



HUGHES SERVICE INFORMATION NOTICE

NOTICE NO. N-151.2*
DATE 7 November 1978
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*Supersedes Service Information
Notice No. N-151.1, dated 9 October 1978

MANDATORY

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SUBJECT: INSPECTION - MAIN TRANSMISSION PINION ASSEMBLY, PN 269A5103-9

- MODELS AFFECTED:
1. The following helicopters with subject Pinion Assembly installed:
All Model 269A, TH-55A, 269A-1 and 269B Helicopter
Model 269C Helicopter Serial No. 0001 thru 0717;
0721 thru 0730.*
 2. All subject Pinion Assemblies in Spares Inventory at date of this Notice.
 3. All PN 269A5175 Series main transmission assemblies with subject Pinion Assembly installed, and in Spares Inventory at date of this Notice.

*Serial numbers not listed are affected if transmission is changed subsequent to delivery of helicopter.

- TIME OF COMPLIANCE:
1. For Pinion Assemblies with serial numbers listed on page 2, shall be accomplished within 50 hours of operation or 60 days from date of this Notice. Shall also be accomplished at 450 to 500 hours total time in service, if Pinion Assembly has less than 250 hours time in service at initial inspection.
 2. For Pinion Assemblies not shown on page 2, shall be accomplished within next 100 hours of operation, unless exempt as noted in step a. on page 3.
 3. Shall be accomplished prior to installation on helicopter, for Pinion Assemblies, separate or installed in main transmission, in Spares Inventory at date of this Notice. If Pinion Assembly is listed on page 2, reinspection at 450 to 500 hours total time in service applies.

PREFACE: Field service reports indicate that evidence of cracking has been detected in two pinion assemblies manufactured by Hughes Tool Company. The information given in this Service Information Notice lists instructions for identification of PN 269A5103-9 pinion assemblies, installed and in Spares Inventory; and for magnetic particle inspection of pinion assemblies identified as being manufactured by HTC, to ensure that these pinion assemblies are free of cracks and are serviceable.

(**I**) Denotes portion of text added or revised.

Customer Service Department



PN 269A5301-9 pinion assembly identified by Serial Number listed below are from heat lots 12A and 13A and shall be inspected within 50 hours of operation or 60 days from date of this Notice. Inspection per this Notice will be repeated at 450 to 500 hours total time in service, if pinion has less than 250 hours time in service at initial inspection.

164783	164796	164811	254501	254514	254525
164784	164798	164813	254502	254515	254526
164786	164800	164814	254504	254516	254527
164787	164801	164815	254506	254517	254528
164789	164802	164816	254508	254518	254529
164790	164803	164817	254509	254519	254532
164791	164805	164818	254510	254520	254533
164792	164806	164819	254511	254521	254534
164794	164807	254498	254512	254522	254535
164795	164809	254500	254513	254524	254536
					254537

Reference

269 Series - Basic HMI, Issued 1 April 1973; Revision No. 5, 1 February 1978
269 Series - HMI Appendix C, Issued 15 March 1976

TOOLS AND EQUIPMENT

Kit - Magnetic Particle Inspection Lathe or Equivalent Rotating Fixture Magnifying Glass - 10X Minimum Emery Cloth - 400 Grit Tongue Depressor	MIL-I-6868	Commercial
Wet Zinc Chromate Primer Stone - Extra Fine Arkansas or Carborundum	TT-P-157	Commercial Commercial

NOTE

To identify installed pinion assembly, refer to Component Record of Helicopter Log Book; or remove upper pulley assembly, per Basic HMI, if pinion manufacturer and/or Serial No. are unknown.

a. Identify pinion assembly by Part Number, Serial Number and Manufacturer. (Data etched on journal forward of larger spline; see Figure 1.)

1. Pinion assemblies identified by manufacturer's initials "IGW" (Indiana Gear Works), "WGC" (Western Gear Co.), or "AGC" (Aero Gear Co.) are NOT affected by this Notice. Perform steps g and h only.
2. Pinion assemblies identified by six or seven digit Serial Number (no manufacturer's initials) are manufactured by Hughes Tool Company.
 - (a) If last four digits of HTC Serial Number are 5102 or above, the pinion assembly is NOT affected by this Notice. Perform steps g and h only.
 - (b) If last four digits of HTC Serial Number are 0001 thru 5101, and pinion assembly was shipped from HH prior to date of this Notice, perform inspection of pinion assembly per steps b thru h below.

