
Service Bulletin

May 11, 2009

MEB09-2

TITLE

MAIN LANDING GEAR TORQUE TUBE LIFE LIMIT

EFFECTIVITY

<u>Model</u>	<u>Year</u>	<u>Serial Numbers</u>
310L	1967	310L0001 thru 310L0207
310N	1968	310N0001 thru 310N0198
310P/T310P	1969	310P0001 thru 310P0240
310Q/T310Q	1970 thru 1974	310Q0001 thru 310Q1160
310R/T310R	1975 thru 1981	310R0001 thru 310R2140
320E	1967	320E0001 thru 320E0110
320F	1968	320F0001 thru 320F0045
335	1980	335-0001 thru 335-0065
340	1972	340-0001 thru 340-0115
340	1973	340-0151 thru 340-0260
340	1974	340-0301 thru 340-0370
340	1975	340-0501 thru 340-0555
340A	1976	340A0001 thru 340A0125
340A	1977	340A0201 thru 340A0375
340A	1978	340A0401 thru 340A0562
340A	1979	340A0601 thru 340A0801
340A	1980	340A0901 thru 340A1045
340A	1981	340A1201 thru 340A1280
340A	1982	340A1501 thru 340A1543
340A	1984	340A1801 thru 340A1817
401	1967/68	401-0001 thru 401-0322
401A	1969	401A0001 thru 401A0132
401B	1970/71	401B0001 thru 401B0121
401B	1972	401B0122 thru 401B0221
402	1967/68	402-0001 thru 402-0322
402A	1969	402A0001 thru 402A0129

Page 1 of 9

To obtain satisfactory results, procedures specified in this publication must be accomplished in accordance with accepted methods and prevailing government regulations. Cessna Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

402B	1970/1971	402B0001 thru 402B0122
402B	1972	402B0201 thru 402B0249
402B	1973	402B0301 thru 402B0455
402B	1974	402B0501 thru 402B0640
402B	1975	402B0801 thru 402B0935
402B	1976	402B1001 thru 402B1100
402B	1977	402B1201 thru 402B1250
402B	1978	402B1301 thru 402B1384
411	1965/1966	411-0001 thru 411-0250
411A	1967/1968	411-0251 thru 411-0300
414	1970	414-0001 thru 414-0099
414	1971	414-0151 thru 414-0175
414	1972	414-0251 thru 414-0280
414	1973	414-0351 thru 414-0437
414	1974	414-0451 thru 414-0550
414	1975	414-0601 thru 414-0655
414	1976	414-0801 thru 414-0855
414	1977	414-0901 thru 414-0965
421	1967/1968	421-0001 thru 421-0200
421A	1969	421A0001 thru 421A0158
421B	1970	421B0001 thru 421B0056
421B	1971	421B0101 thru 421B0147
421B	1972	421B0201 thru 421B0275
421B	1973	421B0301 thru 421B0486
421B	1974	421B0501 thru 421B0665
421B	1975	421B0801 thru 421B0970

PURPOSE

It has been determined that all 5045010 Torque Tubes other than 5045010-32 and 5045010-33 Torque Tubes must be replaced after 4000 flight hours. Replacement 5045010-32 and 5045010-33 Torque Tubes do not have a life limit. Non-compliance with this service bulletin could potentially result in the fatigue failure of a 5045010 Torque Tube.

COMPLIANCE

Mandatory:

Airplanes with over 10,000 hours must replace the torque tube within the next 100 hours of operation or 6 months, whichever occurs first.

Airplanes with 8,000 to 10,000 hours must replace the torque tube within the next 200 hours of operation or 12 months, whichever occurs first.

Airplanes with 6,000 to 8,000 hours must replace the torque tube within the next 400 hours of operation or 18 months, whichever occurs first.

Airplanes with 4,000 to 6,000 hours must replace the torque tube within the next 600 hours or 24 months, whichever occurs first.

