

**R22 SERVICE BULLETIN SB-103A**

(supersedes R22 SB-103)

**DATE:** 30 April 2010

**REV A:** 19 July 2012

**TO:** R22 owners, operators, and maintenance personnel

**SUBJECT:** Main Rotor Blade Bond Inspection

**ROTORCRAFT AFFECTED:** R22-series helicopters with A016-4 main rotor blades.

**TIME OF COMPLIANCE:** Every four months, 100-hour inspection, or annual inspection, whichever occurs first.

**BACKGROUND:** Debonding of rotor blade skins can occur when the bond line is exposed due to erosion of the blade finish, or when corrosion occurs on the internal aluminum tip cap. Proper inspection and protection (refinishing) of bonded areas is required. Debonding resulting from improper inspection and maintenance could cause a catastrophic accident.

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**COMPLIANCE PROCEDURE:**

NOTE

To facilitate inspection, blade may be teetered down, collective fully raised, and cyclic stick positioned to apply maximum up pitch.

1. Refer to Figures 1 and 2. Remove both main rotor blade tip covers and clean the blades. Clean and remove any corrosion from tip covers.
2. Using 10x magnification, visually inspect uncovered skin-to-tip cap bond joints. Using a 1965-or-later United States quarter-dollar coin, tap test skin-to-tip cap bond joints on both upper and lower surfaces. If corrosion, separation, or voids are detected, blade is unairworthy. A tap test tutorial video is available on our website, [www.robinsonheli.com](http://www.robinsonheli.com), under the Publications tab.
3. Using 10x magnification, visually inspect any exposed skin-to-spar bond line for gaps (empty space between skin and spar). Blade is unairworthy if any gap, including "pin hole(s)", is detected in the bond line.
4. Refer to Figure 2. Mark outboard 120 inches of blade lower surface as shown to identify skin-to-spar bond joint area.

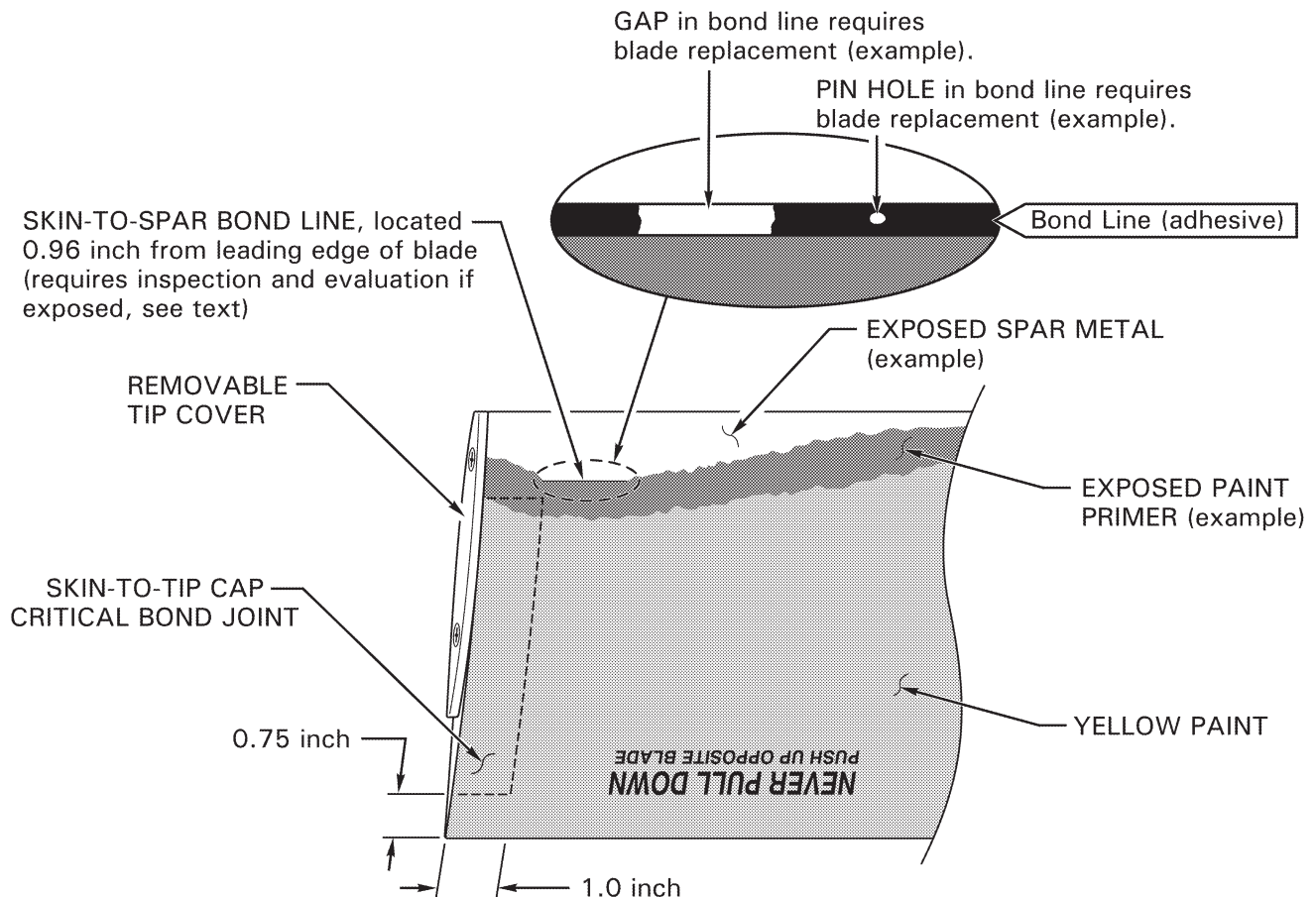
(OVER)

