

R44

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SERVICE BULLETIN SB-51

DATE: 24 November 2003

TO: All R44 Owners, Operators, and Service Centers

SUBJECT: NAS6605-31 Bolts

ROTORCRAFT AFFECTED: R44 Helicopters S/N 0210, 0565, 0641, 0987, and 1312 thru 1349 except 1345 and 1346. R44 II Helicopters S/N 10010, 10062, and 10083 thru 10212 except 10092, 10173, 10204, 10207, 10210, and 10211. Also affected are all NAS6605-31 bolts shipped as spares (individually or in assemblies) between 1 March 2003 and 19 November 2003.

TIME OF COMPLIANCE: Part A: Before further flight and daily until Part B is completed.
Part B: Within next 50 flight hours or by 31 December 2003, whichever occurs first.

BACKGROUND: RHC has received one report of a failed NAS6605-31 bolt and has determined that the failure was due to hydrogen embrittlement. NAS6605-31 bolts are used 9 places on the R44 and 7 places on the R44 II as shown on the following page. Hydrogen embrittlement may occur due to improper process control during the cadmium plating process, making an entire manufacturing lot of bolts suspect.

COMPLIANCE PROCEDURE: (Refer to figure on following page)

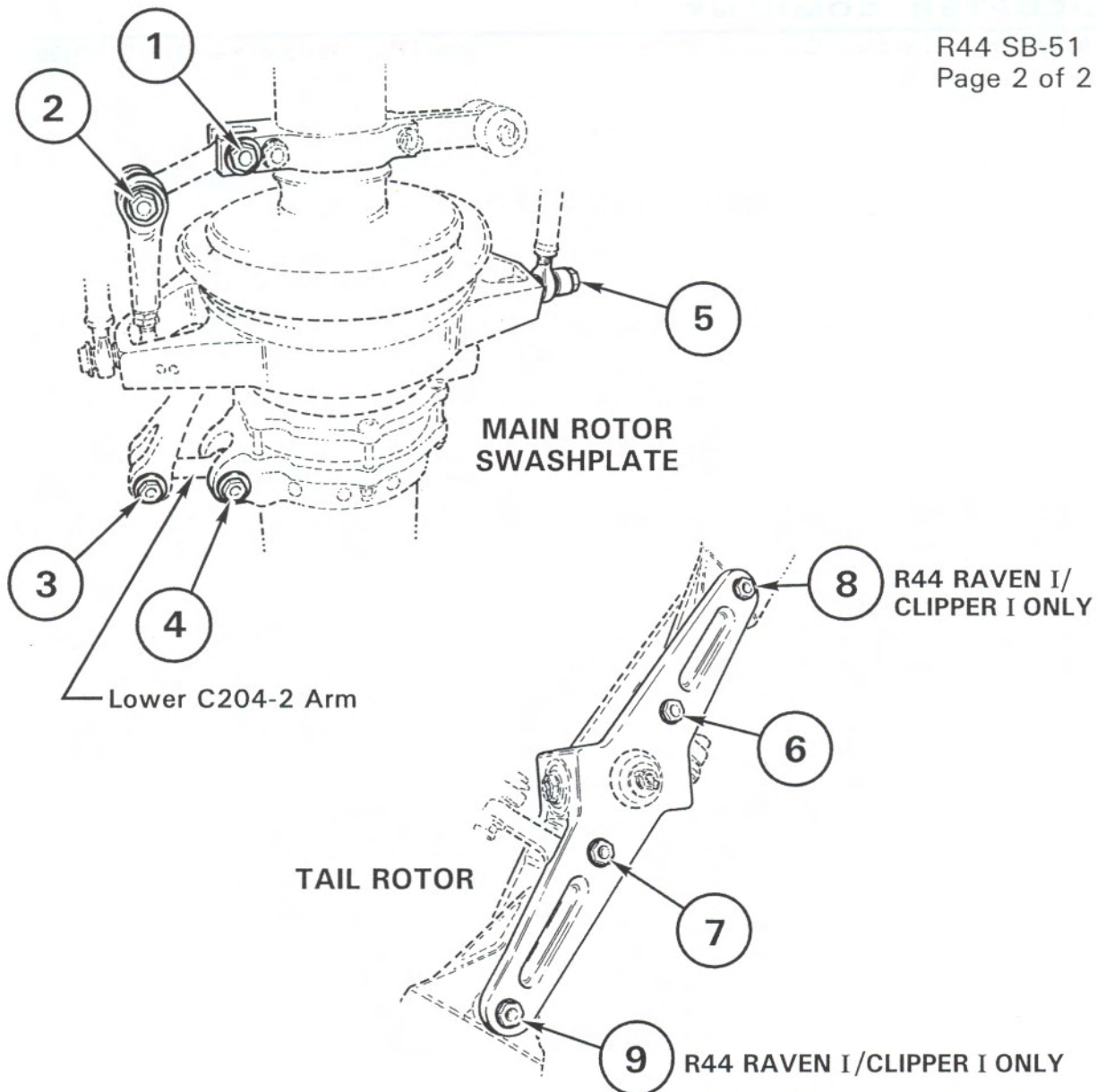
Part A - Daily Preflight Inspection

Visually inspect all suspect NAS6605-31 bolts and verify no fretting residue under bolt head (residue would indicate a loose, potentially cracked bolt). Also apply approximately 10-15 ft-lb (13-20 N·m) torque to each bolt head and verify no rotation. It is not necessary to use a torque wrench; pilot or mechanic judgement using an ordinary wrench is adequate. Vary cyclic and collective position to provide access to bolts at lower C204-2 arm.

Part B - Bolt Replacement

Order replacement NAS6605-31 bolts from RHC and replace all suspect bolts. Torque all fasteners per R44 Maintenance Manual. Destroy or return to RHC all removed bolts. Note that all suspect bolts will have vendor identification marking 01DO opposite the NAS6605-31 part number on the bolt head, but not all NAS6605-31 bolts with this marking are suspect. Replacement bolts will have an alternate vendor identification marking.

Make appropriate maintenance record entries.



SUSPECT NAS6605-31 BOLTS

9 places on R44
7 places on R44 II

Approximate Cost:

Parts: No charge if ordered by 31 December 2003. Bolt orders must reference helicopter serial number.

Labor: Part A: 0.2 man-hour.
Part B: 2.0 man-hours.

THE DESIGN ENGINEERING ASPECTS OF THIS BULLETIN HAVE BEEN SHOWN TO COMPLY WITH APPLICABLE FEDERAL AVIATION REGULATIONS AND ARE FAA APPROVED.