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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 1

Med hjemmel i lov om luftfart av 16. desember 1960 nr. 214 og kgl. res. av 8. desember 1961, litra K og Samferdselsdepartementets bemyndigelse av 23. mars 1964 fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

056/90 MODIFIKASJON AV LUFTFILTERHUS

Påbudet gjelder:

Robinson: R22 serien; alle serienummer.

Gjelder helikoptere utstyrt med luftfilterhus med klemmer ("Latches").

Påbudet omfatter:

For å hindre at låseklemmene løsner under flyging skal følgende tiltak utføres:

1. Fjern de tre festeklemmene, og erstatt disse med fire bolter i samsvar med følgende fremgangsmåte, ref. vedlegg 1 til denne LDP:

1.1 Åpne filterhuset og fjern luftfilterelementet.

1.2 Demonter filterhuset fra helikopteret.

1.3 Bor ut de fire naglene i dekselet som holder de 0.25" (6.35 mm) tykke avstandsstykkene og øk hullenes diameter til 0.191" (4.85 mm). Avstandsstykkene kasseres.

1.4 Lukk igjen dekselet, og ved å benytte hullene i dekselet som styring bores fire tilsvarende hull gjennom det øvre huset på linje med hullene i dekselet.

1.5 Åpne luftfilterhuset og bor ut naglene som fester klemmene til huset. Kasser klemmene og rengjør filterboksen.

1.6 Montér luftfilterhuset på helikopteret.

1.7 Installér filterelementet og sikre dekselet ved å benytte fire AN3-35A bolter, AN960-10L skiver, AN-970-3 skiver og NAS679A3 mutre.

Tid for utførelse:

Dersom ikke allerede utført:

Innen 25 flytimer etter 08.10.90.

Referanse:

FAA AD 90-17-01

08.10.90

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i ved-

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 2

Med hjemmel i lov om luftfart av 16. desember 1960 §§ 214 og 43, jfr. kgl. res. av 8. desember 1961, litra K, og Samferdselsdepartementets bemyndigelse av 23. mars 1964, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

92-036 UTSKIFTING AV NAS1304-16 AF BOLTER

Påbudet gjelder:

Robinson: R22 serien; alle serienummer.

Påbudet omfatter:

For å hindre svikt i NAS1304-16 AF bolter, skal følgende tiltak utføres:

1. For å identifisere NAS 1304-16 bolter skal det utføres en visuell inspeksjon av alle helikopter spesifisert under punkt 1.1 ved de inspeksjonsområder eller de steder som er spesifisert under punkt 2.

   1.1 Berørte helikopter:

   a) Alle R22 med serienummer (S/N) 1880 til og med 2060 og 2073.

   b) Alle R22 helikopter, uansett serienummer, dersom det har vært overhalt eller reparert hos Robinson Helicopter Company mellom 09.07.91 og 01.03.92.

   c) Alle R22 helikopter, uansett serienummer, dersom det etter 09.07.91 er utført vedlikehold på de områder spesifisert under punkt 1.2 a).

   1.2 Inspeksjonsområder:

   a) Halerotorbladets "control assembly" i bakre del av halekonen, inkludert halerotorkontrollen som forbinder rotorbladets "pitch link" til rotorens "pitch control cross head (slider)" armer og rotorens "pitch link" til rotorbladenes festepunkt.

   b) Nedre, bakre hjørnet i kabinen, både høyre og venstre side, hvor festepunktet forener kabinen med den sveisede "frame assembly".

   c) Ovenfor området der "swash plate" forbindes med balansevektene til "swash plate assembly" (også beskrevet som der hovedrotorens balansevekt står i forbindelse med "Chord Arm Yoke").

   Anm.: Videre detaljer finnes i Robinson Modell R22 Illustrated Parts Catalog (IPC).

2. Fjern alle NAS1304-16 bolter som er identifisert med bokstavene "AF" på bolthodet og erstatt disse med luftdyktige uten forannevnte identifikasjonsbokstaver, eller med NAS 6604-16 bolter.

3. NAS1304-16 bolter identifisert med bokstavene "AF" skal ikke lenger være innstallert i noen anordninger på helikopteret.

20.06.92

Tid for utførelse:

Dersom ikke allerede utført:

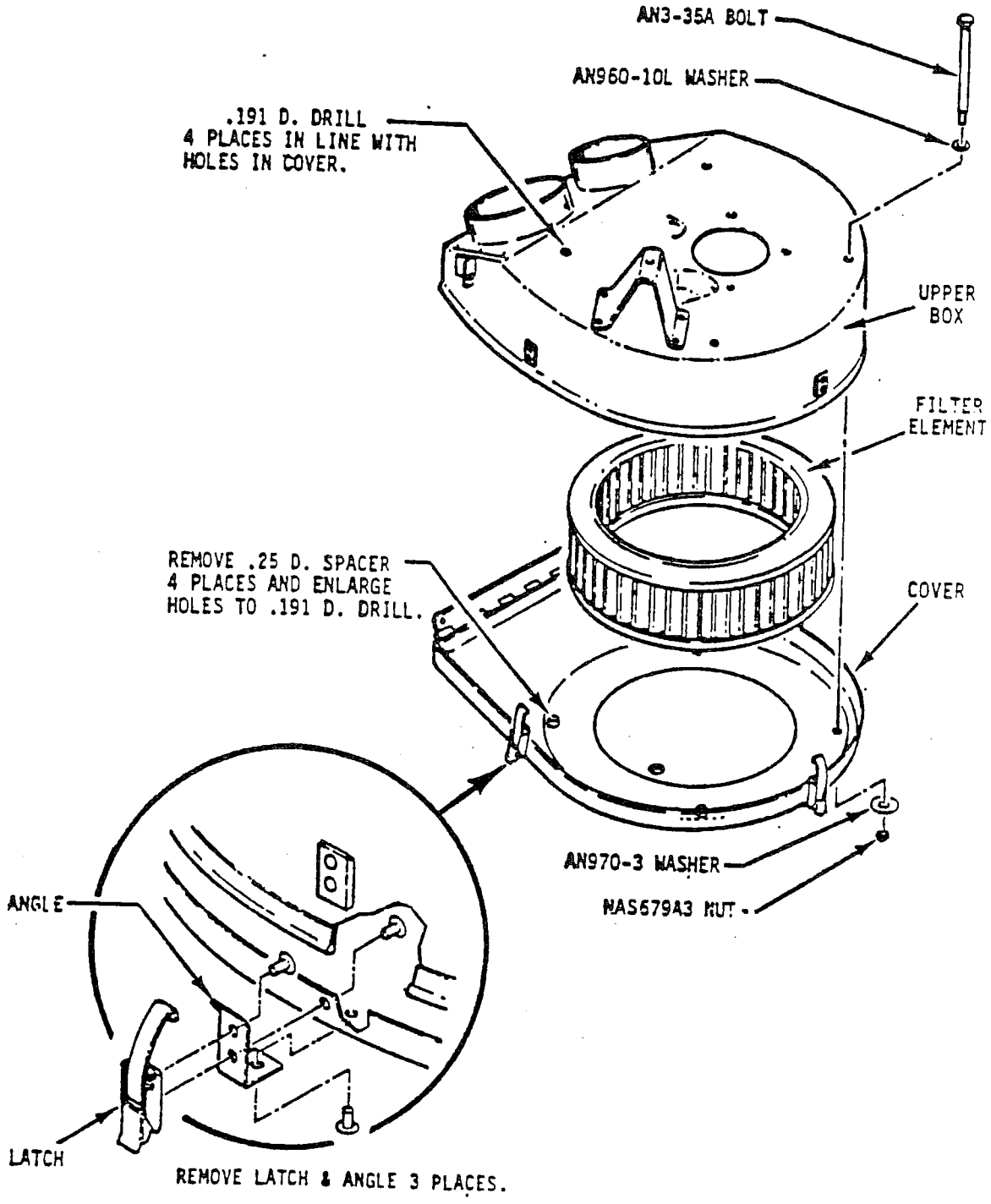
Før første flyging etter 20.06.92.

Referanse:

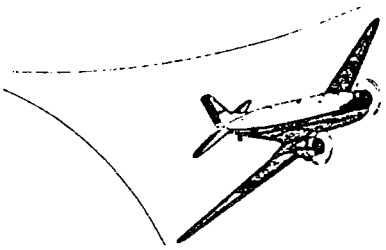
FAA AD 92-06-17.

VEDLEGG 1 TIL LDP 056/90

SB 61



SPECIAL AIRWORTHINESS INFORMATION



AIRCRAFT CERTIFICATION SERVICE
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U.S. Department
of Transportation
Federal Aviation Administration

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ROBINSON MODELS: R-22 and R-44.

IAIN ROTOR/AIRFRAME CONTACT ACCIDENTS

INTRODUCTION

The purpose of this Special Airworthiness Information is to advise all pilots of the Robinson R-22 and R-44 helicopters of fatal accidents in those aircraft resulting from main rotor contact with the airframe. This information recommends procedures to reduce the probability of these types of accidents. This is for information purposes only, and recommendations for corrective action are not mandatory.

BACKGROUND

This Special Airworthiness Information has been issued in order to update and more widely disseminate safety information previously provided to registered owners of Robinson helicopters in Special Airworthiness Alert ASW-94-2 dated July 22, 1994.

In 1994, there were six Robinson helicopters destroyed in fatal accidents involving in-flight contact between the main rotor and the airframe. Five of those accidents, three R-22's and two R-44's, occurred outside of the United States.

According to data provided by the National Transportation Safety Board and foreign airworthiness authorities, there have been 26 fatal accidents in the R-22 that resulted from main rotor blade/airframe contact since certification of the helicopter in 1979. There have been two such accidents involving the R-44 since certification of that helicopter in 1992. Most of those accidents have been attributed to low rotor RPM stall or mast bumping.

Pilot experience was a factor in 24 of those rotor/airframe contact accidents. Of the pilots assumed to be manipulating the controls during the accidents, their average flight experience was 119 hours in helicopters and 2610 hours in airplanes.

Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the rotor blades can produce a stall. Low rotor RPM, aggressive maneuvering, high collective angle (often the result of high density altitude, over-pitching [exceeding power available] during climb or high forward flight airspeed) and slow response to the low rotor RPM warning horn and light may result in rotor stall. The effect of these conditions can be amplified in turbulence. Rotor stall can ultimately result in contact between the rotor and airframe. Additional information on rotor stall is provided in Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low g (load factor below 1.0) or abrupt control input. A low g flight condition can result from a cyclic pushover in forward flight. High forward flight speed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the rotor hub assembly striking the main rotor mast with subsequent rotor system separation from the helicopter. Both the models R-22 and R-44 are configured with a teetering rotor system design common to two-bladed rotor systems. The subject of mast bumping is further discussed in Robinson Helicopter Company Safety Notices SN-11, SN-20 and SN-29.

Although the FAA is conducting a comprehensive research program to address the issue of main rotor/airframe contact accidents, the complete results of that research are not yet available. In the absence of additional operating limitations or design changes, education and awareness are our best weapons against those types of accidents. This Special Airworthiness Information was developed to achieve that goal. By alleviating the factors known to accompany rotor RPM decay and low g, the occurrence of main rotor/airframe contact accidents can be reduced or eliminated. The onset of rotor/airframe contact is insidious, occurs with little prior warning to the pilot, and usually results in catastrophic damage to the helicopter. The only reliable way to survive a main rotor/airframe contact accident is to avoid it. In order to avoid such an accident, you must know the conditions that may culminate in rotor stall and/or mast bumping.

RECOMMENDATIONS

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor/fuselage contact accidents, and corrective type design changes and operating limitations are incorporated, R-22 and R-44 pilots are strongly urged to comply with the following recommended procedures.

1. Avoid very high or low airspeeds. At high airspeeds, the rotor can generate a low g condition more quickly and with less forward cyclic movement than at low airspeeds. A low g condition can result in mast bumping and possible rotor separation. At airspeeds below 60 knots indicated airspeed (KIAS) there is very little kinetic energy in the form of airspeed available to the pilot for recovery from a low rotor RPM condition by flaring the helicopter. Pilots are urged to maintain airspeeds greater than 60 KIAS and less than .9 Vne, but in no case less than the minimum safe speeds shown on the height-velocity diagram for the applicable operating altitudes. The prescribed airspeeds for safe operation are presented on page 4-1 of the R-22 and R-44 Rotorcraft Flight Manuals (RFM).

2. Avoid flight at high density altitude. As density altitude increases, the margin between the rotor blade angle of attack and the angle of attack at which rotor stall will occur is reduced. Power available decreases with increasing density altitude and the risk of rotor RPM decay and possible rotor stall is greater at higher altitudes. The ability to recover lost RPM with engine power is also reduced at higher altitude. Additionally, as density altitude is increased, the main rotor flapping resulting from low g flight is increased. Thus, the margin between the maximum flapping angle and contact between the rotor hub and mast is reduced at higher altitudes.

3. Use maximum power-on RPM at all times, unless in autorotation. Rotor RPM decay can result from loss of engine power, exceeding the performance capability of the helicopter, or pilot inattention. Main rotor flapping margin also decreases as RPM decreases. RPM decay is insidious and can be rapid, and RPM control demands pilot vigilance at all times.

4. Maintain balanced flight at all times. Sideslip creates lateral flapping in excess of that encountered during normal flight. This excess flapping allows less margin for lateral cyclic maneuvering in response to a low g induced roll.

When hovering out-of-ground-effect, always hover into the wind. Hovering out-of-ground-effect often requires engine power close to the maximum power available. A crosswind or tail wind increases the power required to compensate for the extra tail rotor thrust that may be required. Wind from the right of the helicopter increases the power required to hover due to the extra tail rotor thrust needed to maintain heading. Couple this power demand with pilot attention concentrated outside of the helicopter, and an unrecoverable loss of rotor RPM can result rapidly with the disastrous effects of rotor stall and possible main rotor blade/airframe contact.

6. Pilots should be conditioned to instinctively apply the controls correctly in reaction to low rotor RPM and low g.

a. In the event of a low rotor RPM warning, quickly and simultaneously lower the collective and increase the throttle.

b. If the helicopter rolls to the right in a low g condition, gently apply aft cyclic to restore positive g and rotor thrust.

c. When uncommanded pitch, roll or yaw excursions result from flight in turbulence, smoothly apply the controls to maintain positive g and to eliminate sideslip.

7. Do not fly if any of the following conditions exist: surface winds (including gusts) exceeding 25 knots, surface wind gusts exceeding 15 knots, wind shear forecast or observed, and/or turbulence forecast or observed to be moderate, severe or extreme. "Ride quality" in turbulence is a function of several factors, predominately gross weight. Relatively light gross weights make the R-22 and R-44 more susceptible to the effects of turbulence. Most notably, main rotor flapping and aircraft attitude are affected by turbulence and can lead to blade stall, abrupt control inputs in response to uncommanded attitude deviations and, ultimately, mast bumping. Two recent rotor/airframe contact accidents occurred with high surface winds, wind gusts and turbulence. At least seven rotor/airframe contact accidents were accompanied by such conditions.

8. When encountering moderate, severe or extreme turbulence, limit forward flight airspeed to 80 KIAS or less and land as soon as practical. The effects of turbulence on pilot workload and uncommanded attitude changes are accentuated with increased airspeed.

These recommendations are intended to abate the conditions that culminate in contact between the main rotor and airframe. Adherence to the recommendations will promote safe flying and may keep you from becoming an accident statistic. The key word here is "avoidance". The factors discussed here should be considered by all pilots flying small helicopters configured with a teetering rotor system.

FOR FURTHER INFORMATION CONTACT:

Mr. Tom Archer, Federal Aviation Administration, Rotorcraft Standards Staff, ASW-110, Ft. Worth, Texas 76193-0110, (817) 222-5126, fax (817) 222-5961.

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LIMITATIONS SECTION

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.

(2) Flight when surface wind gusts exceed 15 knots is prohibited.

(3) Flight in areas of forecasted or reported wind shear is prohibited.

(4) Flight in areas of forecasted or reported moderate, severe, or extreme turbulence is prohibited.

(5) Adjust forward airspeed to between 60 knots and 0.7 V_{ne} upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

NORMAL PROCEDURES SECTION

NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, R44 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds greater than 60 knots indicated airspeed and less than 0.9 V_{ne}.

(2) The possibility of rotor stall is increased at high density altitudes; therefore, avoid flight at high density altitudes.

(3) Use maximum "power-on" RPM at all times during powered flight.

(4) Avoid sideslip during flight. Maintain in-trim flight at all times.

(5) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in ırbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION.

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not over control.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) After accomplishing the requirements of this AD, record compliance in the aircraft records.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, FAA, Rotorcraft Directorate. Operators shall submit their requests through an FAA Principal Operations Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(d) Priority Letter AD 95-02-04, issued January 12, 1995, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 003

Med hjemmel i lov om luftfart av 16. desember 1960 §§ 214 og 43, jfr. kgl. res. av 8. desember 1961, litra K, og Samferdselsdepartementets bemyndigelse av 23. mars 1964, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

92-049 KONTROLL AV HOVEDROTORSPINDEL

Påbudet gjelder:

Robinson Helicopter Company: Alle R22 som har A158-1 hovedrotorspindel og A106 "journal".

Påbudet omfatter:

For å hindre svikt i hovedrotorspindelen, skal følgende tiltak utføres:

1. Demonter begge hovedrotorbladene i henhold til Section 9.111 i R22 Maintenance Manual. Rengjør og utfør en dye penetrant inspeksjon av begge bolthull og tilliggende overflate på A158-1 spindelen. Dersom sprekkindikasjoner blir funnet skal spindelen byttes ut med en luftdyktig som er omarbeidet i samsvar med følgende:

   1.1 Demonter begge hovedrotorbladene. Rengjør og utfør en visuell inspeksjon med et 10x forstørrelsesglass. Deretter skal begge bolthulloverflatene inspiseres med dye penetrant. Dersom sprekkindikasjoner blir funnet skal rotorbladene øyeblikkelig tas ut av bruk. Gjør en visuell inspeksjon for hakk, riper, fordypninger eller stor grad av "fretting". Dersom overflatedefekter større enn 0,0005 tommers dybde blir funnet skal spindelen byttes ut med en luftdyktig.

   1.2 Poler bolthullets overflate med 220, 320 og 400 smergelpapir for å fjerne overflatedefekter og alle indikasjoner på "fretting". Inspiser deretter med et 10x forstørrelsesglass for å sikre at ingen indikasjoner på "fretting" gjenstår. Monter smergelpapiret på en flat kloss slik at den polerte oveflaten fortsatt vil være flat.

   1.3 Uten å fjerne spindelen fra bladet skal det utføres "shot peening" på begge overflatene (ref. AMS2430) til 98 "minimum coverage", intensitet 0.010A til 0.013A, med diameter 0.019/0.033 på stålkulene. Dekk med "duct tape" på de områdene og bladdelene hvor det ikke skal utføres "shot peening". "Overspray" i det 0.625 diameter store bolthullet kan forhindres ved å innstallere en plugg eller et kassert boltstykke.

   1.4 Poler overflaten der "shot peening" er utført med 220, 320 og 400 smergelpapir som er montert på en flat kloss, dette for å beholde en flat overflate. Ikke fjern alle indikasjoner på at"shot peening" er utført. Poler bare til 95 til 98 prosent av overflaten fremstår polert og flat og bare noen få synlige merker av at "shot peening" er utført. Fjern alle stålkulene mellom spindel og "boot". Ved hjelp av "vibro etch" skal bokstaven "P" merkes på spindelen. (Ref. bilag 1).

2. Dersom ingen defekter blir funnet etter utførelse av punkt 1 i denne LDP, skal, dersom ikke allerede utført, A158-1 spindelen bearbeides ved å utføre "shot

92-049

peening" på overflatene som korresponderer med A106 "journals" som beskrevet under punkt 1. til og med 1.4 i denne LDP.

3. Demonter og bytt ut alle A106 "journals" i "coning and teeter hinges" (totalt seks per luftfartøy) med ny A106 revisjon 0 eller tilsvarende "journal". Disse rekonstruerte "journals" kan identifiseres ved at det er en gul farge i bolthullet.

4. Sving A158-1 "journal" frem og tilbake manuelt for å sjekke om det er ujevnheter i A159-1 "pitch bearing set". Dersom ujevnheter oppdages skal "pitch bearing set" leveres til godkjent verksted for inspeksjon og/eller reperasjon (ref. section 2.540, R22 Maintenance Manual Robinson Technical Report 60).

5. Etter at punkt 2. og 3. i denne LDP er utført skal hovedrotorbladene monteres (ref. section 9.112, R22 Maintenance Manual). Vær sikker på at overflatene på "journal" og spindel er rene og tørre før de monteres. Gjør også tiltak for å sikre at boltene er strukket opp til de nye grensene spesifisert i (a) (7). "Track and balance" rotoren (ref. section 10.200, R-22 Maintenance Manual).

6. Spindel (ikke omarbeidet) og original "journal" kan brukes i samsvar med følgende prosedyrer:

   6.1 Demonter begge hovedrotorblader (ref. Section 9.111, R22 Maintenance Manual)

   6.2 Rengjør og utfør en inspeksjon med dye penetrant på begge bolthull og tilliggende overflater på A158-1 spindelen.

   6.3 Dersom det blir funnet sprekker på noen av spindlene skal disse byttes ut med luftdyktige deler før første flyging.

   6.4 Dersom defekter på spindeloverflaten overstiger 0.0005 tommers dybde, skal spindelen byttes ut med en luftdyktig før første flyging. Overfladisk "fretting" kan fjernes ved å polere lett med 400 eller finere smergelpapir.

   6.5 Gjør en visuell inspeksjon av A106 "journal". Dersom sprukket, bytt ut med luftdyktig før første flyging.

   6.6 Kontroller "pitch bearing set" for ujevnheter og fullfør punkt 5. i denne LDP.

   6.7 Reinnstaller hovedrotorbladene (ref. Section 9.112, R22 Maintenance Manual). Vær sikker på at "journal"- og spindeloverflatene er rene og tørre før de settes sammen.

7. Bytt ut alle NAS 630-80 bolter og A189-10 muttrer med nye.

Tid for utførelse:

Dersom ikke allerede utført:

For alle helikoptre som har spindler med mer enn 500 flytimer, og for alle helikoptre hvor man har registrert en uforklarlig økning på hovedrotorens vibrasjonsnivå:

Før første flyging.

For alle helikopter som har spindler med mindre enn 500 flytimer:

Innen 500 flytimer er oppnådd.

20.07.92

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 004

Med hjemmel i lov om luftfart av 16. desember 1960 §§ 214 og 43, jfr. kgl. res. av 8. desember 1961, litra K, og Samferdselsdepartementets bemyndigelse av 23. mars 1964, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

92-049

2 og 3 Gjentatte inspeksjoner med intervaller ikke overstigende 500 flytimer.

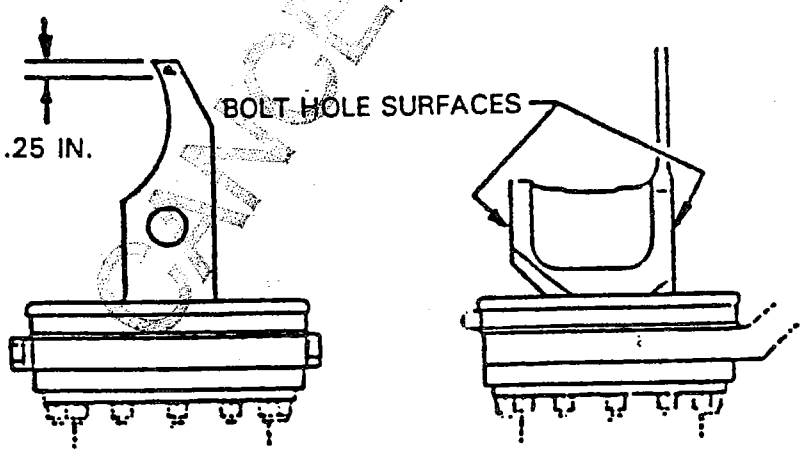
7. Ved hver inspeksjon hvor det kreves demontering av hovedrotorsystemet.

Referanse:

FAA AD 88-26-01 R2

20.07.92

BILAG 1



20.07.92

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 5

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

94-037 KONTROLL AV FLEXPLATE

Påbudet gjelder:

Robinson Helicopter Company; Alle R22 som har fremre flexplate P/N A947-1 (med pålimte skiver ("bonded washer")), eller P/N A193-1 (uten pålimte skiver).

Påbudet omfatter:

For å hindre at fremre flexplate mellom hovedrotorens gearboks og clutchsystemet svikter, skal følgende tiltak utføres:

1. Med clutchen frakoblet, skal clutchakselens fremre del støttes opp for å kunne fjerne flexplate, P/N A947-1 eller P/N A 193-1. Noter beliggenhet for justeringsskivene til bruk ved gjeninstallasjon.

   1.1 Bytt ut alle flexplater som ikke har åtte pålimte skiver (to per arm) med luftdyktig flexplate P/N A947-1 E.

   1.2 For de flexplatene som har åtte pålimte skiver (to per arm), skal følgende tiltak utføres:

      1.2.1 Fjern all "coating" ned til metallet fra ytre kanten av flexplaten og innover ca. 0.125", men i ingen tilfeller innenfor 0.5" fra de pålimte skivene, ved å bruke Scotch Brite eller 600 grit sandpapir. Kjemisk fjerning av "coating" skal ikke benyttes da dette kan påvirke limet mellom skiver og flexplate.

      1.2.2 Kontroller ytre kanter på flexplaten for sprekker ved å benytte en dye penetrant metode i samsvar med appendix I i denne LDP. Unngå at dye penetrant kommer i kontakt med de pålimte skivene. Dersom dye penetrant kommer i kontakt med skivene, skal væsken fjernes innen 1 minutt. Lengre tid vil påvirke vedheftingen mellom skiver og flexplate.

         1.2.1.1 Dersom sprekker blir funnet, skal flexplaten byttes ut med luftdyktig, P/N A947-1 E. Beskrivelse av sprekken og helikopterets flytid skal rapporteres til Luftfartsverket:

01.07.94

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

Luftfartsinspeksjonen
Postboks 8124 Dep
0032 OSLO

1.2.1.2 Dersom ingen sprekker blir funnet, skal flexplaten lakkeres med Zink-chromate eller epoxy primer. Metalloverflaten på de pålimte skivene skal ikke lakkeres.

1.2.3 Monter på plass flexplaten og kontroller at remhjulet og vinkelen på clutchakselen er korrekt rettet opp i.h.t. gjeldende Maintenance Manual.

2. Dersom inspeksjonen påkrevd under pkt. 1 i denne LDP ikke avdekker sprekker, og helikopteret har mindre enn 2 driftsår eller mindre enn 450 flytimer, er ikke videre tiltak i samsvar med denne LDP påkrevd før flexplaten har oppnådd 2 år eller 450 flytimer. Etter oppnådde 2 år eller 450 flytimer, skal tiltak utføres i samsvar med pkt. 4 i denne LDP.

3. Dersom inspeksjonen påkrevd under pkt. 1 i denne LDP avdekker sprekker, eller helikopteret har mer enn 2 driftsår eller mer enn 450 flytimer, skal tiltak utføres i samsvar med pkt. 4 i denne LDP.

4. Utfør følgende visuelle kontroll:

4.1 Fjern flexplaten i samsvar med gjeldende Maintenance Manual.

4.2 Rengjør flexplaten med oppløsningsmiddel (f.eks. methyl-ethyl ketone eller naphtha).

4.3 Kontroller flexplaten for hakk, sprekker eller korrosjon med 10X eller sterkere forstørrelsesglass. Legg stor vekt på kontroll av hjørnene på flexplaten.

4.3.1 Dersom sprekker blir funnet, skal flexplaten byttes ut med luftdyktig, P/N A947-1 E, i samsvar med gjeldende Maintenance Manual. Beskrivelse av sprekken og helikopterets flytid skal rapporteres til Luftfartsverket og sendes til adressen beskrevet under pkt. 1.2.1.1.

4.3.2 Dersom hakk eller korrosjon blir funnet, skal flexplaten repareres i samsvar med gjeldende Maintenance Manual.

4.3.3 Lakker flexplaten med Zink-chromate eller epoxy primer. Metalloverflaten på de pålimte skivene skal ikke lakkeres.

4.3.4 Dersom hakk, sprekker eller korrosjon ikke lar seg reparere innenfor de begrensninger beskrevet i gjeldende Maintenance Manual, skal flexplaten byttes ut med luftdyktig P/N A947-1 E, i samsvar med gjeldende Maintenance Manual. Beskrivelse

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Telex : 71032 enfb n

LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 6

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

av korrosjonen og helikopterets flytid skal rapporteres til Luftfartsverket og sendes til adressen beskrevet under pkt. 1.2.1.1.

4.4 Monter på plass flexplaten og kontroller at remhjulet og vinkelen på clutchakselen er korrekt rettet opp i.h.t. gjeldende Maintenance Manual.

Tid for utførelse:

1. Innen 25 flytimer etter 01.07.94.

3. Innen 50 flytimer etter 01.07.94.

4. Intervaller ikke overstigende 50 flytimer.

Referanse:

FAA AD 94-11-01.

01.07.94

APPENDIX

APPENDIX I

DYE PENETRANTS

Several dye penetrant type inspection kits are now available that will reveal the presence of surface cracks or defects and subsurface flaws that extend to the surface of the part being inspected. These penetrant type inspection methods are considered acceptable, provided the part being inspected has been thoroughly cleaned, all areas are readily accessible for viewing, and the manufacturer's recommendations as to the method of application are closely followed.

a. **Cleaning.** An inspection is initiated by first cleaning the surface to be inspected of dirt, loose scale, oil, and grease. Precleaning may usually be accomplished by vapor degreasing or with volatile cleaners. Use a volatile cleaner as it will evaporate from the defects before applying the penetrant dye. Sand blasting is not as desirable a cleaning method, since surface indications may be obscured. It is not necessary to remove anodic films from parts to be inspected, since the dye readily penetrates such films. Special procedures for removing the excess dye should be followed.

b. **Application of Penetrant.** The penetrant is applied by brushing, spraying, or by dipping and allowing to stand for a minimum of 2 minutes. Dwell time may be extended up to 15 minutes, depending upon the temperature of the part and fineness of the defect or surface condition. Parts being inspected should be dry and heated to at least 70° F., but not over 130° F. Very small indications require increased penetration periods.

c. **Removal of Dye Penetrant.** Surplus penetrant is usually removed by application of a special cleaner or remover, or by washing with plain water and allowing the part to dry. Water rinse may also be used in conjunction with the remover, subject to the manufacturer's recommendations.

d. **Application of Developer.** A light and even coat of developer is applied by spraying, brushing, or dipping. When dipping, avoid excess accumulation. Penetrant that has penetrated into cracks or other openings in the surface of the material will be drawn out by the developer resulting in a bright red indication. Some idea of the size of the defect may be obtained after experience by watching the size and rate of growth of the indication.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 7

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

94-057 KONTROLL/UTSKIFTING AV HOVEDROTORBLADER

Påbudet gjelder:

Robinson Helicopter Company: Alle R22 som har installert hovedrotorblader med delnummer P/N A016-2 med serienummer S/N t.o.m 7569 (inkl. alle suffix).

