



SERVICE DIRECTIVE BULLETIN

SERVICE NOTE NO. 0015

Page 1 of 2

Date: February 26, 1973

Subject: Cyclic Stick Torque Tube Assemblies

Models Affected: F-28A Serial Numbers 3 through 94; 97 through 112; 115, 119, 120, 123; 130 through 136

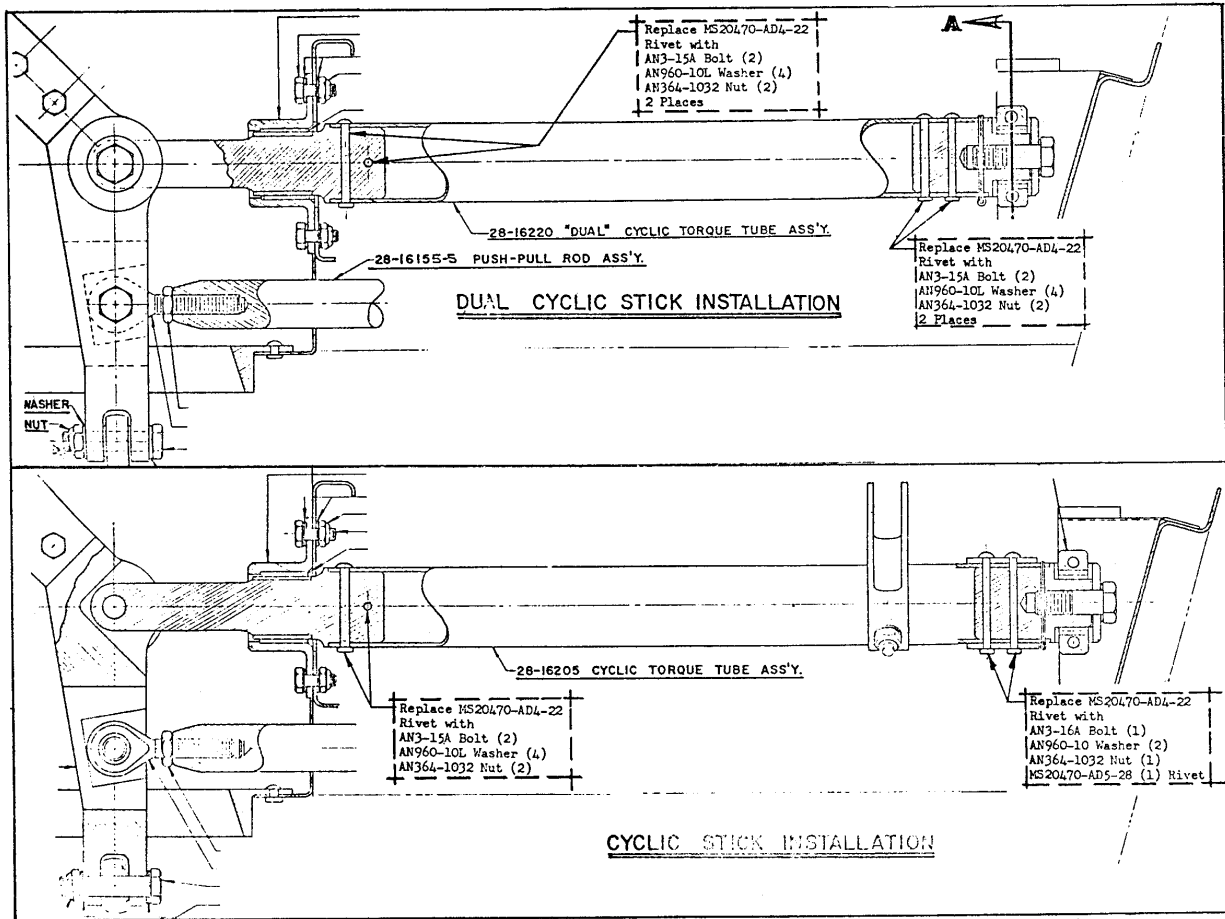
Time of Compliance: As Noted

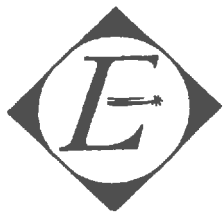
Three instances have been reported of fretting of the MS20470AD4-22 rivets on the 28-16205 cyclic torque tube assembly and the 28-16220 "dual" cyclic torque tube assembly. These four connections are illustrated on page number two of this Service Note. If any of the MS20470AD4-22 rivets are found to be loose, they should be replaced by using the hardware listed on the attached sheet.