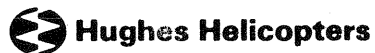
b. As applicable, remove main transmission assembly, per Basic HMI; disassembly main transmission assembly, and pinion and bearing retainer assemblies, per HMI Appendix C.

c. Clean pinion assembly. Using 10X glass, visually inspect pinion for scratches, tooling marks, corrosion or other surface defects. Pay particular attention to area of fillet radii of forward bearing journal. (See Figure 1.)

NOTE

If scratches, tooling marks, corrosion or other surface defect is noted, perform the following:

1. Position pinion on lathe or equivalent rotating fixture.
2. Polish out defect(s) on pinion as it is rotated on lathe or fixture. Use fine emery cloth wrapped around tongue depressor for polishing. Extra fine arkansas or carborundum stone may be used provided diameter of stone matches radius. Break corners at keyway. Do not polish pinion threads or bearing journal.



3. Emery cloth and hand stone are the only method approved.

d. Clean pinion assembly and perform magnetic particle inspection of entire pinion in accordance with MIL-I-6868. Pay particular attention to forward end of bearing journal and fillet radii, pinion gear teeth, and threaded area just forward of H-frame bearing journal. (See Figure 1.) If no defects are found, treat polished area with wet zinc chromate.

NOTE

1. If magnetic particle inspection indication is noted in area polished per step c above, repolish and repeat magnetic particle inspection of the area. If indication cannot be removed by repolishing, or the minimum diameter at the bottom of the fillet radius after polishing is less than 1.472 inches, mark and tag the pinion as unserviceable and return pinion to HH Warranty and Repair Department.
2. If evidence of cracking is noted, mark and tag pinion as unserviceable and return pinion to HH Warranty and Repair Department.
3. If inspected pinion is found serviceable and reinstalled in helicopter transmission, treat polished area with zinc chromate primer, as applicable. Paint blue dot on gearbox ID plate next to Serial Number to denote compliance with this Notice.
4. If pinion is found serviceable and returned to Spares Inventory, treat with zinc chromate primer as applicable. Tag spare pinion, or, if pinion is installed in spares transmission, paint blue dot on gearbox ID plate to denote compliance with this Notice. When installed on helicopter, record Part Number, Serial Number, and Manufacturer of pinion assembly in helicopter Log Book. Also record compliance with this Notice in Compliance Record of helicopter Log Book.



- e. As applicable, reassemble pinion and bearing retainer assemblies, and main transmission assembly, per HMI Appendix C.
- f. As applicable, reinstall main transmission assembly, per Basic HMI.
- g. As applicable, reinstall upper pulley assembly, per Basic HMI.
- h. As applicable, record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