Påbudet omfatter:

For å hindre unormale vibrasjoner under flyging, som kan føre til svikt i hovedrotorbladene, skal følgende tiltak utføres:

1. Utfør en visuell kontroll, i samsvar med helikopterets gjeldende Maintenance Manual, av bladets over- og underside med et 5x eller sterkere forstørrelsesglass for korrosjon og sprekker.

2. Etter utførelse av pkt. 1. og 2. i denne LDP, skal følgende kontroller utføres:

   2.1 Utfør en visuell kontroll, i samsvar med helikopterets gjeldende Maintenance Manual, av bladets over- og underside med et 5x eller sterkere forstørrelsesglass for korrosjon og sprekker.

   2.2 Utfør en visuell kontroll av bladets over- og underside. Kontrollen kan utføres av eier/bruker, som må minst være innehaver av et A-sertifikat.

3. Etter tilfeller med unormale vibrasjoner i hovedrotorsystemet, skal det utføres en visuell kontroll, i samsvar med helikopterets gjeldende Maintenance Manual, av bladets over- og underside med et 5x eller sterkere forstørrelsesglass for korrosjon og sprekker.

4. Dersom tvilsomme sprekker oppdages, skal det utføres en kontroll med dye penetrant for å verifisere sprekkene.

5. Dersom sprekker oppdages, skal bladet erstattes med nytt luftdyktig blad.

6. Dersom korrosjon oppdages, skal bladet repareres eller erstattes med nytt luftdyktig blad i samsvar med helikopterets gjeldende Maintenance Manual.

01.09.94

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

Anm.: *Denne LDP refererer til Robinson Helicopter Company Service Bulletin #72, datert 29.03.93.*

Tid for utførelse:

1. For blad som har mindre enn 500 flytimer og som har vært installert på helikopteret mindre enn 1 år:

   Innen bladet har oppnådd 525 flytimer, eller innen bladet har vært installert på helikopteret 1 år; det som kommer først.

   For blad som har mer enn 500 flytimer og som har vært installert på helikopteret mer enn 1 år:

   Innen 25 flytimer etter 01.09.94.

2. Etter utførelse av pkt. 1. eller pkt. 2. i denne LDP.

   3.1 Intervaller ikke overstigende 100 flytimer.

   3.2 Intervaller ikke overstigende 25 flytimer.

3. Før videre flyging.

4. Før videre flyging.

5. Før videre flyging.

6. Før videre flyging.

Referanse:

FAA AD 95-15-08.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 8

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

94-061 KONTROLL AV HALEROTORENS GIRBOKS

Påbudet gjelder:

Alle Robinson R22, som har girbokser installert som ble overhalt av Robinson Helicopter Company før 08.06.92. Følgende girboks S/N har «key» installert og er derfor untatt fra denne LDP:

0012, 0013, 0014, 0020, 0021, 0040, 0054, 0062, 0091, 0095, 0098, 0108, 0121, 0134, 0137, 0153, 0169, 0179, 0185, 0191, 0201, 0205, 0227, 0228, 0235, 0248, 0258, 0262, 0272, 0277, 0280, 0321, 0333, 0342, 0365, 0432, 0439, 0444, 0503, 0504, 0525, 0548, 0558, 0559, 0565, 0574, 0576, 0592, 0594, 0597, 0603, 0604, 0605, 0615, 0632, 0641, 0644, 0650, 0656, 0662, 0663, 0674, 0686, 0689, 0696, 0697, 0700, 0702, 0707, 0722, 0734, 0735, 0736, 0742, 0759, 0767, 0777, 0778, 0805, 0832, 0836, 0839, 0842, 0850, 0862, 0866, 0868, 0887, 0892, 0937, 0939, 0983, 0986, 0996, 0998, 1018, 1021, 1029, 1030, 1035, 1072, 1081, 1087, 1104, 1116, 1121, 1126, 1129, 1132, 1141, 1151, 1176, 1186, 1187, 1199, 1205, 1208, 1217, 1222, 1228, 1233, 1245, 1249, 1269, 1274, 1290, 1293, 1299, 1301, 1307, 1311, 1323, 1330, 1333, 1339, 1341, 1350, 1361, 1379, 1385, 1388, 1392, 1404, 1412, 1428, 1438, 1442, 1450, 1460, 1468, 1494, 1499, 1505, 1509, 1512, 1514, 1526, 1541, 1544, 1578, 1586, 1593, 1595, 1597, 1605, 1610, 1627, 1628, 1636, 1643, 1647, 1648, 1652, 1654, 1686, 1687, 1698, 1701, 1702, 1706, 1710, 1724, 1731, 1732, 1738, 1741, 1750, 1752, 1757, 1759, 1769, 1783, 1800, 1803, 1808, 1814, 1816, 1830, 1844, 1846, 1851, 1852, 1861, 1868, 1871, 1886, 1889, 1901, 1911, 1912, 1927, 1928, 1948, 1959, 1961, 1963, 1965, 1992, 2025, 2034, 2037, 2051, 2071, 2100, 2101, 2103, 2126, 2129, 2136, 2160, 2166, 2170, 2180, 2193, 2203, 2242, 2254, 2265, 2269, 2272, 2279, 2280, 2283, 2294, 2298, 2299, 2304, 2314, 2357, 2377, 2380, 2381, 2395, 2406, 2420, 2421, 2422, 2423, 2425, 2431, 2435, 2436, 2459, 2479, 2492, 2498, 2531, 2539, 2574, 2579, 2582, 2587, 2627, 2634, 2672, 2683, 2697, 2716, 2719, 2721, 2731, 2797, 2863, 2937 og 2945.

Påbudet omfatter:

For å hindre at sluring (slippage) oppstår på halerotordrevet, skal følgende tiltak utføres:

1. Merk av innstillingspunktene og utfør kontroller som beskrevet i Part A i Robinson Helicopter Company R22 Service bulletin #74, datert 18.07.94.

01.10.94

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

Heng på 35 lb (16 kg), som beskrevet i forannevnte Service Bulletin, veldig forsiktig for å sikre at halerotorbladet eller drevet ikke overstresses. Dersom sluring oppdages, skal dette rapporteres til Luftfartsinspeksjonen innen 10 dager:

Luftfartsverket
Luftfartsinspeksjonen
Postboks 8124 Dep
0032 OSLO

2. Kontroller for korrekt innstilling i forhold til innstillingspunktene på halekonhuden og drivakselens flens ved å rotere halerotorbladet slik at innstillingspunktene blir synlige i inspeksjonsluken, og tuppen på halerotorbladets forkant er på linje med merket plassert på halekonhuden. Deretter skal det kontrolleres for at merket på drivakselens flens er på linje med merket plassert på halekonhuden. Dersom instillingen ikke er korrekt, skal pkt. 1 i denne LDP utføres før videre flyging. Kontrollene beskrevet i denne LDP kan utføres av eier/operatør dersom vedkommende er innehaver av minst A sertifikat.

3. Dersom girboksen demonteres og tilbakemonteres i henhold til godkjente prosedyrer, for å verifisere at girboks «key» er installert, er ikke videre tiltak i samsvar med denne LDP påkrevd.

Tid for utførelse:

1. Før første flyging.

2. Gjentatte kontroller før hver flyging.

Referanse:

FAA AD 94-17-07.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 9

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

94-064 «CYCLIC CONTROL SYSTEM»

Påbudet gjelder:

Alle Robinson Helicopter Company R44 helikopter.

Påbudet omfatter:

For å hindre svikt av «cyclic control assembly», skal følgende deler skiftes ut med nye som angitt nedenfor, i samsvar med gjeldende Maintenance Manual:

Fjern delnummer:	Erstatt med delnummer:
A205-3	A205-5 Revisjon J eller høyere
C175-1	C175-2 Revisjon H eller høyere
C176-1	C176-2 Revisjon B eller høyere
C177-1	C177-2 Revisjon F eller høyere
C319-1	C319-3 Revisjon I eller høyere
C320-1	C320-1 Revisjon L eller høyere
C958-4	C958-5 Revisjon E eller høyere
A101-4	D173-1 Revisjon A eller høyere
C338-1	C338-4 Revisjon C eller høyere
A211-2	C211-3 Revisjon I eller høyere
A137-1	A137-2 Revisjon C eller høyere

Tid for utførelse:

Før første flyging etter 01.10.94.

Referanse:

FAA AD 94-17-18.

01.10.94

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 10

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-015 UTSKIFTING AV «CYCLIC CONTROL SYSTEM» DELER

Påbudet gjelder:

Robinson Helicopter Company, modell R44 som har serienummer lavere enn (men ikke inkludert) S/N 0017.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 94-26-10.

Anm.: Denne LDP erstatter og opphever LDP 94-064.

Tid for utførelse:

Før første flyging etter 01.02.95.

Referanse:

FAA AD 94-26-10.

Gyldighetsdato:

01.02.95.

AIRWORTHINESS DIRECTIVE

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

94-26-10 ROBINSON HELICOPTER COMPANY: Amendment 39-9105. Docket No. 94-SW-18-AD. Supersedes AD 94-17-18, Amendment 39-9013.

Applicability: Model R44 series helicopters with serial numbers (S/N) less than but not including S/N 0017, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the cyclic control system and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight, remove the following cyclic control system parts and replace them with the corresponding replacement parts in accordance with the applicable maintenance manual:

Remove Part Numbers:	Replace With Part Numbers:
A205-3	A205-5 Revision J or subsequent FAA-approved revisions.
C175-1	C175-2 Revision H or subsequent FAA-approved revisions.
C176-1	C176-2 Revision B or subsequent FAA-approved revisions.
C177-1	C177-2 Revision F or subsequent FAA-approved revisions.
C319-1	C319-3 Revision I or subsequent FAA-approved revisions.
C320-1	C320-1 Revision L or subsequent FAA-approved revisions.
C958-4	C958-5 Revision E or subsequent FAA-approved revisions.
A101-4	D173-1 Revision A or subsequent FAA-approved revisions.
C338-1	C338-4 Revision C or subsequent FAA-approved revisions.
A211-2	A211-3 Revision I or subsequent FAA-approved revisions.
A137-1	A137-2 Revision C or subsequent FAA-approved revisions.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Los Angeles Aircraft Certification Office. 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: 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.

(c) Special flight permits will not be issued.

(d) This amendment becomes effective on January 11, 1995.

FOR FURTHER INFORMATION CONTACT:
Ms. Lirio Liu, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, ANM-123L, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5229, fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 11

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-016 REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson Model R44.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA Priority Letter Airworthiness Directive 95-02-04.

Anm.: Det vises samtidig til vedlagte kopi av Spesial Airworthiness Information som gjelder både for Robinson R22 og R44.

Tid for utførelse:

Før første flyging etter 01.02.95.

Referanse:

FAA Priority Letter Airworthiness Directive 95-02-04.

Gyldighetsdato:

01.02.95.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: January 12, 1995
95-02-04

This Priority Letter Airworthiness Directive (AD) is prompted by two Model R44 accidents since April 1994 involving main rotor (M/R) blades contacting the helicopter's fuselage. Both of these accidents resulted in fatalities. Additionally, there have been 26 accidents involving M/R blades contacting the fuselage on the Model R22 helicopter since 1981. The Model R22 helicopter M/R system design is similar to the Model R44 helicopter M/R system design. All of these accidents resulted from the M/R blades contacting the fuselage. Limited pilot experience in rotorcraft has been identified as common to all of these accidents. High winds and turbulence were also noted in some of the accidents. A combination of these factors may have contributed to M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter. Airspeed and low rotor RPM are also parameters that could influence the onset of M/R stall or mast bumping. Federal Aviation Administration (FAA) studies show that the Model R44 helicopter meets type certification requirements. The FAA is conducting research into the conditions and aircraft characteristics that lead to M/R blades contacting the fuselage. Until that study is completed, the requirements of this AD are an interim action to minimize the possibility of rotor blade/fuselage contact accidents.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R44 helicopters of the same type design, this AD requires revisions to the Limitations section, the Normal Procedures section, and the Emergency Procedures section of the R44 Rotorcraft Flight Manual, revised September 6, 1994. These revisions address operations under turbulent wind conditions, low rotor RPM, and operating airspeeds.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this Priority Letter.

95-02-04 ROBINSON HELICOPTER COMPANY: Priority Letter issued on January 12, 1995. Docket No. 95-SW-08-AD.

Applicability: Model R44 helicopters, certificated in any category.

Compliance: Required before further flight, unless accomplished previously.

To prevent M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R44 Rotorcraft Flight Manual, revised September 6, 1994. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 12

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-017 REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson Model R22.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA Priority Letter Airworthiness Directive 95-02-03.

Anm.: Det vises samtidig til vedlagte kopi av Spesial Airworthiness Information som gjelder både for Robinson R22 og R44.

Tid for utførelse:

Før første flyging etter 01.02.95.

Referanse:

FAA Priority Letter Airworthiness Directive 95-02-03.

Gyldighetsdato:

01.02.95.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: January 12, 1995
95-02-03

This Priority Letter Airworthiness Directive (AD) is prompted by 26 Model R22 accidents since 1981 involving main rotor (M/R) blades contacting the helicopter's fuselage. All of these accidents resulted in fatalities. Limited pilot experience in rotorcraft has been identified as common to all of these accidents. High winds and turbulence were also noted in some of the accidents. A combination of these factors may have contributed to M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter. Airspeed and low rotor RPM are also parameters that could influence the onset of M/R stall or mast bumping. Federal Aviation Administration (FAA) studies show that the Model R22 helicopter meets type certification requirements. The FAA is conducting research into the conditions and aircraft characteristics that lead to M/R blades contacting the fuselage. Until that study is completed, the requirements of this AD are an interim action to minimize the possibility of rotor blade/fuselage contact accidents.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R22 helicopters of the same type design, this AD requires revisions to the Limitations section, the Normal Procedures section, and the Emergency Procedures section of the R22 Rotorcraft Flight Manual, revised February 4, 1993. These revisions address operations under turbulent wind conditions, low rotor RPM, and operating airspeeds.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this Priority Letter.

95-02-03 ROBINSON HELICOPTER COMPANY: Priority Letter issued on January 12, 1995. Docket No. 95-SW-07-AD.

Applicability: Model R22 helicopters, certificated in any category.

Compliance: Required before further flight, unless accomplished previously.

To prevent M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R22 Rotorcraft Flight Manual, revised February 4, 1993. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

LIMITATIONS SECTION

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.

(2) Flight when surface wind gusts exceed 15 knots is prohibited.

(3) Flight in areas of forecasted or reported wind shear is prohibited.

(4) Flight in areas of forecasted or reported moderate, severe, or extreme turbulence is prohibited.

(5) Adjust forward airspeed to between 60 knots and 0.7 V_{ne} upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

NORMAL PROCEDURES SECTION

NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, R22 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds greater than 60 knots indicated airspeed and less than 0.9 V_{ne}.

(2) The possibility of rotor stall is increased at high density altitudes; therefore, avoid flight at high density altitudes.

(3) Use maximum "power-on" RPM at all times during powered flight.

(4) Avoid sideslip during flight. Maintain in-trim flight at all times.

(5) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION.

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not over control.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) After accomplishing the requirements of this AD, record compliance in the aircraft records.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, FAA, Rotorcraft Directorate. Operators shall submit their requests through an FAA Principal Operations Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(d) Priority Letter AD 95-02-03, issued January 12, 1995, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Scott Horn, Aerospace Engineer, Rotorcraft Standards Staff, FAA, Southwest Region, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 13

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-024 MODIFIKASJON AV GIRBOKS

Påbudet gjelder:

Robinson R22 helikopter som har installert girboks med P/N A006-1, revisjon A t.o.m. Z, fabrikert eller overhalt før 15 juni 1992.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA Priority Letter AD 95-06-03.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA Priority Letter AD 95-06-03, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA Priority Letter AD 95-06-03.

Gyldighetsdato:

01.04.95.

BILAG TIL LDP 95-024

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
**Federal Aviation
Administration**

DATE: March 8, 1995
95-06-03

This Priority Letter Airworthiness Directive (AD) is prompted by a recent incident reported by the Civil Aviation Authority (CAA) of New Zealand involving failure of the main rotor (M/R) mast support structure. An investigation of the incident revealed that the two M/R mast spanner nuts (nuts) became loose and allowed the M/R shaft to pull through the retention bearing in the M/R gearbox. As the loads transferred from the M/R gearbox bearing to the top of the mast, the rivets that attach the mast bearing outer housing to the M/R shaft sheared resulting in failure of the M/R mast support structure. Prior to June 15, 1992, the M/R gearbox assembly, P/N A006-1 Revisions A through Z, may have been assembled with paint on the clamping surface of the M/R shaft, preventing a good clamping surface for the nuts. Two earlier incidents in Australia prompted the Commonwealth of Australia CAA to issue CAA AD/R22/35, dated September 1992, to inspect the nuts for looseness and increase the nut torque values. The FAA did not issue an AD at that time due to inconclusive information from the two isolated incidents. The compliance procedure of this AD differs from CAA AD/R22/35 by requiring replacement of the lock washer, part number (P/N) A269-1, located between the mast bearing and the upper nut, with a different lock washer, P/N A269-2. The torque values on both nuts have also been increased. The Federal Aviation Administration (FAA) has determined that under-torqued nuts may become loose and create an unsafe condition. This condition, if not corrected, could result in M/R separation and subsequent loss of control of the helicopter.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R22 helicopters of the same type design, this AD requires, within 25 hours time-in-service (TIS) after the effective date of this AD, an inspection and modification of the M/R gearbox.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this priority letter.

95-06-03 ROBINSON HELICOPTER COMPANY: Priority Letter issued on March 8, 1995. Docket No. 94-SW-27-AD.

Applicability: Model R22 helicopters with main rotor gearbox (gearbox), part number (P/N) A006-1, Revisions A through Z, manufactured or overhauled prior to June 15, 1992, installed, certificated in any category.

NOTE 1: The revision level (revision letter) of the gearbox can be found on the data plate next to the sight glass.

Compliance: Required as indicated, unless accomplished previously.

To prevent main rotor (M/R) separation and subsequent loss of control of the helicopter, accomplish the following:

(a) Within 25 hours time-in-service after the effective date of this AD, inspect and modify the gearbox in accordance with the following:

(1) Remove the gearbox in accordance with the applicable maintenance manual.

(2) Drain the gearbox by removing the chip detector housing.

(3) Perform the following inspection and torquing of the shaft retaining nuts.

NOTE 2: The special tool, a spanner nut socket, P/N MT124-1, may be obtained from Robinson Helicopter Company.

(i) Lay the gearbox on its side using care to prevent damage to the slider tube. Remove the eight nuts and two hex head cap screws holding the sump in place.

(ii) Gently remove the sump and discard the O-ring, using care to keep all washer-shims on their respective bolts. With the bolts still attached to the sump, replace the sump nuts on the bolts to retain the washer-shims (the washer-shim stack is the same at each location). Hand-tighten the nuts.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

BILAG TIL LDP 95-024

95-06-03

(iii) Bend back the two lock washer tabs locking the lower nut. Insert an unserviceable M/R hub bolt through the teeter hinge bolt hole in the M/R shaft to counteract torque. Clamp the unserviceable M/R hub bolt in a vise or otherwise fasten it to a workbench. Do not clamp the M/R shaft. Remove the lower nut from the M/R shaft using a socket, P/N MT124-1 (see figure 1). Remove and discard the lower lock washer.

(iv) Bend back the two lock washer tabs locking the upper nut. Remove the upper nut, measuring the torque required to break the nut loose. Remove and discard the upper lock washer.

(v) If the upper nut required more than 10 ft.-lb. torque to break loose, proceed to paragraph (a)(3)(vi). If the upper nut required 10 ft.-lb. torque or less to break loose, report within 5 days the M/R gearbox P/N and break-loose torque value to the Propulsion Manager, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056. Remove the gear carrier from the M/R shaft. Inspect the splines and clamping surfaces on both the shaft and gear carrier for pitting, galling, or scoring of surfaces. Replace any unairworthy parts. If the inspection revealed no pitting, galling, or scoring of surfaces, remove any paint from the clamping surface on the shaft using either paint remover or a plastic or wooden scraper, and ensure the surface is smooth and clean. Reassemble the gear carrier to the shaft.

(vi) Inspect the two dowels or roll pins in the gear carrier for damaged surfaces. Dowels or roll pins must protrude 0.045 to 0.055 inches for proper engagement with the lock washer. Also clean the nuts, M/R shaft threads, and the sump, using methyl-ethyl-ketone (MEK) or Trichlorethane (1,1,1, TCE) before reassembly.

(vii) Install a lock washer, P/N A269-2. Apply anti-seize (Loctite Anti-seize 767), P/N A257-9, to the M/R shaft threads and to the chamfered-side face and threads of one nut and install the nut with the chamfered side against the lock washer. Verify that the dowels or roll pins are aligned with the holes in the lock washer. Torque the nut to between 170 and 200 ft.-lb., as required to align two lock washer tabs (tabs) with the nut. Do not untorque the nut to align the lock washer tabs with the nut. For the two tabs that are aligned with the recessed areas, bend down the tabs into the recessed areas of the nut and inspect the edges of the bent tabs for cracks.

(viii) Before installing the lock washer, P/N A269-1, note that the edges are sharp on one side and rounded on the other. De-burr the sharp edges on two opposite tabs (see figure 1). This will reduce the chance of cracking when these tabs are bent up. Install the lock washer with the rounded edges toward the installed nut.

(ix) Apply anti-seize, P/N A257-9, to the chamfered-side face and threads of the lower nut. Align the two de-burred tabs with the upper nut and install the lower nut with the chamfered side against the lock washer. Hand-tighten the nut to hold the washer in place. Bend the two de-burred tabs up to lock with the upper nut. Torque the lower nut to between 90 and 120 ft.-lb., as required to align the two additional tabs. Do not untorque the nut to align the lock washer tabs with the nut. For the two tabs that are aligned with the recessed areas, bend down the tabs into the recessed areas of the nut to lock the lower nut.

(x) Verify that all six bent tabs properly engage the nuts (four tabs to the upper nut and two to the lower nut), and inspect the edges of the bent tabs for cracks. Replace any cracked lock washers. Remove excess anti-seize compound.

(xi) Lubricate the O-ring, P/N A215-271, with oil, P/N A257-2, and install the O-ring on the sump. Clean and inspect the sealing surface of the gearbox housing for smoothness. Lightly lubricate the sealing surface with oil, P/N A257-2.

(xii) Reinstall the sump onto the gearbox housing using the same washer-shim stacks that were removed in accordance with paragraph (a)(3)(ii) of this AD. Torque the sump bolts and chip detector as follows:

(A) For the eight nuts on the AN4 bolts for the sump: 90 in.-lb. of torque (includes nut self-locking torque);

(B) For the two cap screws, P/N MS20074: 60 in.-lb. of torque and install safety wire;

(C) For the chip detector, P/N A7260, (large nut): 150 in.-lb. of torque and install safety wire;

(D) For the chip detector, P/N A7260, (small nut): 75 in.-lb. of torque and install safety wire.

NOTE 3: Be sure to install ground wires under the nut located aft of the forward right-hand mount.

(4) Reinstall the gearbox in accordance with the applicable maintenance manual.

(5) Fill the gearbox with oil, P/N A257-2, to the middle of the sight glass.

(6) Verify the M/R balance in accordance with the applicable maintenance manual.

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(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when 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 4: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) Priority Letter AD 95-06-03, issued March 8, 1995, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5265, fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 14

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-026A REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson R22 helikopter.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-04-14.

Anm.: Begrensningene listet under «Limitation Section» gjelder ikke for piloter som har mer enn 200 flytimer på helikopter og minst 50 timer på R22, samt har gjennomgått awareness training program i henhold til SFAR 73.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 95-04-14, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-04-14.

Gyldighetsdato:

01.10.95.

AIRWORTHINESS DIRECTIVE

Bilag til LDP 95-026A

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

95-04-14 ROBINSON HELICOPTER COMPANY: Amendment 39-9166. Docket No. 95-SW-11-AD. Supersedes Priority Letter AD 95-02-03, issued January 12, 1995.

Applicability: Model R22 helicopters, certificated in any category.

Compliance: Required before further flight, unless accomplished previously.

To prevent main rotor (M/R) stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R22 Rotorcraft Flight Manual, revised February 4, 1993. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

LIMITATIONS SECTION

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.

(2) Flight when surface wind gust spreads exceed 15 knots is prohibited.

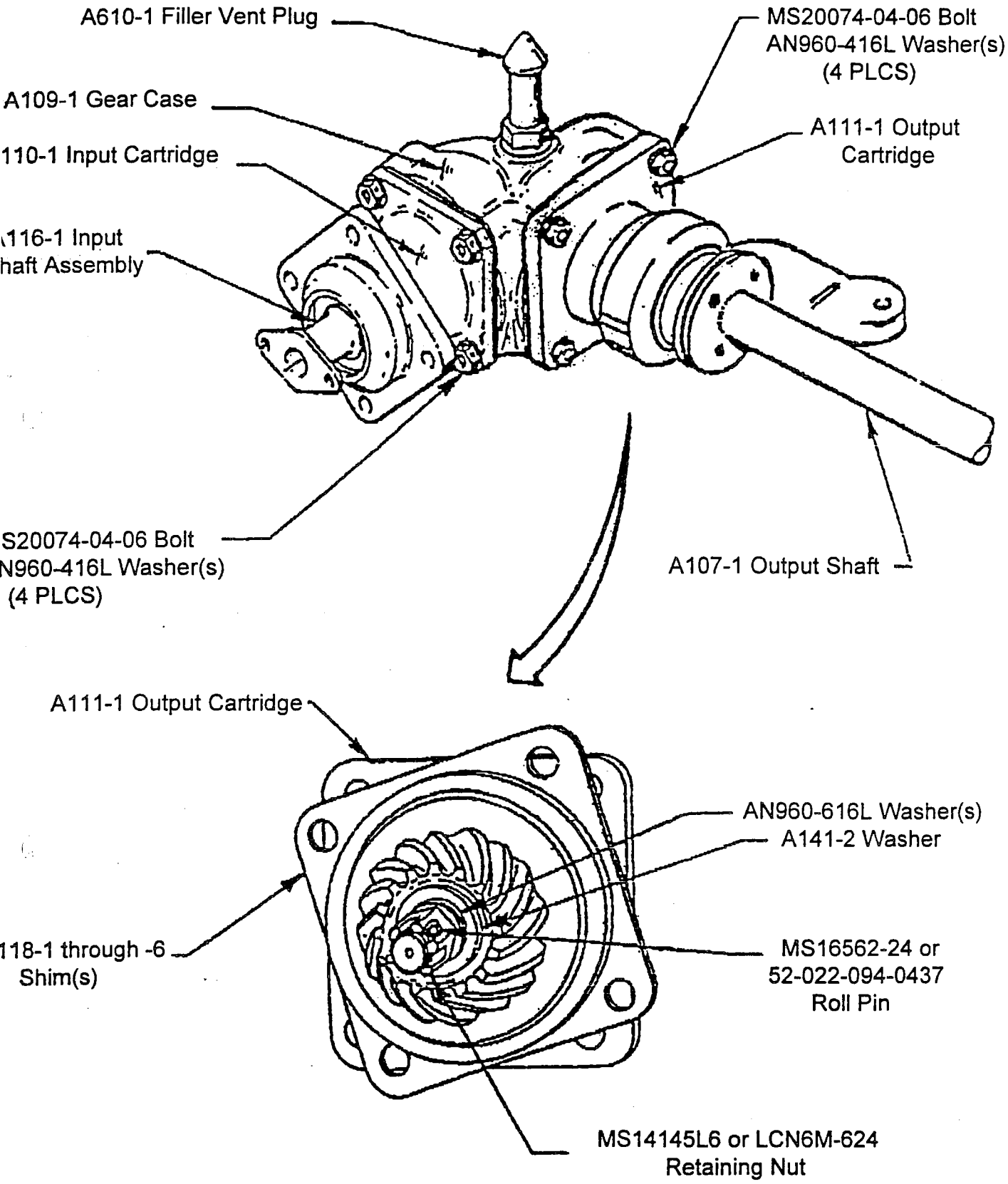
(3) Flight in wind shear is prohibited.

(4) Flight in moderate, severe, or extreme turbulence is prohibited.

(5) Adjust forward airspeed to between 60 knots and 0.7 V_{ne} but no lower than 60 knots upon inadvertently encountering moderate, severe, or extreme turbulence.

