

SERVICE BULLETIN



Service Bulletin No.: DA20-55-04, Rev. 1

Date Issued: March 27, 2008

Title: Rudder Upper Bearing

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- 1. ATA Code:** 5540
- 2. Effectivity:** DA20-A1 aircraft fitted with GE 6 PB spherical bearing at rudder top attachment fitting (aircraft serial number 10002 - 10219, 10221, 10222, 10224, 10226, 10229, 10231, 10234-10237, 10239-10241).
- 3. General:** This Bulletin addresses the replacement of the existing rudder upper spherical attachment bearing GE 6 PB with a bearing plate assembly Part Number 20-5530-11-00 and spherical bearing GE 8 UK.
- 4. Compliance:** It is recommended that this service bulletin be completed when replacing the existing GE 6 PB bearing.
- 5. Approval:** Engineering data referenced or contained in this bulletin is approved as part of the type design.
- 6. Labor:** Sleeve, Bushing installation - one person 0.5 hours.

Bearing replacement and bearing plate installation - one person 2 hours.

Total: Approximately 2.5 man hours will be required to complete this service bulletin.

7. Material:	Description	Qty	P/N
	Bolt, Machine, Aircraft	3	AN3C-4A
	Washer, Flat	3	AN960C10
	Nut, Self-locking	3	MS21044C3
	Plate, Bearing Assembly	1	20-5530-11-00
	Bushing, Sleeve, Rudder Pivot	1	20-5545-00-01
	Bearing, Spherical	1	GE 8 UK
	Spacer, Upper Rudder Bearing	1	20-5530-00-99
	Housing, Bearing	1	22-5312-48-01

Above material may be ordered as kit DA20-55-04AMK0.

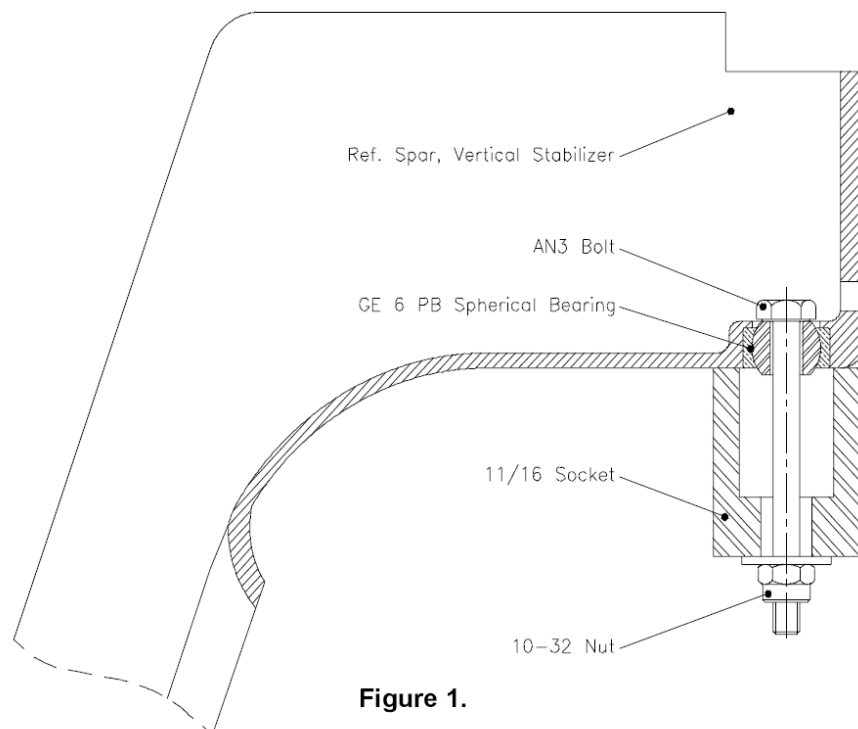
Required but not supplied in material kit; procure locally:
DP 110 Epoxy Adhesive (3M) or equivalent 5 minute epoxy.
Loctite 680.
Loctite 222.

- 8. Special Tools:** 10-32 Bolt or Machine Screw with Nut.
80 grit sand paper.

- 9. References:** DA 20 Katana Maintenance Manual Doc. No. DA201.

10. Accomplishment Instructions

- 10.1 Remove the rudder in accordance with Chapter 27-20-30 of the Maintenance Manual.
- 10.2 Remove the GE 6 PB bearing using the 10-32 bolt or machine screw and the 11/16" socket arranged as shown on Figure 1. Prevent the screw from spinning and advance the nut slowly. This will draw the bearing out. Return the bearing to Diamond Aircraft for evaluation. Remove the remaining adhesive originally used for securing the bearing.



