

ANC24LA017

AIRWORTHINESS

Group Chair's Factual Report - Attachment 3
Excerpt of CSP-COM-5 chapter 63-10-10

OVERRUNNING CLUTCH INSPECTION/CHECK

1. Inspection

Inspect all overrunning clutch components and parts that are not to be replaced according to the following instructions.

2. Ball Bearing Inspection and Grease Repack (300 Hour)

- (1). Remove clutch assembly per CSP-HMI-2.
- (2). Temporarily install coupling bolt, to maintain internal fluid.
- (3). Remove clutch retainer (3, Figure 1) to expose ball bearing (7).

NOTE: There are two different 369A5361 ball bearings currently in use. One type has an open face where the cage and bearings are visible, the other type has a brass riveted cage.

- (4). Remove bearing from clutch inner race (18).
- (5). Riveted Cage 369A5361 Ball Bearing

- (a). On riveted cage ball bearing rotate and check for binding or roughness. If roughness or binding is apparent, replace bearing.
- (b). Check for bearing radial play. If no radial play is discerned in the bearing, remove bearing (Ref. Disassembly), and measure journal outer diameter. If outside diameter of journal is more than **1.2505 inch (31.763 mm)**, return clutch sub-assembly to MDHI for rework.
- (c). Inspect seal (5) in retainer. Replace if cracked, broken, worn or shows evidence of excessive heat.

NOTE: Installation of 369A5368-3 seal (without garlock spring) upgrades 369A5350-11 clutch subassembly to -21 configuration, re-identify ID plate if necessary.

- (d). Repack grease on riveted cage side of bearing by hand and rotate bearing. Repeat procedure until grease is visibly working its way out other side of bearing.

- (e). Fill void in clutch retainer 75 percent full with grease.

(6). Open Faced 369A5361 Ball Bearing

- (a). Check open faced ball bearing for excessive loss of grease.

NOTE: If excessive loss of grease is noted in ball bearing, perform engine-to-transmission alignment check per Structural Repair Manual. Remedy cause of misalignment where noted.

- (b). If ball bearing is dry or grease is caked, inspect bearing as follows:

- 1). Clean bearing with solvent and brush.
- 2). Inspect for roughness, pitting, scoring or overheat discoloration. Replace bearing if any of the above are noted.
- 3). Check for bearing radial play. If no radial play is discerned in the bearing, remove bearing (Ref. Disassembly), and measure journal outer diameter. If outside diameter of journal is more than **1.2505 inch (31.763 mm)**, return clutch sub-assembly to MDHI for rework.
- (c). Using solvent (2, Table 903) and brush, thoroughly remove existing grease from both bearing and retainer. (Do not use compressed air to remove grease from ball bearing).
- (d). Inspect bearing for roughness, pitting, scoring or discoloration (Table 501).
- (e). Inspect seal (5, Figure 1) in retainer. Replace if cracked, broken, worn or shows evidence of excessive heat.

NOTE: Installation of 369A5368-3 seal (without garlock spring) upgrades 369A5350-11 clutch subassembly to -21 configuration, re-identify ID plate if necessary.

- (f). Repack bearing 50 percent of capacity with grease (8, Table 903), by packing open side of bearing level without forcing grease through bearing cage.
- (g). Fill void in clutch retainer 75 percent full with grease.
- (h). Reinstall retainer ring: flat side of retainer ring faces unit; bevel side is out.

3. Overrunning Clutch Sprag Inspection (300 Hour)

NOTE: Refer to Table 501 for detailed inspection after cleaning and Table 502 for process inspection requirements.

The following inspection is for helicopters equipped with a cargo hook (Ref. Table 503 for 369D25351 Inspection).

- (1). Visually inspect sprag assembly, Table 501, for broken drag clips, broken drag strips, cracked cages, broken or distorted ribbon spring or cracked, broken or missing sprags.

CAUTION Do not remove sprags and clips from sprag assembly. Removal requires replacement of sprag assembly.

- (2). Inspect cages, Table 501, for peening or wear; maximum permissible width across inner cage and outer cage windows is **0.208 inch (5.28 mm)** (Ref. Figure 501).

NOTE: The most pronounced inner and outer cage wear occurs in the outside diameter corners of the crossbars. Wear should be measured at the worst point.

- (3). Examine sprag load surfaces, Table 501, for flats, scoring, heavy pitting or scratches (Ref. Figure 501) with 4X magnification.
- (4). Measure distance from edge of sprags to load pattern, Figure 501. If inner

surface measurement is less than **0.050 inch (1.27 mm)** or outer surface measurement is less than **0.070 inch (1.78 mm)**, the sprag assembly must be replaced.

- (5). On the sprag inner contact surface, of all the sprags in a sprag assembly, the variation in distance from edge of sprag to load pattern must not be more than **0.030 inch (0.76 mm)** (Ref. Figure 501).
- (6). Using an outside micrometer, check dimension of inner race (369A5353), 1.4990 inch (3.807 cm) minimum.
- (7). Using an inside micrometer, check dimension of outer race (369A5352), 2.1565 inch (5.4775 cm) maximum.
- (8). Examine inner and outer races for brinelling, scoring or pitting with 4X magnification.

NOTE: On the inner race, pay particular attention to area around drain holes for cracks. No defects are allowed. If any are found, replace inner race or outer race as applicable.

CAUTION If the 369A5364 sprag assembly is replaced for any reason other than broken drag clips or drag strips of distorted ribbon springs, magneflux inner race and outer race per Table 502. Disclosure of any defect requires replacement of inner race or outer race as applicable.

- (9). Record compliance of this inspection in helicopter log book.

4. Inspection Requirements

Table 501 and Table 503 contains visual and dimensional inspection requirements for overrunning clutch parts. Serviceable dimensions for parts and components, and serviceability criteria for clutch inner and outer races are shown in Figure 501 thru Figure 504 (when using Table 501) and Figure 505 and Figure 506 (when using Table 503). Parts requiring magnetic particle inspection (MPI) or fluorescent penetrant inspection (FPI) are listed in Table 502.