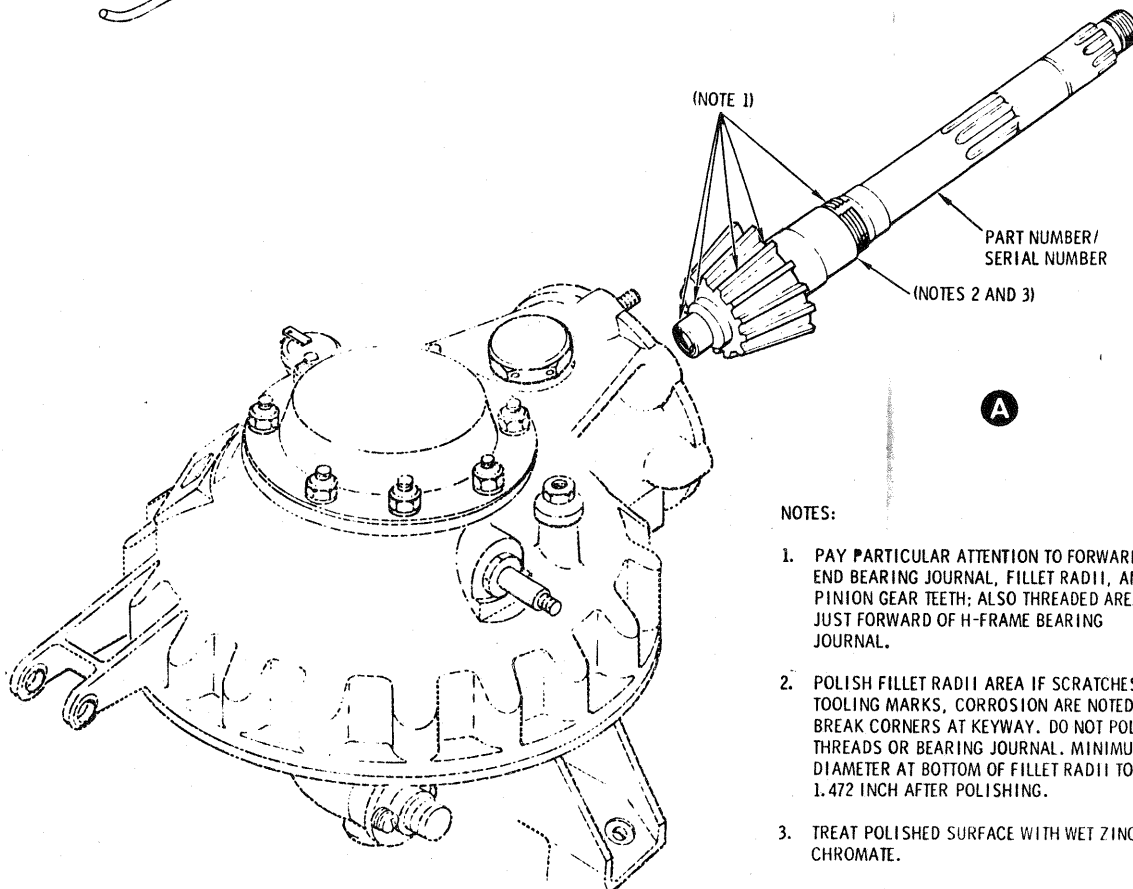
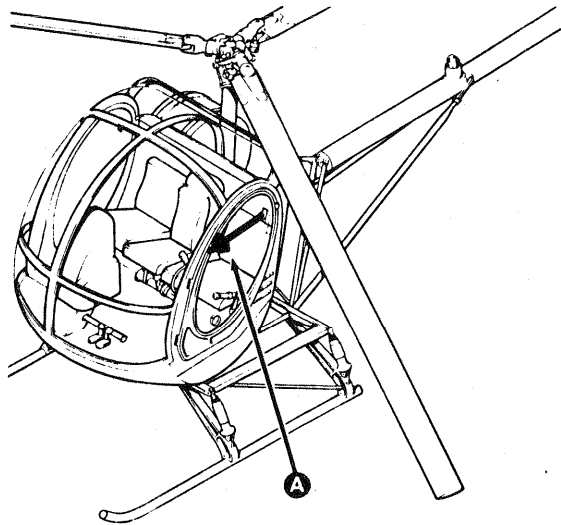
NOTE

If pinion assembly listed on page 2 has less than 250 hours time in service at initial inspection, repeat inspection once per this Notice at 450 to 500 hours total time in service. (See Time of Compliance, page 1.) Add second blue dot to bearbox ID plate after second inspection.

WEIGHT AND BALANCE DATA

Weight and balance not affected.

FAA APPROVED



NOTES:

1. PAY PARTICULAR ATTENTION TO FORWARD END BEARING JOURNAL, FILLET RADIUS, AND PINION GEAR TEETH; ALSO THREADED AREA JUST FORWARD OF H-FRAME BEARING JOURNAL.
2. POLISH FILLET RADIUS AREA IF SCRATCHES, TOOLING MARKS, CORROSION ARE NOTED. BREAK CORNERS AT KEYWAY. DO NOT POLISH THREADS OR BEARING JOURNAL. MINIMUM DIAMETER AT BOTTOM OF FILLET RADIUS TO BE 1.472 INCH AFTER POLISHING.
3. TREAT POLISHED SURFACE WITH WET ZINC CHROMATE.

88-244B

Figure 1. Inspection of Main Transmission Pinion Assembly
Wet Zinc Chromate