- 10.3 Use a 14mm drill to open up the holes as shown in Figure 2. Ensure that a lip remains as shown. Apply DP 110 to and insert the Upper Rudder Bearing Spacer P/N 20-5530-00-99 as shown in Figure 2
- 10.4 Sand the flat face of the spar, vertical stabilizer so that the plate and bearing will sit flush on the surface when bolted on. Use a flat block with 80 grit sand paper. Remove the circular rise around the bearing bore as shown in Figure 3. Do not cut into fibres, only remove excess resin.

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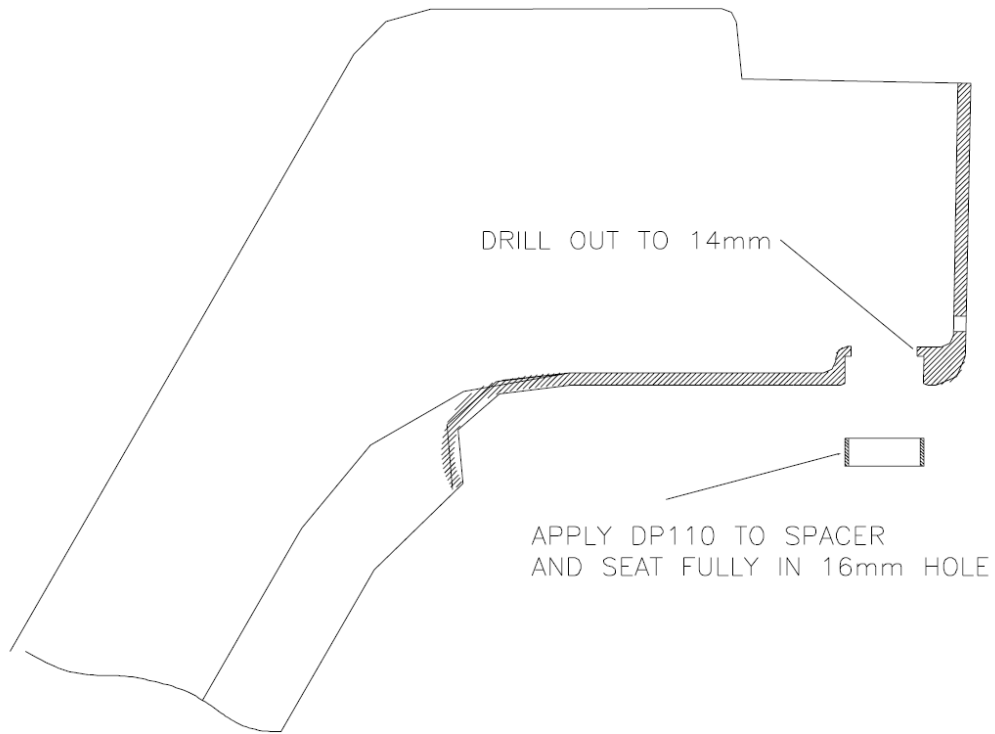


Figure 2.

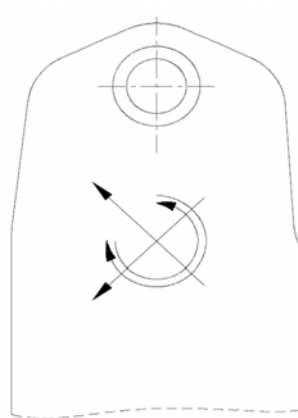


Figure 3.

10. Accomplishment Instructions (continued)

- 10.5 Apply a bead of loctite 680 to the GE 8 UK bearing (supplied) and slide it into the bearing plate assembly P/N 20-5530-11-00 (supplied). Press them both into the bushing housing in the spar, vertical stabilizer. Ensure the bearing 'ball' is not contaminated with loctite.
- 10.6 Index the bearing plate into the recess in the spar, see fig. 5. Align the bearing plate so its center line is parallel to center line of the vertical stabilizer. Use the bearing plate assembly for locating the installation holes in the spar as shown on Figure 4.
- 10.7 Remove the bearing plate and drill 3 installation holes 3/16" diameter.
- 10.8 Install the GE 8 UK bearing and bearing plate assembly into the spar, vertical stabilizer with supplied hardware as shown on Figure 5. Use DP 110 epoxy adhesive to install the bearing housing cover as shown in Figure 5.