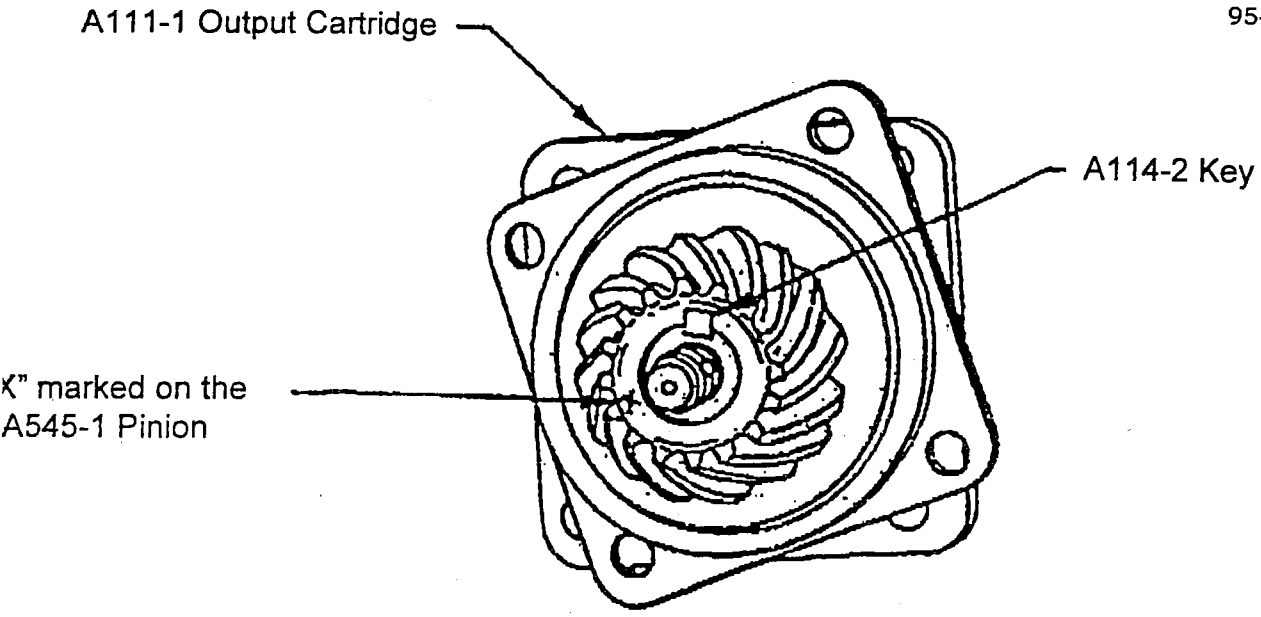
Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

95-23-05



Note: The safety wire has been removed for clarity

Figure 1



Note: The A114-1 Key for the A110-1 Input Cartridge is located similar to the A111-1 Output Cartridge depicted above

Figure 2

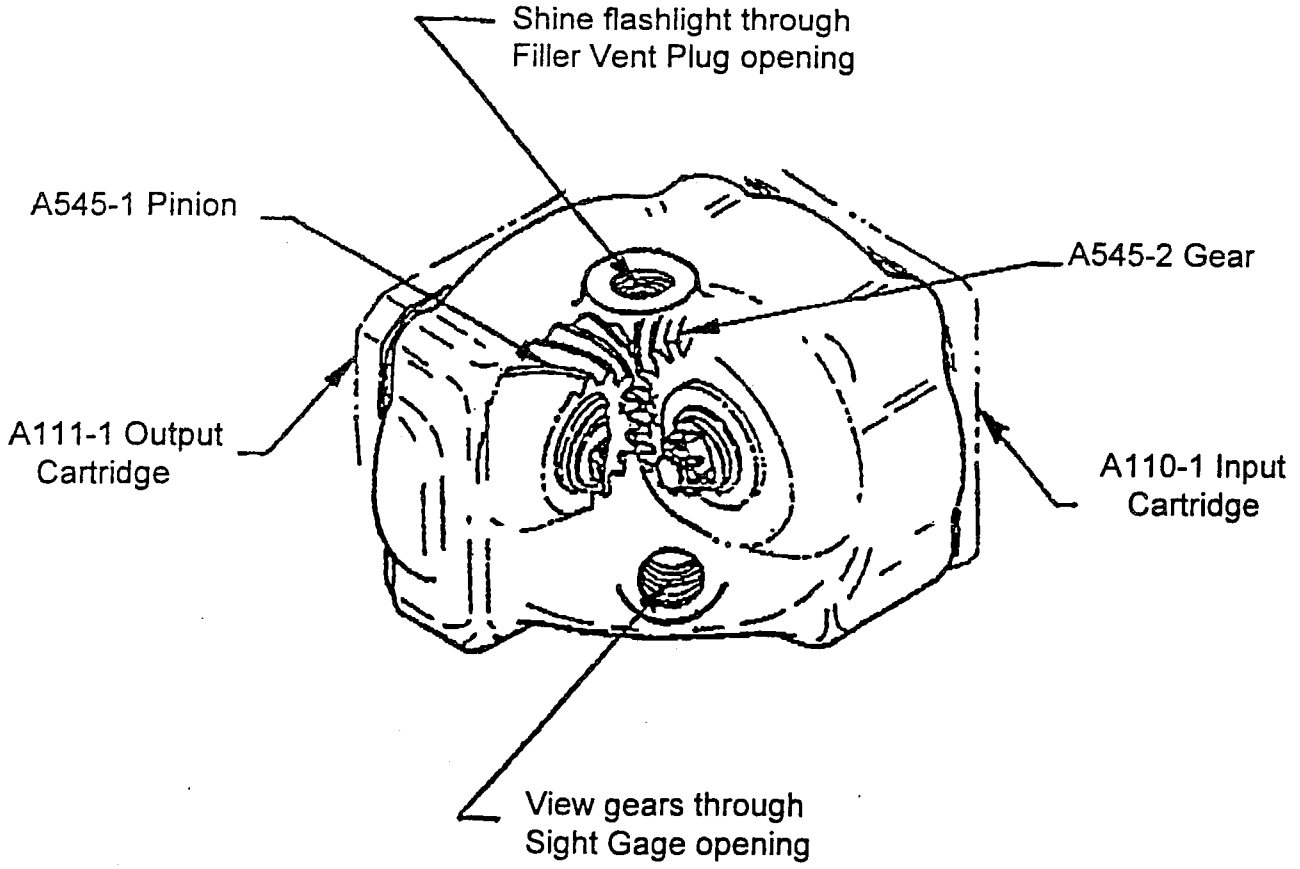


Figure 3

NORMAL PROCEDURES SECTION

NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, R22 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds greater than 60 knots indicated airspeed and less than 0.9 V_{ne}, but no lower than 60 knots.

(2) The possibility of rotor stall is increased at high density altitudes; therefore, avoid flight at high density altitudes.

(3) Use maximum "power-on" RPM at all times during powered flight.

(4) Avoid sideslip during flight. Maintain in-trim flight at all times.

(5) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not over control.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, FAA, Rotorcraft Directorate. Operators shall submit their requests through an FAA Principal Operations Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(c) Special flight permits, pursuant to sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), will not be issued.

(d) This amendment becomes effective on March 17, 1995.

FOR FURTHER INFORMATION CONTACT:

Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 15

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-027A REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson R44 helikopter.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-04-13.

Anm.: Begrensningene listet under «Limitation Section» gjelder ikke for piloter som har mer enn 200 flytimer på helikopter og minst 50 timer på R44, samt har gjennomgått awareness training program i henhold til SFAR 73.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 95-04-13, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-04-13.

Gyldighetsdato:

01.10.95.

AIRWORTHINESS DIRECTIVE

Bilag til LDP 95-[illegible]A

FLIGHT STANDARDS SERVICE
REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

95-04-13 ROBINSON HELICOPTER COMPANY: Amendment 39-9165. Docket No. 95-SW-12-AD. Supersedes Priority Letter AD 95-02-04, issued January 12, 1995.

Applicability: Model R44 helicopters, certificated in any category.

Compliance: Required before further flight, unless accomplished previously.

To prevent main rotor (M/R) stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R44 Rotorcraft Flight Manual, revised September 6, 1994. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

LIMITATIONS SECTION

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.

(2) Flight when surface wind gust spreads exceed 15 knots is prohibited.

(3) Flight in wind shear is prohibited.

(4) Flight in moderate, severe, or extreme turbulence is prohibited.

(5) Adjust forward airspeed to between 60 knots and 0.7 V_{ne} but no lower than 60 knots upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

95-04-13

Bilag til LDP 95-027A

NORMAL PROCEDURES SECTION

NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, R44 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds greater than 60 knots indicated airspeed and less than 0.9 V_{ne}, but no lower than 60 knots.

(2) The possibility of rotor stall is increased at high density altitudes; therefore, avoid flight at high density altitudes.

(3) Use maximum "power-on" RPM at all times during powered flight.

(4) Avoid sideslip during flight. Maintain in-trim flight at all times.

(5) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not over control.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, FAA, Rotorcraft Directorate. Operators shall submit their requests through an FAA Principal Operations Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(c) Special flight permits, pursuant to sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), will not be issued.

(d) This amendment becomes effective on March 17, 1995.

FOR FURTHER INFORMATION CONTACT:

Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 16

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-031 KONTROLL AV FLEXPLATE

Påbudet gjelder:

Robinson Helicopter Company; Alle R22 som har fremre flexplate P/N A947-1 (med pålimte skiver ("bonded washer")), eller P/N A193-1 (uten pålimte skiver).

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-06-07.

Anm.: Denne LDP erstatter og opphever LDP 94-037.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 95-06-07, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-06-07.

Gyldighetsdato:

05.05.95.

Bilag til LDP 95-031

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

95-06-07 ROBINSON HELICOPTER COMPANY: Amendment 39-9177. Docket Number 94-SW-22-AD. Supersedes Priority Letter AD 94-11-01, issued May 18, 1994.

Applicability: Model R22 helicopters, with forward flexplate (flexplate), part number (P/N) A947-1 with bonded washers, or P/N A193-1 without bonded washers, installed, certificated in any category. Flexplate, P/N A947-1E and subsequent FAA-approved revisions to P/N A947-1, is exempt from the requirements of this AD.

Compliance: Required as indicated, unless accomplished previously.

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

(a) Within the next 25 hours time-in-service (TIS) after the effective date of this airworthiness directive (AD), accomplish the following:

(1) With the clutch disengaged, support the forward end of the clutch shaft, P/N A166-1, remove the flexplate, and record the shim locations for use during reinstallation.

(i) Replace any flexplate that does not have eight bonded washers (two per arm) with an airworthy flexplate, P/N A947-1E or a subsequent FAA-approved revision to P/N A947-1.

(ii) For those flexplates that have eight bonded washers (two per arm), comply with the following:

(2) Remove all coating down to bare metal from the outer edges of the flexplate to approximately 0.125 inches inward, but in no case within 0.50 inches of the bonded washers, using Scotch Brite or 600 grit sand paper. Do not use a chemical paint stripper since it may adversely affect the adhesive that bonds the washers to the flexplate.

(3) Inspect the outer edges of the flexplate for cracks, avoiding the bonded washers, using a dye penetrant inspection method in accordance with Appendix I of this AD. If the dye penetrant contacts the bonded washers, remove the solution from the bonded washers within 1 minute since longer exposure may adversely affect the adhesive.

(i) If a crack is found, replace the flexplate with an airworthy flexplate, P/N A947-1E or a subsequent FAA-approved revision to P/N A947-1.

(ii) If no crack is found, paint the bare edge area of the flexplate with an even coat of zinc-chromate or epoxy primer. Do not paint the bare metal surface of the bonded washers.

(4) Reinstall the flexplate and ensure sheave and clutch shaft angle are properly aligned in accordance with the applicable maintenance manual.

(b) For those helicopters with flexplates that have less than 2 years or 450 hours TIS, accomplish the following prior to or upon reaching 2 years or 500 hours TIS, and thereafter at intervals not to exceed 50 hours TIS from the last inspection; for those helicopters with flexplates that have 2 years or more or 450 hours or more TIS, accomplish the following at intervals not to exceed 50 hours TIS from the last inspection. (If the flexplate TIS cannot be determined through a review of the maintenance records, then use the helicopter TIS as the TIS of the flexplate).

(1) Remove the flexplate in accordance with the applicable maintenance manual.

(2) Clean the flexplate using a solvent (e.g., methyl-ethyl ketone or naphtha).

(3) Inspect the flexplate for nicks, cracks, or corrosion using a 10-power or higher magnifying glass, paying close attention to the edges of the flexplate.

(i) If a crack is found, replace the flexplate with an airworthy flexplate, P/N A947-1E or a subsequent FAA-approved revision to P/N A947-1, in accordance with the applicable maintenance manual.

(ii) If a nick or corrosion is found, repair the flexplate in accordance with the applicable maintenance manual.

(iii) Paint any bare edges of the flexplate with an even coat of zinc-chromate or epoxy primer. Do not paint the bare metal surface of the bonded washers.

(iv) If any nick or corrosion cannot be repaired within the rework limits specified in the applicable maintenance manual, replace the flexplate with an airworthy flexplate, P/N A947-1E or a subsequent FAA-approved revision to P/N A947-1, in accordance with the applicable maintenance manual.

(4) Reinstall the flexplate and ensure sheave and clutch shaft are properly aligned in accordance with the applicable maintenance manual.

NOTE 1: Robinson Helicopter Company R22 Maintenance Manual, Change 14, dated March 14, 1994, pertains to this AD.

(c) If a crack, nick, or corrosion is found on the flexplate as a result of the inspections required by this AD, report a description of the crack, nick, or corrosion, the total TIS, and the operating conditions to the Manager, Propulsion Branch, Los Angeles Aircraft Certification Office, FAA. Reporting requirements have been approved by the Office of Management and Budget and assigned control number 2120-0056.

(d) Installation of a flexplate, P/N A947-1E or a subsequent FAA-approved revision to P/N A947-1, constitutes terminating action for the requirements of this AD.

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when 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 2: 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.

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(g) This amendment becomes effective on April 4, 1995.

FOR FURTHER INFORMATION CONTACT:

Ms. Elizabeth Bumann, Aerospace Engineer, Los Angeles Aircraft Certification Office, Propulsion Branch, FAA, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5265, fax (310) 627-5210.

APPENDIX I

DYE PENETRANTS

Several dye penetrant type inspection kits are now available that will reveal the presence of surface cracks or defects and subsurface flaws that extend to the surface of the part being inspected. These penetrant type inspection methods are considered acceptable, provided the part being inspected has been thoroughly cleaned, all areas are readily accessible for viewing, and the manufacturer's recommendations as to the method of application are closely followed.

a. Cleaning. An inspection is initiated by first cleaning the surface to be inspected of dirt, loose scale, oil, and grease. Precleaning may usually be accomplished by vapor degreasing or with volatile cleaners. Use a volatile cleaner as it will evaporate from the defects before applying the penetrant dye. Sand blasting is not as desirable a cleaning method, since surface indications may be obscured. It is not necessary to remove anodic films from parts to be inspected, since the dye readily penetrates such films. Special procedures for removing the excess dye should be followed.

b. Application of Penetrant. The penetrant is applied by brushing, spraying, or by dipping and allowing to stand for a minimum of 2 minutes. Dwell time may be extended up to 15 minutes, depending upon the temperature of the part and fineness of the defect or surface condition. Parts being inspected should be dry and heated to at least 70° F, but not over 130° F. Very small indications require increased penetration periods.

c. Removal of Dye Penetrant. Surplus penetrant is usually removed by application of a special cleaner or remover, or by washing with plain water and allowing the part to dry. Water rinse may also be used in conjunction with the remover, subject to the manufacturer's recommendations.

d. Application of Developer. A light and even coat of developer is applied by spraying, brushing, or dipping. When dipping, avoid excess accumulation. Penetrant that has penetrated into cracks or other openings in the surface of the material will be drawn out by the developer resulting in a bright red indication. Some idea of the size of the defect may be obtained after experience by watching the size and rate of growth of the indication.

BILAG TIL LOP 95-024

4 95-06-03

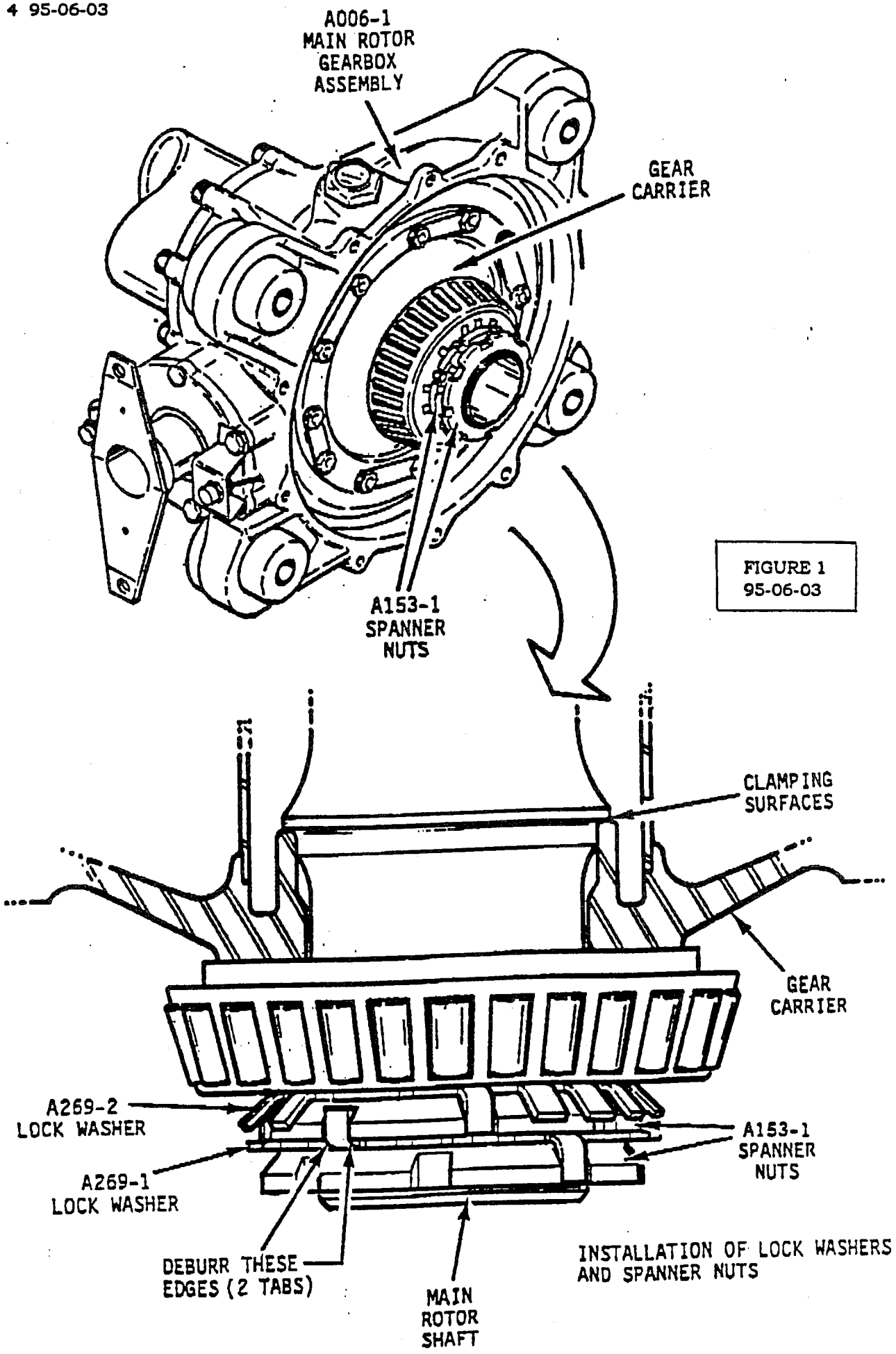

FIGURE 1
95-06-03

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 17

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-040 "CYCLIC CONTROL SYSTEM"

Påbudet gjelder:

Robinson Helicopter Company modell R44, S/N 0001 t.o.m. 0150.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-09-07.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 95-09-07, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-09-07.

Gyldighetsdato:

01.06.95.

AIRWORTHINESS DIRECTIVE

Bilag til LDP 95-040

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

95-09-07 ROBINSON HELICOPTER COMPANY: Amendment 39-9210. Docket No. 95-SW-16-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0150, 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 (c) 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 binding in the cyclic control system and subsequent loss of control of the helicopter, accomplish the following:

(a) Within 25 hours time-in-service after the effective date of this AD, remove the existing push-pull tube sleeve guide assembly (sleeve guide) and replace it with a C439-7 push-pull tube roller guide assembly (roller guide), which is included in the KI-88 push-pull tube guide kit, in accordance with the Compliance Procedure in Robinson Helicopter Company Service Bulletin SB-4, dated January 24, 1995.

(b) Inspect the C121-7 push-pull tube sleeve for signs of wear and replace, if necessary, using the sleeves and adhesive in the KI-88 push-pull tube guide kit in accordance with the Compliance Procedure in Robinson Helicopter Company Service Bulletin SB-4, dated January 24, 1995. Repeat this inspection at each 100 hours TIS in accordance with the applicable maintenance manual.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) The removal and replacement shall be done in accordance with Robinson Helicopter Company Service Bulletin SB-4, dated January 24, 1995. This incorporation by reference was approved by the Director of the **Federal Register** in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California, 90505. Copies may be inspected at the FAA, Office of the Assistant Chief Counsel, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(f) This amendment becomes effective on May 24, 1995.

FOR FURTHER INFORMATION CONTACT:
Ms. Lirio Liu, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5229, fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 18

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-041 FORBUD MOT "LOW-G PUSHOVER"

Påbudet gjelder:

Robinson R44.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-11-10.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 95-11-10, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-11-10

Gyldighetsdato:

01.07.95.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: May 25, 1995
95-11-10

This Priority Letter Airworthiness Directive (AD) is prompted by a recent Federal Aviation Administration (FAA) analysis of manufacturer's data that indicates that a low-G cyclic pushover maneuver may result in mast-bumping on the Robinson Helicopter Company Model R44 helicopters. Improper control input during the low-G cyclic pushover maneuver or recovery may result in main rotor separation from the helicopter or main rotor blade contact with the airframe, resulting in loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company Safety Alert, dated May 12, 1995, Subject: Extreme Danger When Demonstrating Low-G, which describes possible hazards associated with demonstrating recovery from low-G cyclic pushover maneuvers.

Since an unsafe condition has been identified that is likely to exist or develop on other Model R44 helicopters of the same type design, this AD requires installation of a placard in the helicopter, and an insertion of a prohibition against low-G cyclic pushover maneuvers into the LIMITATIONS section of the Rotorcraft Flight Manual.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this Priority Letter.

95-11-10 ROBINSON HELICOPTER COMPANY: Priority Letter issued on May 25, 1995. Docket No. 95-SW-25-AD.

Applicability: Model R44 helicopters, 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 (c) 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 before further flight, unless accomplished previously.

NOTE 2: Compliance with this AD may be accomplished by completing the "Compliance Procedure" of Robinson Helicopter Company R44 Service Bulletin SB-6, dated May 23, 1995, and by incorporating into the Model R44 FAA-approved Rotorcraft Flight Manual the revised pages 2-7 and 2-12, both of which were approved by the FAA on May 19, 1995.

To prevent in-flight main rotor separation or contact between the main rotor blades and the airframe of the helicopter, and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into SECTION 2, LIMITATIONS, of the Model R44 FAA-approved Rotorcraft Flight Manual:

FLIGHT AND MANEUVER LIMITATIONS
Low-G cyclic pushovers are prohibited.

PLACARDS
In clear view of the pilots:

LOW-G PUSHOVERS PROHIBITED

(b) Install a placard that contains the following statement in the helicopter in clear view of the pilots. The size and location of the placard must be such that it is easily readable by the pilots:

LOW-G PUSHOVERS PROHIBITED

NOTE 3: This placard may be produced locally.

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

NOTE 4: 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.

(d) Priority Letter AD 95-11-10, issued May 25, 1995, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Lirio Liu, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5229, fax (310) 627-5210.

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(b) Conduct the following daily preflight checks for misalignment of the alignment dots until compliance with paragraph (c) of this AD has been accomplished: Check for misalignment of the alignment dots installed on the tail cone skin and the drive shaft flange by rotating the T/R blade so that the alignment dot is visible in the inspection window and the tip of the T/R blade leading edge aligns with the dot on the tail cone skin. Ensure that the drive shaft flange dot is aligned with the dot on the centerline of the tail cone skin at the edge of the inspection window. If any misalignment is detected, before further flight, replace the T/R gearbox with an airworthy one that has been determined to have both the input and output keys installed in accordance with paragraph (c) of this AD or other FAA-approved procedures, or is exempt from the requirements of this AD as listed in the applicability section of this AD. The daily preflight checks required by this AD may be performed by an owner/operator holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with paragraph (b) of this AD, in accordance with sections 43.11 and 91.417(a)(2)(v) of the Federal Aviation Regulations.

(c) Within the next 100 hours time-in-service (TIS) after the effective date of this AD, or at the next annual inspection, whichever occurs first, verify installation of both the input and output shaft keys as follows:

(1) Cut and remove the safety wire securing the chip detector to the sight gage on the T/R gearbox. Place a container under the T/R gearbox to catch the drained oil and remove the chip detector. Remove and discard the gasket on the chip detector.

(2) Remove the T/R gearbox from the helicopter in accordance with the applicable maintenance manual.

(3) Cut and remove the safety wire securing the filler vent plug to the sight gage on the T/R gearbox and remove the filler vent plug and sight gage. Remove and discard the gasket on the filler vent plug and sight gage.

(4) Remove and disassemble the output cartridge, P/N A111-1, from the T/R gearbox case, P/N A109-1 (see figure 1) as follows:

(i) Place a mark across the gear case, P/N A109-1, and output cartridge, P/N A111-1, with a felt pen or grease pencil to ensure proper reassembly.

(ii) Cut and remove the safety wire around the four MS20074-04-06 bolts securing the output cartridge to the gear case. Remove and retain each of the four bolts and their associated AN960-416L washer(s), noting the washer stacks for reassembly. Separate the output cartridge from the gear case (see figure 1).

(iii) Remove and discard the safety wire, MS16562-24 or 52-022-094-0437 roll pin, and MS14145L6 or LCN6M-624 retaining nut. Remove the AN960-616L washer(s) and the washer, P/N A141-2, noting the washer(s) location for reassembly. Do not damage the output shaft, P/N A107-1, or the shim(s), P/N A118-1 through -6, located next to the flange of the output cartridge when removing the retaining nut.

(iv) Visually inspect for the presence of the output shaft key, P/N A114-2, between the pinion gear, P/N A545-1, and the output shaft (see figure 2).

(v) If the output shaft key is missing, replace the T/R gearbox with an airworthy gearbox that has been determined to have the output key installed. Report any T/R gearbox that has a missing key within 10 days after the inspection to the Manager, Los Angeles Manufacturing Inspection Office, FAA, Northwest Mountain Region, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5290, fax (310) 627-5293. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056.

(vi) If the output key is installed, reinstall the washer, P/N A141-2, and AN960-616L washer(s). Install an MS14145L6 or LCN6M-624 retaining nut, and torque to 225-275 in.-lbs. Install a MS16562-24 or 52-022-094-0437 roll pin, and safety wire using 0.032-inch stainless steel safety wire. The safety wire pigtail must be wrapped tightly around the retaining nut.

(5) Remove and disassemble the input cartridge, P/N A110-1, from the T/R gear case, P/N A109-1, as follows:

(i) Place two marks across the gear case, P/N A109-1, and input cartridge, P/N A110-1, with a felt pen or grease pencil to ensure proper reassembly.

(ii) Cut and remove the safety wire around the four MS20074-04-06 bolts securing the input cartridge to the gear case. Remove each of the four bolts and their associated AN960-416L washer(s), noting the washer stacks for reassembly. Separate the input cartridge from the gear case (see figure 1).

(iii) Secure the input cartridge to a block of wood through the two bolt holes in the input shaft assembly, P/N A116-1 (see figure 1). Place the block of wood in a vise. Remove and discard the safety wire, roll pin, and retaining nut. Remove the AN960-616L washer(s), and washer, P/N A141-1, noting the washer(s) location for reassembly. Do not damage the input shaft or shim(s), P/N A118-1 through -6, located next to the flange of the input cartridge.

(iv) Visually inspect for the presence of the input shaft key, P/N A114-1, between the gear, P/N A545-2, and the input shaft (see Note on figure 2).

(v) If the input shaft key is missing, replace the T/R gearbox with an airworthy gearbox that has been determined to have the input key installed. Report any T/R gearbox that has a missing key within 10 days after the inspection to the Manager, Los Angeles Manufacturing Inspection District Office, FAA, Northwest Mountain Region, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5290, fax (310) 627-5293. Reporting requirements have been approved by the Office of Management and Budget, and assigned OMB control number 2120-0056.

(vi) If the input key is installed, reinstall the AN960-616L washer(s) and washer, P/N A141-1. Install an MS14145L6 or LCN6M-624 retaining nut, and torque to 225-275 in.-lbs. Install a MS16562-24 or 52-022-094-0437 roll pin and safety wire using 0.032-inch stainless steel safety wire. The safety wire pigtail must be wrapped tightly around the retaining nut. Remove the two bolts securing the input shaft assembly to the block of wood. Vibro-etch the final rule AD number on the input cartridge attachment flange.

(6) Reassemble the input and output cartridges to the T/R case as follows:

(i) Color the "X" marked on the pinion gear, P/N A545-1, (one tooth only) of the output cartridge and on the gear, P/N A545-2, (located on two consecutive teeth) of the input cartridge with a red marker to make reinstallation easier. Note that these three gear teeth may already be colored (see figure 3).

(ii) Visually inspect the edge of the chamfers in the gear case, making sure they are round and smooth so that the O-ring will not be damaged upon installation.

(iii) Remove and discard the O-ring on both the input cartridge and output cartridge. Replace the O-ring with National P/N AS142 B46-70, or Parker P/N 2-142 N674-70 O-ring. Lubricate the replacement O-ring with oil, P/N A257-2, and install an O-ring on each cartridge.

(iv) Reinstall the output cartridge on the gear case with the four MS20074-04-06 bolts and AN960-416L washer stacks that were removed in accordance with paragraph (c)(4)(ii). Reinstall the input cartridge on the gear case with the four MS20074-04-06 bolts and AN960-416L washer stacks that were removed in accordance with paragraph (c)(5)(ii). Do not torque the bolts at this time.

(v) Look through the sight gage opening while using a flashlight pointed into the filler vent hole to verify the gears are meshed properly. Gears are properly meshed when the "X" marked on the pinion gear of the output cartridge is between the two "X's" marked on the gear of the input cartridge (see figure 3). Do not torque the MS20074-04-06 bolts until both cartridges are installed on the case and the gears are properly meshed. Torque the output cartridge bolts to 60 in.-lbs. first, then torque the input cartridge bolts to 60 in.-lbs. Safety wire with 0.032-inch stainless steel safety wire.

(vi) Reinstall sight gage with MS35769-11 or AN900-10 gasket. Oil threads to prevent threads from locking up. Torque to 200 in.-lbs.

(vii) Reinstall the chip detector with a MS35769-8 or AN900-9 gasket after lubricating the threads with oil. Torque the chip detector to 150 in.-lbs. Safety wire the sight gage to the chip detector using 0.032-inch stainless steel safety wire.

(viii) Fill the T/R gearbox with oil to the level indicated on the T/R sight glass decal. Reinstall the filler vent plug, P/N A610-1, with a MS35769-9 or AN900-8 gasket, after lubricating the threads with oil.

(ix) Inspect the T/R gearbox assembly to ensure that the shafts and gears rotate freely.

(7) Reinstall the T/R gearbox onto the helicopter in accordance with the applicable maintenance manual. Verify that the oil level of the T/R gearbox is at the recommended mark on the sight glass.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when 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 2: 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.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(f) This amendment becomes effective on December 27, 1995.

FOR FURTHER INFORMATION CONTACT:

Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5265, fax (310) 627-5210.

LUFTFARTSVERKET
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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 19

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

95-042 FORBUD MOT "LOW-G PUSHOVER"

Påbudet gjelder:

Robinson R22.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-11-09.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 95-11-09, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-11-09.

Gyldighetsdato:

01.07.95.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

Bilag til LDP 95-042

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: May 25, 1995
95-11-09

This Priority Letter Airworthiness Directive (AD) is prompted by a recent Federal Aviation Administration (FAA) analysis of manufacturer's data that indicates that a low-G cyclic pushover maneuver may result in mast-bumping on the Robinson Helicopter Company Model R22 helicopters. Improper control input during the low-G cyclic pushover maneuver or recovery may result in main rotor separation from the helicopter or main rotor blade contact with the airframe, resulting in loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company Safety Alert, dated May 12, 1995, Subject: Extreme Danger When Demonstrating Low-G, which describes possible hazards associated with demonstrating recovery from low-G pushover maneuvers.