NOTE: A magnetic particle inspection in accordance with the applicable Supplemental Inspection Document 32-10-01 (300 Models) or 32-10-02 (400 Models) must be completed every 100 hours of operation if replacement of the torque tube(s) cannot be accomplished in the specified time above.

APPROVAL

FAA approval has been obtained on technical data in this publication that affects airplane type design.

MAN-HOURS

Approximately 0.8 man-hour per airplane to do the inspection.

If necessary, approximately 4.8 man-hours per side to replace a torque tube.

If necessary, approximately 12.0 man-hours to complete landing gear rigging.

MATERIAL

The parts below are available from Cessna Parts Distribution through an appropriate Cessna Service Station.

NOTE: The Airplane model and serial number, and total time in service must be provided with the order. The order will not be processed without this information.

<u>Part Number</u>	<u>Description</u>	<u>Qty/Airplane</u>
5045010-32	Right Torque Tube	1
5045010-33	Left Torque Tube	1

ACCOMPLISHMENT INSTRUCTIONS

Change In Weight And Balance

Negligible

Material Information

The parts below may be necessary:

New P/N	Quantity	Description	Old P/N	Disposition
5045010-32	1	Right Torque Tube	5045010	Discard
5045010-33	1	Left Torque Tube	5045010	Discard

1. Do as follows for each of the two main landing gear (MLG) torque tube assemblies that are installed on your airplane:
 - A. Look at applicable airplane paperwork such as logbooks, work orders, and sales/shipping receipts to see if one or more of the MLG torque tubes that follow are installed on your airplane:

- 5045010-1
- 5045010-2
- 5045010-7
- 5045010-8
- 5045010-13
- 5045010-14
- 5045010-19
- 5045010-20
- 5045010-24
- 5045010-25.

- (1) If one or more of the part number torque tubes shown in the list above are installed, do an inspection of the torque tubes to see if you must replace them. Go to Step 2.
- (2) If you cannot find from your paperwork which part number torque tubes are installed, go to Step 2.
- (3) If a 5045010-32 Right Torque Tube Assembly and a 5045010-33 Left Torque Tube Assembly are installed, go to Step 11.

2. Prepare the airplane for maintenance.

- A. Electrically ground the airplane.
- B. Make sure that all switches are in the OFF/NORM position.
- C. Disconnect electrical power from the airplane.
 - (1) Disconnect external electrical power.
 - (2) Disconnect the airplane battery.
- D. Attach maintenance warning tags to the battery and external power receptacle that have **"DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS"** written on them.

3. Get access to do the inspection of the 5045010 Torque Tube Assembly. (Refer to the applicable section of the service/maintenance manual.)

NOTE: You can see the torque tube assembly from under the wheel well. You can remove one of the circular panels from forward of the wheel well to see the forward side of the torque tube.

4. Examine the 5045010 Torque Tube Assembly to see if it is a 5045010-32 Right Torque Tube Assembly or a 5045010-33 Left Torque Tube Assembly.

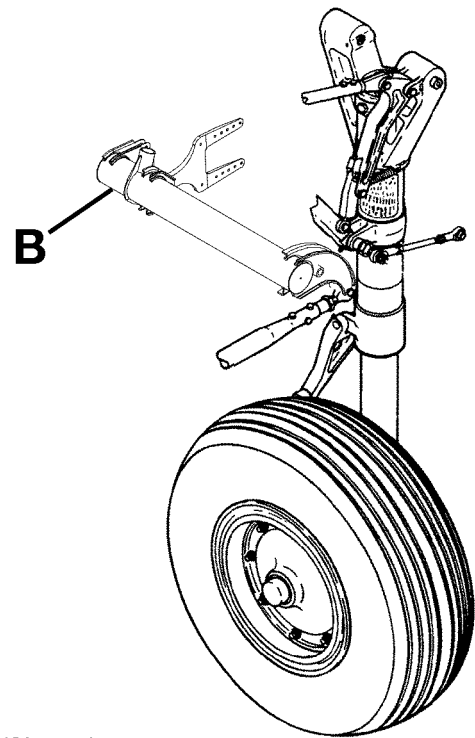
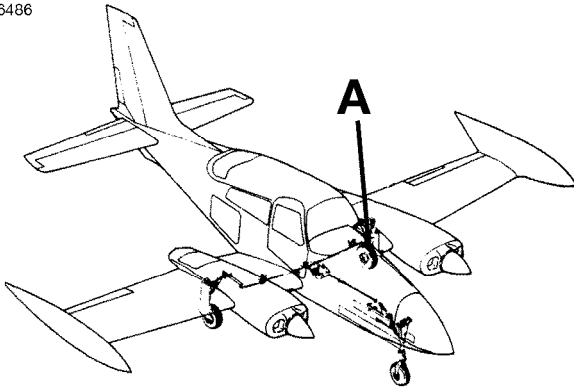
NOTE: You can use a flashlight and a mirror if necessary.

