

R44 SERVICE BULLETIN SB-79
(supersedes R44 Service Letter SL-33)

DATE: 20 December 2010

TO: R44 and R44 II owners, operators, and maintenance personnel

SUBJECT: C188-3 Sprag Clutches

ROTORCRAFT AFFECTED: R44 and R44 II helicopters, and spare C018 clutch assemblies, equipped with C188-3 revision D, E, F, or G sprag clutches having 500 hours or more time in service. Note: R44 s/n 1902 & subsequent, and R44 II s/n 12313, 12320, and 12323 & subsequent, were delivered with C188-3 revision H sprag clutches.

TIME OF COMPLIANCE: At next 100-hour or annual inspection, whichever occurs first.

BACKGROUND: RHC has received reports of damaged early-revision C188-3 sprag clutches. This bulletin requires that early-revision sprag clutches have their lubricant inspected for metallic debris.

COMPLIANCE PROCEDURE:

1. On aft face of upper sheave, locate C188-3 sprag clutch data plate and determine revision ("REV") letter. If revision letter is H (or subsequent), no further action is required.
2. Refer to R44 Illustrated Parts Catalog (IPC) Figure 5-11 dated JUL 2008. Determine dash number of installed C168 retainers (forward and aft). C168-5 retainers have a B289-3 screw (item 32).

NOTE

To facilitate sprag clutch lubricant inspection, older clutch assemblies may be upgraded with KI-202 kit and longer bolts (if required).

3. a. If two C168-5 retainers are installed, proceed to step 4.
- b. If two C168-5 retainers are NOT installed, perform clutch assembly forward seal replacement per MM § 7.213 dated JUL 2008 (or subsequent). Drain lubricant through a 190-micron (or finer) paint filter/strainer but do not use a magnet. Proceed to step 11.

(OVER)

4. Remove C706-1 tailcone cowling. Rotate clutch shaft until bolts attaching C195 aft yoke to shaft are vertical. Engage rotor brake. Remove C723-6 cover from C723 bulkhead. Rotate upper sheave until forward retainer's B289-3 screw is on top and replace screw with clean MT147-2 fitting and attached drain hose (ref MM Fig. 9-3). Drain lubricant through a 190-micron (or finer) paint filter/strainer.
5. Rotate upper sheave until fitting is on bottom and place a clean, absorbent rag beneath fitting to catch any drips. Remove aft retainer's B289-3 screw (B289-3 screws must be on opposite sides of clutch shaft: when one is on top, opposite must be on bottom). Drain lubricant through a paint filter/strainer. Used lubricant may be dark.

WARNING

Avoid contaminating drive belts and sheaves with lubricant; clean contaminated surfaces with mild soap and water solution followed by a warm water rinse.

6. Install second clean MT147-2 fitting in aft retainer screw hole and connect fitting to a clean supply of A257-4 lubricant. Place a clean, absorbent rag beneath fitting to catch any drips. Allow lubricant to flush internal sprag clutch cavity and into paint filter/strainer until exiting lubricant is obviously red. Disconnect fluid supply and allow lubricant to drain completely through paint filter/strainer.
7. Inspect paint filter/strainer for metallic debris. If any metallic debris is found remove C018 clutch assembly and return it to either RHC, or an R44 Service Center authorized to overhaul clutch assemblies, for disassembly & inspection. If no metallic debris is found then service clutch with lubricant per following step.
8. Connect drain hose to upper MT147-2 fitting in aft retainer. Connect lower MT147-2 fitting in forward retainer to a clean supply of A257-4 lubricant. Fill sprag clutch cavity through lower-forward fitting until no bubbles are seen in lubricant flowing into drain hose from upper-aft fitting, then shut off lubricant flow. Replace aft MT147-2 fitting with B289-3 screw and tighten. Rotate upper sheave until forward MT147-2 fitting is on top. Remove fitting and verify lubricant level contacts threads; add lubricant as required. Install forward B289-3 screw and tighten. Remove rags.
9. Install C723-6 cover on C723 bulkhead.
10. Install tailcone cowling and connect antenna & ground leads, if installed.
11. Make appropriate maintenance record entries.

Approximate Cost:

Parts:	1 each p/n 2000, 190-micron paint filter, box of 100	\$ 20.00
	1 each A257-4 lubricant, quart	\$ 4.75
	1 each KI-202 kit (if required), includes	\$ 220.00
	2 each A215-042 o-ring	
	2 each B289-3 screw (includes o-ring)	
	2 each C168-5 retainer	
	2 each C966-5 seal	
	12 each NAS6605-42 bolts (if required)	\$ 30.00

Parts may be obtained from any R44 Dealer or Service Center, or ordered directly from RHC Customer Service via www.robinsonheli.com, fax, or phone.

Labor: 2 man-hours if C168-5 retainers installed.
8 man-hours if C168-5 retainers are not installed.