

Date: 10 May 2017
 To: Thai Aviation Services Limited
 Regarding: TR PCR Inboard Bolt Too Long
 Technical Case #: C0051988
 Attn: Grant Robinson

On January 30, it was documented that TAS maintainers noted very tight clearance between the nut on the Tail Rotor Pitch Link bolt (inboard) and the Tail Rotor Boot.

S76D IPC 64-20-01 Fig. 1 item 12 calls out bolt P/N NAS1104-26D with Qty 01 P/N NAS1149F0463P thick washer and P/N NAS1149F0432P thin washers as required under the P/N MS17826-4 nut.

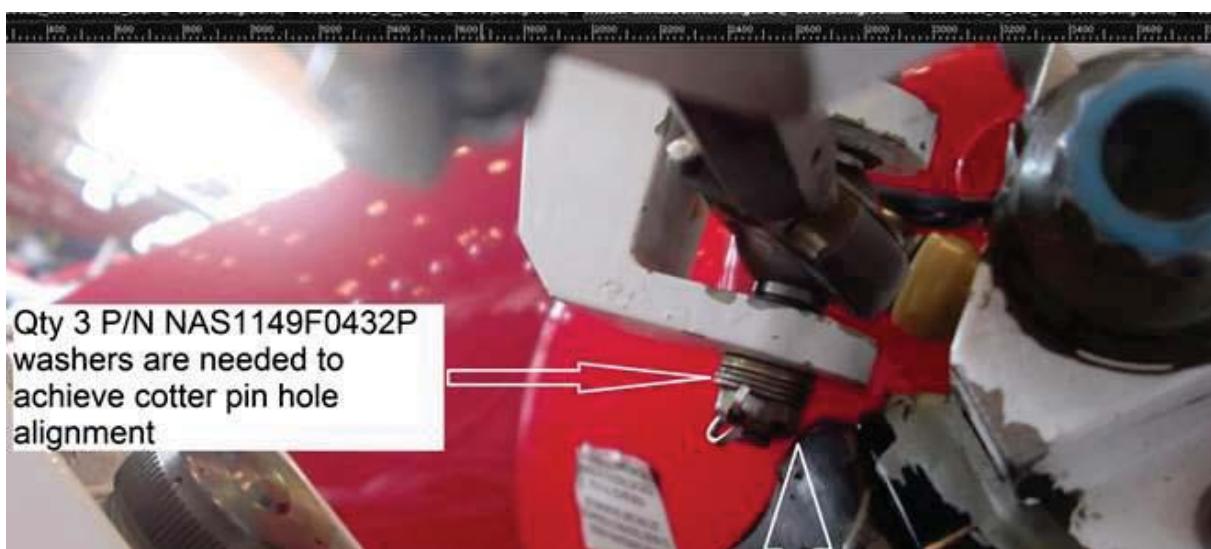
S76D AMM 64-22-00 page 202 para. 3 states in a note "Use NAS1149F0432P washers if required under castellated nut to line up cotter pin hole after nut is torqued". It does not state quantity.

Drawing 76101-06000 agreed with the AMM and IPC.

TAS had found that the -26D bolt length typically required Qty 3 NAS1149F0432P thin washers to line up the cotter pin hole, leaving the P/N MS17826-4 nut within 0.010 inches or less of contacting the TR boot, even under static conditions.

This suggested to TAS that the bolt was too long.

TAS requested Sikorsky Engineering approval to use the shorter NAS1104-24D bolt for the inboard TR PCR attachment for all S-76D's in the TAS fleet via technical case# C0051988.



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Review of the drawings at that time, indicated that TAS was installing the bolt backwards, which was the cause of the close tolerance between the boot of the adjacent blade and the nut.

The horn has a straight bushing on the "outside" (towards the adjacent blade boot) and a flanged bushing on the "inside". The install drawing showed the bolt head being installed at the straight bushing side, with the washer stack-up and nut on the "inside". It was communicated through the case resolution that when the bolt was installed in the correct orientation, there should be adequate clearance between the bolt head and the boot of the adjacent blade.

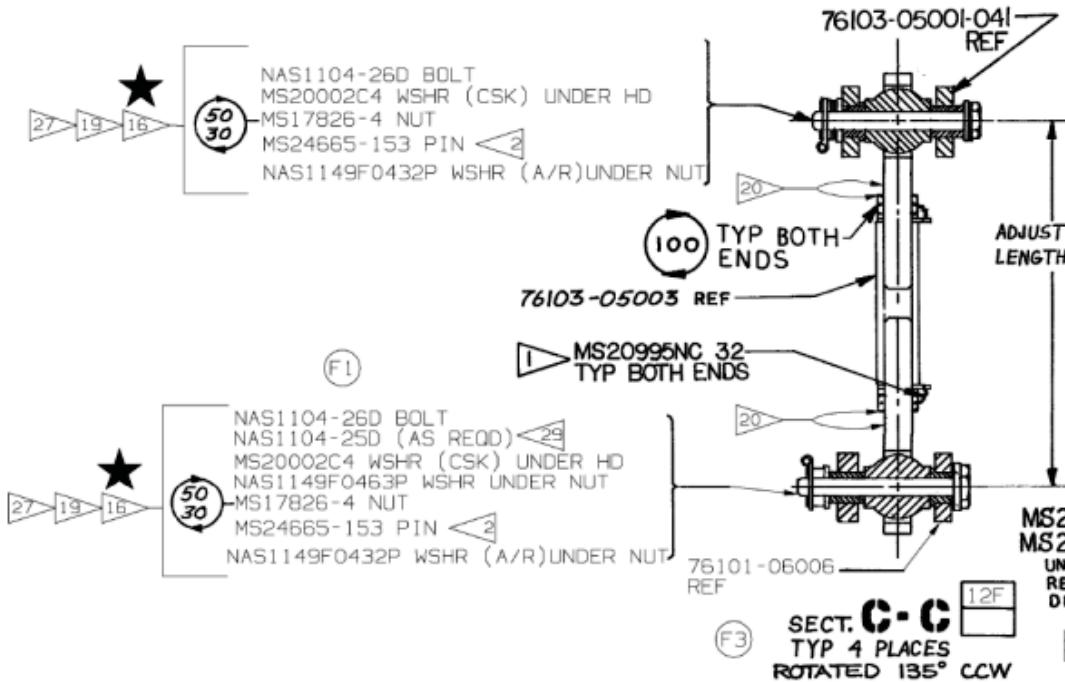
We then recommended the customer to correct the installation of these bolts on all S-76 aircraft in their fleet.

On May 8, a revision to 76101-06000 was released, which now allows the shorter NAS1104-25D bolt to be used in place of the NAS1104-26D bolt for this application only.

The NAS1104-24D bolt originally requested by the TAS cannot be used, because the stack-up calculation indicates it is too short.

If this was not a flight safety critical characteristic installation, the approval time for using a shorter bolt would have been much quicker and would not have required a drawing revision.

Please confirm T/R Pitch Link Bolt stack-up per Sikorsky drawing 76101-06000 Rev. F screenshot below.



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Sikorsky
6900 Main Street - P.O. Box 9729
Stratford, Connecticut 06497-9129



Best Regards,

Austin T. Lee

Service Engineering

Sikorsky Aircraft Corporation

124 Quarry Road

Trumbull, CT 06611-4816

austin.t.lee@lmco.com

Direct: 203.416.4396 | Mobile: 203.224.8544

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