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

Date:	4 October 2017
To:	Thai Aviation Services Limited
Attention:	Grant Robinson
Regarding:	S-76D TR Quadrant Support Bearing Replacement Procedures
Technical Case #:	C0071334

Sikorsky Engineering recommends to follow guidance for the replacement of the bearings in 76403-05118-043 support assembly per the "Approved Repairs- Bearing replacement" procedure outlined on following pages. Use method B for replacing bearing 38950-00907-104 and method C for bearing 38950-00908-101. Bearing staking tools are called out on Table 802.

Tail rotor quadrant support assemblies 76403-05118-043 and 76403-05118-042 have a slightly different clearance radius on the top of the part, which will have no effect on the installation of the replacement bearings 38950-00907-104 and 38950-00908-101. Also, the portion of the part housing the bearings is identical between the -042 and -043.

Best Regards,

David A. Persico
Service Engineering
Sikorsky, a Lockheed Martin Company
124 Quarry Road
Trumbull, CT 06611
M/S K100A-5
dave.a.persico@lmco.com
Office (direct): 203-416-4219
Office (24 hr. line): 203-416-4299
Office (24 hr. line): 1-800-946-4337
E-Fax: 860-998-7527

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

1. Flight Control Component Bearing Replacement.

Radial play between bearing inner and outer races is the only acceptable measurement of bearing wear. If radial play appears excessive, measure with a dial indicator. Axial play between bearing inner and outer races shall be disregarded. Although maximum allowable limits for radial play can be established for bearings in individual components, it may be necessary to replace bearings with less than the maximum allowed radial play in order to maintain a responsive control system on the aircraft. The total amount of play in a given control channel (pitch, roll, collective, yaw) will increase rapidly as the radial play in the bearings installed in the individual components increases.

A. Rod End Bearings. Radial play in rod end bearings is not to exceed 0.002 inch. Hollow and solid shank rod ends (SB4001 and REP4H) are secured with rivets and replacement is not recommended; replace component. Threaded rod ends can be replaced as follows:

1) Measure and record length from opposite end to center of bearing bore.

2) Note angular relationship between rod end and opposite end of rod.

3) Remove discrepant rod end and discard.

4) Install new rod end to length recorded in step (1), maintaining angular relationship with opposite end of rod as noted in step (2). Threads of adjustable rod end bearings shall be lubricated and protected before and after assembly with ion Corrosion Preventive Compound, COR-BAN 27L.

WARNING: FOR SAFETY OF FLIGHT, CHECK THAT ADJUSTABLE ROD JAMNUTS ARE TORQUED TO 140 INCH-POUNDS AND TORQUE STRIPE IS APPLIED.

5) Torque jamnut to 140 inch-pounds by holding pushrod with strap wrench while tightening jamnut. This will react torque and prevent damage to bearings.

WARNING: FOR SAFETY OF FLIGHT, CHECK THAT ADJUSTABLE ROD-END OF PUSHROD IS THREADED PAST INSPECTION HOLE AND THAT A 0.020-INCH-DIAMETER PIECE OF LOCKWIRE CANNOT PASS THROUGH INSPECTION HOLE. IF WIRE PASSES THROUGH HOLE, READJUST ROD END.

6) Check that adjustable rod end is threaded past inspection hole and that a 0.020-inch-diameter piece of lock wire cannot pass through inspection hole. If wire passes through hole, readjust rod end.

NOTE: Do not cover inspection holes with torque stripe/slippage mark.

7) Apply torque stripe/slippage mark to pushrod jamnut. (Refer to Torque Striping/Slippage Mark, SA S76D-AMM-000 Task 20-04-00.)

8) Apply thin film of Corrosion Preventive Compound, COR-BAN 27L to jamnut mating surfaces and inspection holes. Do not cover torque stripe/slippage mark.

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

B. Spherical Bearings. Radial play in spherical bearings (KR4-CNG and SBSH10ATC22ZM) is not to exceed 0.002 inch. Spherical bearings can only be removed by carefully machining the bearing from the component bore. Special installation tools are required to install a replacement bearing. Bearing replacement is not recommended.

C. Table 801 summarizes the types of aircraft control bearing installations and the corresponding replacement method. Table 802 lists individual flight control components with the maximum acceptable radial bearing play, bearing replacement method and maximum rotational drag. Replacement methods are as follows:

Table 801

Type of Bearing Installation	Replacement Method
Install with Primer and Stake per Figure 801	B
Install with Primer and Stake per Figure 802	C

1) Methods B, and C:

NOTE: The difference between Method B and C is the type of stake required in step (i).

a) To replace a bearing by method B or C, sufficient new staking locations must be available. Compare existing staked bearing with Figure 801 for bearings designated with replacement method B or Figure 802 for bearings designated with replacement method C to verify sufficient staking locations remain. If sufficient new staking locations are not present the component is to be discarded. If sufficient locations are available, proceed to step (b).

b) Remove bearing(s) and spacer (if present) from the component using an arbor press and a step-type bearing remover to press the bearing(s) from the component or using the correct size puller, pull the bearings from the component.

c) Locally blend to remove any material from the existing stake marks that protrudes into the bore that houses the bearing. Remove only the protruding material. Touch up blended areas with brush alodine.

d) Dimensionally inspect inside diameter of the component for conformance to the housing bore specified in Table 802. If housing bore is not in conformance, component is to be discarded.

