

MOONEY AIRCRAFT, INC.

Service Letter 20-8

Date: 5-24-56

Subject: Kit - Main Landing Gear

Models Affected: Serial No. 1002 thru 1004, 1006, 1010 thru 1015, 1017 thru 1026, 1005 right main only, 1007 right main only, 1008 left main only.

Parts List: 5002-1K (1) 5002-2K (1)

Drawings: 5002, 8072

Instructions:

1. Turn fuel selector valve to off and drain fuel from the main tanks.
2. Raise airplane so that main gear clears the ground by lifting one wing at a time and placing a sturdy saw horse (32 inches high) under the wing spar between ribs approximately 26 inches outboard of main gear doors. Two men with their backs against the spar at the outboard end can easily lift the wing. Using a doubled 1 inch diameter rope, make a harness for the propeller and hoist until the nose gear just clears the ground. This may also be accomplished by pulling down on the horizontal stabilizer close inboard near the forward edge and tying the tail down through the tail skid. (See Fig. 1)
3. Remove 3 screws attaching each main tank filler neck to scupper on top side of wing.
4. Remove 2 front seats and lower forward upholstery panels and sound proofing to gain access to wing root area. Disconnect fuel lines and remove 90° elbow fitting from end of tanks. Disconnect fuel gauge wires in same area. The hot wire is marked with colored tape.
5. Remove tank corners on under side of wing allowing tank to drop down. Screws on the forward and aft edge of tank cover are held by nut plates. Screws on the inboard and outboard edges are held by nuts which may be reached from inside the cabin access panel at outboard end of tank cover.
6. Unlock and move gear retraction handle aft a short distance. Disconnect gear door, brake line, and retraction tube at each main gear. Remove 4 bolts thru main spar, and 2 bolts through rear spar (remove access panel to reach nuts.) Slide gear and supporting bearing down and forward at the front end first, exercising care that the rear bearing does not damage the wing skin.
7. Remove wheel assembly, retraction links, brake line and gear door brackets from old gear and install on new gear leg. (Ref. Drawing 5002 and 8072)
Caution - keep parts from right and left gear separate during disassembly. Do not attach gear door brackets to gear leg with sheet metal screws until doors are finally adjusted as explained in paragraph 9. Grease wheel bearings, retraction linkage and fore and aft bearings which attach to spars.

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8. Put front bearing and straps (P/N 5025 and 5072) and rear bearing in place on gear. Place aft end of gear in wheel well first and slide front end into position. Replace bolt in front bearing first and safety to existing screw. Attach rear bearing to rear spar. Attach retracting truss through aluminum block on main spar. Replace remaining bolts and nuts.
9. Before connecting retraction tube (P/N 5087) attach gear door links to brackets on gear leg. Raise gear by hand to see that there is no bind on door link Heim bearings. Door edge should seat evenly all around against wing without excessive distortion where links attach to door. Adjustment may be made by slightly shifting the position of the gear door brackets on the gear leg or by changing the length of the links. This is a preliminary adjustment. Do not attach gear door brackets to gear leg with sheet metal screws until door adjustment is rechecked after gear is rigged.
10. Rig the gear as follows:
 - a) Connect retraction tube (P/N 5087).
 - b) Place gear retraction handle in the down and lock position.
 - c) Check the gear down over center lock as shown in Fig. 2. THIS IS THE MOST IMPORTANT STEP IN THE GEAR RIGGING PROCEDURE. The retraction tube (P/N 5086) is adjusted to obtain the proper load on the retraction truss (P/N 5031) with the gear in the extended position without regard to its retracted position.
 - d) After main gears are rigged, the nose gear must be checked in the same manner. The nose gear has 2 retraction tubes (P/N 5085) which must be adjusted identically if any adjustment is necessary.
11. Retract gear and check fit of main gear doors. Edge of door should fit tightly against wing surface but not so tight that it makes the gear hard to operate.
12. Replace fuel tank and hold in position while 3 screws in filler neck are installed. Replace 90° elbow (from inside cabin) and then attach fuel tank cover to wing.
13. Inside cabin, hook up fuel line and fuel quantity gauge wires. (Hot wire is marked with colored tape.) Replace sound proofing, upholstery and seats.
14. Bleed brakes. This may be done more easily with gear retracted. Make sure gear retracting handle is in the down and locked position and lower airplane to the ground, nose first.