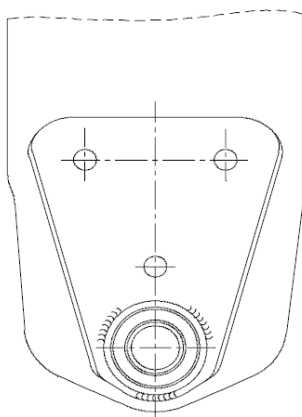


Figure 4.

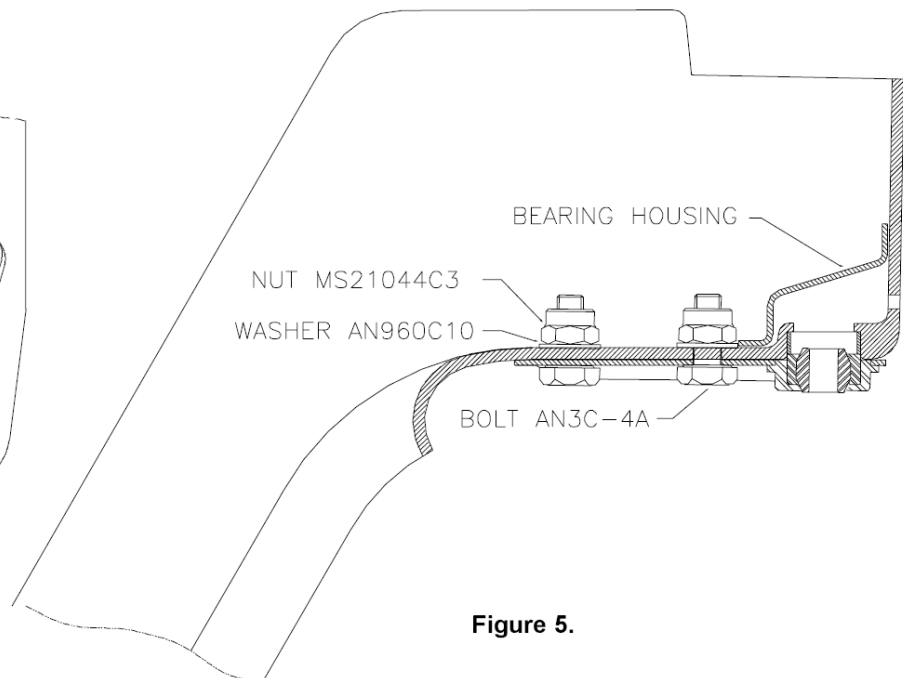


Figure 5.

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10. Accomplishment Instructions (continued)

- 10.9 Clean the dirt and grease from the upper rudder pivot. Install the bushing sleeve (supplied) by pressing onto the rudder upper pivot as shown in Figure 6. Install with thread locker Loctite 222.
CAUTION: Do not tap on the sleeve as this may cause distortion and subsequent difficulty with fitting into the bearing.
- 10.10 Install the rudder in accordance with Chapter 27-20-30 of the Maintenance Manual.

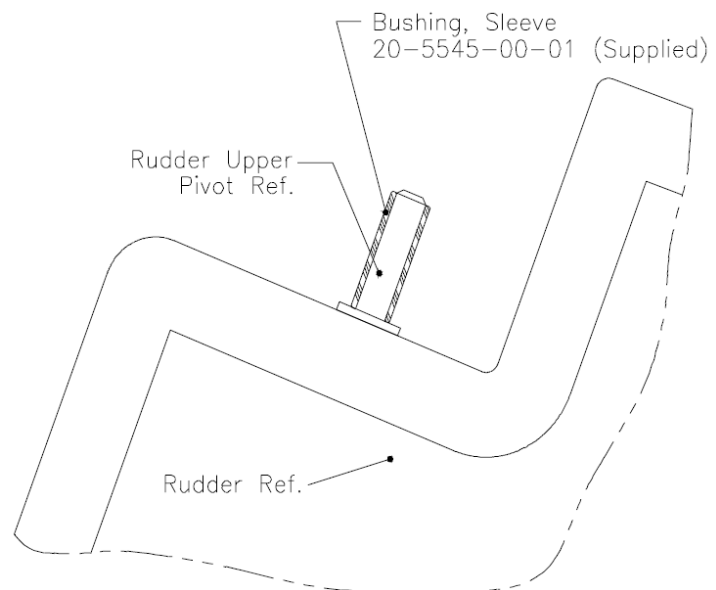


Figure 6.

11. Weight and Balance: Negligible.

12. Electrical Load Data: Not applicable.

13 Credit: None.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin.