



SCHWEIZER SERVICE BULLETIN

DB-018.3*
13 Dec 2007

MANDATORY

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SUBJECT: INSPECTION FOR FATIGUE CRACKING IN 269D3300-1 AFT FUSELAGE ASSEMBLIES AND INSTALLATION OF STABILIZER MOUNT DOUBLERS

MODELS AFFECTED: All Model 269D and 269D configuration "A" Helicopters Serial Numbers 0001 through 0062A that are equipped with 269D3300-1 Aft Fuselage Assemblies.

TIME OF COMPLIANCE: Part I: At each Airworthiness Check - Before first flight of day

Part II: As required by Part I.

Part III: Within next 100 hours of operation or three months which ever occurs first.

REFERENCE: 269D Handbook of Maintenance Instructions (HMI) (Issued: 01 Feb 1993, Revised: 13 Jul 2007)

269D Configuration "A" Handbook of Maintenance Instructions (HMI) (Reissued: 20 Jul 2001, Revised: 13 Jul 2007)

Pilots Flight Manual 333 (Issued: 28 Sep 2000, Revised: 13 Dec 2007)

Pilots Flight Manual 330ER (Issued: 16 Nov 1993, Revised: 13 Dec 2007)

Pilots Flight Manual 330 (Reissued: 28 Jul 1993, Revised: 13 Dec 2007)

PREFACE: Field reports of loose horizontal stabilizers and cracks in the support structure for the extruded tailboom have been received. Two different bolt lengths are currently used to attach the horizontal stabilizer to the aft fuselage. The loose stabilizer condition is the result of installing the attachment bolts in the wrong positions. An improved aft fuselage Part No. 269D3300-35 has been installed starting at S/N 0063A & future spares. The improved aft fuselage is not affected by this Service Bulletin.

Part I of this Service Bulletin prescribes a daily Airworthiness check procedure to detect cracks in the support structure. This check may be performed by the pilot and does not require a logbook entry. (Ref. FAA Approved RFM)

Part II provides instructions for inspecting the interior structure of the Aft Fuselage Assembly.

Part III requires installation of the SA-269DK-035 inspection panel kit in the aft fuselage assembly above the horizontal stabilizer and provides instructions for installing doublers on the legs of the forward horizontal stabilizer support brackets. The inspection panel provides access for inspection for cracks on the tailboom interior. Installation of the doublers requires the same length bolt to be used at all of the stabilizer attachment points.

(■) Denotes portion of text added, deleted, or revised.

*Supersedes DB-018.2, dated 13 Jul 2007

APPROVAL: The technical aspects of this Service Bulletin are FAA approved.

| PARTS REQUIRED: | <u>Part Number</u> | <u>Description</u> | <u>Qty</u> |
|------------------------|--------------------|----------------------|------------|
| | 269D3327-011 | Doubler (See Note) | 2 |
| | MS20426AD4 | Rivet | 6 |
| | MS20426AD3 | Rivet | 4 |
| | NAS1304-4 | Bolt | 4 |
| | AN960KD416 | Washer | 4 |
| | SA-269DK-035 | Inspection Panel Kit | 1 |

NOTE: Doubler may be ordered from Schweizer Aircraft or locally fabricated as specified in Figure DB-018-2.

PROCEDURE:

PART I: Airworthiness Check

CAUTION

Cracks in the paint film alone (no cracks in the underlying sheet metal structures) may indicate hidden damage to the internal structure and therefore require further investigation before next flight.

- a. Visually check aft bulkhead and adjacent skin for cracks and cracks in paint film in the areas indicated in Figure DB-018-1. If cracks in metal structure or in paint film alone are found, or new cracks extend from under repair patches, perform an interior inspection in accordance with Part II of this Service Bulletin before next flight.

PART II: Internal Inspection

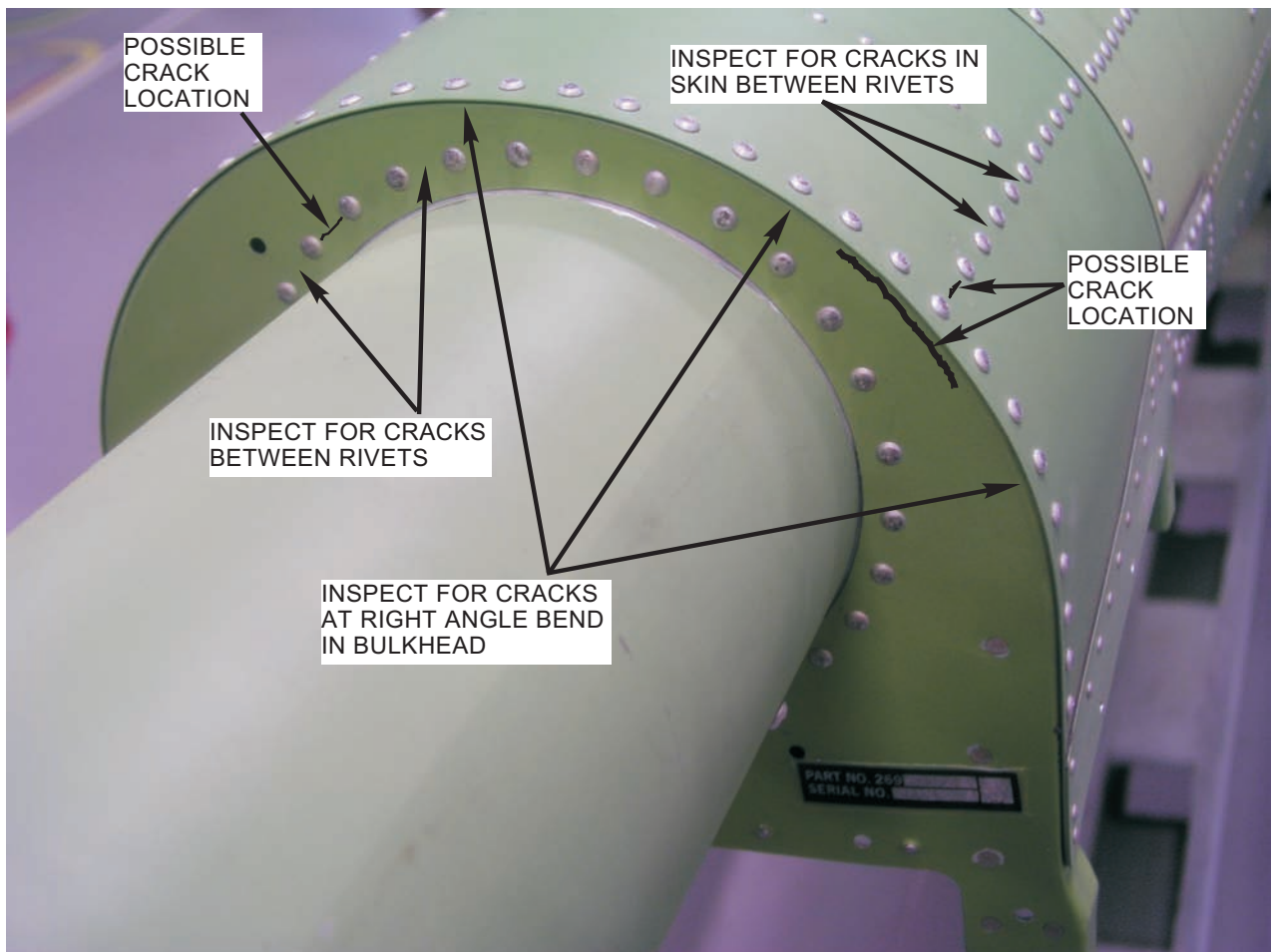
CAUTION

It is mandatory that when cracks are found, the aft fuselage assembly must be repaired before the next flight. Crack indications of any kind require additional periodic inspections of the interior structure at each 200 hours of operation after inspection and repair. The mandatory pilots' Airworthiness Check in Part I is still required after any repairs.

