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**SERVICE BULLETIN**

**SB049-0399**

Subject: Lancair Main Gear Hydraulic Cylinder (Lancair IV, IV -P)

Date: 15 March, 1999

Ref: Construction Manual, chapter 19, pages 19 -68 through 19-81

Pages: 2

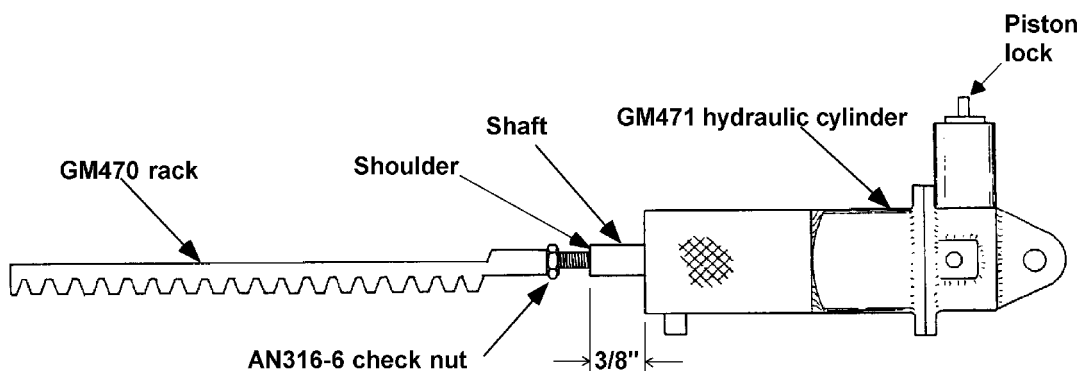
Status: Mandatory Inspection (Repair if necessary)

**Background:** On two occasions the cylinder shaft has unscrewed itself from the piston during initial rack position adjustment. There is no known case of the piston continuing to unscrew itself from the rod during normal operation once the initial rack adjustment has been made. However, if the piston did continue to unscrew itself from the rod, the landing loads could be transferred through the pinion, rack, and cylinder causing component failure.

**Action:**

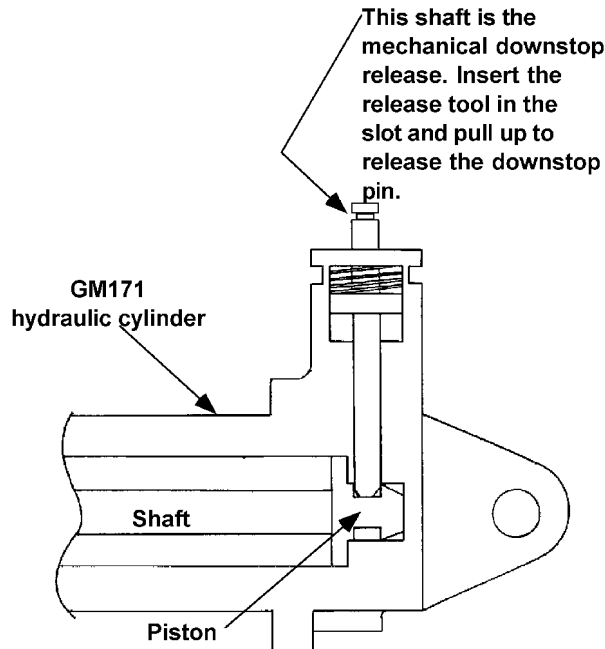
With the aircraft sitting on its gear, accurately measure the length of the shaft between the cylinder housing and the shoulder where the threads begin. It should be  $3/8$ ". If so, no further action is required. Recheck this length every 100 hrs.

**Figure 1.**



If this distance between the cylinder housing and the shoulder is more than  $3/8$ " and less than  $7/16$ ", support the aircraft on jack stands and release accumulated pressure in the hydraulic system by operating the flaps. Refer to manual pages 19 -77 through 19-79. Check that the piston is bottomed out and the down lock is engaged.

**Figure 2.**



When the downlock is engaged, the gear should remain very near the downstop cushion and not drop away when hydraulic pressure is released. Manually pull down and back on the gear to make sure. Push the gear forward into the cushion and support it in position to make sure the piston is bottomed out. Recheck the measured distance between the cylinder housing and the rack as well as the housing to shoulder distance. Release the check nut on the cylinder shaft and turn the shaft, attempting to thread it into the cylinder and out of the rack. Check the measured distances again. If the housing/shoulder distance remains the same and the housing/rack distance increases, the piston is secured to the shaft and no action is necessary. Recheck every 100 hrs. If the housing/shoulder distance decreases and the housing/rack distance stays the same, remove the cylinder and ship it to Lancair for repair.

If the distance between the cylinder housing and the shoulder is more than 7/16", remove the cylinder and ship it to Lancair for repair.