Since an unsafe condition has been identified that is likely to exist or develop on other Model R22 helicopters of the same type design, this AD requires installation of a placard in the helicopter, and an insertion of a prohibition against low-G cyclic pushover maneuvers into the LIMITATIONS section of the Rotorcraft Flight Manual.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this Priority Letter.

95-11-09 ROBINSON HELICOPTER COMPANY: Priority Letter issued on May 25, 1995. Docket No. 95-SW-24-AD.

Applicability: Model R22 helicopters, 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 (c) 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 before further flight, unless accomplished previously.

NOTE 2: Compliance with this AD may be accomplished by completing the "Compliance Procedure" of Robinson Helicopter Company R22 Service Bulletin SB-79, dated May 23, 1995, and by incorporating into the Model R22 FAA-approved Rotorcraft Flight Manual the revised pages 2-7 and 2-12, both of which were approved by the FAA on May 19, 1995.

To prevent in-flight main rotor separation or contact between the main rotor blades and the airframe of the helicopter, and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into SECTION 2, LIMITATIONS, of the Model R22 FAA-approved Rotorcraft Flight Manual:

FLIGHT AND MANEUVER LIMITATIONS
Low-G cyclic pushovers are prohibited.

PLACARDS
In clear view of the pilots:

LOW-G PUSHOVERS PROHIBITED

(b) Install a placard that contains the following statement in the helicopter in clear view of the pilots. The size and location of the placard must be such that it is easily readable by the pilots:

LOW-G PUSHOVERS PROHIBITED

NOTE 3: This placard may be produced locally.

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

NOTE 4: 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.

(d) Priority Letter AD 95-11-09, issued May 25, 1995, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Lirio Liu, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5229, fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 20

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-003 KONTROLL AV HALEROTORENS GIRBOKS

Påbudet gjelder:

Alle Robinson R22 som har girbokser installert som ble overhalt av Robinson Helicopter Company før 08.06.92. Unntatt fra denne LDP er girbokser som har serienummer som listet i vedlagte kopi av FAA AD 95-23-05.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-23-05.

Anm.: Denne LDP erstatter og opphever LDP 94-061.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 95-23-05, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 95-23-05.

Gyldighetsdato:

01.01.96.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

95-23-05 ROBINSON HELICOPTER COMPANY: Amendment 39-9425. Docket No. 95-SW-06-AD. Supersedes AD 94-17-07, Amendment 39-9059.

Applicability: Model R22 series helicopters certified in any category, with tail rotor (T/R) gearboxes that were manufactured or overhauled by Robinson Helicopter Company prior to June 8, 1992. The following gearbox serial numbers have been determined to have the T/R input and output shaft keys installed and are therefore exempt from this AD: 0012, 0013, 0014, 0015, 0018, 0020, 0021, 0030, 0040, 0054, 0062, 0079, 0091, 0095, 0098, 0107, 0108, 0121, 0134, 0137, 0146, 0149, 0153, 0169, 0179, 0184, 0185, 0191, 0193, 0201, 0205, 0227, 0228, 0235, 0239, 0241, 0248, 0258, 0262, 0269, 0272, 0277, 0280, 0296, 0304, 0321, 0333, 0342, 0345, 0346, 0355, 0365, 0385, 0387, 0392, 0415, 0417, 0424, 0431, 0432, 0439, 0444, 0447, 0503, 0504, 0505, 0525, 0542, 0546, 0547, 0548, 0554, 0558, 0559, 0565, 0574, 0576, 0579, 0592, 0594, 0597, 0603, 0604, 0605, 0615, 0619, 0632, 0634, 0639, 0641, 0644, 0650, 0656, 0662, 0663, 0665, 0674, 0686, 0689, 0696, 0697, 0700, 0701, 0702, 0707, 0722, 0734, 0735, 0736, 0742, 0755, 0756, 0759, 0767, 0777, 0778, 0784, 0786, 0805, 0811, 0832, 0836, 0839, 0842, 0845, 0850, 0862, 0863, 0866, 0868, 0880, 0885, 0887, 0892, 0926, 0937, 0939, 0952, 0970, 0983, 0986, 0996, 0997, 0998, 0999, 1007, 1016, 1018, 1021, 1029, 1030, 1035, 1048, 1062, 1072, 1078, 1081, 1087, 1104, 1116, 1121, 1126, 1129, 1132, 1141, 1151, 1176, 1182, 1186, 1187, 1197, 1199, 1205, 1208, 1217, 1222, 1224, 1228, 1233, 1237, 1245, 1249, 1252, 1254, 1255, 1269, 1274, 1290, 1293, 1299, 1301, 1307, 1310, 1311, 1323, 1328, 1330, 1333, 1338, 1339, 1341, 1342, 1350, 1351, 1361, 1371, 1379, 1385, 1388, 1392, 1404, 1412, 1414, 1428, 1429, 1435, 1438, 1442, 1450, 1460, 1468, 1494, 1499, 1505, 1508, 1509, 1512, 1514, 1526, 1541, 1544, 1565, 1578, 1586, 1593, 1595, 1597, 1605, 1610, 1627, 1628, 1629, 1636, 1643, 1647, 1648, 1652, 1654, 1661, 1676, 1677, 1686, 1687, 1698, 1701, 1702, 1706, 1708, 1710, 1714, 1724, 1731, 1732, 1738, 1739, 1741, 1750, 1752, 1754, 1757, 1759, 1766, 1767, 1769, 1783, 1785, 1786, 1800, 1803, 1807, 1808, 1814, 1816, 1823, 1828, 1830, 1833, 1837, 1844, 1846, 1851, 1852, 1858, 1861, 1868, 1869, 1871, 1874, 1886, 1889, 1893, 1898, 1899, 1909, 1911, 1912, 1913, 1920, 1922, 1927, 1928, 1948, 1951, 1959, 1961, 1963, 1965, 1966, 1974, 1978, 1983, 1992, 1996, 2002, 2025, 2028, 2034, 2037, 2043, 2051, 2058, 2071, 2100, 2101, 2103, 2108, 2115, 2126, 2129, 2136, 2160, 2166, 2170, 2180, 2182, 2193, 2197, 2203, 2216, 2231, 2242, 2254, 2265, 2269, 2272, 2279, 2280, 2283, 2285, 2289, 2294, 2298, 2299, 2303, 2304, 2308, 2314, 2337, 2346, 2357, 2360, 2362, 2364, 2377, 2380, 2381, 2387, 2395, 2406, 2408, 2410, 2414, 2416, 2419, 2420, 2421, 2422, 2423, 2425, 2431, 2435, 2436, 2459, 2467, 2479, 2492, 2498, 2513, 2529, 2531, 2536, 2539, 2551, 2556, 2557, 2574, 2579, 2582, 2587, 2591, 2604, 2605, 2607, 2609, 2616, 2627, 2634, 2642, 2651, 2672, 2682, 2683, 2687, 2690, 2697, 2716, 2719, 2720, 2721, 2731, 2736, 2784, 2797, 2799, 2815, 2826, 2841, 2842, 2845, 2862, 2863, 2873, 2937, 2945, 3004, 3109.

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 (d) 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 slippage of the T/R drive, loss of directional control, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight, install alignment dots as follows: Remove the transparent inspection cover on the tail cone and rotate the T/R blades so that one blade leading edge is aligned with the tail cone centerline. Mark a dot on the tail cone skin aligned with the tip of the blade leading edge. With the same alignment, mark a dot on the centerline of the tail cone skin at the edge of the inspection hole, and mark a corresponding dot on the drive shaft flange (see figure 4).

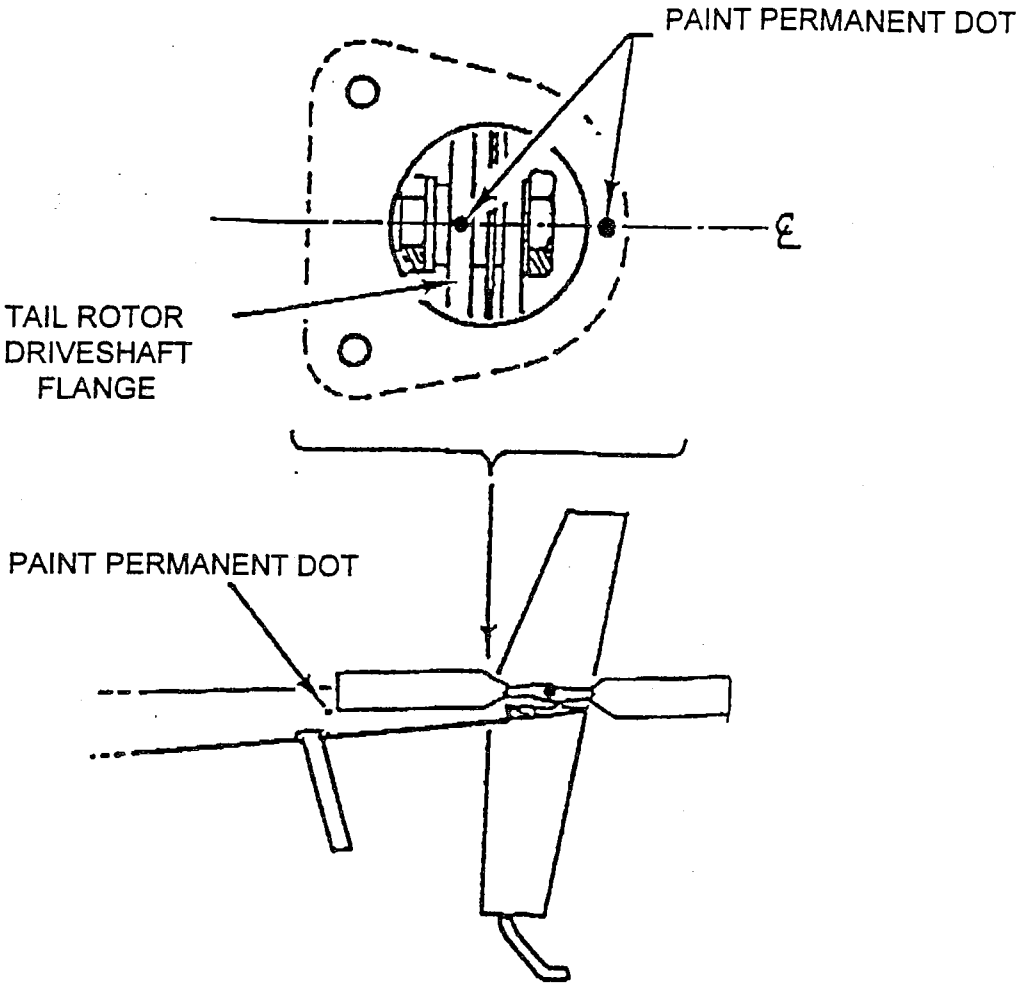
PAINT PERMANENT DOT
TAIL ROTOR
DRIVESHAFT
FLANGE
PAINT PERMANENT DOT

Figure 4

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 21

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-014 REVISJON AV «FLIGHT MANUAL»

Påbudet gjelder:

Robinson R44.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-26-05.

Anm.: Denne LDP erstatter og opphever LDP 95-027A.

Tid for utførelse:

Før første flyging.

Referanse:

FAA AD 95-26-05.

Gyldighetsdato:

01.02.96.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

Bilag til LDP 96-014

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

95-26-05 ROBINSON HELICOPTER COMPANY: Amendment 39-9463. Docket No. 95-SW-30-AD. Supersedes AD 95-04-13, Amendment 39-9165.

Applicability: Model R44 helicopters, 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 (b) 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 before further flight, unless accomplished previously.

NOTE 2: Regardless of the experience level of the pilot manipulating the controls or the amount or quality of the awareness training received by the pilot manipulating the controls, these changes to the flight manual are in no way intended to authorize flight in any condition(s) or under any circumstance(s) that are otherwise contrary to other Federal Aviation Regulations.

To prevent main rotor (M/R) stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system, and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R44 Rotorcraft Flight Manual. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

LIMITATIONS SECTION

The following limitations (1-3) are to be observed unless the pilot manipulating the controls has logged 200 or more flight hours in helicopters, at least 50 of which must be in the RHC Model R44 helicopter, and has completed the awareness training specified in Special Federal Aviation Regulation (SFAR) No. 73, issued February 27, 1995.

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.
(2) Flight when surface wind gust spreads exceed 15 knots is prohibited.
(3) Continued flight in moderate, severe, or extreme turbulence is prohibited.

Adjust forward airspeed to between 60 knots indicated airspeed (KIAS) and 0.7 V_{ne}, but no lower than 60 KIAS, upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

2 95-26-05

NORMAL PROCEDURES SECTION

NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, Model R44 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor apping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds greater than 60 KIAS and less than 0.9 V_{ne}.
(2) Use maximum "power-on" RPM at all times during powered flight.
(3) Avoid sideslip during flight. Maintain in-trim flight at all times.
(4) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic ntil positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not overcontrol.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(c) Special flight permits, pursuant to sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), will not be issued.

(d) This amendment becomes effective on January 26, 1996.

FOR FURTHER INFORMATION CONTACT:

Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 22

Med hjemmel om lov om luftfart av 11. juni 1993 kap. IV § 4-1 og kap. XV § 15-4, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-015 REVISJON AV «FLIGHT MANUAL».

Påbudet gjelder:

Robinson R22.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 95-26-04.

Anm.: Denne LDP erstatter og opphever LDP 95-026A.

Tid for utførelse:

Før første flyging.

Referanse:

FAA AD 95-26-04

Gyldighetsdato:

01.02.96.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

95-26-04 ROBINSON HELICOPTER COMPANY: Amendment 39-9462. Docket No. 95-SW-29-AD. Supersedes AD 95-04-14, Amendment 39-9166.

Applicability: Model R22 helicopters, 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 (b) 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 before further flight, unless accomplished previously.

NOTE 2: Regardless of the experience level of the pilot manipulating the controls or the amount or quality of the awareness training received by the pilot manipulating the controls, these changes to the flight manual are in no way intended to authorize flight in any condition(s) or under any circumstance(s) that are otherwise contrary to other Federal Aviation Regulations.

To prevent main rotor (M/R) stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system, and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R22 Rotorcraft Flight Manual. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

LIMITATIONS SECTION

The following limitations (1-3) are to be observed unless the pilot manipulating the controls has logged 200 or more flight hours in helicopters, at least 50 of which must be in the RHC Model R22 helicopter, and has completed the awareness training specified in Special Federal Aviation Regulation (SFAR) No. 73, issued February 27, 1995.

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.
(2) Flight when surface wind gust spreads exceed 15 knots is prohibited.
(3) Continued flight in moderate, severe, or extreme turbulence is prohibited.

Adjust forward airspeed to between 60 knots indicated airspeed (KIAS) and 0.7 V_{ne}, but no lower than 57 KIAS, upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

2 95-26-04

NORMAL PROCEDURES SECTION
NOTE

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, Model R22 pilots are strongly urged to become familiar with the following information and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering, high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

(1) Maintain cruise airspeeds between 60 KIAS and less than 0.9 V_{ne}, but no lower than 57 KIAS.
(2) Use maximum "power-on" RPM at all times during powered flight.
(3) Avoid sideslip during flight. Maintain in-trim flight at all times.
(4) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

EMERGENCY PROCEDURES SECTION

(1) RIGHT ROLL IN LOW "G" CONDITION

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) UNCOMMANDED PITCH, ROLL, OR YAW RESULTING FROM FLIGHT IN TURBULENCE.

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not overcontrol.

(3) INADVERTENT ENCOUNTER WITH MODERATE, SEVERE, OR EXTREME TURBULENCE.

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(c) Special flight permits, pursuant to sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), will not be issued.

(d) This amendment becomes effective on January 26, 1996.

FOR FURTHER INFORMATION CONTACT:

Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON-23

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-043 UTSKIFTING AV «UPPER V-BELT» SKIVE

Påbudet gjelder:

Robinson Helicopter Company, modell R22 helikopter med «upper V-belt sheave» P/N A170-1I eller J, eller P/N A170-2J.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 96-09-29.

Tid for utførelse:

Innen 100 timers ettersyn (TIS) eller 60 dager etter 07.06.96, det som inntereffer først.

Referanse:

FAA AD 96-09-29.

Gyldighetsdato:

01.06.96.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

Bilag til LDP 96-043

U.S. Department
of Transportation
Federal Aviation Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

96-09-29 ROBINSON HELICOPTER COMPANY: Amendment 39-9605. Docket No. 95-SW-23-AD.

Applicability: Model R22 helicopters with upper V-belt sheave (sheave) part number (P/N) A170-1I or J, or P/N A170-2J, 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 (b) 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.

NOTE 2: Determination of whether the affected sheave has been installed can be accomplished by measuring the depth from the edge of the forward retainer plate to the flange of the sheave in an area located between the webs as shown in Figure 2 of Robinson Helicopter Company R22 Service Bulletin SB-77, dated April 25, 1995. If the depth is greater than 0.30 inch, then either sheave, P/N A170-1I or J, or sheave, P/N A170-2J, is installed.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the sheave, which could result in damage to other drive system components, and subsequent loss of control of the helicopter, accomplish the following:

(a) Within the next 100 hours time-in-service (TIS) or 60 calendar days, whichever occurs first after the effective date of this AD, replace the sheave, P/N A170-1I or J, or P/N A170-2J, with an airworthy sheave, P/N A170-1, or P/N A170-2, having a dimension equal to or less than 0.30 inch measured from the edge of the forward retainer plate to the flange of the sheave in an area located between the webs, in accordance with paragraphs 2 through 15 of the Compliance Procedures of Robinson Helicopter Company R22 Service Bulletin SB-77, dated April 25, 1995.

(b) 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 3: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) Replacement of the sheave shall be done in accordance with paragraphs 2 through 15 of the Compliance Procedures of Robinson Helicopter Company R22 Service Bulletin SB-77, dated April 25, 1995. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505. Copies may be inspected at the FAA, Office of the Assistant Chief Counsel, 2601 Meacham Blvd., Room 663, Fort Worth, Texas, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(e) This amendment becomes effective on June 7, 1996.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5265, fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 24

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-050 JUSTERING AV «LOW-RPM WARNING UNIT»

Påbudet gjelder:

Robinson Helicopter Company, modell R44 helikopter S/N 0001 til og med 0183 og 0189.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 96-11-09.

Tid for utførelse:

Innen 30 dager etter 02.07.96.

Referanse:

FAA AD 96-11-09.

Gyldighetsdato:

01.07.96.

AIRWORTHINESS DIRECTIVE

Bilag til LDP 96-050

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

AD 96-11-09 ROBINSON HELICOPTER COMPANY: Amendment 39-9634. Docket No. 95-SW-32-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0183 and 0189, 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 (c) 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 within 30 days after the effective date of this AD, unless accomplished previously.

To minimize the possibility of pilot mismanagement of the main rotor (M/R) RPM, which could result in M/R stall and subsequent loss of control of the helicopter, accomplish the following:

(a) Adjust the A569-6 low-RPM warning unit so that the warning horn and caution light activate when the M/R RPM is between 96% and 97% rotor RPM in accordance with the procedures contained in the applicable maintenance manual.

(b) Insert page 2-7 of the FAA-approved Robinson Helicopter Company R44 Rotorcraft Flight Manual, revised July 25, 1995, into each Model R44 helicopter's flight manual, and make pen-and-ink changes to page 2-7 to add the word "inflight" before "system malfunction," and change "and" to "or," so that the affected limitation will state "Flight prohibited with governor selected off, with exceptions for inflight system malfunction or emergency procedures training."

(c) 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on July 2, 1996.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5265; fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 25

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-051 JUSTERING AV «LOW-RPM WARNING UNIT»

Påbudet gjelder:

Robinson Helicopter Company, modell R22 helikopter S/N 0002 til og med 2537.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 96-11-08.

Tid for utførelse:

Innen 30 dager etter 02.07.96.

Referanse:

FAA AD 96-11-08.

Gyldighetsdato:

01.07.96.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

Bilag til LDP 96-051

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

96-11-08 ROBINSON HELICOPTER COMPANY: Amendment 39-9633. Docket No. 95-SW-27-AD. Supersedes AD 82-23-51, Amendment 39-4645.

Applicability: Model R22 helicopters, serial numbers (S/N) 0002 to 2537, 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 (e) 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 within 30 days after the effective date of this AD, unless accomplished previously.

To minimize the possibility of pilot mismanagement of the main rotor (M/R) revolutions-per-minute (RPM), which could result in unrecoverable M/R blade stall and subsequent loss of control of the helicopter, accomplish the following:

(a) Adjust the A569-1 or -5 low-RPM warning unit so that the warning horn and caution light activate when the M/R RPM is between 96% and 97% rotor RPM in accordance with the procedures contained in the Model R22 maintenance manual.

(b) For Model R22 helicopters that do not have a governor currently installed, install a Robinson Helicopter Company KI-67-2 Governor Field Installation Kit in accordance with the kit instructions.

(c) For Model R22 helicopters that have a throttle/collective governor currently installed, upgrade the governor with a Robinson Helicopter Company KI-67-3 Governor Upgrade Kit in accordance with the kit instructions.

(d) Upon accomplishment of paragraphs (b) or (c) of this AD, revise the FAA-approved Robinson Helicopter Company R22 Rotorcraft Flight Manual (RFM) to include the following statement in the Flight and Maneuver Limitations section. This may be accomplished by inserting a copy of this AD into the RFM.

"Flight prohibited with governor selected off, with exceptions for inflight system malfunction or emergency procedures training."

(e) 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 FAA Principal Maintenance Inspectors, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

NOTE 2: 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.

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(g) This amendment becomes effective July 2, 1996.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5265; fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 26

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

96-090 KONTROLL AV HOVEDROTORENS GEARBOX

Påbudet gjelder:

Robinson Helicopter Company, modell R44 som har installert hovedrotor gear box med følgende partsnummer: P/N C006-1, revisjon A t.o.m. P, alle klasser.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 96-18-22.

Tid for utførelse:

Før første flyging. (Berørte eiere informert).

Referanse:

FAA AD 96-18-22.

Gyldighetsdato:

01.10.96.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

Bilag til LDP 96-090

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: August 29, 1996
96-18-22

This Priority Letter Airworthiness Directive (AD) is prompted by an inflight failure of the main rotor gearbox (gearbox) on a French-registered Model R44 helicopter which resulted in an accident. An inspection of the gearbox revealed that the 18 bolts securing the gear, part number (P/N) C146-3, to the gear carrier assembly (gear carrier), P/N C268-2, had lost clamping torque due to the differences in the mating surface finish of these components. As the rough surface of the gear seated into the smoother surface of the gear carrier, the bolts lost clamping torque, resulting in fretting and failure of the gear carrier. Inspections of two other gearboxes that were returned to the manufacturer for overhaul and maintenance revealed that the bolts securing the gear to the gear carrier had also lost clamping torque.

Prior to October 31, 1995, Robinson Helicopter Company (Robinson) did not have a requirement in their receiving inspections to verify that the surface finish of the gear was completed in accordance with the type design. As a result, gears have been found to have an improper surface finish. This condition, if not corrected, could result in fatigue failure of the gear carrier within the gearbox, and subsequent loss of power to the main rotor which could lead to a forced landing.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Model R44 helicopters of the same type design, this AD requires, before further flight, an inspection of the gearbox for pitting, elongated holes, or machining grooves (which appear similar to grooves on a phonograph record) that can be felt with a fingernail, and replacement of the gearbox with an airworthy gearbox if pits greater than 0.001-inch deep, elongated holes, or machining grooves are discovered on a mating surface; and replacement of the 18 bolts that attach the gear to the gear carrier with NAS6606-5 bolts and spacers, P/N C130-29.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this priority letter.

96-18-22 ROBINSON HELICOPTER COMPANY: Priority Letter issued August 29, 1996. Docket No. 96-SW-25-AD.

Applicability: Model R44 helicopters, with main rotor gearbox (gearbox), part number (P/N) C006-1, Revisions A through P, 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 (v) 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 before further flight, unless accomplished previously.

To prevent loosening of the bolts securing the gear to the gear carrier, which could lead to fatigue failure of the gear carrier within the gearbox, and subsequent loss of power to the main rotor which could lead to a forced landing, accomplish the following:

(a) Drain the oil from the gearbox, part number (P/N) C006-1, and remove the gearbox from helicopter.

(b) Lay the gearbox on its side with input yoke up. Loosen the eight cap screws attaching the mast tube to the gearbox, but do not remove the screws. Remove the twelve bolts and six cap screws holding the sump and baffle in place (Figure 1). Note the location of ground wires.

(c) Gently remove the sump, using care to keep all shim stacks on their respective bolts. With the bolts still attached to the sump, replace the nuts on the bolts and finger-tighten to retain the shim stacks (shim stack is the same at each location). Discard the O-Ring.

(d) Bend out the locking tabs on lockwashers, P/N C269-1 and P/N C269-2, and remove the spanner nuts, P/N C153-1, from the main rotor shaft. A scrap main rotor hub bolt, or equivalent, inserted through the teeter hinge bolt hole in the main rotor shaft may be used to react torque; clamp the bolt in a vice or fasten to a work bench. Do not clamp the main rotor shaft. Retain the spanner nuts and discard the lockwashers.

(e) Remove the gear carrier from the main rotor shaft. Mark the gear and gear carrier for alignment during reassembly. Remove the 18 NAS6606-3 bolts attaching the gear to the gear carrier and remove the gear. Discard the bolts, washers, and nuts.

(f) Clean the main rotor shaft splines, shoulder, and threads with methyl-ethyl ketone or a comparable solvent that leaves no residue upon evaporation. Clean the gear and gear carrier with the solvent.

(g) Using a Scotch-Brite pad or 320 grit (or finer) sandpaper and a flat block, remove any fretting or stains from the mating surfaces of both the gear and the gear carrier. Visually inspect the mating surfaces around all 18 holes for signs of pitting, elongated holes, or machining grooves (which appear similar to grooves on a phonograph record) that can be felt with a fingernail. If pits greater than 0.001-inch deep, elongated holes, or machining grooves are discovered on a mating surface, replace the gearbox with an airworthy gearbox.

(h) Align the gear to the gear carrier and install NAS6606-5 bolts, spacers, P/N C130-29, and MS21042L6 nuts in 18 places (Figure 2). Keep the mating surfaces and hardware dry, clean, and free of oil. Torque the nuts to 40 ft.-lb. (includes self-locking torque) using the torquing sequence shown on Figure 3.

(i) Install the gear carrier on the main rotor shaft. Keep the main rotor shaft clamping shoulder and the gear carrier clean and dry during reassembly.

(j) For gearboxes, P/N C006-1, Revision P, use the following torques for paragraphs (k) and (m): 560 ft.-lb. to seat the gear carrier; 420-480 ft.-lb. for the first nut; and, 280-320 ft.-lb. for the second nut.

(k) Install an unused lockwasher, P/N C269-2. Apply anti-seize, P/N A257-9, or Loctite Anti-seize 767, to the main rotor shaft threads and to the chamfered-side face and threads of one spanner nut and install the nut with the chamfered side against the lockwasher. Verify the pins are aligned with the holes in the lockwasher. For Revision A through O gearboxes: Torque the nut to 370 ft.-lb. to seat the gear carrier; loosen the nut and retorque to 280-320 ft.-lb., as required to align the two lockwasher tabs with the nut. Bend the two tabs into the nut and visually inspect the edges of the bent tabs for cracks.

(l) Before installing the unused lockwasher, P/N C269-1, note that the edges are sharp on one side and rounded on the other. De-burr the sharp edges on two opposite tabs (Figure 2). This will reduce the chance of cracking when these tabs are bent. Install the lockwasher with the de-burred edges toward the first nut.

(m) Apply anti-seize, P/N A257-9, or Loctite Anti-seize 767, to the chamfered-side face and threads of the second nut. Align the two de-burred tabs with the first nut and install the second nut with the chamfered side against the lockwasher. Hand-tighten the nut to hold the lockwasher in place. Bend the two de-burred tabs to lock the first nut. For Revision A through Revision O gearboxes: Torque the second nut to 180-220 ft.-lb., as required to align two washer tabs. Bend the two tabs to lock the second nut.

(n) Verify that all six bent tabs properly engage the nuts and visually inspect the edges of the bent tabs for cracks. Replace any cracked lockwashers. Remove any excess anti-seize.

(o) Lubricate the unused O-Ring, P/N C215-279, with oil, P/N A257-2, and install the O-Ring on the sump. Clean and visually inspect the sealing surface of the gearbox housing. Lightly lubricate the sealing surface with oil, P/N A257-2.

(p) Install the sump on the gearbox housing, using care not to damage the O-Ring.

(q) Install the baffle, P/N C747-1, and all the sump attaching hardware. Ensure all the sump bolts have the same shim stack as before. The threaded cap screws can damage the shim stack if not installed properly. Install the ground wires using NAS6604-15, -16, or -17 bolts (the other 11 bolts are NAS6604-15 bolts).

(r) Torque the sump bolts and drain plug assembly as follows: Twelve lock nuts on NAS6604 bolts, 30 in.-lb. (includes locking torque); six NAS1352-4H16P cap screws, 120 in.-lb. and safety wire; A7260 drain plug assembly large hex, 150 in.-lb. and safety wire; small hex, 75 in.-lb. and safety wire.

(s) Torque the eight NAS1356-6H24P cap screws attaching the mast tube to the gearbox to 220 in.-lb. and safety wire.

(t) Reinstall the gearbox. Fill the gearbox with oil, P/N A257-2, to the middle of the sight glass. Perform the main rotor balance procedures.

(u) Report the serial number of any gearbox that has been replaced in accordance with paragraph (g) of this AD, within 10 days after the inspection to Mr. Randall Erwin, Principal Inspector, Los Angeles Manufacturing Inspection District Office, FAA, Northwest Mountain Region, 3960 Paramount Blvd., Lakewood, California 90712, telephone (310) 627-5294, fax (310) 627-5293. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120-0056.

(v) 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 2: 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.

(w) Compliance with Robinson Helicopter Company Service Bulletin SB-15, dated August 2, 1996, and the reporting requirements contained in paragraph (u) of this AD is an acceptable means of compliance with this AD.

(x) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(y) Priority Letter AD 96-18-22, issued August 29, 1996, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712; telephone (310) 627-5265, fax (310) 627-5210.

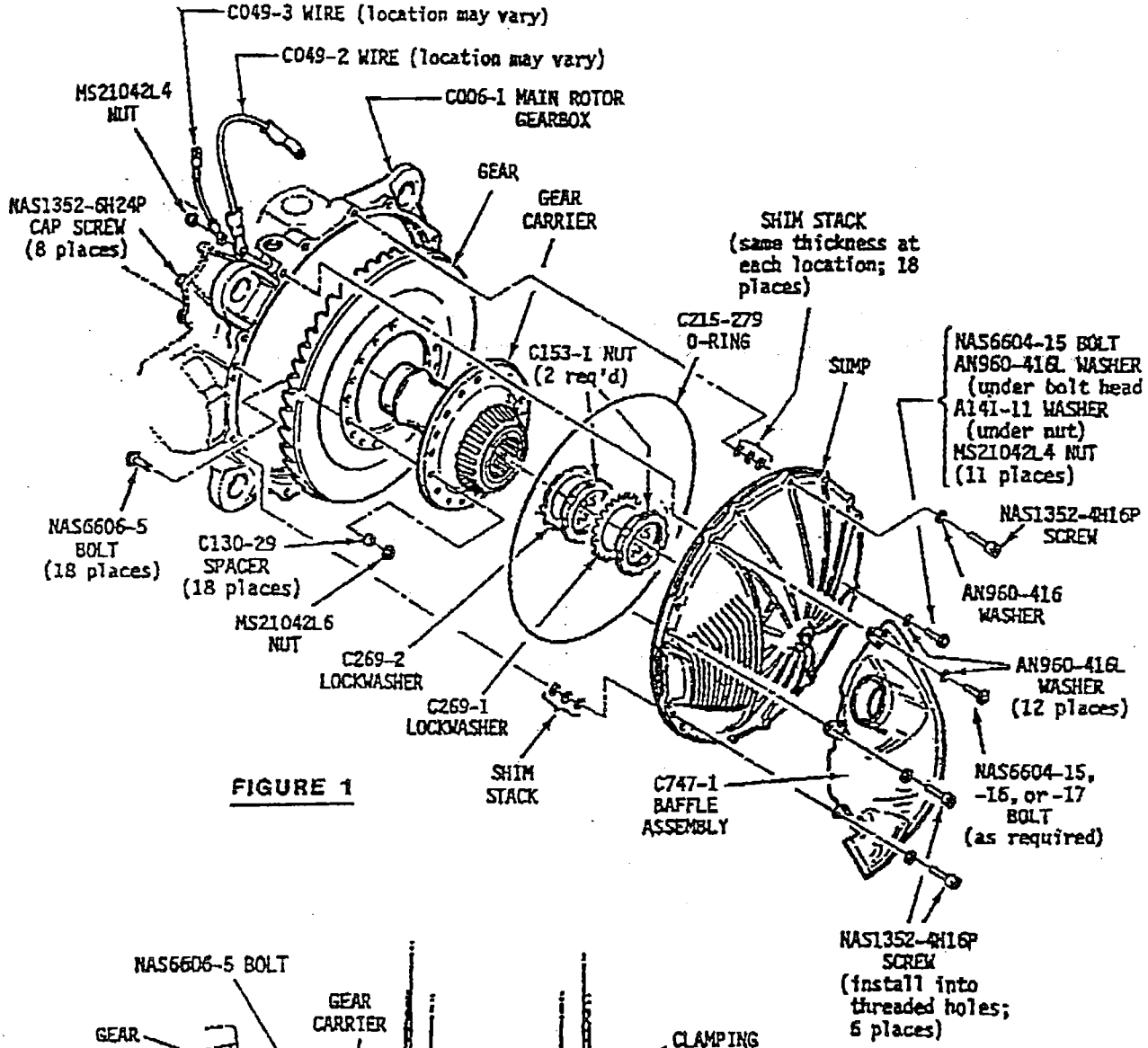


FIGURE 1

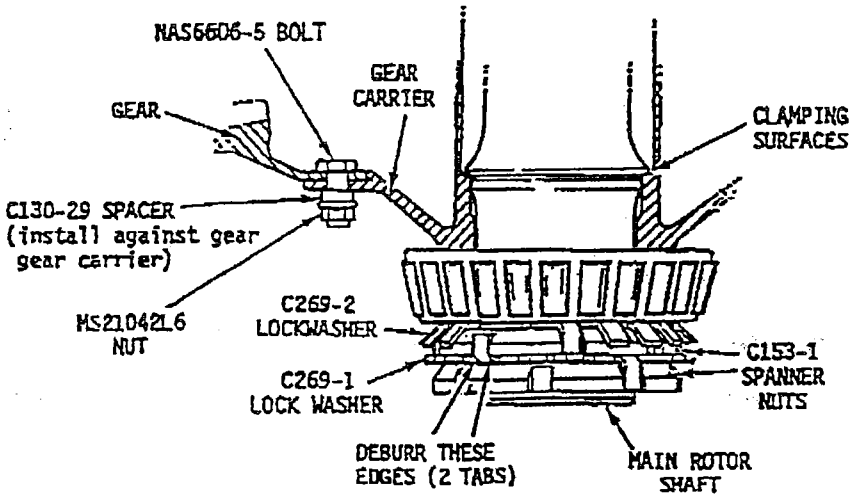
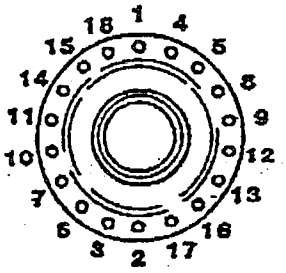


FIGURE 2



GEAR CARRIER TORQUING SEQUENCE

FIGURE 3

ROBINSON
HELICOPTER COMPANY
2901 Airport Drive, Torrance, California 90505
■ PHONE (310) 539-0508 ■ FAX (310) 539-5198

Bilag til LDP 96-090

R44

SERVICE BULLETIN SB-15

DATE: 02 August 1996

TO: R44 Owners, Operators, and Service Centers

SUBJECT: Main Rotor Gearbox Ring Gear Bolts

ROTORCRAFT AFFECTED: R44 Helicopters S/N 0001 thru 0232 except S/N 0019, 0067, 0118, 0135, and 0215.

TIME OF COMPLIANCE: Within next 100 hours time in service or by 01 October 1996, whichever occurs first.

BACKGROUND: RHC has found three R44 main rotor gearboxes in which bolts clamping the ring gear to the gear carrier loosened in service. Looseness caused severe fretting in the joint. Excessive fretting can lead to a fatigue failure of the main rotor drive system.

COMPLIANCE PROCEDURE:

1) Service Centers will require one MT124-2 spanner nut socket. Instructions for gearbox inspection and modification per this service bulletin are included with KI-102 kits which are available to approved Service Centers.
2) For each R44 to be modified by a Service Center, reference helicopter serial number and order KI-102 kit.
3) Drain main rotor gearbox.
4) Remove main rotor gearbox per R44 Maintenance Manual (MM) Section 7.110.
5) Return gearbox to RHC for modification or perform inspection and modification per instructions in KI-102 kit.
6) Reinstall gearbox per R44 MM Section 7.120.
7) Fill gearbox with A257-2 oil to middle of sight glass.
8) Check main rotor balance per R44 MM Section 10.

Approximate Cost:

Labor:	US$400*	
Parts:	KI-102 Kit	no charge
	MT124-2 socket	no charge to approved R44 Service Centers

*Although not covered by the R44 Warranty, as a special goodwill gesture, RHC will pay $400 to approved R44 Service Centers for each R44 gearbox modified, provided they comply with this SB and do not charge aircraft owner more than an additional $400 for work performed. There is no charge for gearboxes modified at RHC.

THE DESIGN ENGINEERING ASPECTS OF THIS BULLETIN HAVE BEEN SHOWN TO COMPLY WITH THE APPLICABLE FEDERAL AVIATION REGULATIONS, AND ARE FAA APPROVED.

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Telex : 71032 enfb n

LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 27

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

97-019 JUSTERING AV «LOW RPM WARNING UNIT»

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 97-02-15.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 97-02-15, med virkning fra denne LDP's gyldighetsdato.

Anm.: Denne LDP erstatter og opphever LDP 96-050.

Referanse:

FAA AD 97-02-15.

Gyldighetsdato:

01.03.97.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

97-02-15 ROBINSON HELICOPTER COMPANY: Amendment 39-9900. Docket No. 96-SW-15-AD. Supersedes AD 96-11-09, Amendment 39-9634.

Applicability: Model R44 helicopters, 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 (c) 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 within 30 days after the effective date of this AD, unless accomplished previously.

To minimize the possibility of pilot mismanagement of the main rotor (M/R) RPM, which could result in unrecoverable M/R stall and subsequent loss of control of the helicopter, accomplish the following:

(a) Adjust the A569-6 low RPM warning unit so that the warning horn and caution light activate when the M/R RPM is between 96% and 97% rotor RPM in accordance with the procedures contained in the Model R44 maintenance manual.

(b) Revise the FAA-approved Robinson Helicopter Company R44 Rotorcraft Flight Manual (RFM) to include the following statement in the Limitations Section:

"Flight prohibited with governor selected off, with exceptions for inflight system malfunction or emergency procedures training."

This may be accomplished by inserting a copy of this AD or the FAA-approved Robinson Helicopter Company R44 RFM revision dated July 25, 1996 into the RFM.

(c) 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on March 4, 1997.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5265; fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 28

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

97-020 JUSTERING AV «LOW RPM WARNING UNIT»

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptere.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 97-02-14.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 97-02-14, med virkning fra denne LDP's gyldighetsdato.

Anm.: Denne LDP erstatter og opphever LDP 96-051.

Referanse:

FAA AD 97-02-14.

Gyldighetsdato:

01.03.97.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

97-02-14 ROBINSON HELICOPTER COMPANY: Amendment 39-9899. Docket No. 96-SW-14-AD. Supersedes AD 96-11-08, Amendment 39-9633.

Applicability: Model R22 helicopters, 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 (e) 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 within 30 days after the effective date of this AD, unless accomplished previously.

To minimize the possibility of pilot mismanagement of the main rotor (M/R) revolutions-per-minute (RPM), which could result in unrecoverable M/R blade stall and subsequent loss of control of the helicopter, accomplish the following:

(a) Adjust the A569-1 or -5 low-RPM warning unit so that the warning horn and caution light activate when the M/R RPM is between 96% and 97% rotor RPM in accordance with the procedures contained in the Model R22 maintenance manual.

(b) For Model R22 helicopters that do not have a governor currently installed, install a Robinson Helicopter Company KI-67-2 Governor Field Installation Kit in accordance with the kit instructions. Upon completion of the governor installation required by this paragraph, revise the FAA-approved Robinson Helicopter Company R22 Rotorcraft Flight Manual (RFM) in accordance with paragraph (d) of this AD.

(c) For Model R22 helicopters that have a throttle/collective governor currently installed, upgrade the governor with a Robinson Helicopter Company KI-67-3 Governor Upgrade Kit in accordance with the kit instructions. Upon completion of the upgrade required by this paragraph, revise the FAA-approved Robinson Helicopter Company R22 Rotorcraft Flight Manual (RFM) in accordance with paragraphs (d) of this AD.

(d) Revise the FAA-approved Robinson Helicopter Company R22 RFM as follows:

(1) Insert the FAA-approved Robinson Helicopter Company R22 RFM revision, dated July 6, 1995, or later FAA-approved revision addressing the governor normal and emergency procedures, into the Normal and Emergency sections of the RFM.

(2) Include the following statement in the Limitations section:

"Flight prohibited with governor selected off, with exceptions for inflight system malfunction or emergency procedures training."

This may be accomplished by inserting a copy of this AD or the FAA-approved Robinson Helicopter Company R22 RFM revision dated July 23, 1996, into the RFM.

(e) 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. 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 2: 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.

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(g) This amendment becomes effective on March 4, 1997.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (310) 627-5265; fax (310) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 29

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

97-083 KONTROLL AV «UP-LIMIT» BRYTERE

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere S/N 0001 t.o.m. S/N 0332.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 97-16-02.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 97-16-02, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 97-16-02.

Gyldighetsdato:

1997-12-01

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 USC 106(g), 40113, 44701.

§ 39.13 - [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

97-16-02 ROBINSON HELICOPTER COMPANY: Amendment 39-10092. Docket No. 97-SW-19-AD.

Applicability: Model R44 helicopters, serial numbers 0001 through 0332, 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 (d) 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 the sprag clutch to lock in the driving direction, which would result in loss of power to the main rotor system and a subsequent forced landing; or failure of the sprag clutch to unlock in the overrunning direction, which, if combined with engine failure, would result in an inability to autorotate and a subsequent loss of control of the helicopter, accomplish the following:

(a) Within 25 hours time-in-service (TIS) after the effective date of this AD, and thereafter, at intervals not to exceed 100 hours TIS, inspect both up-limit switches, part number (P/N) V3-1001, for proper operation in accordance with the Compliance Procedure in Robinson Helicopter Company R44 Service Bulletin SB-21, dated April 18, 1997. If the motor runs when the springs are depressed on one side, the switch on the OPPOSITE side is not functioning properly.

(b) If the inspections required by paragraph (a) of this AD indicate that either up-limit switch does not function properly, replace the up-limit switch with an airworthy up-

limit switch in accordance with the Compliance Procedure contained in Robinson Helicopter Company R44 Service Bulletin SB-21, dated April 18, 1997.

(c) Within 50 hours TIS after the effective date of this AD, replace the clutch assembly, P/N C018-1, with a clutch assembly, P/N C018-2 or P/N C018-2A, in accordance with the Compliance Procedure contained in Robinson Helicopter Company R44 Service Bulletin SB-23, dated May 30, 1997.

(d) 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 2: 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.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(f) The inspections and replacements, if necessary, shall be done in accordance with Robinson Helicopter Company R44 Service Bulletin SB-21, dated April 18, 1997, and Robinson Helicopter Company R44 Service Bulletin SB-23, dated May 30, 1997. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505, telephone (310) 539-0508, fax (310) 539-5198. Copies may be inspected at the FAA, Office of the Assistant Chief Counsel, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective on August 18, 1997.

FOR FURTHER INFORMATION CONTACT:

Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

BLANK

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 30

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-003 KONTROLL AV HOVEDROTORSPINDEL

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptere, alle serienummer.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 88-26-01R2.

Tid for utførelse:

Dersom ikke allerede utført:
Til de tider som beskrevet i vedlagte kopi av FAA AD 88-26-01R2, med virkning fra denne LDP's gyldighetsdato.

Anm.: Denne LDP erstatter og opphever LDP 92-049.

Referanse:

FAA AD 88-26-01R2.

Gyldighetsdato:

01.01.98.

BW 92-11

ROBINSON HELICOPTER COMPANY
AIRWORTHINESS DIRECTIVE
CORRECTION
SMALL AIRCRAFT

88-26-01 R2 ROBINSON HELICOPTER COMPANY: Amendment 39-6646. Final Copy of, and Revision to, Priority Letter AD 88-26-01 R1. Docket No. 88-ASW-58-AD. Applicability: Model R22 series helicopters, all serial numbers containing A158-1 main rotor spindle and A106 journals, certificated in any category.

Compliance: Required prior to further flight for all helicopters with spindles having over 500 hours time in service, and for all helicopters regardless of total time in service that have experienced an unexplained increase in main rotor vibration level, unless already accomplished. For those helicopters with spindles having less than 500 hours total time in service, compliance is required prior to attaining 500 hours total time in service, unless already accomplished. Thereafter, conduct repetitive inspections of the original design spindles and journals as specified in paragraph (f) of this AD at intervals not to exceed 50 hours time in service since the last inspection, or conduct repetitive inspections of spindles and journals which have been reworked and replaced as specified in paragraphs (b) and (c) of the AD at intervals not to exceed 500 hours time in service from the last inspection.

To prevent main rotor spindle failure, which could result in subsequent loss of the helicopter, accomplish the following:

(a) Remove both main rotor blades (ref. Section 9.111 of the R22 Maintenance Manual). Clean and dye penetrant inspect both boltholes and adjacent surfaces on the A158-1 spindles. If a crack indication is found replace the spindle with an airworthy part which has been reworked in accordance with the following:

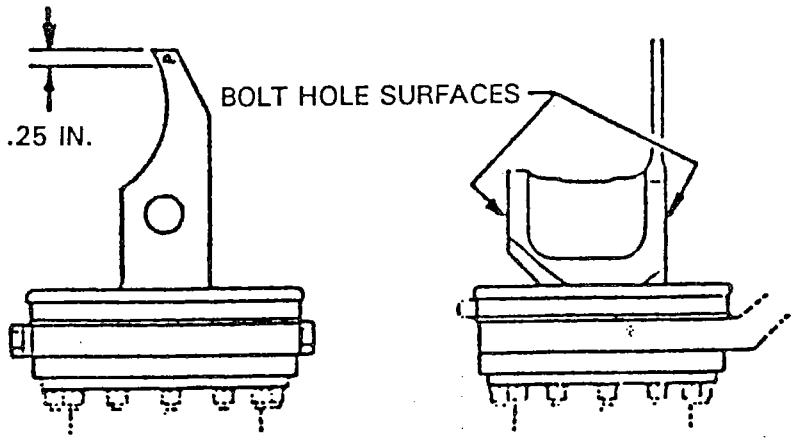
(1) Remove both main rotor blades. Clean, visually inspect with a 10X magnifying glass, and dye penetrant inspect both bolthole surfaces. If any crack indication is found, immediately remove from service. Visually inspect surfaces for nicks, scratches, pits, or excessive fretting. If surface defects greater than 0.0005 inch deep are found, the spindle must be replaced with an airworthy part.

(2) Polish bolthole surfaces with 220, 320, and 400 grit abrasive paper to remove surface defects and all indications of fretting. Inspect with a 10X magnifying glass to insure that no fretting indications remain. The abrasive paper must be mounted on a flat block so the polished surface will remain perfectly flat.

(3) Without removing the spindle from the blade, shot peen both surfaces (ref. AMS2430) to 98 percent minimum coverage, intensity 0.010A to 0.013A, with 0.019/0.033 diameter steel shot. Mask with duct tape all areas and blade parts not to be peened. Overspray in the 0.625 diameter bolthole can be prevented by installing a 0.625 inch diameter dowel or discarded bolt shank.

**THIS IS THE LAST BIWEEKLY ISSUE OF THE 1990-1992 SUBSCRIPTION PERIOD.

(4) Polish peened surfaces using 220, 320, and 400 grit paper mounted on a flat block to keep surfaces perfectly flat. Do not remove all indications of shot peening. Polish only until 95 to 98 percent of the surface appears polished and flat with only a few tiny pock marks from the shot peening still barely visible. Remove all shot peen balls between the spindle and the boot. Vibro-etch the letter "P" on the spindle, as shown below.



(b) If no defects are found when accomplishing the inspection required by paragraph (a), unless previously accomplished, rework the A158-1 spindle by shot peening the surfaces which mate with the A106 journals as required byparagraph a(1) through (4) of this AD. This rework may be performed by an FAA-approved repair station authorized to perform this process.

(c) Remove and replace all A106 journals in the coning and teeter hinges (a total of six per aircraft) with new A106 Revision 0 or subsequent journals. These redesigned journals may be identified by a yellow primed bore of the bolthole.

(d) Manually rock the A158-1 spindle back and forth to check for roughness in the A159-1 pitch bearing set and, if roughness is detected, return the pitch bearing set to an approved RHC overhaul facility for inspection and/or repair (ref. Section 2.540, R22 Maintenance Manual, Robinson Technical Report 60).

(e) After performing the A158-1 spindle rework specified in paragraph (b) and the A106 journal replacement specified in paragraph (c) of this AD, reinstall the main rotor blades (ref. Section 9.112, R22 Maintenance Manual). Make certain the journal and spindle surfaces are clean and dry before assembling. Also, exercise caution to insure that the bolts are stretched to the new limits specified in paragraph (a)(7). Track and balance the rotor (ref. Section 10.200, R-22 Maintenance Manual).

(f) Spindles (without rework) and original design journals may be used in accordance with the following procedures:

(1) Conduct the following inspections and rework at intervals not to exceed 50 hours time in service:

(i) Remove both main rotor blades (ref. Section 9.111, R22 Maintenance Manual).

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(ii) Clean and dye penetrant inspect both the boltholes and the adjacent surfaces on the A158-1 spindles.

(iii) If any spindle is found to contain a crack, replace with an airworthy part before further flight.

(iv) If spindle surface defects exceed 0.0005 inches in depth, the spindle must be replaced with an airworthy part before further flight. Superficial fretting may be removed by lightly polishing with 400 or finer abrasive paper.

(v) Visually inspect the A106 journals. If cracked, replace with an airworthy part before further flight.

(vi) Check pitch bearing set for roughness, and comply with paragraph (d) of this AD.

(vii) Reinstall main rotor blades (ref. Section 9.112, R22 Maintenance Manual). Make certain the journal and spindle surfaces are clean and dry before assembling.

(2) Replace the NAS 630-80 bolts and A189-10 nuts with new parts after each fifth inspection which requires disassembly and reassembly of the main rotor system.

(3) This alternate means of compliance terminates March 31, 1989, after which compliance with the requirements of paragraphs (a) though (e) of this AD is required.

(g) In accordance with FAR Section 21.197 and 21.199, the helicopter may be flown to a base where the inspection required by this AD may be accomplished.

(h) An alternate method of compliance with this AD, which provides an equivalent level of safety, may be used if approved by the Manager, Los Angeles Aircraft Certification Office, FAA, 3229 E. Spring Street, Long Beach, California 90806-2425.

This amendment (39-6646, AD 88-26-01 R2) becomes effective on August 7, 1990, as to all persons except those persons to whom it was made immediately effective by Priority Letter AD 88-26-01, issued December 15, 1988, as amended by AD 88-26-01 R1 issued February 8, 1989, which contained this amendment.

FOR FURTHER INFORMATION CONTACT:

Mr. Charles W. Matheis, Los Angeles Aircraft Certification Office, 3229 E. Spring Street, Long Beach, California 90806-2425, telephone (213) 988-5235.

CORRECTION: This AD 88-26-01 R2 was previously distributed in the biweekly supplement without the drawing on page 2 of the AD.

****THIS IS THE LAST BIWEEKLY ISSUE OF THE 1990-1992 SUBSCRIPTION PERIOD.**

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 31

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-013 UTSKIFTING AV FORGASSER OG -TEMPERATURMÅLER (CAT)

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptere, som har serienummer 2571 t.o.m 2664.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 97-25-05.

Tid for utførelse:

Dersom ikke allerede utført:
Til de tider som beskrevet i vedlagte kopi av FAA AD 97-25-05, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 97-25-05.

Gyldighetsdato:

1998-02-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

97-25-05 ROBINSON HELICOPTER COMPANY: Amendment 39-10228. Docket No. 97-SW-04-AD.

Applicability: Model R22 helicopters, serial number (S/N) 2571 through 2664, 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 (c) 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 within 50 hours time-in-service after the effective date of this AD, unless accomplished previously.

To prevent inadvertent placement of the mixture control to the idle cutoff position during in-flight leaning of the engine, which could result in an engine shutdown and subsequent loss of control of the helicopter, accomplish the following:

(a) Remove the MA-4-5 carburetor and carburetor air temperature (CAT) gage, part number (P/N) C664-6, and replace them with an airworthy MA-4SPA carburetor and remarked CAT gage, P/N A664-2, in accordance with Robinson Helicopter Company R22 Service Bulletin SB-82, dated March 3, 1997, and Robinson Helicopter Company KI-114 O-360 Engine Carburetor Change Kit instructions, Revision A, dated March 6, 1997.

(b) Upon completion of paragraph (a) of this AD, insert the FAA-approved R22 Pilot's Operating Handbook Section 9, Supplements 7 (R22 Beta II) and 8 (R22 Mariner II), revised February 6, 1997, into the R22 Rotorcraft Flight Manual.

(c) 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) The modification shall be done in accordance with Robinson Helicopter Company R22 Service Bulletin SB-82, dated March 3, 1997, and Robinson Helicopter Company KI 114 O-360 Engine Carburetor Change Kit instructions, Revision A, dated March 6, 1997. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505, telephone (310) 539-0508; fax (310) 539-5198. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(f) This amendment becomes effective on January 12, 1998.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5265; fax (562) 627-5210.

LUFTFARTSVERKET
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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 32

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-024 KONTROLL AV «CYCLIC TRIM SPRING SHAFT»

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere, som har serienummer 0002 t.o.m 0420, 0425, 0426 og 0427.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-04-12.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 98-04-12, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-04-12.

Gyldighetsdato:

1998-03-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: February 4, 1998
98-04-12

This priority letter Airworthiness Directive (AD) is prompted by an incident in which a pilot felt binding in the cyclic control when attempting to move it to the left. A precautionary landing was made using only right-hand turns. Subsequent inspection revealed that a notch was worn in the lateral cyclic trim spring shaft (shaft), which caused the shaft and spring to move from the lower mount and interfere with the lateral control. Inspection of a second Model R44 helicopter revealed similar wear. Excessive wear can create a notch on the shaft, which can cause the shaft spring assembly (spring assembly) to move out of its lower mount. This condition, if not corrected, could lead to the shaft interfering with lateral cyclic control, which could result in loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R44 Service Bulletin SB-26, dated January 31, 1998, which describes procedures for measurement of the shaft diameter, and replacing the spring assembly with a modified spring assembly if the shaft diameter varies more than 0.004 inch in any 0.50 inch of length.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R44 helicopters of the same type design, this AD requires, within 10 hours time-in-service (TIS) after the effective date of this AD, and thereafter at intervals not to exceed 20 hours TIS until replacement of the spring assembly with a modified spring assembly is accomplished, a measurement of the shaft diameter; and replacement of the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly if the shaft diameter measurement varies more than 0.004 inch in any 0.50 inch of length. Replacement of the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly is considered terminating action for the requirements of this AD. The actions are required to be accomplished in accordance with the service bulletin described previously.

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.

98-04-12 ROBINSON HELICOPTER COMPANY: Priority Letter issued on February 4, 1998. Docket No. 98-SW-08-AD.

Applicability: Model R44 helicopters, serial numbers 0002 through 0420, 0425, 0426, and 0427, with a C056-1 Rev. A through G spring assembly 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 (d) 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 detect excessive wear on the lateral cyclic trim spring shaft (shaft), which could allow the shaft to move from its lower mount and interfere with lateral cyclic control resulting in loss of control of the helicopter, accomplish the following:

(a) Within 10 hours time-in-service (TIS), and thereafter at intervals not to exceed 20 hours TIS, measure the diameter of the shaft in accordance with the Compliance Procedure contained in Robinson Helicopter Company R44 Service Bulletin SB-26, dated January 31, 1998 (SB-26).

(b) If the shaft diameter varies more than 0.004 inch in any 0.50 inch of length, in the measurement area shown in Figure 1 of SB-26, replace the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly before further flight.

(c) Replacing the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly in accordance with the service bulletin is considered terminating action for the requirements of this AD.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

(d) 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 2: 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.

(e) Special flight permits will not be issued.

(f) Copies of the applicable service information may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

(g) Priority Letter AD 98-04-12, issued February 4, 1998, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Fredrick A. Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 33

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-035 UTSKIFTNING AV RØRKNE AV ALUMINIUM

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere, som har serienummer 0001 t.o.m 0330.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-05-10.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 98-05-10, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-05-10.

Gyldighetsdato:

1998-04-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
**Federal Aviation
Administration**

AD 98-05-10 ROBINSON HELICOPTER COMPANY: Amendment 39-10371. Docket No. 97-SW-62-AD.

Applicability: Model R44 helicopters, serial numbers 0001 through 0330, 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 (b) 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 within 50 hours time-in-service after the effective date of this AD, unless accomplished previously.

To prevent failure of either the 45 degree or 90 degree aluminum elbows that connect the oil lines from the oil cooler to the engine accessory case, which would cause loss of engine oil, resulting in an engine failure and a subsequent forced landing, accomplish the following:

(a) Remove any aluminum (blue-colored) AN823-8D (45 degree) or MS20822-8D (90 degree) elbows that connect the A723 oil cooler lines to the engine accessory case and replace them with airworthy MS20823-8 (45 degree) steel elbows or MS20822-8 (90 degree) steel elbows, as applicable. If the color is difficult to distinguish, use a magnet to determine if the elbow is aluminum or steel. Apply B270-6 thread sealant/lubricant to the replacement elbows' pipe threads. Torque the elbows to 160 in-lbs. plus as much additional torque as is necessary to align for correct position with the oil line.

NOTE 2: Robinson Helicopter Company R44 Service Bulletin SB-25, dated October 1, 1997, pertains to the subject of this AD and describes procedures for replacing both aluminum elbows with steel elbows.

(b) 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. Operators shall submit their requests through an FAA Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

NOTE 3: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on March 18, 1998.

FOR FURTHER INFORMATION CONTACT:
Ms. Elizabeth Bumann, Aerospace Engineer, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5265; fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 34

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-042 KONTROLL AV «LATERAL CYCLIC TRIM SPRING SHAFT»

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere, som har serienummer som listet i vedlagte kopi av FAA AD 98-04-12.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-04-12.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 98-04-12, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-04-12.

Gyldighetsdato:

1998-05-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

98-04-12 ROBINSON HELICOPTER COMPANY: Amendment 39-10461. Docket No. 98-SW-08-AD.

Applicability: Model R44 helicopters, serial numbers 0002 through 0420, 0425, 0426, and 0427, with a C056-1 Rev. A through G spring assembly 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 (d) 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 detect excessive wear on the lateral cyclic trim spring shaft (shaft), which could allow the shaft to move from its lower mount and interfere with lateral cyclic control resulting in loss of control of the helicopter, accomplish the following:

(a) Within 10 hours time-in-service (TIS), and thereafter at intervals not to exceed 20 hours TIS, measure the diameter of the shaft in accordance with the Compliance Procedure contained in Robinson Helicopter Company R44 Service Bulletin SB-26, dated January 31, 1998 (SB-26).

(b) If the shaft diameter varies more than 0.004 inch in any 0.50 inch of length, in the measurement area shown in Figure 1 of SB-26, replace the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly before further flight.

(c) Replacing the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly in accordance with the service bulletin is considered terminating action for the requirements of this AD.

(d) 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 2: 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.

(e) Special flight permits will not be issued.

(f) The inspection shall be done in accordance with the Compliance Procedure contained in Robinson Helicopter Company R44 Service Bulletin SB-26, dated January 31, 1998. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505 telephone (310) 539-0508, fax (310) 539-5198.. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective on April 27, 1998, to all persons except those persons to whom it was made immediately effective by Priority Letter AD 98-04-12, issued February 4, 1998, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT: Mr. Fredrick A. Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562)-627-5232, fax (562)-627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 35

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-063 KONTROLL FOR SPREKKER I HOVEDROTORBLAD

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptere, som har serienummer som listet i vedlagte kopi av FAA AD 98-12-19.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-12-19.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 98-12-19, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-12-19.

Gyldighetsdato:

1998-07-01.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: June 2, 1998
98-12-19

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 that started at the mid-span inboard trim tab and ran chordwise to the spar where it turned along the spar for about an inch. The crack originated from a trim tab alignment rivet hole in the blade skin. Subsequent investigations revealed that the manufacturing process utilized to drill the trim tab alignment rivet 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 corrected, could result in failure of the main rotor blade and subsequent loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R44 Service Bulletin SB-27A, revised May 29, 1998, which requires a dye penetrant inspection on the upper and lower surface blade skin around both trim tab alignment rivet holes within 5 hours time-in-service (TIS) and a repetitive visual inspection of these areas before the first flight of each day, until main rotor blades, part number (P/N) C016-1, are replaced with main rotor blades, P/N C016-2.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R44 helicopters of the same type design, this AD requires, within 5 hours TIS, a dye penetrant inspection of the blade skin around both inboard trim tab alignment rivet holes. Thereafter, a repetitive visual inspection of the blade skin around both inboard trim tab alignment rivet holes is required prior to the first flight of each day or at intervals not to exceed 5 hours TIS, whichever occurs first. If a crack is found, this AD requires replacing the main rotor blade with an airworthy main rotor blade before further flight. Installing a set of main rotor blades, P/N C016-2, constitutes terminating action for the requirements of 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.

98-12-19 ROBINSON HELICOPTER COMPANY: Priority Letter issued on June 2, 1998. Docket No. 98-SW-25-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0002 thru 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 detect main rotor blade skin fatigue cracks which originate from the inboard trim tab alignment rivet holes, that could result in failure of the main rotor blade and subsequent loss of control of the helicopter, accomplish the following:

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

(1) Remove all paint around both rivets, exposing an area of approximately 3/4" in diameter, at the inboard trim tab on top and bottom of each blade (4 places per 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 blade skin around the rivets on the upper and lower surfaces (4 locations) using a dye penetrant 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 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 the upper and lower 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) Installation of a set of main rotor blades, P/N C016-2, constitutes terminating action for the requirements 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 4: 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.

NOTE 5: Robinson Helicopter Company R44 Service Bulletin SB-27A, revised May 29, 1998, pertains to the subject of this AD.

(h) Priority Letter AD 98-12-19, issued June 2, 1998, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Fred Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

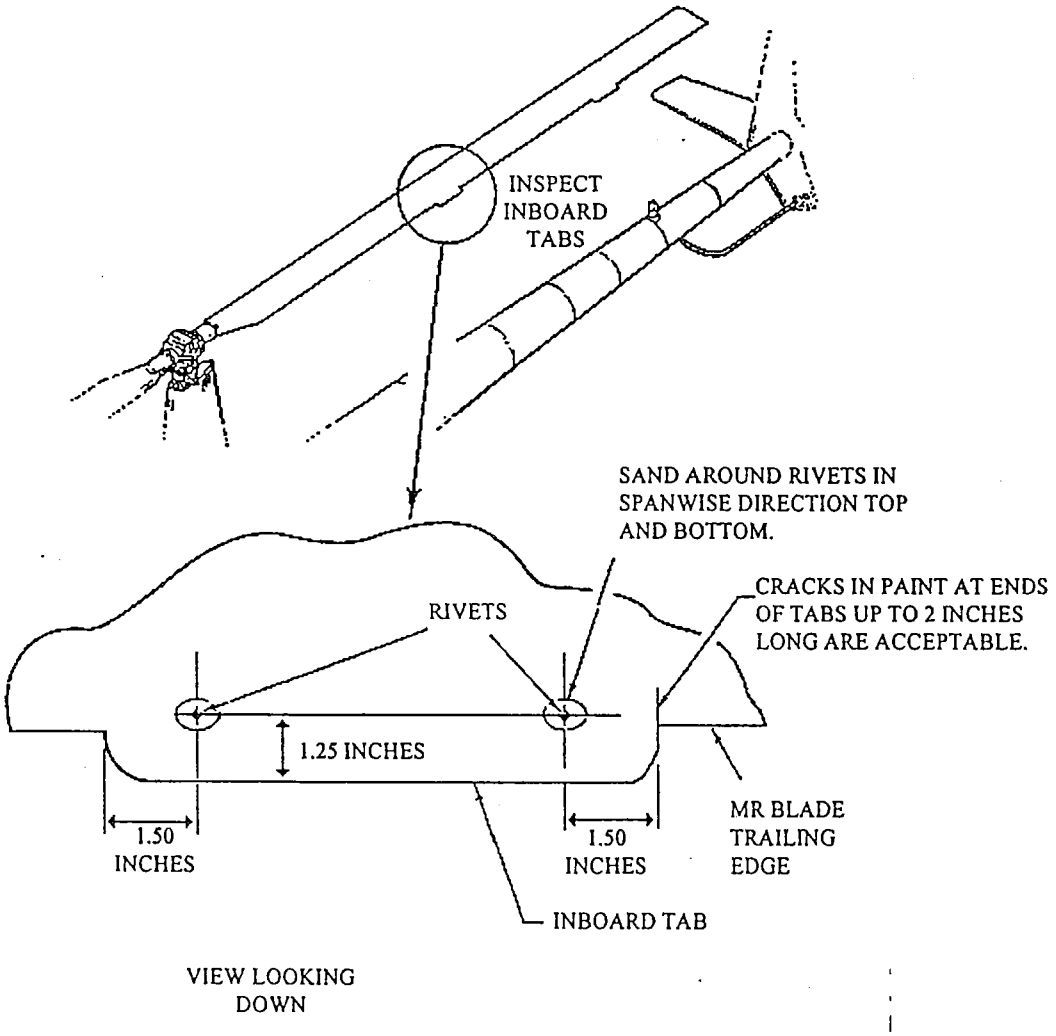

Figure 1
PL AD 98-12-19

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 36

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-069 UTSKIFTING AV FLEXPLATE

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptre, som beskrevet i vedlagte kopi av FAA AD 98-14-08.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-14-08.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 98-14-08, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-14-08.

Gyldighetsdato:

1998-08-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: June 25, 1998
98-14-08

This Priority Letter Airworthiness Directive (AD) is prompted by a recent accident in which the forward flexplate (flexplate), part number (P/N) A947-1, failed, causing loss of the main rotor drive and rupture of the fuel tank. Prompted by three similar accidents involving failure of the flexplate, the FAA previously issued priority letter AD 94-11-01 on May 18, 1994, and subsequently issued AD 95-06-07 on March 20, 1995, which required an initial dye-penetrant inspection and repetitive visual inspections of the flexplate at intervals not to exceed 50 hours time-in-service (TIS), after accumulating 500 hours TIS or 2 years service life, whichever occurred first. AD 95-06-07 also exempted flexplate, P/N A947-1 E, and subsequent FAA-approved revisions, from the requirements of that AD, and provided that installation of flexplate, A947-1E or a subsequent FAA-approved revision to that P/N constituted a terminating action for the requirements of that AD.

Since the issuance of AD 95-06-07, the FAA has determined that the repetitive inspections required by that AD do not correct the unsafe condition and should be eliminated, and that flexplate, P/N A947-1 A through D, or P/N A193-1, should be replaced with flexplate, P/N A947-1 E or F. This action is intended to prevent failure of the flexplate, which could result in failure of the main rotor drive system and subsequent loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R22 Service Bulletin SB-75, dated November 22, 1994, which describes procedures for removing the flexplate, P/N A947-1, Rev A thru D, or P/N A193-1, and replacing it with a flexplate, P/N A947-1, Rev E or later.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Model R22 helicopters of the same type design, this AD requires, within 25 hours TIS or 15 calendar days, whichever occurs first, replacing the flexplate, P/N A193-1 or A947-1 A through D, with a flexplate, P/N A947-1 E or F.

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.

98-14-08 ROBINSON HELICOPTER COMPANY: Docket No. 98-SW-30-AD.

Applicability: Model R22 helicopters, with forward flexplate, part number (P/N) A947-1 A through D, or P/N A193-1, 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 (b) 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 within 25 hours time-in-service (TIS) or 15 calendar days, whichever occurs first, unless accomplished previously.

To prevent failure of the flexplate, which could result in failure of the main rotor drive system and subsequent loss of control of the helicopter, accomplish the following:

(a) Remove the flexplate and replace it with an airworthy flexplate, P/N A947-1 E or F, in accordance with the following:

(1) With the clutch disengaged, support the forward end of the clutch shaft, P/N A166-1, and remove the forward flexplate, P/N A947-1 or A193-1, and the intermediate flexplate, P/N A947-2 or P/N A193-2. Record any shim locations for reinstallation.

(2) Install a zero TIS forward flexplate, P/N A947-1 E or F, and any shims that were noted. Use washers, P/N AN960-516 or AN960-516L, under the nut so that 2-4 threads are exposed. Torque the fasteners.

(3) Inspect the sheave alignment.

(4) Inspect the clutch shaft, P/N A166-1, angle.

(5) Reinstall the intermediate flexplate and shim.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

NOTE 2: Robinson R22 Maintenance Manual, Sections 1.320, 7.230, 7.240, and 7.330 pertain to paragraphs (a)(2), (a)(3), (a)(4), and (a)(5) of this AD, respectively.

NOTE 3: Robinson Helicopter Company R22 Service Bulletin SB-75, dated November 22, 1994, pertains to the subject of this AD.

(b) 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 4: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) Priority Letter AD 98-14-08, issued June 25, 1998, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 37

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-091 KONTROLL/UTSKIFTING AV BRENNSTOFFTANKENS VENTILASJONSRØR

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA Priority AD 98-21-09.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA Priority AD 98-21-09.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA Priority AD 98-21-09, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA Priority AD 98-21-09.

Gyldighetsdato:

1998-11-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: September 29, 1998
98-21-09

This Priority Letter Airworthiness Directive (AD) is prompted by an incident in which a hard landing resulted from an uncommanded engine shutdown. The pilot reported that the fuel quantity gauges indicated fuel consumption from the auxiliary fuel tank only, with the main fuel tank indication remaining at or near full. When the auxiliary fuel tank quantity gauge reached empty, the engine misfired and then stopped. An inspection revealed a kink in the flexible vent tube connecting the rigid vent tube to the main fuel tank. Two similar incidents have occurred with this single vent design. This condition, if not corrected, could result in fuel starvation, loss of engine power, and a subsequent forced landing.

The FAA has reviewed Robinson Helicopter Company (RHC) R22 Service Bulletin SB-83 (SB-83), dated March 4, 1997, which describes procedures for modifying attachment of the fuel tank vent(s); and RHC R22 Service Bulletin SB-84 (SB-84), dated September 8, 1998, which describes procedures for installing springs in the vent tubes to prevent kinks. RHC kit instructions KI-118-1 R22 Fuel Tank Vent Upgrade For Ships Without Auxiliary Tank, dated March 4, 1997, and RHC KI-118-2 R22 Fuel Tank Vent Upgrade For Ships With Auxiliary Tank, dated April 29, 1997, which describe procedures for installing fuel tank vent tube(s), part number (P/N) A731-3, are attached to SB-83. RHC kit instructions KI-140 R22 Fuel Tank Vent Upgrad For Fuel Tanks With Single Vent, dated September 3, 1998, which describes procedures for installing springs into the flexible tube leading to the main fuel tank, and, if an auxiliary fuel tank is installed, into the flexible tube leading to the auxiliary fuel tank, is attached to SB-84.

Since an unsafe condition has been identified that is likely to exist or develop on other RHC Model R22 helicopters of the same type design, this AD requires, within 25 hours time-in-service (TIS) or 30 calendar days after the effective date of this AD, whichever occurs first: installing fuel tank vent tube(s), P/N A731-3, with modified attachment to the mast tube, if not previously accomplished; installing a spring, P/N B408-2, into the flexible tube leading to the main fuel tank; and installing a spring, P/N B408-1, into the flexible tube leading to the auxiliary fuel tank, if an auxiliary fuel tank is installed.

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.

98-21-09 ROBINSON HELICOPTER COMPANY: Docket No. 98-SW-45-AD.

Applicability: Model R22 helicopters, serial numbers 0002 through 1451, inclusive, 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 (c) 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 th AD. In no case does the presence of any modification, alteration, or repair remove any helicopter from the applicability of this AD.

Compliance: Required within 25 hours time-in-service or 30 calendar days after the effective date of this AD, whichever occurs first, unless accomplished previously.

To prevent fuel starvation, loss of engine power, and a subsequent forced landing, for helicopters overhauled by Robinson Helicopter Company (RHC) prior to January 1, 1991, which do not have a main fuel tank (only) with dual vent tubes, or, if the auxiliary fuel tank is installed, do not have a crossover vent tube between the fuel tanks, accomplish the following:

(a) Visually inspect the fuel tank vent tube(s) in the mast fairing. If each fuel tank vent tube is attached only to the mast tube at two locations, the helicopter complies with the requirements of paragraph (a) of this AD. If each fuel tank vent tube is attached to the mast tube at one location, and to the rain scupper (channel), part number (P/N) A032-16, on the fuel tank cowling at another location:

(1) For helicopters without an auxiliary fuel tank installed, remove the existing vent tube, P/N A731-1, and install an airworthy vent tube, P/N A731-3, with flexible tube, P/N A729-7, using a MS27039C0806 screw and AN960-8L washer (alternate P/N NAS1149FN816P) at the lower clamp, P/N A695-1 (see Figure 1).

(2) For helicopters with an auxiliary fuel tank installed, remove the existing main fuel tank vent tube, P/N A731-1, and auxiliary fuel tank vent tube, P/N A731-2, and install airworthy vent tubes, P/N A731-3, with flexible tube, P/N A729-7, for main tank and flexible tube, P/N A729-17, for auxiliary tank using MS27039C0807 screw and AN960-8L washer (alternate P/N NAS1149FN816P) at lower clamp, P/N A695-1 (see Figure 2).

(b) Install spring, P/N B408-2, into the flexible vent tube, P/N A729-7, leading to the main fuel tank; and install spring, P/N B408-1, into the flexible vent tube, P/N A729-17, leading to the auxiliary fuel tank (if an auxiliary fuel tank is installed), in accordance with RHC kit instructions KI-140 R22 Fuel Tank Vent Upgrade For Fuel Tanks With Single Vent, dated September 3, 1998.

NOTE 2: RHC R22 Service Bulletin SB-83, dated March 4, 1997, and RHC R22 Service Bulletin SB-84, dated September 8, 1998, pertain to the subject of this AD.

(c) 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 request through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

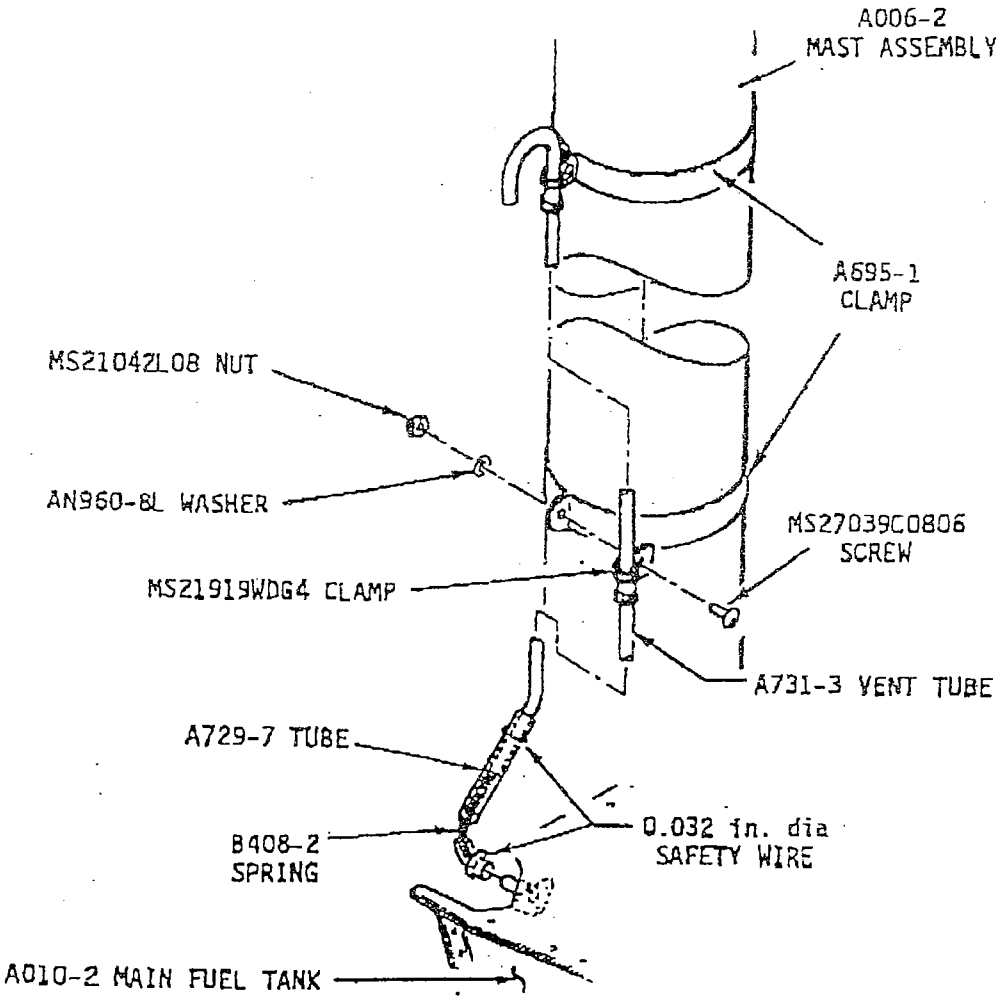
NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) Copies of the applicable service information may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

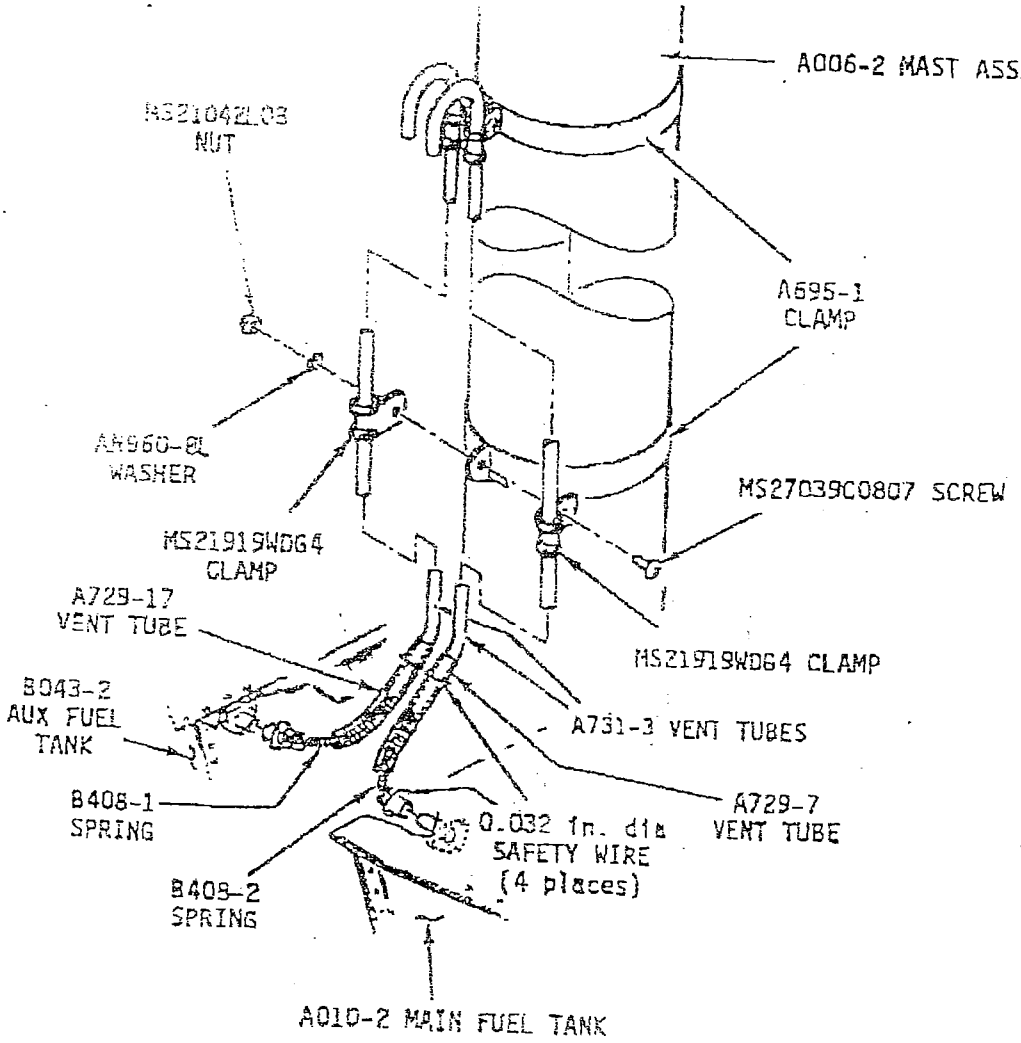
(f) Priority Letter AD 98-21-09, issued September 29, 1998, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Ms. Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.



HELICOPTER WITHOUT AUXILIARY FUEL TANK

FIGURE 1
AD 98-21-09



HELICOPTER WITH AUXILIARY FUEL TANK

FIGURE 2
AD 98-21-09

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 38

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-102 UTSKIFTING AV "GRIP ASSEMBLY"

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA Priority AD 98-21-36.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA Priority AD 98-21-36.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA Priority AD 98-21-36, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA Priority AD 98-21-36.

Gyldighetsdato:

1998-12-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

98-21-36 ROBINSON HELICOPTER COMPANY: Amendment 39-10845. Docket No. 97-SW-01-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0159, except S/N 0143, 0150, and 0156, with cyclic control pilot's grip assembly (grip assembly), part number (P/N) A756-6 Revision N or prior, 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 (b) 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: Within 25 hours time-in-service or 30 calendar days after the effective date of this AD, whichever occurs first, unless accomplished previously.

To prevent use of a grip assembly that may crack, resulting in failure of the grip assembly and subsequent loss of control of the helicopter, accomplish the following:

(a) Remove the grip assembly, P/N A756-6 Revision N (or prior), and replace it with an airworthy grip assembly, P/N A756-6 Revision M (or later), in accordance with KI-112 R44 Pilot's Grip Assembly Upgrade Kit instructions, dated December 20, 1996.

(b) 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. 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 2: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) The modification shall be done in accordance with KI-112 R44 Pilot's Grip Assembly Upgrade Kit instructions, dated December 20, 1996. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(e) This amendment becomes effective on November 23, 1998.

FOR FURTHER INFORMATION CONTACT: Mr. Fred Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Boulevard, Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 39

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

98-103 KONTROLL/UTSKIFTING AV HOVEDROTORBLAD

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 98-22-16.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 98-22-16.

Anm.: Denne LDP erstatter og opphever LDP 98-063.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 98-22-16, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 98-22-16.

Gyldighetsdato:

1998-12-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

98-22-16 **ROBINSON HELICOPTER COMPANY:** Amendment 39-10874. Docket No. 98-SW-56-AD. Supersedes AD 98-12-19, Amendment 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, exposing 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 the 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 when 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) This amendment becomes effective on November 10, 1998 to all persons except those persons to whom it was made immediately effective by Priority Letter AD 98-22-16, issued October 22, 1998, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT: Frederick Guerin, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

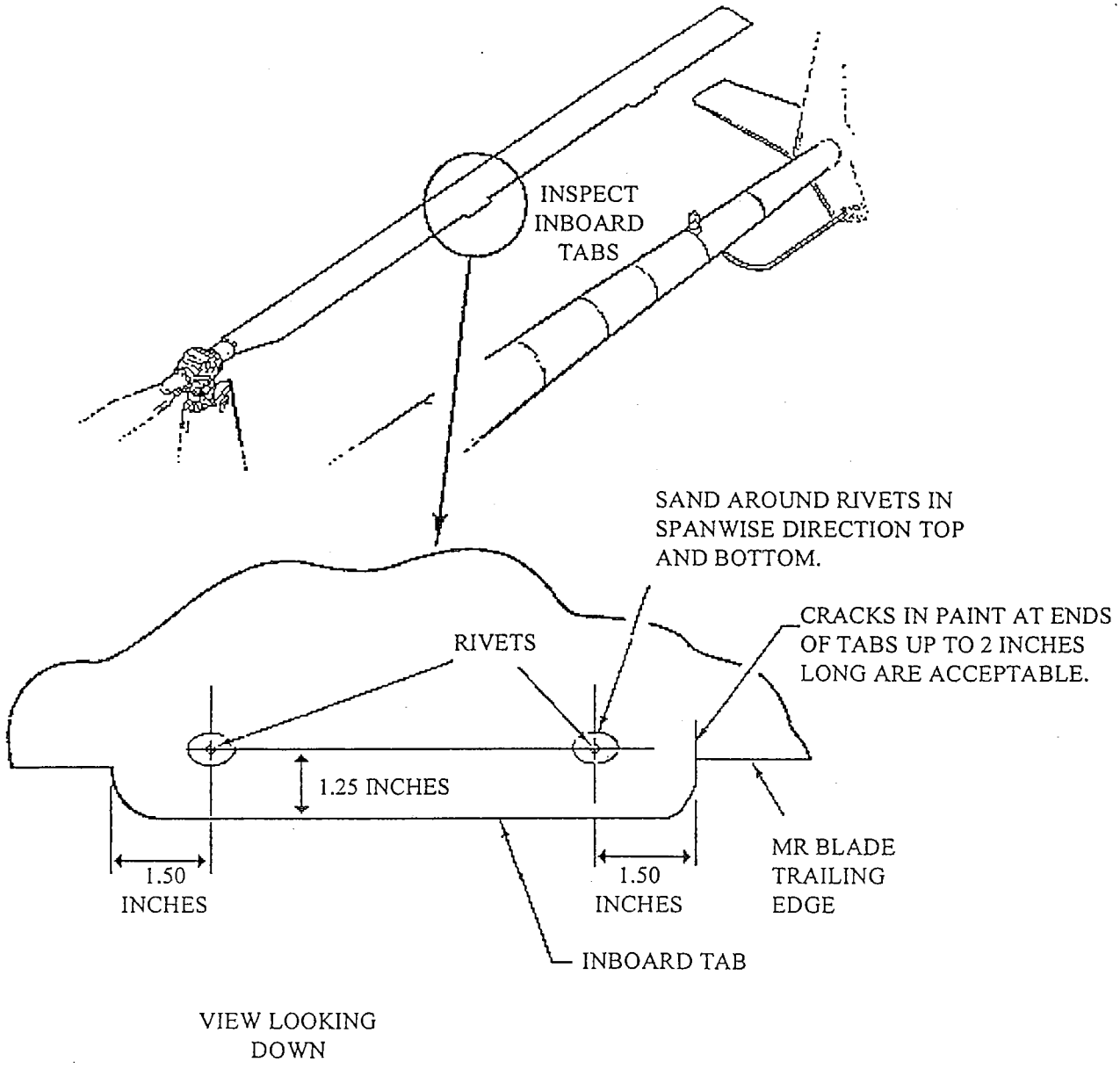

Figure 1
AD 98-22-16

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 40

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-014 KONTROLL/UTSKIFTING AV "FLEXPLATE"

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-02-02.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-02-02.

Anm.: Denne LDP erstatter og opphever LDP 95-031.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-02-02, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-02-02.

Gyldighetsdato:

1999-03-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

99-02-02 ROBINSON HELICOPTER COMPANY: Amendment 39-10991. Docket No. 98-SW-79-AD. Supersedes AD 95-06-07, Amendment 39-9177, Docket No. 94-SW-22-AD, and Priority Letter AD 98-14-08, Docket No. 98-SW-30-AD.

Applicability: Model R22 helicopters, with forward flexplate (flexplate), part number (P/N) A947-1, A through D, or P/N A193-1, 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 (b) 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 within 25 hours time-in-service (TIS) or 15 calendar days, whichever occurs first, unless accomplished previously.

To prevent failure of the flexplate, which could result in failure of the main rotor drive system and subsequent loss of control of the helicopter, accomplish the following:

(a) Remove the flexplate and replace it with an airworthy flexplate, P/N A947-1 E or F, in accordance with following:

(1) With the clutch disengaged, support the forward end of the clutch shaft, P/N A166-1, and remove the forward flexplate, P/N A947-1 or A193-1, and the intermediate flexplate, P/N A947-2 or P/N A193-2. Record any shim locations for reinstallation.

(2) Install a zero TIS forward flexplate, P/N A947-1 E or F, and any shims that were noted. Use washers, P/N AN960-516 or AN960-516L, under the nut so that 2-4 threads are exposed. Torque the fasteners.

(3) Inspect the sheave alignment.

(4) Inspect the clutch shaft, P/N A166-1, angle.

(5) Reinstall the intermediate flexplate and shim.

NOTE 2: Robinson R22 Maintenance Manual, Sections 1.320, 7.230, 7.240, and 7.330 pertain to paragraphs (a)(2), (a)(3), (a)(4), and (a)(5) of this AD, respectively.

NOTE 3: Robinson Helicopter Company R22 Service Bulletin SB-75, dated November 22, 1994, pertains to the subject of this AD.

(b) 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 4: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on February 1, 1999.

FOR FURTHER INFORMATION CONTACT: Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (817) 627-5210.

LUFTFARTSVERKET
Hovedadministrasjonen
Luftfartsinspeksjonen
Postboks 8124 Dep., 0032 Oslo
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Telefax : 22 94 23 91
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Telex : 71032 enfb n

LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 41

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-034 REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-07-18.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-07-18.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-07-18, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-07-18.

Gyldighetsdato:

1999-05-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

DATE: March 26, 1999
99-07-18

This Priority Letter Airworthiness Directive (AD) is prompted by several reports of sprag clutch assemblies, including one from wreckage of an accident that occurred within the past year, with cracked or fractured sprag ends. The sprag clutch failures, determined to be due to a change in the manufacturing process, could result in loss of main rotor revolutions-per-minute (RPM) during autorotations. The intent of this AD is to alert pilots of the potential for the sprag clutch failing to overrun during autorotation, loss of main rotor RPM, and subsequent loss of control of the helicopter.

The FAA has reviewed Robinson Helicopter Company R44 Service Bulletin SB-32, dated March 22, 1999 (SB), which describes inserting a Special Pilot Caution into the Normal Procedures section of the Rotorcraft Flight Manual (RFM). This Special Pilot Caution addresses autorotation maneuvers and a check for proper function of the sprag clutch. Inserting the Special Pilot Caution is an interim action. The FAA will issue an AD to supersede this AD and require replacing the clutch assembly when parts become available from the manufacturer.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Helicopter Company Model R44 helicopters of the same type design, this AD requires, before further flight, inserting the Special Pilot Caution into the Normal Procedures section of the RFM.

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.

