



A Textron Company

TECHNICAL BULLETIN

214ST-11-176
28 November 2011

MODEL AFFECTED: 214ST

SUBJECT: MAIN ROTOR TRUNNION ASSEMBLY, P/N 214-010-230-101, REVISION OF MAGNETIC PARTICLE INSPECTION PROCEDURE

HELICOPTERS AFFECTED: Serial number 28101 through 28200.

COMPLIANCE: Effective Upon receipt

DESCRIPTION:

Reports have been received of damage to the main rotor trunnion, P/N 214-010-230-101, during application of the magnetic particle inspection (MPI) procedure as noted in the 214ST Component Repair and Overhaul Manual (CR&O), Chapter 62. Subparagraph (2) of paragraph 62-36.4.h. requires the trunnion to be placed longitudinally between the contact heads of the MPI machine. As the trunnion spindles have a blue epoxy coating on the spindles, any break in the coating can cause a current arc to the base metal when amperage is applied. The resulting damage to the trunnion is not repairable.

Pending CR&O revision, this bulletin introduces a revised MPI procedure for the main rotor trunnion to replace the current procedure.

APPROVAL:

The engineering design aspects of this bulletin are FAA/ODA approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

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MANPOWER:

Approximately 1.0 man-hour is required to complete this bulletin. This estimate is based on hands-on time, and may vary with personnel and facilities available.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

MATERIAL:

None required

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-214ST-CR&O Component Repair and Overhaul Manual

PUBLICATIONS AFFECTED:

BHT-214ST-CR&O Component Repair and Overhaul Manual

ACCOMPLISHMENT INSTRUCTIONS:

1. Refer to BHT-214ST-CR&O, Chapter 62, paragraph 62-36.4.h., PROCEDURE H.
2. Replace the current PROCEDURE H in its entirety with the following:
 - h. PROCEDURE H
 - (1) Thoroughly degrease the part.

NOTE

The use of a Hall Effect probe or etched shims will be utilized to verify adequate field strength during inspection. Amperage adjustments may be necessary to meet the criteria as stated in BHT-ALL-SPM, Chapter 6.

- (2) For inspection of the splined bore and outer housing, place a 1 to 2 inch diameter central bar conductor through the splined bore of the Trunnion and place the central conductor between the contact heads of the machine.

- (3) Apply 1200 Amps of current and inspect completely for indications.
 - (4) Rotate part every 90 degrees around the central conductor and repeat step (3) at each rotation.
 - (5) Apply 2300 amps of current and inspect completely for indications.
 - (6) Rotate part every 90 degrees around the central conductor and repeat step (5) at each rotation.
 - (7) For inspection of journals and housing place the part in the bottom of the coil with journals perpendicular to coil axis, and splined bore axis of the Trunnion running parallel with the coil axis.
 - (8) Apply 3000 amps of current and inspect completely for indications.
 - (9) Rotate Trunnion so the journals remain perpendicular to the coil axis, and the splined bore axis runs vertical.
 - (10) Repeat step (8).
 - (11) For inspection of journals and housing place the Trunnion with the journals running parallel with the coil axis.
 - (12) Apply 3000 amps of current and inspect completely for indications.
 - (13) Demagnetize the part completely.
 - (14) Acceptance Criteria – Magnetic particle indications interpreted as cracks are rejectable.
3. Make a pen and ink notation in BHT-214ST-CR&O at Chapter 62, paragraph 62-36.4.h., PROCEDURE H, referring to this technical bulletin.