MAIN LANDING GEAR TORQUE TUBES

by Tony Saxton, TTCF Director or Tech Support

The MLG torque tubes have long been a service problem in the Twin Cessna aircraft with electro-mechanical landing gear. Reports of cracked, corroded, and broken tubes were being reported in Service Difficulty Reports as far as you want to check.

In the early 2000's Cessna introduced a new inspection criteria utilizing Magnetic Particle Inspection (magnaflux) to find bad tubes. They incorporated this into each model's maintenance manual over a period of several years. When the new Supplemental Inspection Document (SID) program was released, the inspection was then defined as a specific SID inspection. During this time Cessna redesigned the part to make it stronger and more reliable. These tubes were sprinkled into the parts pipeline as a superseded number for all of the earlier designs. The new parts numbers are 5045010-33 (left) and –32 (right)

In May of 2009 Cessna released Service Bulletin MEB09-2 which specified the replacement of all older tubes with the new –33 and –32 tubes.

New MLG torque tube installed (along with new side brace kit).

Typical crack location on a MLG torque tube.

FREQUENTLY ASKED QUESTIONS:

What aircraft are affected?

All Twin Cessnas with mechanical driven landing gear built from 1967 and on (as well as the 1965 & 1966 Cessna 411) are affected unless the –33 and –32 tubes had been installed as replacements in the past.

What action is to be taken?

All torque tubes other than –33 and –32 tubes must be replaced.

How can I identify the part?

The tubes are part of the left and right main landing gear drive mechanism located in the gear wells. Cessna states that the –33 and –32 have the part number stamped on them but this is frequently painted over, or in an area not visible while installed. The best way see if the new parts are installed is to access the tube and compare it to the picture in Figure 1. of MEB09-2.

When must this action be taken?

The Service Bulletin has a rather complicated phase in time frame of various in-service hours but it is basically when the part, or if unknown - the aircraft, reaches 4000 hours TT.

How long does the replacement take?

Aircraft must be jacked and the gear disconnected. Cessna says replacement time is 4.8 hours per tube (2 in each aircraft) An additional approximately 12 man-hours is required for re-rigging the landing gear. These estimates are conservative.

What is the cost of the part?

Current list price is $3,419.00 each (April 2011) and availability has been very good. You will find that on ordering from Cessna they require the aircraft model serial number. This information allows them to track installations.

What is the recurring action?

After installation of the new tubes, no recurring action is required. The newly designed –33 and –32 tubes have no further life limit and no additional special inspection requirements.

Is there a side benefit?

Well actually yes. The new tubes come with a new larger size fork bolt that is mandated to be periodically replaced on 400 series aircraft by AD76-13-07 each 5000 hr. at a cost of $729.00 each. Installation of the new tube resets the clock to zero on the fork bolts.

Just a sample from my bad torque tube collection.