NOTE

The interior inspection can be done by removing the aft top skin, or by fabricating an inspection panel opening in accordance with Part III, or using a borescope. All three methods are included in the following text.

- a. Remove horizontal stabilizer from helicopter in accordance with Basic HMI, Section 11.
- b. To perform visual inspection, either remove aft top skin from aft fuselage assembly (use caution when removing rivets to prevent damage to rivet holes), or remove inspection panel between stabilizer mount lugs, or to provide access for borescope equipment, remove wire bundle grommet from panel in bottom of aft fuselage.



NOTE: VISUALLY INSPECT SKIN AND BULKHEAD, WITH PARTICULAR EMPHASIS ON AREAS INDICATED BY ARROWS.

Figure DB-018-1

- c. Using a bright light and mirror or borescope, inspect interior structure for cracks in longerons, bulkheads, tailboom tube attachment collars (split rings around tube attaching tube to bulkhead), brackets, and clip (between right side longeron and tailboom tube). Assure all sides of tailboom tube are thoroughly inspected and pay particular attention to rivet lines and bend radius in components. If cracks are found in the aft fuselage assembly, they must be repaired before next flight.
- d. Damaged longerons, tailboom tube collars, or a damaged forward stabilizer bulkhead, require that the aft fuselage be returned to the factory for repairs. Contact Schweizer Aircraft Customer Support Department for details.

