center frame section cluster fittings.

b. Slowly lower fuselage onto landing gear with jack.

c. Install bolts, washers, nuts and cotter pins to secure landing gear forward and aft crossbeams to center frame section.

d. Remove jacks.

12-10. LANDING GEAR DAMPERS. (Fig. 12-1)

12-11. GENERAL. The landing gear damper assemblies are poppet type hydraulic units charged with nitrogen. Each damper primarily consists of a rubber boot, upper and lower mounting caps, a housing assembly with main poppet, a rebound poppet and spring, a barrel and a piston. The damper assemblies are approximately 13 inches long when extended and 9-11/32 inches long when compressed. Rear dampers are designed with a higher charge pressure and lower fluid level than the front dampers. Dampers are not interchangeable between the forward and aft positions.

NOTE

After initial testing at Schweizer and subsequent use on the helicopter, original charging pressure will decrease to a slightly lower operating pressure. Replacement of a single damper must be accomplished by using the correct type in the correct location. The following paragraphs provide instruction for inspection, minor repair and replacement of the dampers. Refer to Appendix C for repair/overhaul information.

12-12. REMOVAL OF LANDING GEAR DAMPER. (Fig. 12-1)

a. Jack up the helicopter until the landing gear skid just clears the ground.

b. Remove hardware attaching landing gear damper to crossbeam and skid strut. Remove damper.

12-13. INSPECTION OF LANDING GEAR DAMPER.

CAUTION

The damper assembly must be replaced if damaged or if evidence of loss of pneumatic pressure (nitrogen gas) or hydraulic oil occurs.

a. Place helicopter on jacks or hoist (Section 2). Inspect damper assemblies for evidence of loose bearings in upper and lower caps, loose or cracked caps. Check security of attaching hardware.

b. Remove tie strap(s) and reposition rubber boot as needed to inspect for oil leakage and rubber boot condition. Replace rubber boot if damaged.

c. Place boot in operating position and secure with tie strap(s).

d. Perform airworthiness check and periodic inspections as required by HMI Appendix B (Para. 12-14).

12-14. PERIODIC INSPECTION OF LANDING GEAR DAMPER EXTENSION. Perform the following procedure at each 100-Hour Inspection interval or every six months, whichever occurs first. The fuel tank is to be full when inspecting the dampers.

WARNING

INCORRECT FLUID LEVELS, OR INOPERABLE VALVING WILL DETERIORATE THE DAMPER CAPABILITIES OF THE LANDING GEAR DAMPERS. THESE CONDITIONS MAY RESULT IN GROUND RESONANCE AND DESTRUCTION OF THE HELICOPTER. FOLLOW ALL HMI INSTRUCTIONS TO ENSURE SAFE HELICOPTER OPERATION.

a. Place helicopter on smooth 2-inch by 12-inch greased wooden planks, at right angles to skid tubes. Position planks under the skid tubes adjacent to (but not under) the skid shoes.

b. Raise tailboom so that center of tail rotor is approximately 5-1/2 feet above ground; then lower tailboom slowly to an at-rest position.

c. Measure and record distance from shoulder of damper upper cap to top edge of damper bottom cap on all dampers. (See dimension A, Fig. 12-1, Sheet 2.)

d. Push down on tailboom until forward end of skid tubes leave ground. Release the down load on the boom slowly, allowing the boom to raise to an at-rest position.

e. Measure and record dimension A for each of the dampers.

f. Determine average of the dimensions for each forward and aft damper (steps **c.** and **e.** above).

g. If average dimension for aft damper is less than following dimensions, replace the aft damper. If average dimension for forward damper is less than following dimensions, perform additional inspection in step **h**.

	Left	Right
Fwd Damper	9.61	9.86
Aft Damper	7.93	8.45

h. Place one 150-pound weight as nearly as possible over each of the forward dampers (two 150-pound weights are required) and repeat steps **c.** through **e.** above. Replace any forward damper if average dimension is less than the following dimensions:

	Left	Right
Fwd Damper	8.3	8.5

12-15. MINOR REPAIR OF LANDING GEAR DAMPER. Refer to Table 12-1 for a listing of maximum damage limits.

a. If not already accomplished, remove rubber boot by removing tie straps and pulling boot off damper toward top end (Fig. 12-1).

b. Remove allowable scratches and nicks in damper fittings as follows:

(1) Use grade 400 (or finer) wet or dry abrasive paper (Table 2-2, Item 31) to remove any raised or sharp edges and to blend the defect smoothly with the surrounding surfaces.

