



**The New Piper Aircraft, Inc.**  
2926 Piper Drive  
Vero Beach, Florida, U.S.A. 32960

# SERVICE No. 1105A BULLETIN

## PIPER CONSIDERS COMPLIANCE MANDATORY

Date: September 22, 2003

(M)

SB 1105A supersedes SB 1105.

**SUBJECT:**

**Rudder Torque Tube Assembly Inspection**

**MODELS AFFECTED:**

PA-31; 31-300; 31-325 Navajo  
PA-31-350 Navajo Chieftain  
PA-31-350 T1020  
PA-31P Pressurized Navajo  
PA-31P-350 Mojave  
PA-31T Cheyenne II  
PA-31T1 Cheyenne IA  
PA-31T2 Cheyenne IIXL  
PA-31T3 T1040

**SERIAL NUMBERS AFFECTED:**

31-2 through 31-8312019  
31-5001 through 31-8452021  
31-8253001 through 31-8553002  
31P-1 through 31P-7730012  
31P-8414001 through 31P-8414050  
31T-7400002 through 31T-8120104  
31T-7804001 through 31T-1104017  
31T-8166001 through 31T-1166008  
31T-8275001 through 31T-5575001

**COMPLIANCE TIME:**

- |        |  |
|--------|--|
| Part 1 | Inspection for corrosion of the Torque Tube. To coincide with next regularly scheduled maintenance event, but not to exceed twenty five (25) hours time in service and at each annual inspection thereafter. |
| Part 2 | Replacement of corroded parts. Upon condition  |

**APPROVAL:**

The technical content specified in this Service Bulletin has been shown to comply with the applicable Federal Aviation Regulations and is FAA approved.

**PURPOSE:**

- |        |   |
|--------|---|
| Part 1 | Reports have been received of Rudder Torque Tube corrosion. If not corrected, the corrosion could advance to a degree that the structural integrity of the torque tube would be compromised and affect the rudder control. Part 1 of this service bulletin requires the addition of access provisions to allow inspection for corrosion on that portion of the rudder torque tube inside the rudder, addition of drain holes, and the application of a rust inhibitor.<br>Kit 767-349 will be required for compliance to this service bulletin. |
| Part 2 | To provide Field Service personnel with recommendations for replacement of corroded parts.  |

(OVER)

ATA: 2725

**INSTRUCTIONS:**

Following are the Aircraft Models and Torque Tubes affected by this service bulletin.

MODEL	TORQUE TUBE ASS'Y	SERIAL NUMBERS AFFECTED
PA-31 PA-31-300 PA-31-325	40040-09	31-2 through 31-8312019
PA-31-350		31-5001 through 31-8452021
PA-31-350 T1020		31-8253001 through 31-8553002
PA-31P-350		31P-8414001 through 31P-8414050
PA-31P	40040-07	31P-1 through 31P-7730012
PA-31T 'II'		31T-7400001 through 31T-8120104
PA-31T1 'IA'		31T-7804001 through 31T-1104017
PA-31T2 'IIXL'		31T-8166001 through 31T-1166008
PA-31T3 T1040		31T-8275001 through 31T-5575001

**Table 1**

**Part 1**

1. Install inspection hole and perform inspection per Kit P/N 767-349.
2. This kit includes instructions for the following:
  - a. Addition of 0.88 diameter hole in the rudder skin that will allow the periodic inspection of that portion of the torque tube inside the rudder structure.
  - b. Inspection instructions to check for corrosion of the torque tube.
  - c. Addition of drain holes in the bottom rib to prevent accumulation of water.
  - d. Application of rust inhibitor compound to the contact surfaces between the steel torque tube and the aluminum ribs and spar.

**Part 2**

Note:

The following tables list service kits that provide parts and instructions to replace the rudder torque tube and associated parts that are found to be corroded and require replacement.

**Part 2 (Continued)**

1. Rudder Torque Tube Replacement Kits (see Table 2 below): These kits include a new torque tube plus special instructions to expedite the replacement and allow for rivet substitutions.

Model	Torque Tube Assembly	Torque Tube Replacement Kit
PA-31 PA-31-300 PA-31-325 PA-31-350 PA-31-350 T1020 PA-31P-350	40040-09	Kit 767-351
PA-31P PA-31T 'II' PA-31T1 'IA' PA-31T2 'IIXL' PA-31T3 T1040	40040-07	Kit 767-350

Table 2  
(Torque Tube Replacement Kits)

2. Rib/Rudder Torque Tube Assembly Replacement Kits (see table 3 below): If the ribs that attach to the torque tube are corroded, it is recommended that they be replaced with a rib/rudder torque tube assembly in lieu of individual parts. The assembly will eliminate the problem of accessibility to drive certain rivets when installing the new individual parts in the rudder.

Model	Torque Tube /Rib Replacement Kit
PA-31 PA-31-300 PA-31-325 PA-31-350 PA-31-350 T1020 PA-31P-350	Kit 767-346
PA-31P	Kit 767-347
PA-31T 'II' PA-31T1 'IA' PA-31T2 'IIXL' PA-31T3 T1040	Kit 767-348

Table 3  
(Torque Tube/Rib Replacement Kits)

**MATERIAL REQUIRED:** One (1) each, Kit 767-349 and if required, see Table 2 or Table 3 for appropriate kit part number when replacement parts are necessary, per aircraft.

**AVAILABILITY OF PARTS:** Your Piper Field Service Facility.

**EFFECTIVITY DATE:** This Service Bulletin is effective upon receipt.

**SUMMARY:** Please contact your Factory Authorized Piper Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the compliance time indicated.

**NOTE:** If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify the factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections/changes should be directed to:

THE NEW PIPER AIRCRAFT, INC.  
Attn: Customer Service  
2926 Piper Drive  
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