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| NOTE |
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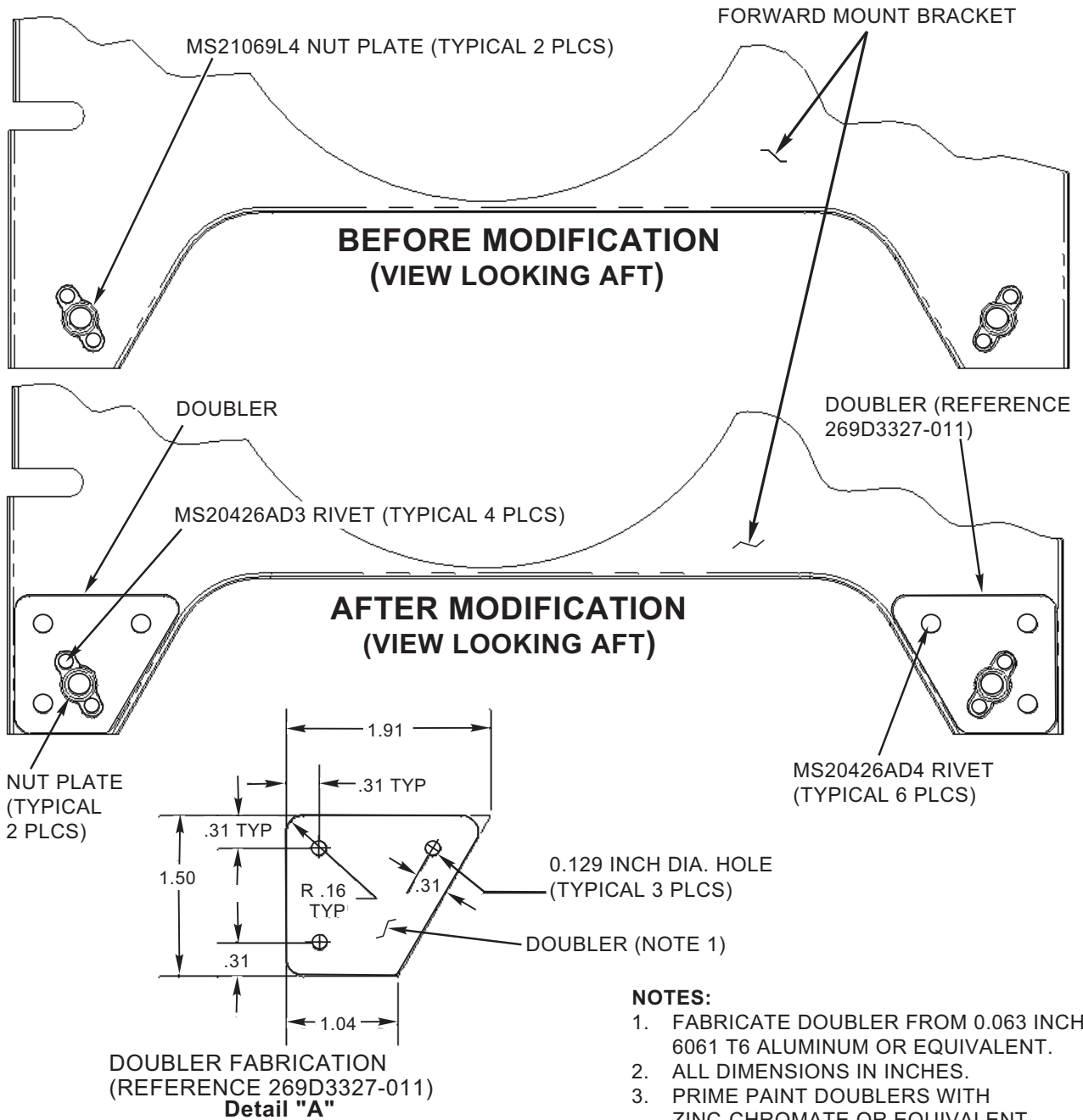
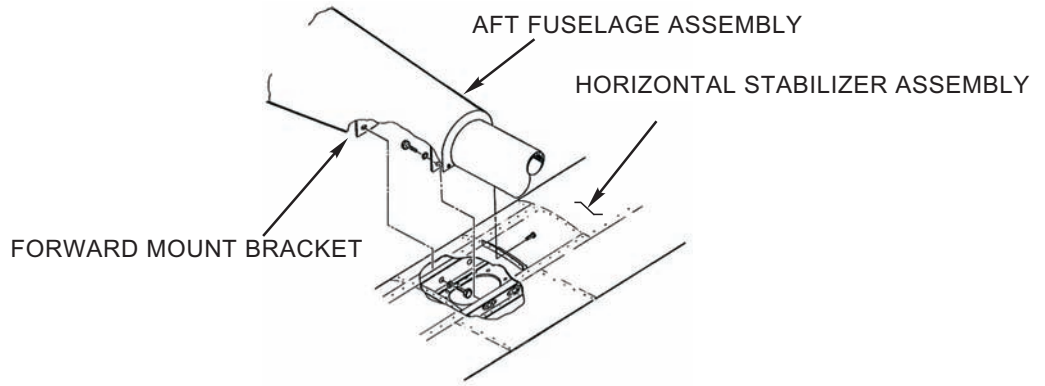
Any 269D3300-1 assembly that is returned to the factory with cracks in the collars, forward bulkhead, and longerons, will be modified to the current configuration and be identified as a 269D3300-35 assembly. After modification, the assembly is no longer subject to this Service Bulletin. Modification of the aft fuselage assembly does not alter the accrued flight time on the assembly or change the replacement schedule of the installed time life limited components, and does not effect aircraft weight and balance.

- e. Aft fuselage assemblies with a cracked clip, cracks in aft bulkhead and/or adjacent skins (Fig. DB-018-1), can be repaired locally in accordance with Basic HMI Section 11. 269D3300-1 assemblies that have been repaired, require a periodic inspection of the interior structure at each 200 hours of operation after repair.
- f. As required, reinstall inspection panel, or wire bundle grommet, or in accordance with Basic HMI Section 11, aft top skin panel.
- g. Inspect for interference between the rivet heads and skin on the top surface of the horizontal stabilizer and the tail boom stiffening web near Station 232.4. If an interference condition exists, contact Schweizer Aircraft Customer Support Department for repair/modification procedures. Reinstall horizontal stabilizer (Basic HMI, Section 11).
- h. Record compliance with Part II of this Service Bulletin and also the additional requirement for a periodic 200 hour interior inspection (if appropriate) in aircraft records.