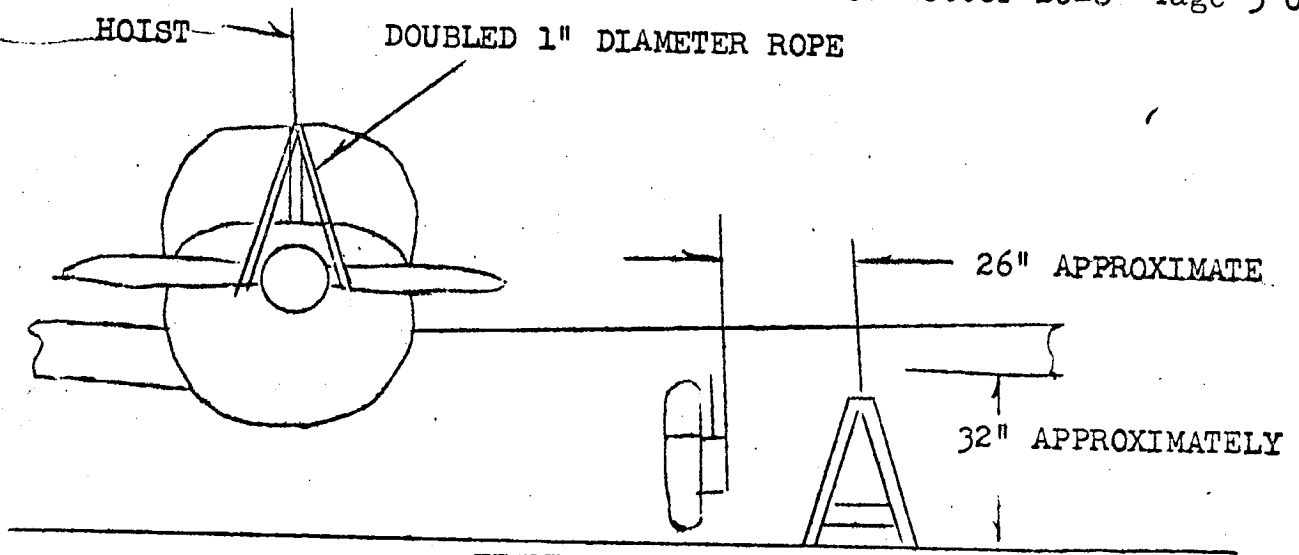
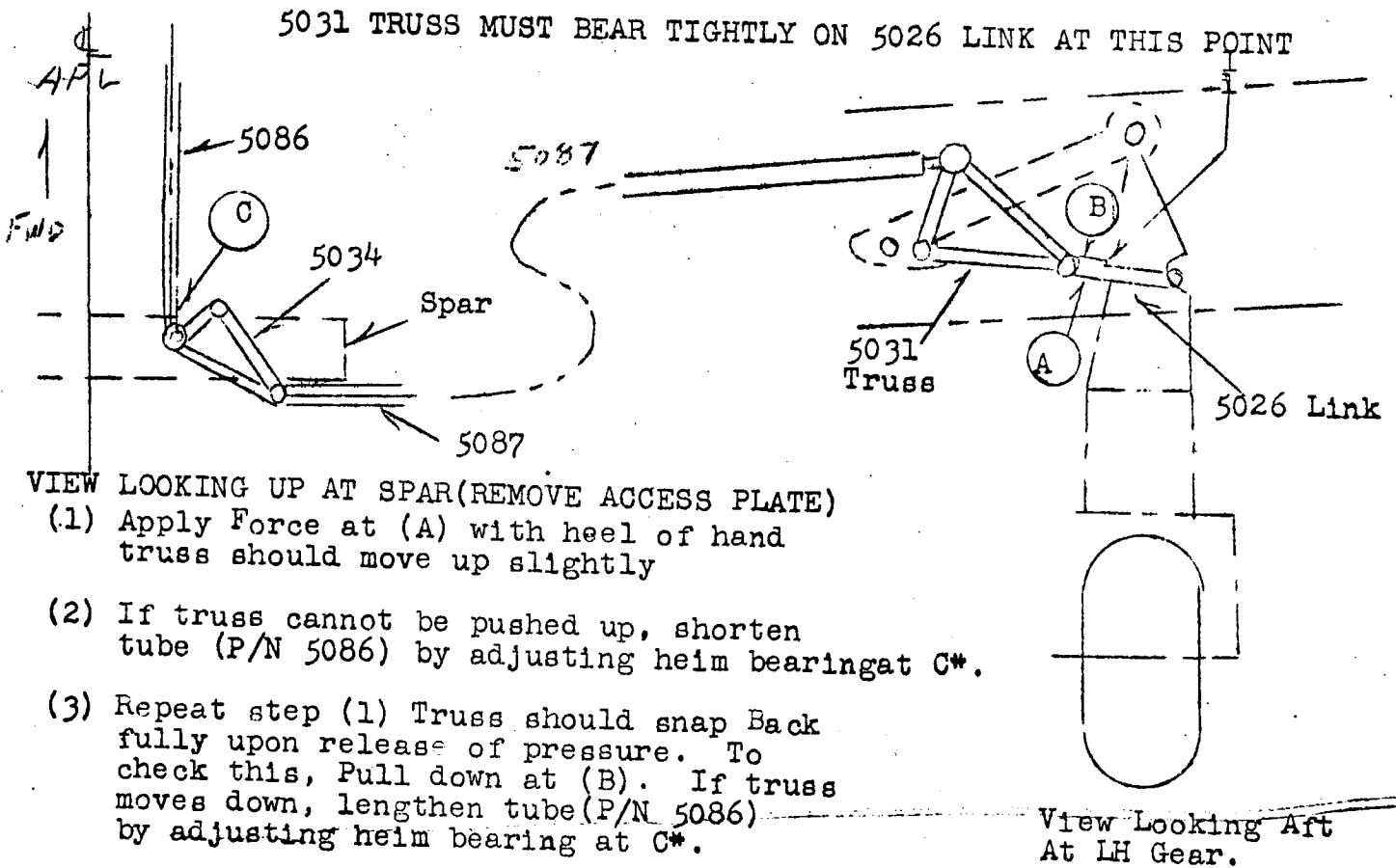


FIGURE 1



VIEW LOOKING UP AT SPAR (REMOVE ACCESS PLATE)

- (1) Apply Force at (A) with heel of hand truss should move up slightly
- (2) If truss cannot be pushed up, shorten tube (P/N 5086) by adjusting heim bearing at C*.
- (3) Repeat step (1) Truss should snap Back fully upon release of pressure. To check this, Pull down at (B). If truss moves down, lengthen tube (P/N 5086) by adjusting heim bearing at C*.

* Note: Relieve the preload on the system while adjusting heim bearings by unlocking gear retraction handle and moving it slightly aft.

Figure two