(2) Use Crocus cloth (Table 2-2, Item 32) to remove any surface scratches left by the coarser abrasive and to polish the repaired area to match the surrounding surfaces.

(3) Apply corrosion protection treatment according to Corrosion Control Manual, (Appendix D).

c. Install rubber boot and secure in place with black tie straps.

12-16. INSTALLATION OF LANDING GEAR DAMPER (Fig. 12-1).

WARNING

DO NOT INTERMIX OR TRANSPOSE LANDING GEAR DAMPER FRONT AND REAR POSITIONS. THESE CONDITIONS MAY RESULT IN GROUND RESONANCE AND DESTRUCTION OF HELICOPTER. FOLLOW ALL HMI INSTRUCTIONS TO ENSURE SAFE HELICOPTER OPERATIONS.

a. Orient damper assembly with warning placard facing inboard. Apply anti-seize compound (Table 2-2, Item 29) to bolt and attach damper lower end to attachment lug on skid strut with bolt, washers, nut and cotter pin.

b. Apply anti-seize compound (Table 2-2, Item 29) to bolt and attach attach damper upper end between crossbeam lugs with bolt, two washers, nut and cotter pin. Add washers as required to center the damper between crossbeam lugs.

CAUTION

If landing gear damper extension is incorrect the defective damper must be repaired and recharged (HMI Appendix C).

c. Inspect landing gear damper extension (Para 12-14).

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Table B-2. PERIODIC INSPECTIONS

What to Inspect - 100-hour Inspection (cont)	INITIALS
30. Forward and aft landing gear dampers (LH side and RH side) for operation and condition, and for damper extension with full fuel tank (Basic HMI, Section 12). Visually check dampers for leakage; replace if leakage is obvious or extension is not within limits (Basic HMI, Section 12).	
31. Landing gear stabilizers for security and obvious damage.	
32. Drag struts for condition, security, and straightness.	
33. Landing skids and shoes for obvious damage and security. With assistance, rock helicopter back and inspect bottom of skid tube for wear.	
34. Forward and rear skid struts for security and obvious damage; aft struts for freedom of swivel joints.	
35. Aft crossbeam for damage, security and excessive bending (One inch maximum allowed with no weight on gear, Basic HMI, Section 12).	
36. Front crossbeam for security and obvious damage.	
37. Landing light and wires for condition and security.	
38. Exterior of tailboom for obvious damage.	
39. Without disassembly, inspect tailboom assembly strut fittings and tailboom saddle for cracks, corrosion or other damage. Tailboom struts and end fittings for condition and security. Check condition of sealant where fittings enter tube and reseal if required.	
40. Visually inspect center attachment fitting for cracks or damage; pay particular attention to rivets securing center attachment fitting to tailboom; check for evidence of black fretting products under fitting rivet heads, or cracking in support fitting. Also check for cracking around attach rivets and screws of center bulkhead, tail rotor damper assembly and open holes in tailboom. Inspect attachment fittings for cracked lugs securing to tailboom struts. Dye penetrant inspect lugs of center attachment fitting if cracking is suspected.	
41. Position/tail/strobe light unit and wires for security and obvious damage.	
42. Static system for blockage. Clear obstruction from static system (Basic HMI, Section 14).	
43. Vertical stabilizer for damage and security.	
44. Tail rotor transmission adapter bolts for security.	
45. Horizontal stabilizer for condition and security. Check for cracks in all attachment mounts and castings, skins and rear spar close out; corrosion, loose rivets and other damage.	
46. Perform 100 hour engine inspection in accordance with manufactures publications.	
47. If installed, inspect engine overspeed installation (269A4997-1). Check magnetic pick-up, wiring, and control box for damage and security; perform operational check.	