- A. Look for a part number stamped on the torque tube assembly.
 - (1) If there is a 5045010-32 (for the right torque tube assembly) or a 5045010-33 (for the left torque tube assembly) part number stamped on the torque tube assembly, go to Step 9.
 - (2) If there is no part number stamped on the torque tube assembly, go to Step 4B.
 - (3) If there is a part number other than 5045010-32 or a 5045010-33 stamped on the torque tube assembly, go to Step 5.

- B. (Refer to Figure 1, View A-A.) Examine the brace on the fork bolt tube.
 - (1) If there are no braces on the tube, the torque tube assembly installed on your airplane is not a 5045010-32 Right Torque Tube Assembly or a 5045010-33 Left Torque Tube Assembly. Go to Step 5.
 - (2) If there is only one brace on the tube, the torque tube assembly installed on your airplane is not a 5045010-32 Right Torque Tube Assembly or a 5045010-33 Left Torque Tube Assembly. Go to Step 5.
 - (3) If there are two braces on the tube, go to Step 4C.
 - C. Measure the outer diameter of the fork bolt tube:
 - (1) If the outer diameter of the tube is approximately 0.91 inch, the torque tube assembly installed on your airplane is a 5045010-32 Right Torque Tube Assembly or a 5045010-33 Left Torque Tube Assembly. Go to Step 9.
 - (2) If the outer diameter of the tube is approximately 0.68 inch, the torque tube assembly installed on your airplane is not a 5045010-32 Right Torque Tube Assembly or a 5045010-33 Left Torque Tube Assembly. Go to Step 5.
5. Return the airplane to service as follows:
- A. Put the airplane on jacks. (Refer to the applicable section of the service/maintenance manual.)
 - B. (Refer to Figure 1, Detail A and Detail B.) Remove the 5045010 Torque Tube Assembly from the airplane. Keep the attachment hardware, but discard the nuts and the cotter pins. (Refer to the applicable section of the service/maintenance Manual.)
 - C. If you must replace the left and/or the right torque tube assembly and you will do the replacement now, go to Step 6.
 - D. If you must replace the left and/or the right torque tube assembly and you cannot do the replacement now, do as follows:
 - (1) Do a magnetic particle inspection in accordance with the Supplemental Inspection Document 32-10-01 (300 Models) or 32-10-02 (400 Models) now and again each 100 hours until you do the replacement.
 - (a) If one or more cracks are found, you must replace the torque tube before further flight.
 - (b) If no cracks are found, do as follows:
 - 1 Install the used torque tube assembly in accordance with Step 6 thru Step 11.
 - 2 Do a magnetic particle inspection in accordance with the Supplemental Inspection Document 32-10-01 (300 Models) or 32-10-02 (400 Models) each 100 hours until you replace the used torque tube assembly with a 5045010-32 Right Torque Tube Assembly (5045010-33 Left Torque Tube Assembly).
- WARNING: YOU MUST REPLACE THE TORQUE TUBE ASSEMBLY WITHIN THE TIME AND CONDITION LIMITS SPECIFIED IN THIS SERVICE BULLETIN. FATIGUE FAILURE OF THE MLG TORQUE TUBE ASSEMBLY CAN CAUSE DAMAGE TO THE AIRPLANE AND DANGER TO PASSENGERS DURING LANDING.**
- 3 Replace the used torque tube assembly when you can in accordance with Steps 6 thru 11 and the Compliance Section of this service bulletin.
- (2) Go to Step 6.