99-07-18 ROBINSON HELICOPTER COMPANY: Priority Letter issued on March 26, 1999. Docket No. 99-SW-25-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0541, 0543, 0556, and 0565, with sprag clutch, part number (P/N) C188-3, S/N's 0003 through 0452, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required before further flight, unless accomplished previously.

To alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to failure of the sprags within the sprag clutch assembly, and loss of main rotor revolutions-per-minute, accomplish the following:

(a) Insert either the Special Pilot Caution, revised March 22, 1999, which is contained in Robinson Helicopter Company R44 Service Bulletin SB-32, dated March 22, 1999, or the following Special Pilot Caution paragraphs, into the Normal Procedures section of the Rotorcraft Flight Manual between pages P.4-8 and P.4-9:

SPECIAL PILOT CAUTION

Some sprags in overrunning clutches have been found cracked in service. A broken sprag could conceivably prevent the clutch from overrunning when entering autorotation. Until the clutch in this aircraft has been replaced, do not enter practice autorotations by rapidly closing or "chopping" the throttle. "Chopping" the throttle could result in a sudden loss of rotor RPM if the clutch failed to disengage.

Enter autorotation by first lowering collective and then rolling off just enough throttle to produce a small visible split between the rotor and engine tachometer needles. If the clutch fails to disengage, immediately complete a power recovery. Perform hovering autos only after checking the function of the overrunning sprag clutch prior to lift-off, then smoothly rolling off the throttle from a low hover with the skids no more than two feet above the ground.

Be sure to perform the sprag clutch check (split tach needles) before every flight, not just the first flight of the day.

PRIORITY LETTER AIRWORTHINESS DIRECTIVE

(b) 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 a FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

NOTE 2: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) Priority Letter AD 99-07-18, issued March 26, 1999, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 42

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-035 REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-07-17.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-07-17.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-07-17, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-07-17.

Gyldighetsdato:

1999-05-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference FAR Subpart 39.3).

99-07-17 ROBINSON HELICOPTER COMPANY: Amendment 39-11126. Docket No. 99-SW-24-AD.

Applicability: Model R22 helicopters, serial numbers (S/N) 0002 through 2862, with sprag clutch, part number (P/N) A188-2, S/N's 3708 through 3757, 3808 through 3893, and 3908 through 4207, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required before further flight, unless accomplished previously.

To alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to failure of the sprags within the sprag clutch assembly, and loss of main rotor revolutions-per-minute, accomplish the following:

(a) Insert either the Special Pilot Caution, revised March 22, 1999, which is contained in Robinson Helicopter Company R22 Service Bulletin SB-85, dated March 22, 1999, or the following Special Pilot Caution paragraphs, into the Normal Procedures section of the Rotorcraft Flight Manual, between pages P.4-8 and P.4-9:

SPECIAL PILOT CAUTION

Some sprags in overrunning clutches have been found cracked in service. A broken sprag could conceivably prevent the clutch from overrunning when entering autorotation. Until the clutch in this aircraft has been replaced, do not enter practice autorotations by rapidly closing or "chopping" the throttle. "Chopping" the throttle could result in a sudden loss of rotor RPM if the clutch failed to disengage.

Enter autorotation by first lowering collective and then rolling off just enough throttle to produce a small visible split between the rotor and engine tachometer needles. If the clutch fails to disengage, immediately complete a power recovery. Perform hovering autos only after checking the function of the overrunning sprag clutch prior to lift-off, then smoothly rolling off the throttle from a low hover with the skids no more than two feet above the ground.

Be sure to perform the sprag clutch check (split tach needles) before every flight, not just the first flight of the day.

(b) 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 2: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on April 28, 1999 to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-17, issued March 26, 1999, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT:
Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

AD's are posted on the internet at http://av-info.faa.gov

LUFTFARTSVERKET
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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 43

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-045 TEMPORÆR REVISJON AV FLIGHT MANUAL

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-07-18.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-07-18.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-07-18, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-07-18.

Gyldighetsdato:

1999-06-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation
Administration

99-07-18 ROBINSON HELICOPTER COMPANY: Amendment 39-11127. Docket No. 99-SW-25-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0541, 0543, 0556, and 0565, with sprag clutch, part number (P/N) C188-3, S/N's 0003 through 0452, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required before further flight, unless accomplished previously.

To alert pilots of the potential for the sprag clutch failing to overrun during autorotation due to failure of the sprags within the sprag clutch assembly, and loss of main rotor revolutions-per-minute, accomplish the following:

(a) Insert either the Special Pilot Caution, revised March 22, 1999, which is contained in Robinson Helicopter Company R44 Service Bulletin SB-32, dated March 22, 1999, or the following Special Pilot Caution paragraphs, into the Normal Procedures section of the Rotorcraft Flight Manual, between pages P.4-8 and P.4-9:

SPECIAL PILOT CAUTION

Some sprags in overrunning clutches have been found cracked in service. A broken sprag could conceivably prevent the clutch from overrunning when entering autorotation. Until the clutch in this aircraft has been replaced, do not enter practice autorotations by rapidly closing or "chopping" the throttle. "Chopping" the throttle could result in a sudden loss of rotor RPM if the clutch failed to disengage.

Enter autorotation by first lowering collective and then rolling off just enough throttle to produce a small visible split between the rotor and engine tachometer needles. If the clutch fails to disengage, immediately complete a power recovery. Perform hovering autos only after checking the function of the overrunning sprag clutch prior to lift-off, then smoothly rolling off the throttle from a low hover with the skids no more than two feet above the ground.

Be sure to perform the sprag clutch check (split tach needles) before every flight, not just the first flight of the day.

(b) 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 a FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Los Angeles Aircraft Certification Office.

NOTE 2: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on April 28, 1999 to all persons except those persons to whom it was made immediately effective by Priority Letter AD 99-07-18, issued March 26, 1999, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT:
Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

AD's are posted on the internet at http://av-info.faa.gov

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 45

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-077 INSPEKSJON AV YOKE ASSEMBLY.

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-17-17.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-17-17.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-17-17, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-17-17.

Gyldighetsdato:

1999-09-01.

EMERGENCY
PRIORITY LETTER AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
**Federal Aviation
Administration**

DATE: August 13, 1999
99-17-17

This Emergency Priority Letter Airworthiness Directive (AD) is prompted by an incident in which, during cruise flight, the pilot heard a loud bang and noticed no tail rotor effectivity after entering autorotation. An investigation revealed that the yoke assembly, part number (P/N) C908-1C, which connects the main rotor gearbox pinion shaft to the forward flexplate, had failed at a weld joint due to a crack. The cause of the crack is unknown but still under investigation. Robinson Helicopter Company (RHC) has identified the manufacturing lots associated with the failed yoke. Failure of the yoke assembly could result in loss of main and tail rotor drive and subsequent loss of control of the helicopter.

The FAA has reviewed RHC R44 Service Bulletin SB-35, dated July 26, 1999, which prescribes procedures for identifying the manufacturing lot for each yoke assembly, P/N C908-1C, and for removing and replacing the yoke assembly.

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, prior to further flight, replacing the yoke assembly, P/N C908-1C, from Lot Nos. 36B, 37, and 38, with an airworthy yoke.

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 emergency priority letter AD.

99-17-17 ROBINSON HELICOPTER COMPANY: Docket No. 99-SW-46-AD. Issued August 13, 1999.

Applicability: Model R44 helicopters, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required prior to further flight, unless accomplished previously.

To prevent failure of the yoke assembly, which could result in loss of main and tail rotor drive and subsequent loss of control of the helicopter, accomplish the following:

(a) Determine, by inspection, if the yoke assembly, part number (P/N) C908-1C, from Lot No. 36B, 37, or 38 is installed.

NOTE 2: Yoke assemblies, P/N C908-1C, from Lot Nos. 36B, 37, and 38 were installed as original equipment in R44 helicopters, Serial Numbers (S/N) 0219 and 0535 through 0608 (except S/N's 0565, 0582, and 0592).

(b) Replace any yoke assembly, P/N C908-1C, from Lot No. 36B, 37, or 38, with an airworthy yoke assembly from a lot other than 36B, 37, or 38 in accordance with the compliance procedure, steps 2 through 12, of Robinson Helicopter Company R44 Service Bulletin SB-35, dated July 26, 1999.

(c) 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 3: 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.

(d) Special flight permits will not be issued.

(e) Copies of the applicable service information may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

(f) Emergency Priority Letter AD 99-17-17, issued August 13, 1999, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, Propulsion Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5265, fax (562) 627-5210.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 46

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

99-091 UTSKIFTING AV "GRIP ASSEMBLY".

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 99-23-01.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 99-23-01.

Anm.: Kansellerer LDP 98-102 (AD 98-21-36)

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 99-23-01, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 99-23-01.

Gyldighetsdato:

1999-12-01.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
Federal Aviation Administration

99-23-01 ROBINSON HELICOPTER COMPANY: Amendment 39-11397. Docket No. 99-SW-12-AD. Issued October 26, 1999 Supersedes AD 98-21-36, Amendment 39-10845, Docket No. 97-SW-01-AD.

Applicability: Model R44 helicopters, serial numbers (S/N) 0001 through 0159, except S/N's 0143, 0150, and 0156, with pilot's cyclic control grip assembly (grip assembly), part number (P/N) A756-6, Revision N or prior revision, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Within 25 hours time-in-service or 30 calendar days, whichever occurs first, unless accomplished previously.

To prevent use of a grip assembly that may crack, resulting in failure of the grip assembly and subsequent loss of control of the helicopter, accomplish the following:

(a) Remove the grip assembly, P/N A756-6, Revision A through N, and replace it with an airworthy grip assembly other than P/N A756-6, Revision A through N.

NOTE 2: Robinson KI-112 R44 Pilot's Grip Assembly Upgrade Kit instructions, dated December 20, 1996, pertain to the subject of this AD.

(b) 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. 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 3: 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.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) This amendment becomes effective on December 8, 1999.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 47

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartsverket følgende forskrift om luftdyktighet.

2000-029 "FUEL LINE ASSEMBLY"

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 2000-07-03.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2000-07-03.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 2000-07-03, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2000-07-03.

Gyldighetsdato:

2000-05-25.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
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OKLAHOMA CITY, OKLAHOMA 73125-0460

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2000-07-03 ROBINSON HELICOPTER COMPANY: Amendment 39-11657. Docket No. 99-SW-08-AD.

Applicability: Model R44 helicopters, serial numbers 0002 through 0462, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required within 100 hours time-in-service or 90 calendar days after the effective date of this AD, whichever occurs first, unless accomplished previously.

To prevent contact between the wire harness and the fuel line assembly, which could result in chafing of the wire harness and a potential fire hazard, accomplish the following:

(a) Remove the cover, part number (P/N) C474-1, from between the rear seatbacks.

(b) Inspect the wire harness, P/N C059, and the fuel line assembly, P/N C726-2, above the fuel shutoff valve for contact. If the wire harness contacts the fuel line assembly, inspect for chafing.

(c) If chafing has occurred between the wire harness and the fuel line assembly, replace the fuel line with an airworthy fuel line assembly. Torque the fuel line nuts to 110-130 in-lbs. Verify that clearance exists between the fuel line assembly and the wire harness.

(d) Install a 3-inch section of spiral wrap tubing, P/N B161-8, on the fuel line assembly as shown in Figure 1. Push the spiral wrap tubing down until it is against the fuel line fitting.

NOTE 2: Robinson Helicopter Company Service Bulletin SB-31, dated October 28, 1998, pertains to the subject of this AD.

NOTE 3: Advisory Circular 43.13-1B, Chapter 11, describes procedures acceptable for replacing the wire harness if required.

(e) 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. 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 4: 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.

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(g) This amendment becomes effective on May 11, 2000.

FOR FURTHER INFORMATION CONTACT:
Elizabeth Bumann, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5265; fax (562) 627-5210.

Issued in Fort Worth, Texas, on March 28, 2000.
Henry A. Armstrong, Manager, Rotorcraft Directorate, Aircraft Certification Service.

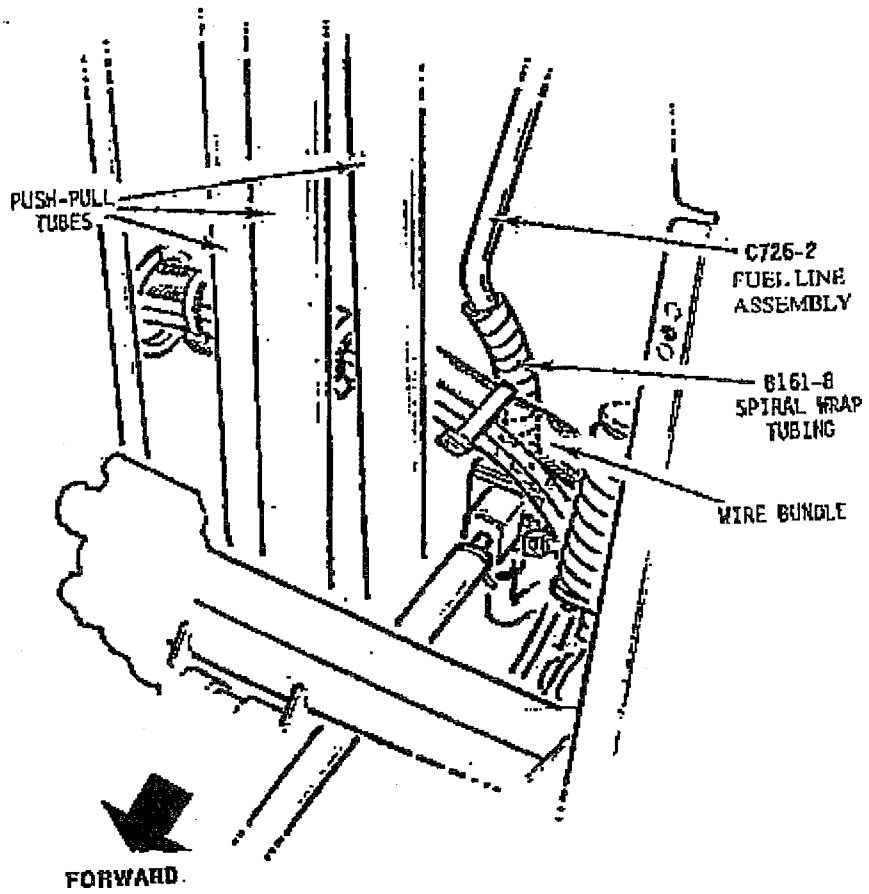
PUSH-PULL
TUBES
C726-2
FUEL LINE
ASSEMBLY
8161-8
SPIRAL WRAP
TUBING
WIRE BUNDLE
FORWARD

FIGURE 1

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 48

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2000-039 UTSKIFTING AV "SPRAG CLUTCH"

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 2000-08-04.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2000-08-04.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 2000-08-04, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2000-08-04.

Gyldighetsdato:

2000-06-09.

AIRWORTHINESS DIRECTIVE

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OKLAHOMA CITY, OKLAHOMA 73125-0460

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**Federal Aviation
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2000-08-04 ROBINSON HELICOPTER COMPANY: Amendment 39-11690. Docket No. 99-SW-70-AD.

Applicability: Model R44 Helicopters, serial number (S/N) 0001 through 0541, inclusive, 0543, 0550, 0556, and 0565 with sprag clutch, part number (P/N) C188-3, S/N 0003 through 0505, inclusive, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Within 30 calendar days or 50 hours time-in-service, whichever occurs first, unless accomplished previously.

To prevent sprag clutch failure, loss of main rotor RPM during autorotation, and subsequent loss of control of the helicopter, accomplish the following:

(a) Replace sprag clutch, P/N C188-3, S/N 0003 through 0505, inclusive, with sprag clutch P/N C188-3, S/N 0506 or higher.

(b) Remove from the Rotorcraft Flight Manual the Special Pilot Caution, dated March 22, 1999, contained in Robinson Helicopter Company R44 Service Bulletin SB-32 dated March 22, 1999, or the Special Pilot Caution insert in the Normal Procedures Section of the Rotorcraft Flight Manual between pages P.4-8 and P.4-9 required by AD 99-07-18, Docket No. 99-SW-25-AD, Amendment 39-11127 (64 FR 17964, April 13, 1999), as applicable.

(c) 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. 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on May 4, 2000.

FOR FURTHER INFORMATION CONTACT:
Elizabeth Bumann, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5265; fax (562) 627-5210.

Issued in Fort Worth, Texas, on April 10, 2000.
Henry A. Armstrong, Manager, Rotorcraft Directorate, Aircraft Certification Service.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 49

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2000-040 UTSKIFTING AV "SPRAG CLUTCH"

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptre, som beskrevet i vedlagte kopi av FAA AD 2000-08-09.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2000-08-09.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 2000-08-09, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2000-08-09.

Gyldighetsdato:

2000-06-09.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
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OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
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**Federal Aviation
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The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2000-08-09 **ROBINSON HELICOPTER COMPANY**: Amendment 39-11695. Docket No. 99-SW-69-AD.

Applicability: Model R22 Helicopters, serial numbers (S/N) 0002 through 2862, inclusive, with sprag clutch, part number (P/N) A188-2, S/N 3708 through 3757 inclusive, 3808 through 3893 inclusive, and 3908 through 4207 inclusive, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required within 30 calendar days or 50 hours time-in-service, whichever occurs first, unless accomplished previously.

To prevent sprag clutch failure, loss of main rotor RPM during autorotation, and subsequent loss of control of the helicopter, accomplish the following:

(a) Replace sprag clutch, P/N A188-2, S/N 3708 through 3757 inclusive, 3808 through 3893 inclusive, and 3908 through 4207 inclusive, with sprag clutch, P/N A188-2, S/N 4208 or higher.

(b) Remove from the Rotorcraft Flight Manual the Special Pilot Caution, revised March 22, 1999, contained in Robinson Helicopter Company R22 Service Bulletin SB-85, dated March 22, 1999, or the Special Pilot Caution insert in the Normal Procedures Section of the Rotorcraft Flight Manual between pages P.4-8 and P.4-9 required by AD 99-07-17, Docket No. 99-SW-24-AD, Amendment 39-11126 (64 FR 17966, April 13, 1999), as applicable.

(c) 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. 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 2: 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.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on May 5, 2000.

FOR FURTHER INFORMATION CONTACT:
Elizabeth Bumann, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5265; fax (562) 627-5210.

Issued in Fort Worth, Texas, on April 14, 2000.
Eric Bries, Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 50

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2000-072 SPREKKONTROLL AV "YOKE"

Påbudet gjelder:

Robinson Helicopter Company R22 helikoptre, som beskrevet i vedlagte kopi av FAA AD 2000-20-51.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2000-20-51.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 2000-20-51, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2000-20-51.

Gyldighetsdato:

2000-11-08.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

2000-20-51 ROBINSON HELICOPTER COMPANY: Docket No. 2000-SW-51-AD.

Applicability: Model R22 helicopters, with a yoke half assembly (yoke), Part number (P/N) A203-5, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of a yoke, separation of a yoke from the main rotor drive shaft, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight and thereafter before the first flight of each day, check each yoke for a crack. See Figure A.

(b) If a yoke is cracked, before further flight, replace the yokes with airworthy yokes, P/N A203-7. Both yokes must be replaced with yokes, P/N A203-7.

(c) Before further flight after January 1, 2001,

(1) Determine the Lot identifier of each yoke.

(2) If the Lot identifier is from 24 through 43, if it is a letter code, or if it is illegible, replace yokes, P/N A203-5, with airworthy yokes, P/N A203-7. Yoke, P/N A203-7, cannot be installed with yoke, P/N A203-5.

NOTE 2: Robinson Helicopter Company R22 Service Bulletin SB-88A, dated September 13, 2000, pertains to the subject of this AD.

(d) The visual check required by paragraph (a) may be performed by an owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with paragraph (a) in accordance with 14 CFR 43.11 and 91.417(a)(2)(v).

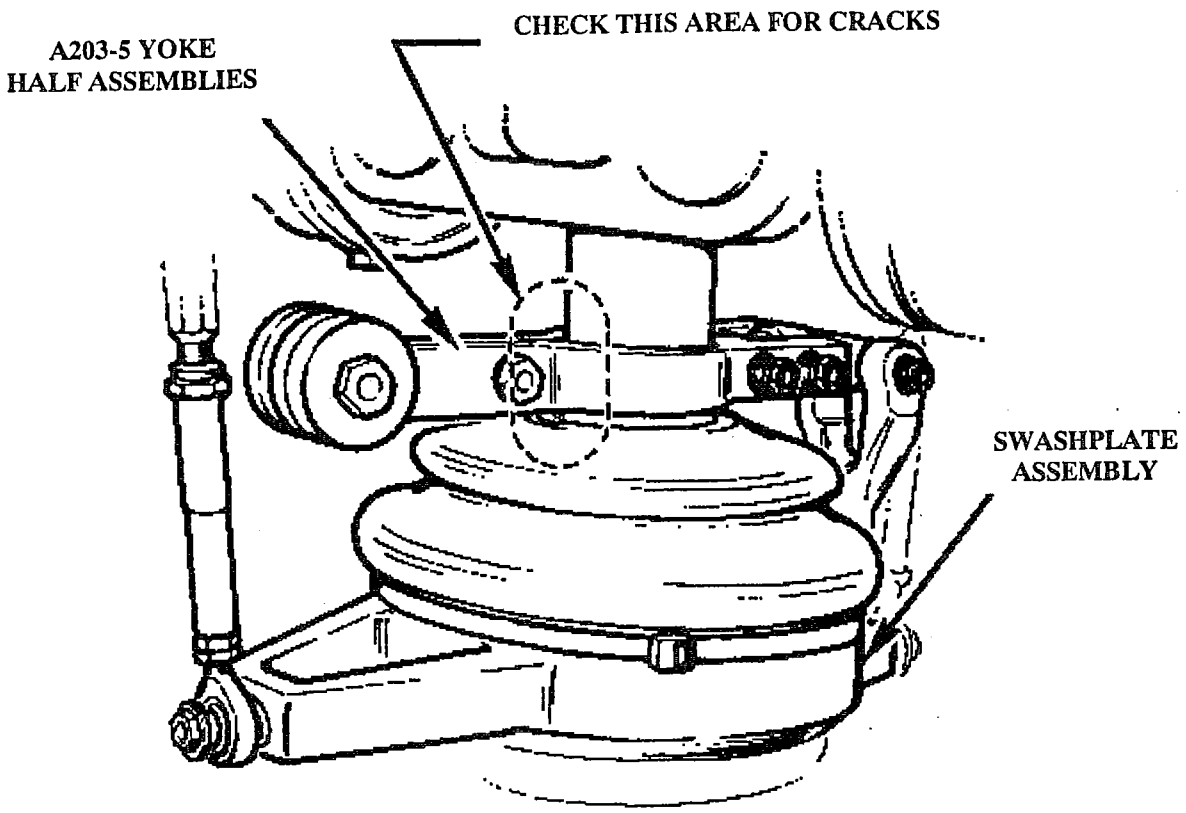

Figure A

(e) Determining that the installed yokes, P/N A203-5, are not in the lots affected by this AD, or replacing yokes, P/N A203-5, with yokes, P/N A203-7, is terminating action for the requirements 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 2: 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) **Emergency AD 2000-20-51, issued October 4, 2000, becomes effective upon receipt.**

FOR FURTHER INFORMATION CONTACT: Fredrick A. Guerin, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

Issued in Fort Worth, Texas, on October 4, 2000.
Henry A. Armstrong, Manager, Rotorcraft Directorate, Aircraft Certification Service.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 51

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2001-063 KONTROLL AV HORISONTAL STABILISATOR ASSEMBLY

Påbudet gjelder:

Robinson Helicopter Company R44 helikoptre, som beskrevet i vedlagte kopi av FAA AD 2001-20-18.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2001-20-18.

Tid for utførelse:

Til de tider som beskrevet i vedlagte kopi av FAA AD 2001-20-18, med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2001-20-18.

Gyldighetsdato:

2001-11-08.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-20-18 Robinson Helicopter Company: Amendment 39-12466. Docket No. 2000-SW-67-AD.

Applicability: Model R44 helicopters, with horizontal stabilizer assembly (assembly), part number (P/N) C044-1; horizontal stabilizer serial number (S/N) 0009 through 0224, except S/N 0018, 0090, 0094, 0111, 0129, 0144, 0161, 0178, 0201, and 0223, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent a crack through a vertical-to-horizontal stabilizer attach channel (channel), which can cause separation of the stabilizers and subsequent loss of control of the helicopter, accomplish the following:

(a) Before accumulating 2200 hours time-in-service (TIS) on the assembly:

(1) Remove the vertical stabilizer to inspect the nutplate on channels, P/N D283-1 and -2.

(2) If the nutplates are P/N MS21086L4, no further action is required by this AD.

(3) If the nutplates are P/N NAS697A4, replace the channels with airworthy channels, P/N D296-1 or -2.

Note 2: Robinson Helicopter Company Service Bulletin SB-39, dated September 12, 2000, pertains to the subject of this AD.

(b) This AD revises the Limitations section of the maintenance manual by establishing a retirement life of 2200 hours TIS for assembly, P/N CO44-1, with channels, P/N D283-1 or -2, with nutplates, P/N NAS697A4, installed.

(c) 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 (LAACO), FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, LAACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the LAACO.

(d) Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on November 19, 2001.

Issued in Fort Worth, Texas, on October 3, 2001.

Mark R. Schilling,

Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 01-25693 Filed 10-12-01; 8:45 am]

BILLING CODE 4910-13-P

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 52

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2002-08 BYTTE AV BATTERY HOLD DOWN RODS.

Påbudet gjelder:

Robinson Helicopter Company R44 helikopter med 28 volts elektrisk anlegg.

Påbudet omfatter:

For å hindre at batteri innfestingen ryker ved et eventuelt havari skal
Battery Hold Down Rod med P/N A923-5 Revision A til I (inboard)
byttes til P/N A923-5 Revision J eller senere revisjon og
Battery Hold Down Rod med P/N A923-6 Revision A til I (outboard)
byttes til P/N A923-6 Revision J eller senere revisjon.

Lagerførte Battery Hold Down Rods P/N A923-5 / -6 med Revision A til I kan ikke brukes på norsk registrerte luftfartøy.

Tid for utførelse:

Innen 2002-04-03.

Referanse:

Luftfartstilsynet, luftdyktighetsseksjonen. 1TL.

Gyldighetsdato:

2002-01-04.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 53

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2003-021 HALEROTORENS "PITCH CONTROL BEARING"

Påbudet gjelder:

Robinson Helicopter Company R44 helikopter som har serienummer som listet i vedlagte kopi av FAA AD 2003-04-05.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2003-04-05.

Tid for utførelse:

Til de tider og etter de intervaller som beskrevet i vedlagte kopi av FAA AD 2003-04-05.

Referanse:

FAA AD 2003-04-05.

Gyldighetsdato:

2003-04-03.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-04-05 Robinson Helicopter Company: Amendment 39-13053. Docket No. 2001-SW-45-AD.

Applicability: Model R44 helicopters, up to and including serial number 1208, except serial numbers 1143, 1165, 1183, 1189, 1192, 1196, 1197, 1198, 1200, 1203, and 1204, with pitch control assembly, part number (P/N) C031-1, Revision G or prior, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect corrosion of a tail rotor pitch control bearing (bearing) and to prevent bearing failure and subsequent loss of directional control of the helicopter, accomplish the following:

(a) Within 20 hours time-in-service (TIS) and thereafter at intervals not to exceed 300 hours TIS or 12 months, whichever occurs first, inspect the pitch control assembly for roughness or binding of the pitch control bearings by hand rotating the pitch control bearing housing (housing) in accordance with Robinson Helicopter Company Service Bulletin SB-43A, Revision A, dated June 10, 2002. If the housing does not rotate freely, before further flight, replace the unairworthy pitch control assembly with an airworthy unit.

(b) 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 (LAACO), FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, LAACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the LAACO.

(c) Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) The inspection of the pitch control assembly shall be done in accordance with Robinson Helicopter Company Service Bulletin SB-43A, Revision A, dated June 10, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505, telephone (310) 539-0508, fax (310) 539-5198. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(e) This amendment becomes effective on March 26, 2003.

Issued in Fort Worth, Texas, on February 6, 2003.
David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 03-3773 Filed 2-18-03; 8:45 am]
BILLING CODE 4910-13-P

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 54

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, kap. XV § 15-4 jf. kap. IV § 4-1 og Samferdselsdepartementets bemyndigelse av 25. mars 1994, fastsetter Luftfartstilsynet følgende forskrift om luftdyktighet.

2003-022 HALEROTORENS "PITCH CONTROL BEARING"

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som har serienummer som listet i vedlagte kopi av FAA AD 2003-04-04.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2003-04-04.

Tid for utførelse:

Til de tider og etter de intervaller som beskrevet i vedlagte kopi av FAA AD 2003-04-04.

Referanse:

FAA AD 2003-04-04.

Gyldighetsdato:

2003-04-03.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-04-04 Robinson Helicopter Company: Amendment 39-13052. Docket No. 2001-SW-44-AD.

Applicability: Model R22 helicopters, up to and including serial number 3328, except serial numbers 3167, 3326, and 3327, with pitch control assembly, part number (P/N) A031-1, Revision J or prior, 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 otherwise 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 request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect corrosion of a tail rotor pitch control bearing (bearing) and to prevent bearing failure and loss of directional control of the helicopter, accomplish the following:

(a) Within 20 hours time-in-service (TIS) and thereafter at intervals not to exceed 300 hours TIS or 12 months, whichever occurs first, inspect the pitch control assembly for roughness or binding of the pitch control bearings by hand-rotating the pitch control bearing housing (housing) in accordance with Robinson Helicopter Company Service Bulletin SB-90A, Revision A, dated June 10, 2002. If the housing does not rotate freely, before further flight, replace the unairworthy pitch control assembly with an airworthy unit.

(b) 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 (LAACO), FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, LAACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the LAACO.

(c) Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(d) The inspection of the pitch control assembly shall be done in accordance with Robinson Helicopter Company Service Bulletin SB-90A, Revision A, dated June 10, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505, telephone (310) 539-0508, fax (310) 539-5198. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

(e) This amendment becomes effective on March 26, 2003.

Issued in Fort Worth, Texas, on February 6, 2003.
David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 03-3772 Filed 2-18-03; 8:45 am]
BILLING CODE 4910-13-P

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 55

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2004-003 KONTROLL AV BOLT SOM SIKRER DELER AV HOVEDROTORENS SWASHPLATE OG FESTER HOVEDROTORBLADET

Påbudet gjelder:

Robinson Helicopter Company R44 helikopter som beskrevet i vedlagte kopi av FAA AD 2003-24-51.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2003-24-51.

Tid for utførelse:

Til de tider og etter de intervaller som beskrevet i vedlagte kopi av FAA AD 2003-24-51.

