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## AIRWORTHINESS DIRECTIVE

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On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/R22/54 Amdt 2 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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### Robinson R22 Series Helicopters

**AD/R22/54  
Amdt 3**

**Main Rotor Blade Leading Edge  
and Tip Cap Area Skin**

**9/2008**

**Applicability:** Model R22, R22 Alpha, R22 Beta and R22 Mariner helicopters, with main rotor blades part number A016-4 installed.

- Requirement:**
1. Main rotor blades installed on helicopters:
    - (a) Inspect the main rotor blade for exposed skin-to-spar bond line, then, using 10x or higher magnification, visually inspect each main rotor blade for skin separation along the leading edge of any exposed (bare metal) blade skin aft of the skin-to-spar bond line on the lower surface of each main rotor blade.
    - (b) Perform a “tap test” to detect any separation or void on the skin-to-spar bonded areas on the lower blade skin aft of the skin-to-spar bond line of each main rotor blade using a suitably weighted coin.
    - (c) Remove main rotor blade tip cover of each main rotor blade. Using 10x or higher magnification, visually inspect the blade tip area exposed when the blade tip covers were removed. “Tap test” the skin-to-cap bond joints on both upper and lower surfaces.
    - (d) If the main rotor blade has been found airworthy, refinish the main rotor blade according to the Compliance Procedure, paragraphs 3 through 7, of Robinson R22 Service Letter SL-56 Revision A, dated 29 March 2007.
  2. If any corrosion, separation, or any void is detected by the Requirement 1 inspections, the main rotor blade is not airworthy and must be replaced.
  3.
    - (a) Visually check for any exposed (bare metal) blade skin aft of the skin-to-spar bond line on the lower surface of each main rotor blade within the outboard 24-inches, paying particular attention to the last 10-inches before the tip.
    - (b) Should any exposed (bare metal) blade skin aft of the skin-to-spar bond line on the lower surface of any main rotor blade be found, then Requirements 1(a) through 1(d) of this directive must be accomplished.

*Note 1: Damage to the skin-to-spar bond line may be limited by maintaining a protective coating over the bond line area in accordance with Requirement 1 para (d).*

## Robinson R22 Series Helicopters

AD/R22/54 Amdt 3 (continued)

### Alternate Method Of Compliance (AMOC)

Airwolf Aerospace LLC Rotor Blade Protective Tape per Supplemental Type Certificate (STC) SR02491CH provides an alternative means of compliance with requirement 3 (a) of this Directive, provided:

1. At every 100 hour inspection or 12 months time in service, whichever occurs first, the condition of the protective tape is inspected in accordance with Airwolf Aerospace LLC Instructions for Continued Airworthiness, Report RBPT-100-ICA, Revision 0, dated 18 June 2007 or later FAA accepted revision, and
2. The applicable "Pilot Operating Handbook and FAA Approved Rotorcraft Flight Manual" is updated to include revisions dated 20 April 2007 or later revisions.

*Note 2: The approval of STC SR02491CH (FAA AMOC to AD 2007-26-12) supersedes the restriction to the installation of "blade tape (anti-erosion tape)" where it exists in the applicable Robinson Maintenance Manuals.*

*Note 3: FAA AD 2007-26-12 Amdt 39-15314 dated 18 January 2008 and FAA Approved Alternate Method of Compliance (AMOC) for AD 2007-26-12 refer.*

### Additional Alternate Method of Compliance (AMOC)

The preflight check required by paragraph 3 (a) is not required provided the following actions are performed:

1. At every 100 hour or 12 months time in service, whichever occurs first, inspect the main rotor blade in accordance with requirement 1(a) to (c) of this AD, and if any portion of the skin-to-spar bondline is exposed, refinish in accordance with paragraphs 3 through 7 of R22 Service Letter SL-56, dated March 29, 2007 or later revision.
2. Update the applicable Pilot Operating Handbook and Approved Flight Manual to include revisions dated 20 April 2007 and later revisions.

**Note: The two AMOCS listed above both allow relief from the requirement to certify for a pre flight inspection per requirement 3(a) of this AD. The usual pre-flight inspection must be done IAW the pilot operating handbook and/or flight manual, but if either of these AMOCS are used, then no special certification for part 3(a) of this AD is required before each flight.**

- Compliance:
1. (a) to (c) Within 10 hours time in service after 18 January 2008, unless already accomplished and thereafter within each 100 hours or 12 months Time In Service (TIS), whichever comes first.

## Robinson R22 Series Helicopters

AD/R22/54 Amdt 3 (continued)

1. (d) Whenever the main rotor blade has been found airworthy in accordance with the Requirements of this AD, and if any portion of the skin-to-spar bond line is exposed.
2. Before further flight.
3. (a) Before each flight
3. (b) Before further flight

This Directive shall be entered on the maintenance release as maintenance required. The Requirement 3 (a) visual inspection shall be performed before each flight and may be certified by the Pilot in Command who has been trained to do the inspection by an appropriately qualified person. In this case, a copy of this Directive is to be carried in the aircraft.

This Amendment becomes effective on 28 August 2008.

**Background:** The FAA received eleven reports of main rotor blade disbond, some occurring in flight causing the pilot to experience excessive vibrations and land as a consequence, and some found during routine maintenance. The actions specified in this Directive are intended to detect blade skin disbond and to prevent blade failure and subsequent loss of control of the helicopter.

This amendment adds an additional AMOC which allows relief from the need to specifically certify before each flight for a pre-flight blade inspection.

Amendment 2 included a reference to STC SR02491CH which is an FAA Approved Alternate Means Of Compliance (AMOC). As this STC is explicitly mentioned in this Airworthiness Directive, an exclusion request need not be submitted if the requirements of this AD and the STC are followed without variation.

Amendment 1 of this Directive became effective on 29 February 2008.

The original issue of this Directive became effective on 18 January 2008.



David Villiers  
Delegate of the Civil Aviation Safety Authority

17 July 2008