To install the aforementioned hardware, disassemble 28-16205 and 28-16220 torque tube assemblies at the fore and aft mounting locations. Remove the torque tube assemblies from the seat structure. Drill out the existing MS20470AD4-22 rivets. Drill the existing (.125) diameter holes to (.1875) diameter and install the proper AN3 bolts. Due to the rivet spacing on the pilot's 28-16205 torque tube assembly, the aft fitting requires one AN3-16A bolt and one MS20470-AD5-28 rivet. This fitting is shown on the lower right-hand side of the attached illustration. After the proper hardware has been installed, reassemble the torque tubes in the proper location in the seat structure.

We recommend that the torque tubes be inspected and the replacement hardware be installed at the operator's earliest convenience, or at the next 100-hour inspection period.

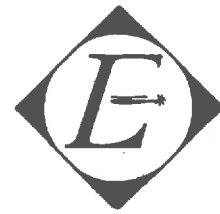
Note: For torque values see Enstrom Process Specification SP-103.





R. J. Enstrom Corporation

SERVICE NOTE



SERVICE NOTE NO. 0015.....

Amendment No. 1

Date: February 28, 1973
Subject: Cyclic Stick Torque Tube Assemblies

Models

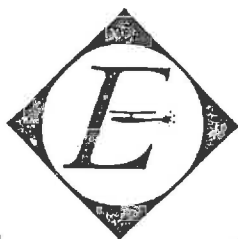
Affected: F-28A Serial Numbers 3 through 94; 97 through 112;
115, 119, 120, 123; 130 through 136

The second paragraph of Service Note 0015 explains the recommended hardware for the aft fitting on the pilot's 28-16205 torque tube assembly. We have been made aware the distance between the center of the rivets will not allow the use of an MS20470-AD5-28 rivet with an AN3-16A bolt. To rectify this situation, drill out one of the existing MS20470-AD4-28 rivets and install the AN3-16A bolt in its place. The remaining MS20470-AD4-28 rivet should be left intact. If the remaining MS20470-AD4-28 is found to be loose, it should be drilled out and replaced by a rivet of the same size.

Assembly Note:

After drilling the respective rivets out and enlarging of the holes to accept the AN3 bolts, install the correct hardware on the aft fittings of the 28-16205 and 28-16220 torque tube assemblies. Insert the respective torque tube assemblies back into the seat structure to their proper locations. At this time install the correct hardware to the forward fittings. If this procedure is not followed, extreme difficulty will be incurred when reinserting the torque tubes back into the seat structure.

R. J. Enstrom



Corporation

M E N O M I N E E

M I C H I G A N

Title: Standard Torque Values

1. Scope

1.1 This specification covers standard torque values for National Fine and National Coarse nuts and bolts and tube nuts. All special torque values will be defined on applicable drawings.

2. Torque Values for Nuts and Bolts (inch-pounds)

2.1 National Fine*

<u>Column 1</u> Tap Size	<u>Column 2</u> Tension Nuts AN 365, AN 310	<u>Column 3</u> Shear Nuts AN 364, AN320
8-36	12-15	7-9
10-32	20-25	12-15
$\frac{1}{4}$ -28	55-75	30-40
5/16-24	100-140	60-85
3/8-24	190-240	110-150
7/16-20	340-420	200-260
$\frac{1}{2}$ -20	520-690	290-410
9/16-18	800-1000	480-600
5/8-18	1100-1300	600-780
3/4-16	2300-2500	1300-1500
7/8-14	2500-3000	1500-1800
1-14	3700-5500	2200-3300
1-1/8-12	5000-7000	3000-4200
1-1/4-12	9000-11000	5400-6600

2.2 National Coarse*

8-32	12-15	7-9
10-24	20-25	12-15
$\frac{1}{4}$ -20	40-50	25-30
5/16-18	80-90	48-55
3/8-16	160-185	95-100
7/16-14	235-255	140-155
$\frac{1}{2}$ -13	400-480	240-290
9/16-12	500-700	300-420
5/8-11	700-900	420-540
3/4-10	1150-1600	700-950
7/8-9	2200-3000	1300-1800

*Torque Values are derived for oil free cadmium-plated steel threads