5. Verify no visible dents within the bond joint area. Blade is unairworthy if bond joint area is dented.
6. Tap test the lower skin-to-spar bond joint and verify no voids exist. Blade is unairworthy if a void is detected.
7. Refinish all exposed bare metal, including tip covers, per R22 SL-56B.
8. Install blade tip covers.
9. Make appropriate maintenance record entries.

**Approximate Cost:**

- Parts: \$5 for KI-199 Kit.  
KI-199 Kit includes:  
1 ea MT332-22 tool  
1 ea SAN30001 Sharpie® marker

Labor: Less than 1 man-hour.



**FIGURE 1 TIP AREA AND LOWER SURFACE**  
(Example, Blade with Excessive Paint Erosion)

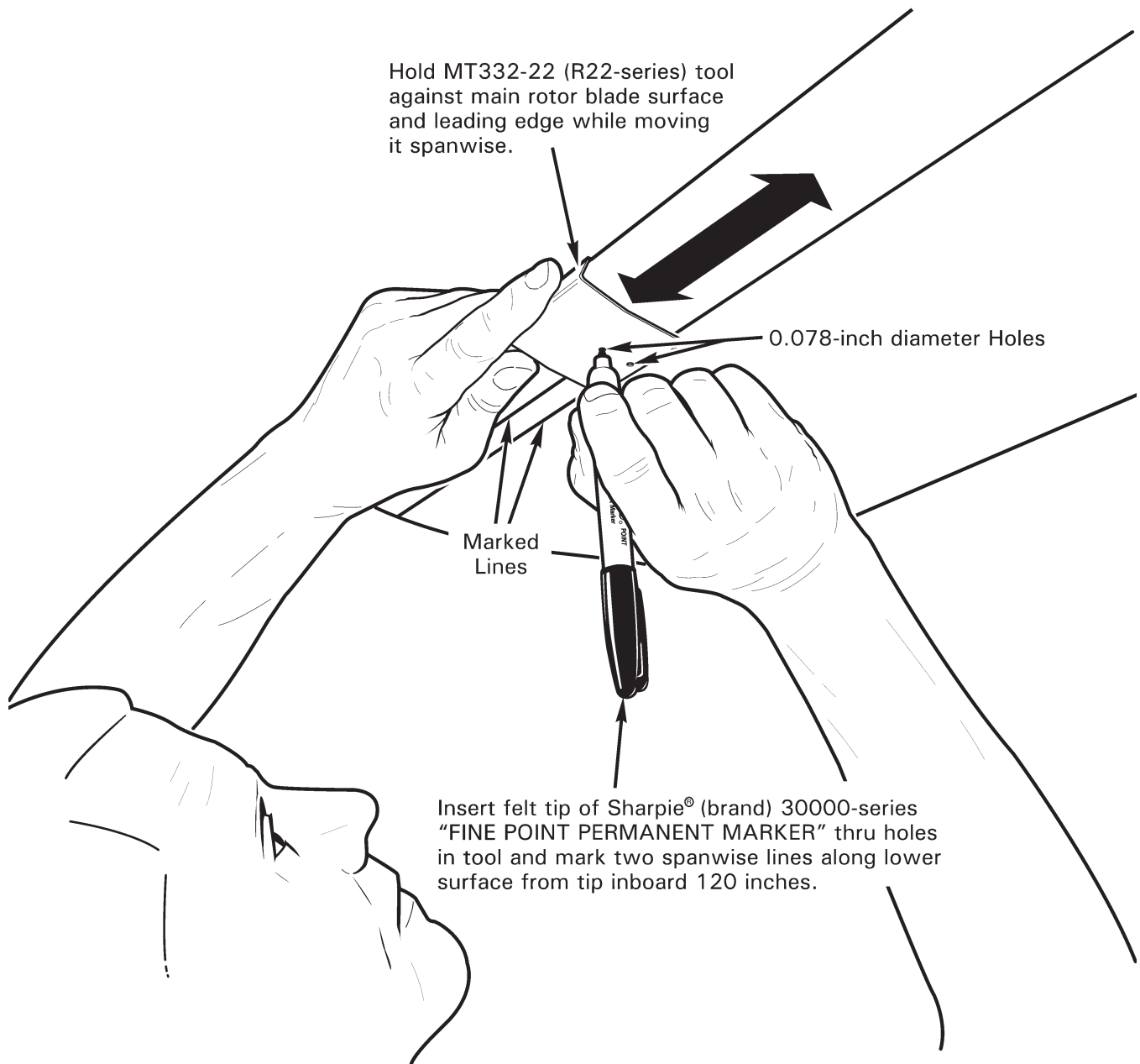


FIGURE 2 MARKING LOWER SKIN-TO-SPAR BOND JOINT AREA