LUFTFARTSVERKET
Luftfartsinspektionen

LUFTVÄRDIGHETSDIREKTIV (LVD)

A. Helikopter
Robinson
LVD Nr 2918
Upphäver LVD 2879

Sektion 2. Utlandstillverkad flygmateriel

TITEL: **Sprickkontroll/byte av huvudrotorblad**

GÄLLER: R44 S/N 002 tom 0486 med installerade huvudrotorblad P/N C 016-1

ÅTGÄRD: Utför åtgärder angivna i bifogad kopia av FAA Priority Letter AD 98-22-16

TID FÖR ÅTGÄRD: Inom 5 flygtimmar och därefter i intervall angivet i FAA AD 98-22-16 räknat från detta LVD's beslutsdatum om ej tidigare utfört.
Efter 15 november 1998 skall huvudrotorbladen ersättas före flygning med helt set huvudrotorblad P/N C016-2.
Efter installation av helt set av huvudrotorblad P/N C 016-2 utgår inspektionskravet.

UNDERLAG: FAA AD 98-22-16
Robinson Helicopter Company R44 Service Bulletin SB-27B revision B och Service Bulletin SB-28 båda daterade 18 juni 1998.

REFERENS: FAA AD 98-22-16

BESLUTSDATUM: 1998-10-26

LFS 1998:71

Åtgärder enligt LVD utgör nödvändig förutsättning för ifrågavarande flygmateriels luftvärdighet. Referens BCL M 1.11.
Anteckning om åtgärd, som vidtagits i enlighet med LVD, skall införas i teknisk journal för berörd flygmateriel med hänvisning till ifrågavarande LVD-nummer. Angivet underlag refererar till senast gällande revision/utgåva. LVD utges i luftfartsverkets författningssamlingar LFS.

Postadress	Gatuadress	Telefonnummer	Telegram	Telex
			Civilair	
601 79 NORRKÖPING	Vikboplan 11	011-192000	Norrköping	62450

Bilaga till LVD 2918

98-22-16

This Priority Letter Airworthiness Directive (AD) is prompted by an incident in which a pilot heard a loud noise and felt severe vibrations while hovering, resulting in a forced landing. Upon inspection, a crack was found in a main rotor blade. The crack started at the mid-span inboard trim tab, ran chordwise to the spar, and turned along the spar for about an inch. The crack originated from a trim tab alignment rivet hole in the main rotor blade skin. Subsequent investigations revealed that the manufacturing process utilized to drill the trim tab alignment rivet holes (holes) in the main rotor blade skin can allow a fatigue crack to originate at these holes and propagate in the skin. This condition, if not detected, could result in failure of the main rotor blade and subsequent loss of control of the helicopter.

This AD supersedes AD 98-12-19, which was issued on August 5, 1998 (63 FR 43299, August 13, 1998). That AD required main rotor blade inspections and replacement if a crack was found during inspection. Since the issuance of that AD, it has been determined that continued inspections may be inadequate to ensure continued operational safety and that mandatory terminating action is required to permanently resolve this unsafe condition. Therefore, this AD mandates replacement of all the affected main rotor blades prior to further flight after November 15, 1998.

The FAA has reviewed RHC R44 Service Bulletin SB-27B, Revision B, which recommends replacing daily preflight inspections with repetitive inspections at intervals not to exceed 5 hours time-in-service (TIS) and clarifies the inspection procedure. The FAA has also reviewed RHC R44 Service Bulletin SB-28, which describes procedures for main rotor blade replacement and recommends replacement by December 31, 1998. Both service bulletins are dated June 18, 1998.