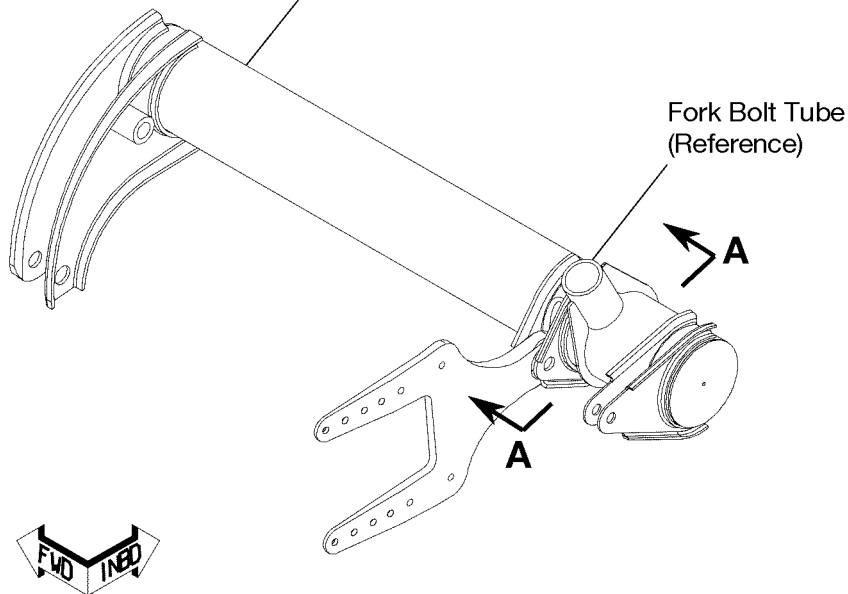
6. Install the 5045010-32 Right Torque Tube Assembly (5045010-33 Left Torque Tube Assembly) with the kept attachment hardware.
 - A. Do a visual inspection of the kept hardware that attaches the torque tube assembly to the outboard push-pull tube, uplock push-pull tube, support, 5027002-5 Support Bracket Assembly, and outboard drive tube.
 - (1) If the kept hardware is in serviceable condition, keep it.
 - (2) If the kept hardware is not in serviceable condition, discard it.
 - B. Install the 5045010-32 Right Torque Tube Assembly (5045010-33 Left Torque Tube Assembly) to the outboard push-pull tube, uplock push-pull tube, support, outboard drive tube, and 5027002-5 Support Bracket Assembly with the new nuts and cotter pins and the kept or new washers and bolts in accordance with the applicable Illustrated Parts Catalog. (Refer to the applicable section of the service/maintenance manual.)
7. Do all parts of the rigging of the landing gear system. (Refer to the applicable sections of the service/maintenance manual.)
8. Take the airplane off jacks. (Refer to the applicable section of the service/maintenance manual.)
9. Install the equipment that you removed for access. (Refer to the applicable sections of the service/maintenance manual.)
10. Remove maintenance warning tags and connect the airplane battery.
11. Make an entry in the airplane logbook that states compliance and method of compliance with this Service Bulletin.

NOTE: This information must be considered an amendment to the Cessna Manufacturer's Service/Maintenance Manual or Instructions for continued airworthiness and must be accomplished for ongoing airworthiness compliance as necessary in accordance with 14 CFR Part 43.13.



DETAIL A

5045010-33
Left Torque Tube Assembly (Shown)
5045010-32
Right Torque Tube Assembly (Opposite)
(1 Each If Required)



DETAIL B

NOTE: All dimensions are shown in inches.