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

e) Locally fluorescent penetrant inspect the bore of aluminum and stainless steel components and magnetically inspect the bore of steel components for cracks only. If crack indications are detected, discard part.

f) Clean inside diameter of the component and the outside diameter of a new bearing with degreasing solvent. Do not allow degreasing solvent to seep into the bearing.

g) Assemble and install spacer if specified in Table 802.

h) Apply a light coat of primer, MIL-P-85582 to outside diameter of bearing(s) and inside diameter of component. Allow to air-dry for at least 30 seconds. Within 10 minutes after applying surface primer, press new bearing(s) into the component using an arbor press.

CAUTION: DO NOT USE A HAMMER TO INSTALL THE BEARING OR FOR STAKING PURPOSES.

i) For bearings designated method B stake as shown in Figure 801 and for bearings designated method C stake as shown in Figure 802. Do not stake at original impressions. Stake only in new locations between existing staking marks. If there are no remaining new staking locations the component is to be discarded.

j) Do a rotational drag check of the newly installed bearing(s) as follows:

1. Using a suitable bolt and, install washers bolt through bearing inside diameter with washers seated on lip of inner race of bearing. Tighten nut onto bolt enough to secure to the inner race.

2. Using a torque wrench, and socket, turn bolt head and measure rotational drag of bearing. If drag is equal to or less than that specified in Table 802 the bearing installation is acceptable. If the drag exceeds that specified, the bearing shall be replaced.

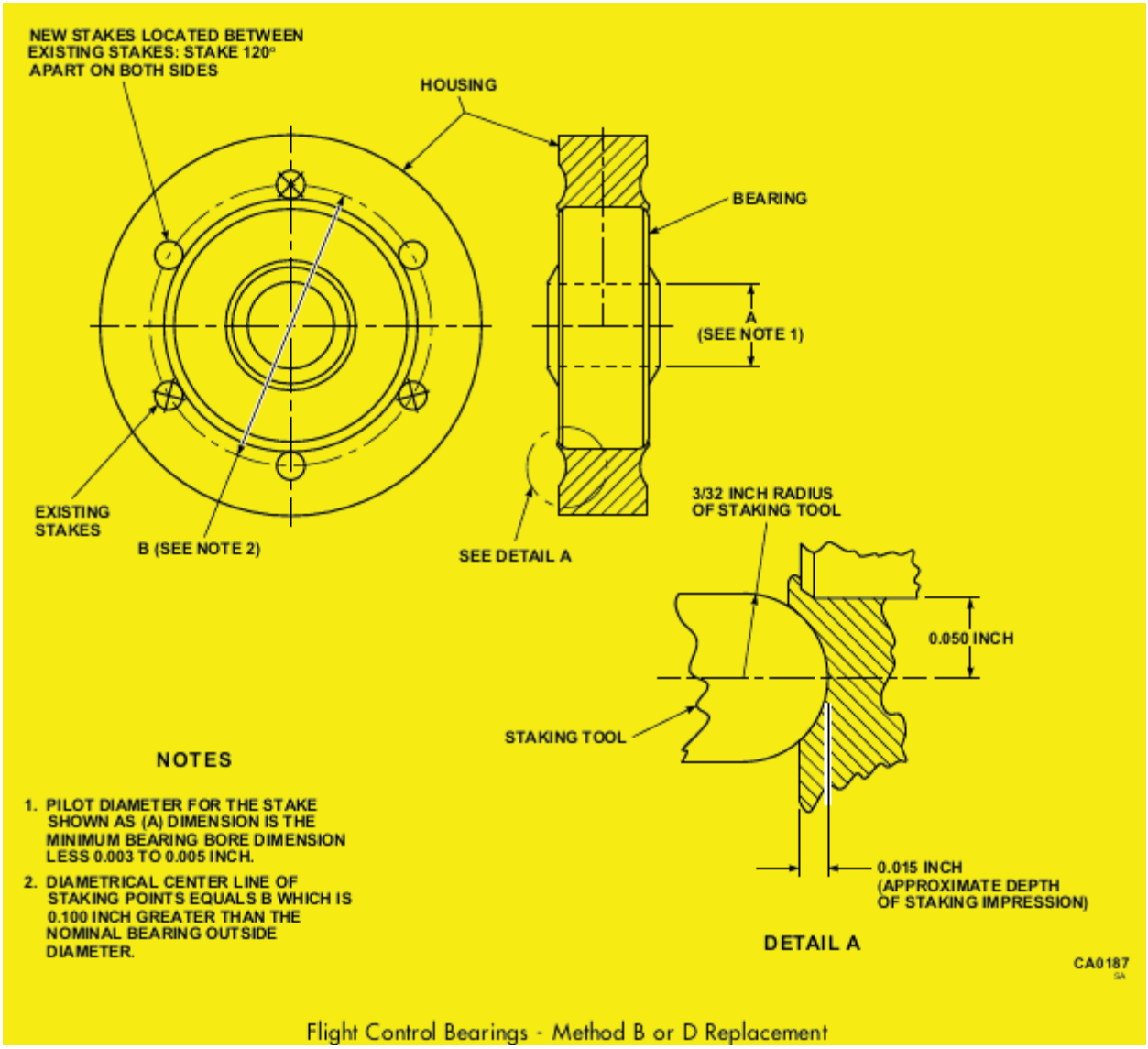
3. Remove bolt, nut and washers from the bearing.