RHC has also issued a Safety Alert to all Model R44 helicopter owners, operators, and service centers which states that long term usage of main rotor blades, part number (P/N) C016-1, is not recommended. RHC recently commented to Rules Docket No. 98-SW-25-AD (AD 98-12-19). RHC comments that AD 98-12-19 should not permit visual inspections of main rotor blade, P/N C016-1, to continue indefinitely, and requests that the compliance procedures be modified to require the installation of redesigned main rotor blades, P/N C016-2, to "avoid possible catastrophic failure." The commenter also requests that NOTE 5 reference "Revision B of R44 Service Bulletin 27" for blade inspection and to reference "R44 Service Bulletin 28" for blade replacement. The FAA concurs that as the TIS and total number of repetitive inspections on these main rotor blades increase, so does the possibility for a crack to develop and remain undetected. Based on that re-evaluation, the FAA has determined that the required compliance time for main rotor blade replacement

should be earlier than the date stated in RHC R44 Service Bulletin SB-28 in order to ensure public safety.

Since an unsafe condition has been identified that is likely to exist or develop on other RHC Model R44 helicopters of the same type design, this AD requires, within 5 hours TIS, inspecting both trim tab alignment rivet holes on both the upper and lower surfaces of each main rotor blade for cracks using a dye-penetrant inspection method and visually inspecting the trim tab rivet holes for cracks prior to the first flight of each day or at intervals not to exceed 5 hours TIS, whichever occurs first, until the main rotor blades are replaced with redesigned main rotor blades. The main rotor blades must be replaced prior to further flight after November 15, 1998. This replacement constitutes a terminating action for the inspections required by this AD.

This rule is issued under 49 U.S.C. Section 44701 pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this priority letter.

98-22-16 ROBINSON HELICOPTER COMPANY: Priority Letter issued on October 22, 1998. Docket No. 98-SW-56-AD. Supersedes AD 98-12-19, Amendment No. 39-10712, Docket No. 98-SW-25-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0002 through 0486, with main rotor blades, part number (P/N) C016-1, installed, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (f) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any helicopter from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of a main rotor blade and subsequent loss of control of the helicopter, accomplish the following:

(a) Within the next 5 hours time-in-service (TIS), perform a dye-penetrant inspection of the main rotor blade skin around both inboard trim tab alignment rivets as follows, referring to Figure 1.

(1) Remove all paint around both rivets, expo an area of approximately 3/4" in diameter, at the inboard

trim tab on the top and bottom of each main rotor blade (4 places per main rotor blade). Use 180 grit or finer abrasive paper, followed by 600 grit or finer paper to eliminate course sanding marks. Sand only in a spanwise direction. Do not use chemical paint strippers.

(2) Inspect the main rotor blade skin around rivets on the upper and lower surfaces (4 locations) using a dye-penetrant inspection method.

NOTE 2: Chordwise cracks in the paint up to 2 inches long which are located along either inboard or outboard edge of the trim tab are acceptable.

(b) Clean the sanded areas prepared in accordance with paragraph (a) of this AD with 111-Trichloroethane or methyl ethyl ketone (MEK) and then apply clear lacquer to seal the unpainted areas.

NOTE 3: Do not bend the inboard main rotor blade tabs from their present position or utilize them for any subsequent main rotor blade tracking adjustment.

(c) Thereafter, prior to the first flight of each day, or at intervals not to exceed 5 hours TIS, whichever occurs first, using a 5-power or higher magnifying glass, visually inspect both upper and lower main rotor blade skin surfaces around the inboard trim tab rivets (4 locations) for cracks.

(d) If a crack is found, replace the main rotor blade with an airworthy main rotor blade before further flight.

(e) Prior to further flight after November 15, 1998, install a set of main rotor blades, main rotor blade P/N C016-2. This constitutes terminating action for the inspections required by this AD.

NOTE 4: Robinson Helicopter Company R44 Service Bulletin SB-27B, Revision B, and Robinson Helicopter Company Service Bulletin SB-28, both dated June 18, 1998, pertain to the subject of this AD.

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

NOTE 5: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles Aircraft Certification Office.

(g) Special flight permits will not be issued.

(h) Copies of the applicable service information may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505.

(i) Priority Letter AD 98-22-16, issued October 22,1998, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT:
Frederick Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960

Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

TO OBTAIN A COPY OF THE FIGURE CONTACT AFS-610; TELEPHONE: (405) 954-6898; FAX: (405) 954-4104