1040R3001
A1041R3007
B0545T010

Figure 1. MLG Torque Tube Replacement (Sheet 1)

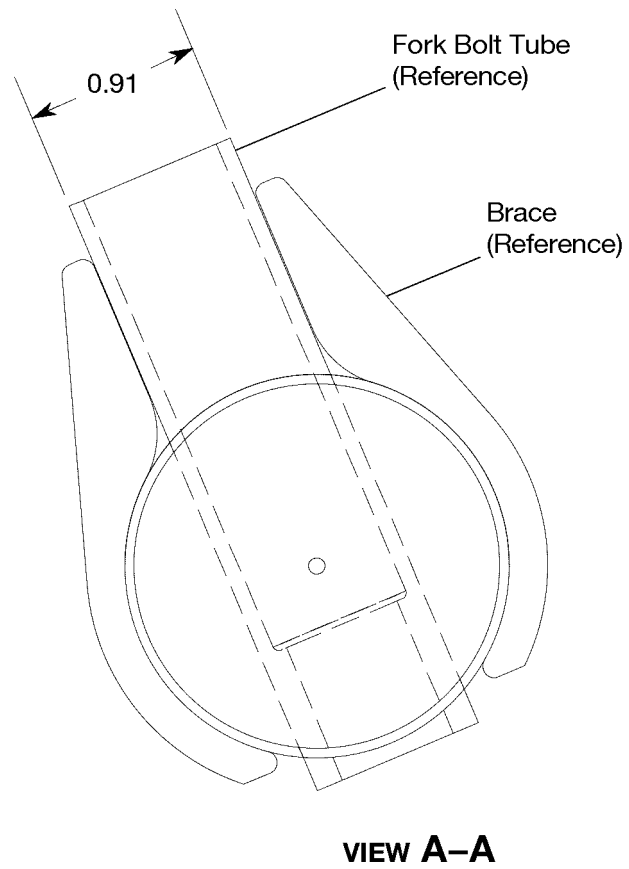


Figure 1. MLG Torque Tube Replacement (Sheet 2)

1010T1012

CREDIT

Not applicable

OWNER NOTIFICATION

On May 11, 2009 the following Owner Advisory message will be sent to applicable owners of record in MEB09-2A.

Dear Cessna Owner:

This Owner Advisory is to inform you that MEB09-2 Main Landing Gear Torque Tube Life Limit has been issued.

It has been determined that all 5045010 Torque Tubes other than 5045010-32 and 5045010-33 Torque Tubes must be replaced after 4000 flight hours. Replacement 5045010-32 and 5045010-33 Torque Tubes do not have a life limit. Non-compliance with MEB09-2 could potentially result in the fatigue failure of a 5045010 Torque Tube.

Compliance is mandatory:

Airplanes with over 10,000 hours must replace the torque tube within the next 100 hours of operation or 6 months, whichever occurs first.

Airplanes with 8,000 to 10,000 hours must replace the torque tube within the next 200 hours of operation or 12 months, whichever occurs first.

Airplanes with 6,000 to 8,000 hours must replace the torque tube within the next 400 hours of operation or 18 months, whichever occurs first.

Airplanes with 4,000 to 6,000 hours must replace the torque tube within the next 600 hours or 24 months , whichever occurs first.

NOTE: A magnetic particle inspection in accordance with the applicable Supplemental Inspection Document 32-10-01 (300 Models) or 32-10-02 (400 Models) must be completed every 100 hours of operation if replacement of the torque tube(s) cannot be accomplished in the specified time above.

The information contained in the referenced Cessna Service Bulletin shall be considered an amendment to the Cessna Manufacturer's Service/Maintenance Manual or Instructions for continued airworthiness, and must be accomplished for ongoing airworthiness compliance in accordance with 14 CFR Part 43.13.

Please contact a Cessna Multi-engine Service Station for detailed information and arrange to have Cessna Service Bulletin MEB09-2 accomplished on your airplane.

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