

HILLER AIRCRAFT



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SERVICE BULLETIN UH-12 SERIES NO. 36-1 REV. 3

CONTROL ROTOR

INSPECTION AND REWORK OF CONTROL ROTOR ASSEMBLIES

This Service Bulletin Revision incorporates changes to page 1-2 and 4. A margin line indicates paragraphs having been changed.

1. PLANNING INFORMATION.

A. Effectivity.

MODEL	MANUFACTURER'S SERIAL NUMBERS
UH12,A,B,C,D,E,E(4-Place)	All Aircraft

B. Reason To inspect for and correct any detected corrosion or excessive wear of outboard retention bolt holes in the control rotor spar tube and to inspect the control rotor cuff. This bulletin is applicable to all control rotor blade assemblies (including P/N's 36003, 36006, 36129, 36129-25, 36203, 36203-15, 36203-21, 36209-3) and to all cuff assemblies (including P/N's 36101-1, 36101-4, 36108, 36115-1, 36115-4, 36115-6, 36115-8, 36124).

C. Description This bulletin describes the removal, inspection, repair if necessary, and reinstallation of the control rotor blade assembly. This bulletin cancels and supersedes Service Information Letter 3055A dated 25 September 1967 and Service Information Letter 136A dated 25 September 1967.

- D. Compliance Within the next 25 flight hours and at each 100 hour interval thereafter.
- E. Approval This modification is FAA approved.
- F. Manpower Approximately 2.0 man-hours will be required to accomplish this modification.
- G. Material Cost and Availability. Operator furnished.
- H. Tooling No special tooling required.
- I. Weight and Balance No change.
- J. Reference Service Manual for appropriate Model
 Parts Catalog for appropriate Model.

2. ACCOMPLISHMENT INSTRUCTIONS.

NOTE: The following instructions are Hiller Aviation recommended procedures for accomplishing the changes contained in this bulletin. Deviations from the procedures contained herein are permissible, provided the full intent of the modification is accomplished.

- A. Remove the two bolts attaching the control rotor blade spar tube to the cuff and withdraw blade from cuff.
- B. Inspect for corrosion on the exterior and interior of the spar tube as well as the interior of the control rotor cuff. If corrosion exceeds the following dimensional limits, the part should be replaced.

Total Combined Circumferential Length At Any Given Spar Tube or Cuff	Maximum Depth of Rust or Corrosion
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<u>Location</u>	<u>Deposit</u>
0.0 to 1.0 inch	0.010 inch
1.0 to 2.0 inches	0.005 inch
greater than 2.0 inches	0.002 inch

- C. Remove rust spots by polishing affected area with a medium or fine emery cloth or paper and then polish with crocus cloth dipped in solvent.
- D. Dye-penetrant inspect the spar area which fits inside the control rotor cuff, paying particular attention to the four-bolt holes, and inspect entire control rotor blade assembly for cracks. If cracks are found, replace assembly.

- E. Inspect spar tube retention bolt holes for elongation, corrosion, burrs, pitting or fretting. If any discrepancies are found, the outboard holes may be reamed out by removing all damage plus an additional 0.02 inch diameter but not to exceed a total diameter of 0.312 inch, provided that the tube wall thickness is .075 inch or greater. If the tube wall thickness is less than .075 inch or if elongation, corrosion, pitting, or fretting, of any inboard bolt hole is found, replace the control rotor blade assembly.

Repeat Instruction D above after reaming holes.

After the blade holes have been reamed out, reidentify the spar and blade assembly by etching an "R" after the part number shown on the nameplate located at the inboard end of the paddle. On fabric covered blades without a nameplate, place the "R" after the serial number, or if there is no serial number, etch a serial number consisting of letters and numbers ending with "R" on the inboard $\frac{1}{4}$ in. of the spar tube. Smooth the surface after numbering.

NOTE: Both outboard bolt holes must be reamed out to the same diameter.

NOTE: If the reaming procedure cannot be followed without exceeding the 0.312 inch diameter limitation, the control rotor blade must be replaced.

NOTE: Reaming is not permitted on tubes with wall thickness less than 0.075 inch.

NOTE: If the bolt holes have been reamed out as per the instructions above, both the control rotor blade assembly and control rotor cuff must be replaced upon attaining 2500 additional operating hours.

If a retirement life has been imposed on the blade assembly or cuff before this rework, (for retirement life items see appropriate Inspection Guide) the blade assembly and/or cuff must be replaced upon attaining the original retirement life, but not to exceed 2500 additional hours.

- F. If burrs are found, deburr bolt holes, paying particular attention to the holes in the interior of the spar tube. Maximum chamfer permitted is 0.010 inch.
- G. Dye-penetrant inspect the outer seven (7) inches of the control rotor cuff paying particular attention to the four bolt holes. If cracks are found, replace cuff assembly.

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- H. If the control rotor attach bolts (AN174-26) show signs of wear or rust, they should be replaced. Corrosion resistant steel bolts (AN174-C26) may be used as replacements.
- I. Protect the spar tube by lightly coating areas of bare metal with two coats of zinc chromate primer.
- J. Reinstall the control rotor blade assembly using Lubriplate 630-AA.

CAUTION: Do not overtorque attaching hardware.

Tighten nuts to 35/40 pound-inches and secure with cotter pins.

- K. Apply sealant material (EC750, 3M Company or RTV-102, General Electric Co., or equivalent) between bolt head or nut and cuff, covering the edges of the washer for the purpose of preventing moisture from entering the attachment holes in the cuff.
- L. Upon compliance, make appropriate entry in aircraft log book.

3. MATERIAL INFORMATION

The following materials are required to accomplish this bulletin and are to be furnished by the operator.

emery cloth or paper
crocus cloth (P-C-458)
solvent (P-D-680)
zinc chromate primer (MIL-P-8585)
Lubriplate 630-AA
EC 750, 3M Company or RTV-102, General Electric Co.,
or equivalent.