PART III:

III-1. INSPECTION PANEL INSTALLATION. Install the inspection access panel as follows:

- a. Remove horizontal stabilizer from helicopter in accordance with Basic HMI, Section 11.
- b. Install SA-269DK-035 Inspection Panel Installation Kit in accordance with instructions found on face of kit drawing.
- c. Inspect for interference between the rivet heads and skin on the top surface of the horizontal stabilizer and the tail boom stiffening web near Station 232.4. If an interference condition exists, contact Schweizer Aircraft Customer Support Department for repair/modification procedures. Install horizontal stabilizer (Basic HMI, Section 11).



NOTES:

1. FABRICATE DOUBLER FROM 0.063 INCH 6061 T6 ALUMINUM OR EQUIVALENT.
2. ALL DIMENSIONS IN INCHES.
3. PRIME PAINT DOUBLERS WITH ZINC-CHROMATE OR EQUIVALENT PRIMER.

Figure DB-018-2

III-2. STABILIZER MOUNT BRACKET DOUBLER INSTALLATION. Install doublers on forward stabilizer mount brackets as follows:

- a. Remove horizontal stabilizer from helicopter in accordance with Basic HMI, Section 11.
- b. Clean forward and aft horizontal stabilizer attachment mount brackets thoroughly with MEK or similar solvent.
- c. Inspect forward and aft mount brackets for signs of chafe wear greater than 0.002 inch deep. If excessive wear is present, contact Schweizer Aircraft Customer Support Department for further inspection and repair procedures before continuing with doubler installations.
- d. Using care not to damage rivet holes, remove horizontal stabilizer attachment nut plates from forward mount brackets.

NOTE

In the following step, the two 269D3327-011 doublers may be purchased from Schweizer Aircraft Corp. or doublers may be fabricated locally in accordance with Figure DB-018-2.

- e. Place 269D3327-011 doublers in position on forward side of mount brackets as shown in Figure DB-018-2 and trim doublers as required to provide a flush fit against bracket face. Clamp doublers securely in place after trimming.
- f. As shown in "Detail A", locate positions of six MS20426AD4 rivets and drill 0.129 inch rivet holes through brackets and doublers using a #30 drill.
- g. Using existing bolt holes and nut plate rivet holes in frame as guide, carefully drill 0.096 inch nut plate attachment rivet holes using a #41 drill and 0.250 – 0.252 inch bolt holes using a ¼ inch drill through doublers. Note position and orientation of doubler installations and remove doublers and de-burr holes.
- h. Using a dimple tool, dimple six 0.129 inch rivet holes in mount bracket from aft side (rivets to be installed flush on aft side of bulkhead). Using a 100° countersink, countersink six rivet holes in doublers to match rivet hole dimples in brackets. Only remove sufficient material that allows doublers to fit flush against bracket faces.
- i. Apply zinc-chromate or equivalent primer on faying surfaces between doublers and mount bracket and while primer is wet, install doublers using MS20426AD4 rivets and servicable nut plates using MS20426AD3 rivets.

NOTE

After installation of the doublers on the forward support brackets, the same length NAS1304-4 bolt is now used in all four stabilizer attachment points.

- j. Inspect horizontal stabilizer forward and aft spars for chafe wear in mount attachment areas. If chafe damage is greater than 0.002 inch deep, contact Schweizer Aircraft Customer Support Department for further inspection and repair procedures.
- k. Inspect for interference between the rivet heads and skin on the top surface of the horizontal stabilizer and the tail boom stiffening web near Station 232.4. If an interference condition

exists, contact Schweizer Aircraft Customer Support Department for repair/modification procedures.

- I.** Using four NAS1304-4 Bolts and four AN960KD416 (Alt NAS1149D0463K) Washers install horizontal stabilizer on helicopter in accordance with Basic HMI, Section 11.
- m.** Record compliance with Part III of this Service Bulletin in aircraft records.

WEIGHT AND BALANCE

Weight and Balance are not affected.