HUGHES SERVICE INFORMATION NOTICE

NOTICE NO. N-100
DATE 21 Dec 1971

FAA APPROVED

SUBJECT: REPAIR OF TAIL ROTOR BLADES, P/N 269A6035 SERIES

MODELS AFFECTED: All 269 Series Helicopters Equipped With Low Tip Speed Tail Rotor Assembly

TIME OF COMPLIANCE: Shall be accomplished on condition basis, following scheduled or special inspection of tail rotor blades

PREFACE: The information given in this Service Information Notice lists a procedure for field repair of tail rotor blades, when inspection reveals spanwise cracking at the root end of the blade close to the joint of the spar and the root end cap. (See Figure 1.)

Repair is limited to cracks less than one and one-half inches in length, and not more than two plies of fiberglass skin in depth. The above described cracks can be repaired without impairing the integrity of the blade structure.

Reference

269 Series - Basic Handbook of Maintenance Instructions, Revised 1 August 1971

FORM NO. 9578A HTC AD REV 11-67

TOOLS AND EQUIPMENT

Knife, X-Acto or equivalent
File, coarse
Brush or spatula
Gloves - lint free; cloth rubber or nylon

MATERIALS

Paper, abrasive - 100 grit		Commercial
Paper, abrasive - 220 grit		Commercial
Paper, abrasive - 320 grit		Commercial
Solvent - MEK or equivalent		Commercial
Fabric material - woven glass, finished	Commercial Type 181; MIL-C-9084, Type VIII	Ferro Corp.; Coast Mfg & Supply Co.
Adhesive - epoxy resin	EC1838B or EC1020	3M Company

REPAIR PROCEDURE

NOTE

1. If the length of the crack is less than one and one-half inches and the depth of the crack is not more than two (2) plies of the fiberglass skin, the crack can be repaired in the field using the procedure described below. (See Figures 1 thru 3.)

2. If the crack is longer than specified above and/or extends through the entire thickness of the skin indicating complete fracture of the fiberglass, the blade shall not be repaired in the field and the Tail Rotor Assembly shall be declared unserviceable.

a. Remove loose resin and paint from blade surface around cracked area. Abrade surface to approximately one-half inch on both sides of crack, using 100 grit sandpaper. Exercise care not to cut through the intact part of the fiberglass skin. (See Figure 4.)