Table 802

Part number	Description	Bearing	Max Radial Play	Housing Bore
76403-05118-043	Support	38950-00907-104	0.005	0.8744/0.8739
76403-05118-043	Support	38950-00908-101	0.005	1.7500/1.7505

Part number	Spacer	Replacement Method	Max Rot. Drag In. Oz	Required Staking Tool
76403-05118-043	None	B	8	STD1850.016-000
76403-05118-043	None	C	8	STD1850.193-000

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



Flight Control Bearings - Method B or D Replacement

Figure 801

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

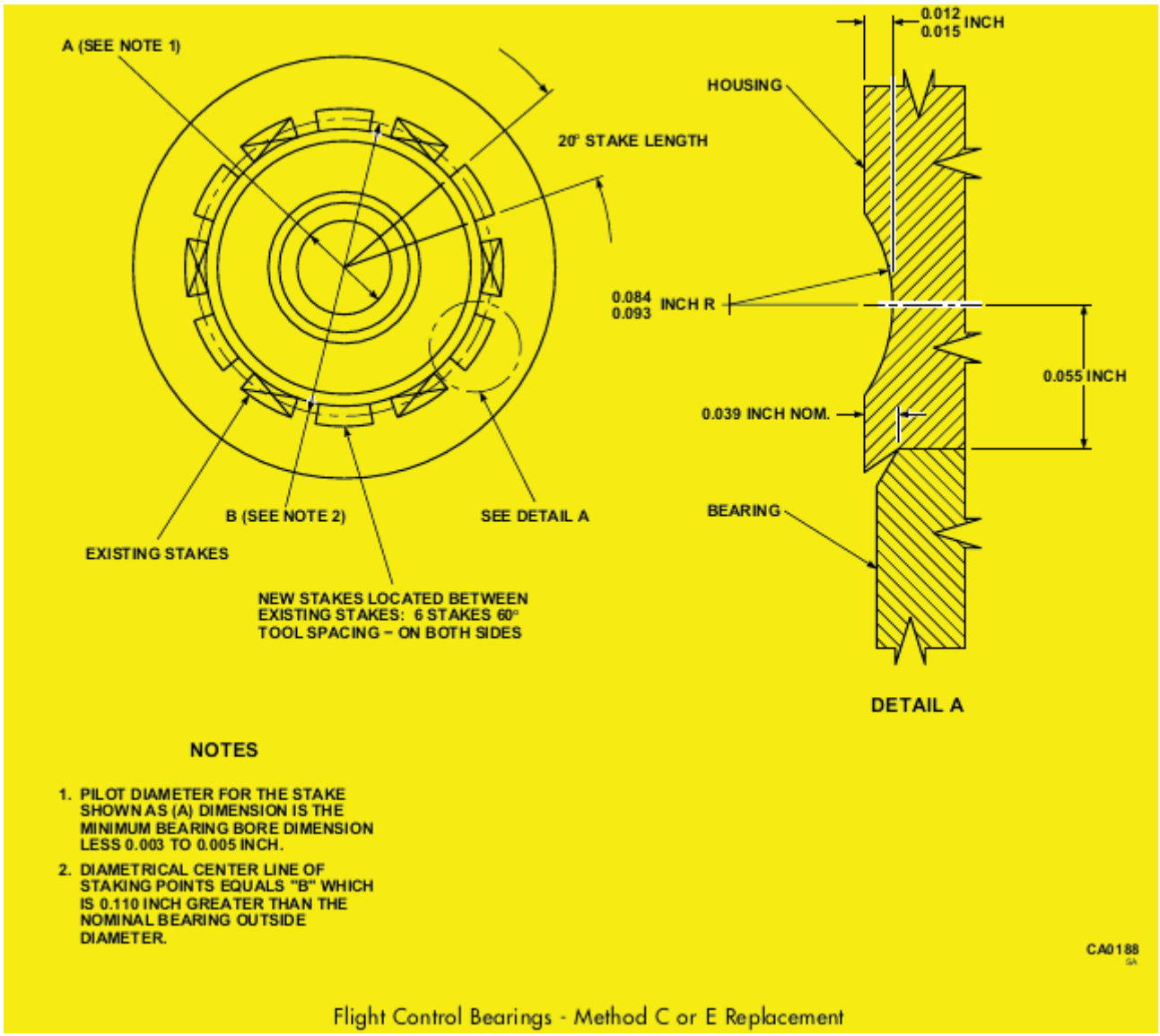


Figure 802