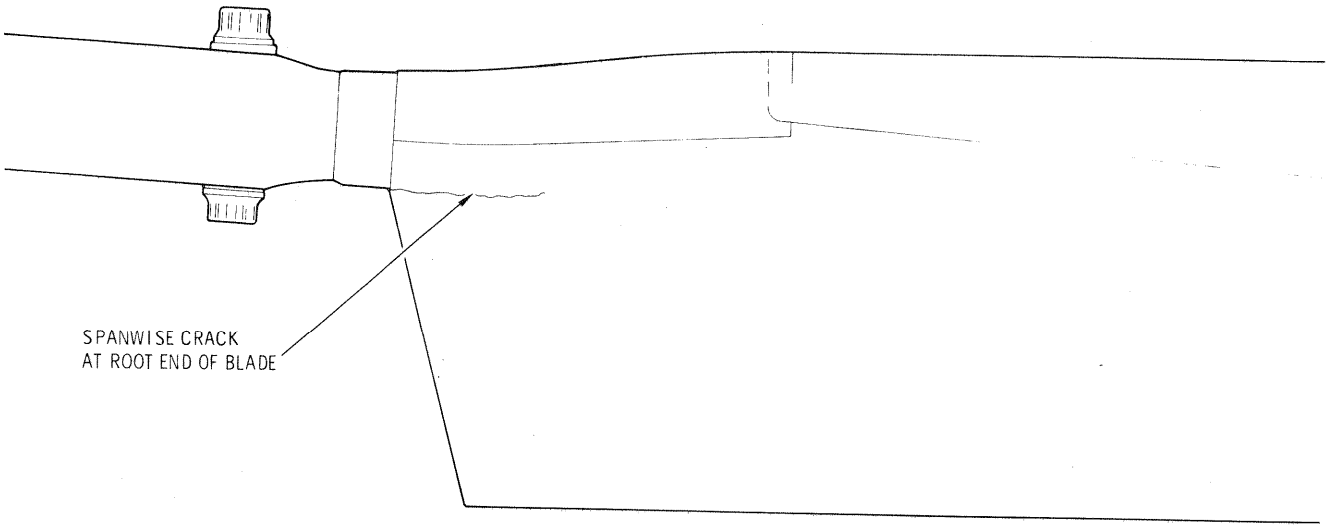

FIGURE 1

BLADE CONDITION AT TIME OF MANUFACTURE

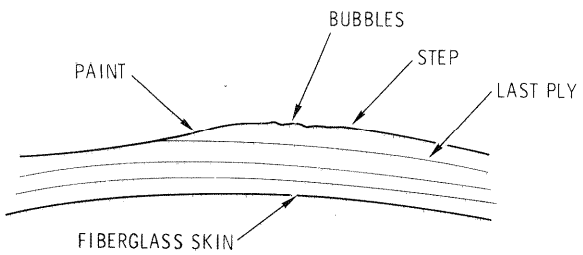

FIGURE 2

BLADE CONDITION DURING SERVICE

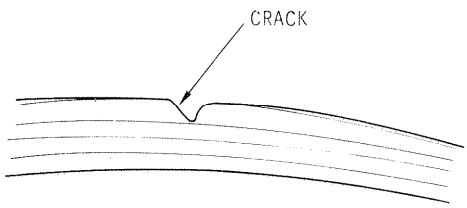

FIGURE 3

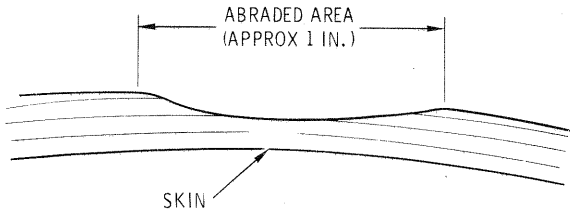

FIGURE 4

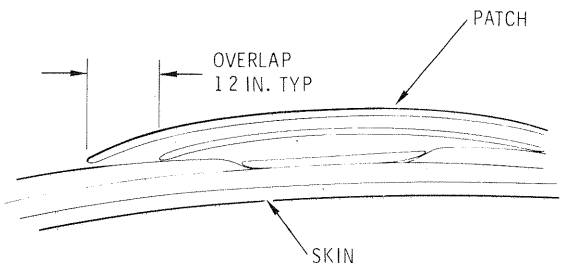

FIGURE 5

b. After abrading surface, wipe off dust with cloth dampened lightly with MEK or other suitable solvent. Do not use an excessive amount of solvent.

c. Cut three (3) plies of fiberglass cloth to necessary size to fill abraded area. Round off corners of glass cloth to eliminate sharp edges.

d. Mix a small amount of room temperature curing epoxy resin.

e. Apply fiberglass patch as follows:

1. Wet abraded area with epoxy resin and lay down smallest patch which will fill the abraded area. Work out all air bubbles with a small brush or spatula.

2. Apply additional resin and follow with a second layer of fiberglass cloth.

3. Follow with an additional coating of resin and cover with a third ply of fiberglass cloth to complete the patch as shown in Figure 5. Each layer of added fiberglass must overlap the previous layer. The top layer of fiberglass cloth must overlap at least one-half inch.

4. Smooth the edges of the patch with the brush or spatula.

5. Allow the epoxy resin to cure overnight at room temperature.

6. Sand the patched area with 220 grit sandpaper followed by 320 grit wet sandpaper. Exercise caution to prevent oversanding the surface.

7. Wipe the reworked area dry.

f. Apply primer and paint as necessary to restore tail rotor blade to original appearance. (Refer to Section 2 of Basic HMI.)

NOTE

The repair may affect tail rotor balance and induce high frequency vibration. As required, adjust tail rotor assembly balance, per Section 9 of the Basic HMI.

WEIGHT AND BALANCE DATA

Weight and balance not affected.