Referanse:

FAA AD 2003-24-51.

Gyldighetsdato:

2004-01-30.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EMERGENCY AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post Emergency ADs on the internet at "www.faa.gov"

DATE: November 28, 2003
AD #: 2003-24-51

Send to all U.S. owners and operators of Robinson Helicopter Company (RHC) Model R44 and R44 II helicopters.

This Emergency Airworthiness Directive (AD) is prompted by a report of the failure of the bolt that secures parts of the main rotor swashplate and attaches the tail rotor blade. An examination revealed that the bolt failed due to hydrogen embrittlement. Hydrogen embrittlement is suspected to have occurred during the cadmium plating process of an entire batch of bolts, which makes the batch suspect. This condition, if not corrected, could result in failure of the bolt that secures parts of the main rotor swashplate and attaches the tail rotor blade, and subsequent loss of control of the helicopter.

The FAA has reviewed RHC Service Bulletin No. SB-51, dated November 24, 2003, that describes a daily preflight inspection and replacement of bolt, part number (P/N) NAS6605-31.

This unsafe condition is likely to exist or develop on other helicopters of the same type design. Therefore, this AD requires, the following:

- Determining if maintenance has been performed on certain areas of the helicopter, determining if any bolt, P/N NAS6605-31, has been replaced, determining if the bolt vendor identification is 01DO, and determining the helicopter serial number.
- Visually inspecting and replacing if necessary, any unairworthy bolt before further flight and before the first flight each day of operation.
- Replacing certain bolts within 10 hours time-in-service or by December 31, 2003, whichever occurs first.

The AD also makes any bolt, P/N NAS6605-31, with vendor identification marking 01DO on the bolt head, ineligible for installation on any helicopter.

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 emergency AD.

2003-24-51 ROBINSON HELICOPTER COMPANY: Docket No. 2003-SW-48-AD.

Applicability: Model R44 and R44 II helicopters, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the bolt that secures parts of the main rotor swashplate and attaches the tail rotor blade, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight, for all R44 and R44 II helicopters except those serial numbers (S/N) specified in paragraph (c) of this AD:

(1) Determine if maintenance has been performed after February 7, 2003 on the areas specified in Figure 1 of this AD, and determine if any bolt, part number (P/N) NAS6605-31, shown in Figure 1 has been replaced for any reason.

(2) If any bolt has been replaced, or if it is uncertain whether any bolt has been replaced after February 7, 2003, remove the paint from the bolt head to reveal the vendor identification marking. Determine if the bolt vendor identification is 01DO.

(b) If the bolt vendor identification is 01DO in step (a)(2) of this AD, comply with paragraphs (d) and (e) of this AD.

(c) The following R44 and R44 II helicopters must comply with paragraphs (d) and (e) of this AD:

(1) Model R44 helicopters, S/N 0210, 0565, 0641, 0987, and 1312 through 1349, except 1345 and 1346, and

(2) Model R44 II helicopters, S/N 10010, 10062, and 10083 through 10212, except 10092, 10173, 10204, 10207, 10210, and 10211.

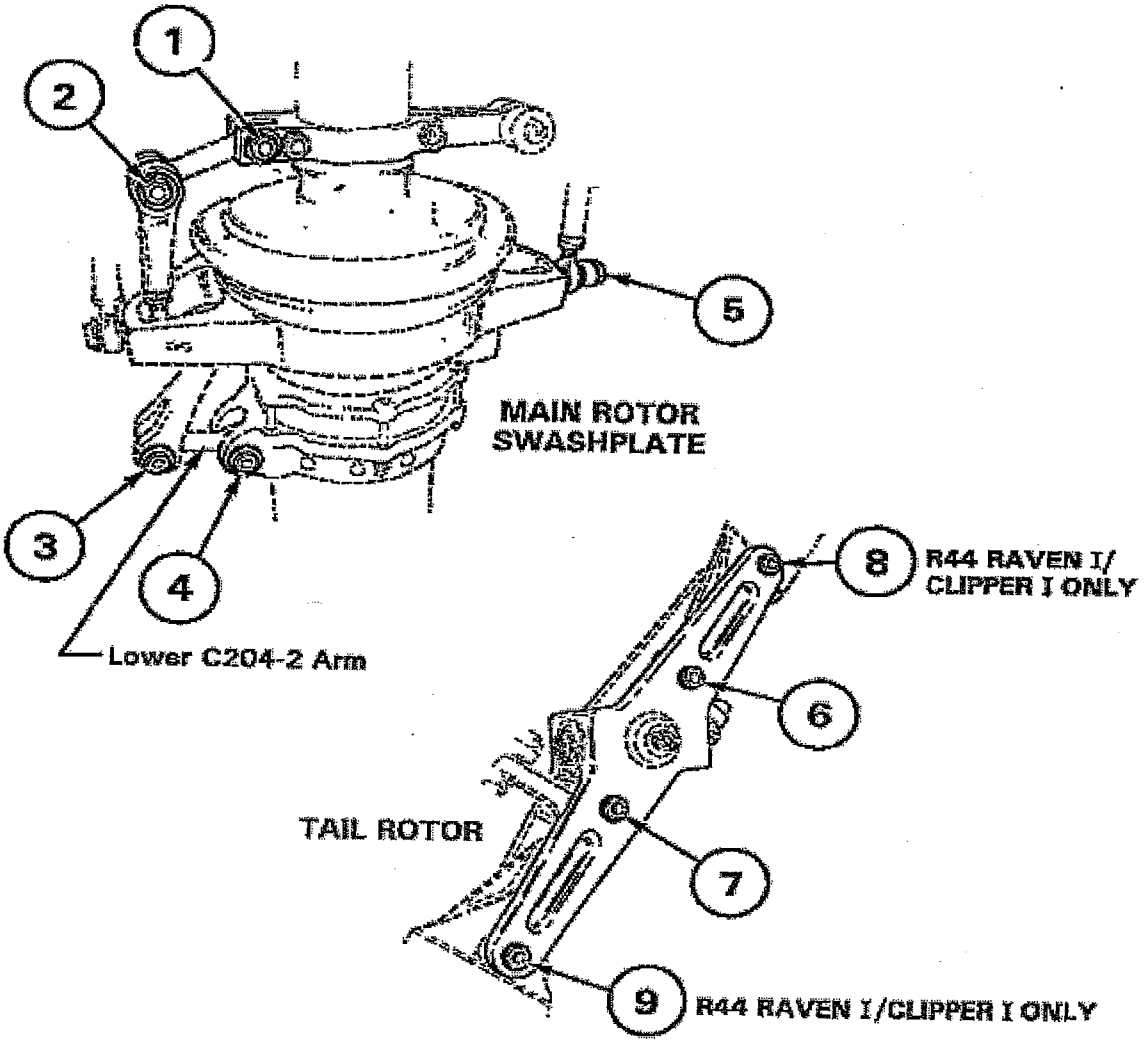
(d) For the helicopters specified in paragraphs (b) and (c) of this AD, before further flight, and before first flight each day of operation, do the following:

(1) Visually inspect each bolt for fretting residue under the bolt head, which indicates a loose, potentially cracked bolt.

(2) Apply 10-15 ft-lb (13-20 Nm) torque to each bolt head and verify no rotation. See Figure 1 of this AD.

(3) If residue or rotation of the bolt is found, before further flight, replace each unairworthy bolt with an airworthy bolt that does not have a vendor identification marking of 01DO.

Note 1: Robinson Helicopter Company Service Bulletin SB-51, dated November 24, 2003, pertains to the subject of this AD.



Suspect NAS6605-31 Bolts
9 Place on R44
7 Places on R44 II

Figure 1

(e) For the helicopters specified in paragraphs (b) and (c) of this AD, within 10 hours time-in-service or by December 31, 2003, whichever occurs first, replace each bolt, P/N NAS6605-31, that has vendor identification marking 01DO on the bolt head, with an airworthy bolt, P/N NAS6605-31, that has an alternate vendor identification marking.

(f) Bolt, P/N NAS6605-31, with vendor identification marking 01DO on the bolt head, is NOT ELIGIBLE for installation on any helicopter.

(g) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Los Angeles Aircraft Certification Office, FAA, for information about previously approved alternative methods of compliance.

(h) **Emergency AD 2003-24-51, issued November 28, 2003, becomes effective upon receipt.**

FOR FURTHER INFORMATION CONTACT: Fred Guerin, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232, fax (562) 627-5210.

Issued in Fort Worth, Texas, on November 28, 2003.

Larry M. Kelly,
Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 56

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2004-028 KONTROLL/UTSKIFTING AV HOVEDROTORBLAD

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av FAA AD 2004-06-52.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2004-06-52.

Tid for utførelse:

Til de tider og som beskrevet i vedlagte kopi av FAA AD 2004-06-52.

Referanse:

FAA AD 2004-06-52.

Gyldighetsdato:

2004-04-13.

2004-06-52 ROBINSON HELICOPTER COMPANY: Docket No. 2004-SW-01-AD.

Applicability: Model R22, R22 Alpha, R22 Beta, and R22 Mariner helicopters, with a main rotor blade (blade), part number (P/N) A016-1 or A016-2, installed, certificated in any category.

Compliance: Required as indicated.

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

(a) Within 10 hours time-in-service (TIS) or 30 days, whichever occurs first, for helicopters with blades that are 5 years old or have 1,000 hours TIS, track-and-balance the blades.

(b) Before further flight, if an abnormal increase in vibration occurs within 5 hours TIS after the last track-and-balance, replace the blades with airworthy blades other than blades, P/N A016-1.

(c) Within 10 hours TIS or 30 days, whichever occurs first, for helicopters with blades, P/N A016-1, replace the blades with airworthy blades other than blades, P/N A016-1. Compliance with the current life limit of 2,000 hours TIS for blade, P/N A016-1, is required.

(d) Within 10 hours TIS or 30 days, whichever occurs first, for helicopters with blades, P/N A016-2, replace the blades with airworthy blades other than blades, P/N A016-1, on or before reaching 2,200 hours TIS or 10 years, whichever occurs first.

(e) Within 10 hours TIS or 30 days, whichever occurs first, unless accomplished previously, revise the component history card or equivalent maintenance record for blades, P/N A016-2, by adding a10-year retirement life to the current 2,200 hours TIS retirement life.

(f) Within 10 hours TIS or 30 days, whichever occurs first, determine the age of each blade:

(1) For blades that have an Airworthiness Approval tag or a "yellow tag", the time begins on the date stated on the tag.

(2) For blades that have no tag, the time begins on the date stated on the original Airworthiness Certificate as documented in the aircraft maintenance logbook.

(g) This AD revises the Airworthiness Limitations section of the applicable maintenance manual by adding a new retirement life of 10 years to the current 2,200 hours TIS retirement life. The blades must be retired upon reaching 2,200 hours TIS or 10 years, whichever occurs first.

Note: Robinson Model R22 Maintenance Manual, dated January 16, 2004, contains the revised Airworthiness Limitations section.

(h) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Los Angeles Aircraft Certification Office, Transport Airplane Directorate, FAA, for information about previously approved alternative methods of compliance.

(i) Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished provided that abnormal vibration is not present.

(j) Emergency AD 2004-06-52, issued March 18, 2004, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Fred Guerin, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5232,
fax (562) 627-5210.

Issued in Fort Worth, Texas, on March 18, 2004.

S. Frances Cox, Acting Manager
Rotorcraft Directorate, Aircraft Certification Service

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 57

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2004-070 KONTROLL/UTSKIFTING AV HOVEDROTORBLAD

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av FAA AD 2004-19-09.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2004-19-09.

Anm.: Denne LDP erstatter og opphever LDP 2004-028.

Tid for utførelse:

Til de tider og som beskrevet i vedlagte kopi av FAA AD 2004-19-09.

Referanse:

FAA AD 2004-19-09.

Gyldighetsdato:

2004-12-01.

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-19-09 Robinson Helicopter Company: Amendment 39-13803. Docket No. 2004-SW-15-AD. Supersedes Emergency AD 2004-06-52, Docket No. 2004-SW-01-AD.

Applicability: Model R22-series helicopters, with a main rotor blade (blade), part number (P/N) A016-1 or A016-2, installed, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

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

(a) Within 10 hours time-in-service (TIS) or 30 days, whichever occurs first, for helicopters with blades, P/N A016-2, that are 5 or more years old, or have 1,000 or more hours TIS, track-and-balance the blades. If an abnormal increase in vibration occurs within 5 hours TIS after the last track and balance, before further flight, replace the blades with airworthy blades, P/N A016-2, that are less than 10 years old and have less than 2,200 hours TIS, or airworthy blades, P/N A016-4, that are less than 12 years old and have less than 2,200 hours TIS.

(b) Within 10 hours TIS or 30 days, whichever occurs first, for helicopters with blades, P/N A016-1, replace the blades with airworthy blades, P/N A016-2 or A016-4.

(c) Within 10 hours TIS or 30 days, whichever occurs first, determine the age of each blade:

(1) For a zero-hour TIS (new) blade delivered with an Airworthiness Approval tag, the time begins on the date stated on that tag. For a blade older than 9 years that pre-dates the use of the Airworthiness Approval tag and was delivered as a new blade with a "yellow tag," the time begins on the date stated on that tag. Any subsequent yellow tag issued for a blade after the blade was placed into service is not valid for determining the original manufacture date.

(2) For a new blade that has neither an Airworthiness Approval tag nor a yellow tag because it was delivered on a factory-new helicopter, the time begins on the date stated on the original Airworthiness Certificate as documented in the aircraft maintenance records.

(3) For a new blade installed on an overhauled helicopter, the time begins on the date the helicopter was returned to service after overhaul as documented in the aircraft logbook or work report.

(4) For all other blades, the time begins on the date of manufacture. This date can be obtained from the manufacturer by providing them the serial number and part number.

(d) Within 10 hours TIS or 30 days, whichever occurs first, for helicopters with blades, P/N A016-2, replace the blades with airworthy blades on or before reaching 2,200 hours TIS or 10 years, whichever occurs first.

(e) Within 10 hours TIS or 30 days, whichever occurs first, revise the component history card or equivalent maintenance record for blades, P/N A016-2, by adding a 10-year retirement life to the current 2,200 hours TIS retirement life.

(f) Revise the Airworthiness Limitations section of the applicable maintenance manual by adding a new retirement life of 10 years to the current 2,200 hours TIS retirement life for blades, P/N A016-2.

Note: Robinson Model R22 Maintenance Manual, dated January 16, 2004, contains the revised Airworthiness Limitations section.

(g) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Los Angeles Aircraft Certification Office, Transport Airplane Directorate, FAA, for information about previously approved alternative methods of compliance.

(h) Special flight permits will not be issued.

(i) This amendment becomes effective on October 7, 2004.

Issued in Fort Worth, Texas, on September 16, 2004.
David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 04-21269 Filed 9-21-04; 8:45 am]
BILLING CODE 4910-13-P

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 58

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2005-062 KONTROLL AV DØRER I HELIKOPTER MODIFISERT I HENHOLD TIL STC SR09189RC

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av FAA AD 2005-16-05.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2005-16-05.

Tid for utførelse:

Til de tider og intervaller som beskrevet i vedlagte kopi av FAA AD 2005-16-05 med virkning fra denne LDP's gyldighetsdato.

Referanse:

FAA AD 2005-16-05.

Gyldighetsdato:

2005-11-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

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Administration

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-16-05 Robinson Helicopter Company: Amendment 39-14210. Docket No. FAA-2005-22026; Directorate Identifier 2005-SW-05-AD.

Applicability

Model R-22 series helicopters, modified with a door assembly manufactured by Tech-Tool Plastics, Inc., in accordance with STC No. SR09189RC, certificated in any category.

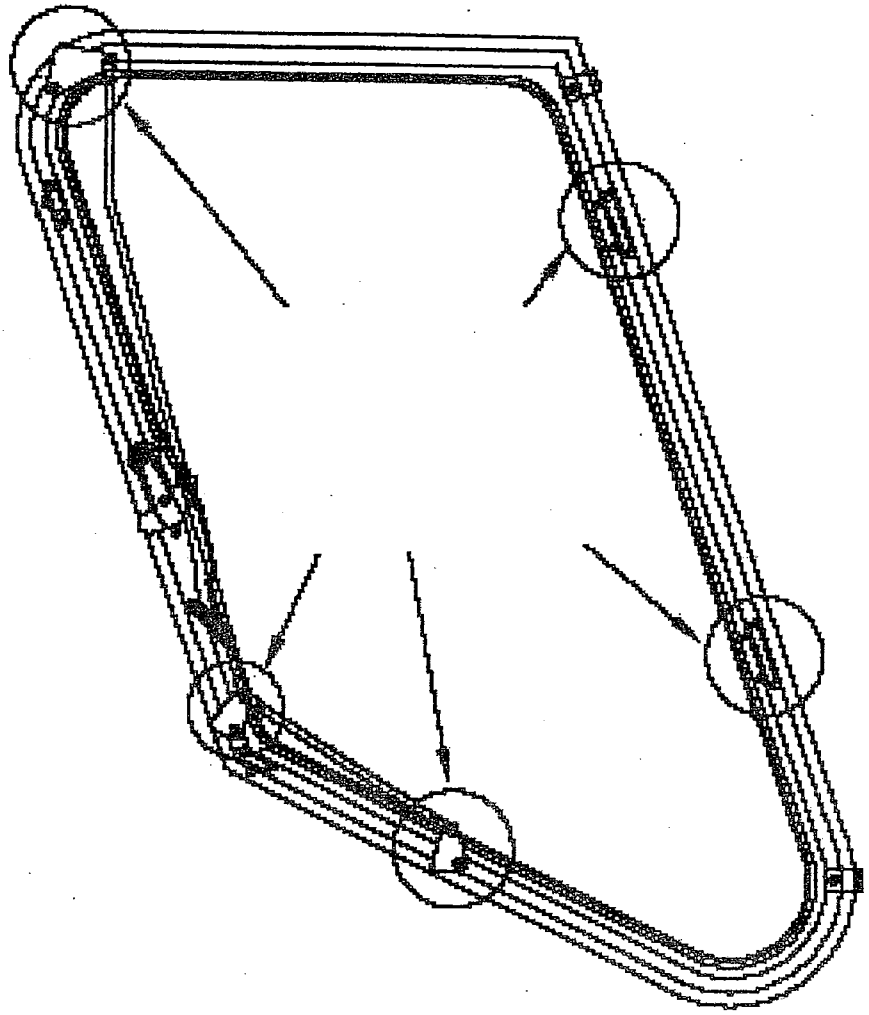
Compliance

Required as indicated, unless accomplished previously.

To prevent separation of a door window or door assembly from the helicopter, which could damage the tail rotor during flight and result in loss of control of the helicopter, accomplish the following:

(a) Within 30 days, inspect the left-hand and right-hand door assemblies as follows:

(1) Visually inspect each pilot and copilot door assembly integral frame for a crack in the locations depicted in Figure 1 of this AD. If a crack is found, before further flight, replace the cracked door assembly, part number (P/N) R-22-101-51 or P/N R-22-101-53 (left-hand door assembly), or P/N R-22-101-52 or P/N R-22-101-54 (right-hand door assembly), with an airworthy door assembly. If you use door assembly, P/N R-22-101-51 or P/N R-22-101-53 (left-hand door assembly), or P/N R-22-101-52 or P/N R-22-101-54 (right-hand door assembly) as the replacement, then install it in accordance with Tech-Tool Plastics, Inc. Installation Instructions TTP-1R, Revision A, dated November 21, 1997, and with the sections titled "Door Weather Seal Installation" and "Cotter Pin Installation" in Tech-Tool Plastics, Inc. Service Bulletin No. TTP2005-01, Revision A, dated February 1, 2005 (SB).



Door Assembly (left-hand shown) View Looking Outboard

Figure 1

(2) If no crack is found in any door assembly integral frame, do the following:

(i) Visually inspect the weather seal set in each door assembly to determine if it is airworthy and installed properly. If it is not airworthy, before further flight, replace it with either the weather seal set, P/N 74418X14L and P/N 74814X12BL, supplied by Tech-Tool Plastics, Inc., in accordance with the "Door Weather Seal Installation" section of the SB, or replace it with any other airworthy door weather seal set in accordance with the applicable FAA-approved installation instructions. If an airworthy weather seal set, P/N 74418X14L and P/N 74814X12BL, is not installed properly, before further flight, reinstall it in accordance with the "Door Weather Seal Installation" section of the SB. If the improperly installed weather seal set is not the weather seal set supplied by Tech-Tool Plastics, Inc., before further flight, reinstall it in accordance with the applicable FAA-approved installation instructions.

(ii) Visually inspect each door hinge on each door assembly to determine if the cotter pins, P/N MS24665-136, are installed in accordance with the "Cotter Pin Installation" section of the SB. If a cotter pin is not installed in accordance with the "Cotter Pin Installation" section of the SB, before further flight, install the cotter pins in accordance with the "Cotter Pin Installation" section of the SB.

Note: The installation of nylon adjustment screws and the trimming of door assembly edges are important maintenance actions that may reduce the strength of a door assembly if not done properly.

(b) After accomplishing the inspections in paragraphs (a) through (a)(2)(ii) of this AD, at intervals not to exceed 100 hours time-in-service, visually inspect each pilot and copilot door assembly integral frame for a crack in the locations depicted in Figure 1 of this AD.

(c) If a crack is found, before further flight, replace the cracked door assembly, P/N R-22-101-51 or P/N R-22-101-53 (left-hand door assembly), or P/N R-22-101-52 or P/N R-22-101-54 (right-hand door assembly), with an airworthy door assembly. If the replacement door assembly is P/N R-22-101-51 or P/N R-22-101-53 (left-hand door assembly), or P/N R-22-101-52 or P/N R-22-101-54 (right-hand door assembly), then install it in accordance with Tech-Tool Plastics, Inc. Installation Instructions TTP-1R, Revision A, dated November 21, 1997, and "Door Weather Seal Installation" and "Cotter Pin Installation" sections of the SB.

(d) If any of the inspections required by this AD reveal a crack in any door assembly frame, report the following information to the FAA within 30 days after discovering the crack: a description of the crack and the specific helicopter model involved. You may submit your report via mail, Fax, or telephone to the FAA, ATTN: ASW-170 (Marc Belhumeur), 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5177, fax (817) 222-5783. Information collection requirements contained in this AD have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

(e) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Rotorcraft Certification Office, Rotorcraft Directorate, FAA, for information about previously approved alternative methods of compliance.

(f) The inspections, repairs and replacements, if necessary, shall be done in accordance with the specified portions of Tech-Tool Plastics, Inc. Installation Instructions TTP-1R, Revision A, dated November 21, 1997, which provides door assembly installation instructions, and the specified portions of Tech-Tool Plastics, Inc. Service Bulletin No. TTP2005-01, Revision A, dated February 1, 2005, which describes door weather seal and cotter pin installation procedures and door assembly inspection procedures. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Tech-Tool Plastics, Inc., 7800 Skyline Park Drive, Fort Worth, Texas, 76108; telephone: (817) 246-4694; fax: (817) 246-7402; E-mail: *info@tech-tool.com.*

(g) This amendment becomes effective on August 26, 2005.

Issued in Fort Worth, Texas, on July 29, 2005.
S. Frances Cox,
Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 05-15580 Filed 8-10-05; 8:45 am]
BILLING CODE 4910-13-P

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 59

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2005-063 UTSKIFTING AV ROTORBLADER

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av EASA AD 2005-0019.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av EASA AD 2005-0019.

Tid for utførelse:

Erstatt alle P/N A016-2 rotorblader med P/N A016-4 rotorblader i samsvar med Robinson Helicopter Company Service Bulletin SB-94 innen 1. desember 2005.

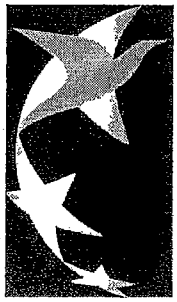
Referanse:

EASA AD 2005-0019.

Gyldighetsdato:

2005-11-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2005- 0019 Issue Date: 05 July 2005

This AD is issued by EASA representing the States of Registry for the affected aircraft.

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name	Type/Model designation(s)
Robinson Helicopter Company	R22/ All models

FAA TCDS H10WE

Foreign AD No.: None

Initial Issue.

	ATA 62/10 – Rotor Blades - Replacement

Manufacturer(s):	Robinson Helicopter Company
Applicability:	Robinson R-22, R22 ALPHA, R22 BETA, R22 MARINER, certificated in any category, equipped with Rotor blades P/N A016-2
Reason:	Several cases of P/N A016-2 Main Rotor Blade failure of have occurred. Some accidents were fatal. These blade failures were caused by fatigue cracks. Investigation showed that at least two of these blade failures were initiated by internal corrosion. No non-destructive testing inspection methods are available to discover such corrosion and the initiation of cracks. (Other fatigue cracks have been caused by overload of the rotor by exceeding manifold pressure limitations.) Fatigue cracking leads to a reduction in stiffness of the rotor blade, this in turn leads to an increase in vibration. The crack length increases within a short time and can ultimately lead to separation of the blade and consequent loss of aircraft control. In response to the above situation Robinson Helicopter Company released Service Bulletin SB-94 dated 14 December 2004. This Service Bulletin

	specifies the allowable compliance times, spare parts and working procedures for the replacement of P/N A016-2 blades. This airworthiness directive mandates compliance with SB-94, and revises the compliance timescales. The replacement blades with P/N A016-4 have an improved corrosion resistance and service life. SB-94 will be notified by the FAA via a Special Airworthiness Information Bulletin (SAIB).
Effective Date:	05 July 2005
Compliance:	Replace all P/N A016-2 rotor blades with P/N A016-4 rotor blades in accordance with Robinson Helicopter Company Service Bulletin SB-94 before 01 December 2005.
Ref. Publications:	R22 Service Bulletin SB-94, dated 14.12.2004. Robinson Helicopter Company 2901 Airport Drive Torrance California 90505 USA
Remarks:	This AD was posted for consultation as PAD 05-008 on 22 March 2005. Comments have been received and considered in the AD text. Enquiries with regard to this AD should be referred to Mr. M. Mazzoletti, EASA Certification Manager Rotorcraft, Balloons and Airships Unit, Certification Directorate: Massimo.Mazzoletti@easa.eu.int. For questions concerning R22 Service Bulletin SB-94, contact Robinson Helicopter Company, address as listed above. European Aviation Safety Agency Postfach 101253 D-50452 Köln, Germany

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 60

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2006-030 "MODIFICATION OF LANDING SKIDS"

Påbudet gjelder:

Alle Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av EASA AD 2006-0065.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av EASA AD 2006-0065.

Tid for utførelse:

Til de tider som er beskrevet i vedlagt kopi av EASA AD 2006-0065, regnet fra denne LDP's gyldighetsdato.

Referanse:

EASA AD 2006-0065.

Gyldighetsdato:

2006-07-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EASA	AIRWORTHINESS DIRECTIVE
	**AD No.: 2006-0065** **Date: 23 March 2006**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name:	**Type/Model designation(s):**
Robinson Helicopter Company	R22

TCDS Number: FAA H10WE Rev. 12

Foreign AD: None

Supersedure: None

ATA 32	**Landing Gear – Skids – Modification**
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R22 Helicopters
Reason:	For helicopters with original shorter skid configuration, handling is considered to be excessively demanding for autorotative landings on to surfaces other than paved surfaces.
Effective Date:	06 April 2006.
Compliance:	Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest Install landing skid extensions, part numbers A937-1 and A937-2, and improved landing skid shoes A667-5 (4 per helicopter) and A667-6 (2 per helicopter).
Ref. Publications:	None
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-030 for consultation on 13 February 2006 with a comment period until 14 March 2006. No comment was raised during the consultation period.

	3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int 4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company (Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198).

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 61

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2006-031 **"FLIGHT MANUAL - MODIFICATION"**

Påbudet gjelder:

Robinson Helicopter Company R44 series helikopter som beskrevet i vedlagte kopi av EASA AD 2006-0145.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av EASA AD 2006-0145.

Tid for utførelse:

Innen 15. juli 2006.

Referanse:

EASA AD 2006-0145.

Gyldighetsdato:

2006-07-01.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EASA	AIRWORTHINESS DIRECTIVE
	**AD No : 2006 - 0145** **Date: 29 May 2006**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name :	**Type/Model designation(s) :**
Robinson Helicopter Company	Robinson R44 Series

TCDS Number : FAA Type Certificate H11NM Revision 3

Foreign AD : None

Supersedure : DGAC France AD 2000-075A

ATA 04	**Flight Manual - Modification**
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R44 series helicopters manufactured before 04/04/2000.
Reason:	Issue 1 of Flight manual in French language approved by DGAC France on March 18, 1994 and its revision 1 approved January 24, 1995 include obsolete data the use of which would affect flight safety of the operated aircraft.
Effective Date:	12 June 2006
Compliance:	Remove from the helicopter the Flight manual in French language approved by DGAC France on March 18, 1994 and its revision 1 approved on January 24, 1995. Replace it by the Flight manual Issue 2 approved by DGAC France on 01 December 1999 (or later approved versions).
Ref. Publications:	Flight manual Issue 2 approved by DGAC France on 01 December 1999 or later approved revisions.

Remarks :	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-065 for consultation on 17 March 2006 with a comment period until 10 April 2006. No comment was raised during the consultation period. 3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.europa.eu . 4. For any question concerning the technical content of the requirements in this AD, please contact Robinson Helicopter Company, 2901 Airport Drive, Torrance California 90505, USA

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 62

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2006-058 "DOOR HINGES - MODIFICATION"

Påbudet gjelder:

Robinson Helicopter Company R44 helikopter som beskrevet i vedlagte kopi av EASA AD 2006-0166.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av EASA AD 2006-0166.

Tid for utførelse:

Til de tider som er beskrevet i vedlagte kopi av EASA AD 2006-0166.

Referanse:

EASA AD 2006-0166.

Gyldighetsdato:

2006-11-27.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EASA	AIRWORTHINESS DIRECTIVE
	**AD No: 2006 - 0166** **Date: 14 June 2006**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name:	**Type/Model designation(s):**
Robinson Helicopter Company	R44

TCDS Number: FAA H11NM Rev. 3

Foreign AD: None

Supersedure: CAA Additional Airworthiness Directives 003–10–94 REV 1

ATA 52	**Doors – Hinges – Modification**
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R44 Helicopters
Reason:	To reduce the likelihood of an in-flight separation of a door from the helicopter.
Effective Date:	28 June 2006
Compliance:	Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest Install split pins (cotter pins) Part No. MS24665–151 in lower hinges on all four cabin doors. Installation of ring-cotter Part No. B427–1 is an acceptable alternative. NOTE: These split pins are required in addition to the split pins which are installed in the upper hinges of each door.
Ref. Publications:	None
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-093 for consultation on 06 April 2006 with a comment period until 05 May 2006. The Comment Response Document can be found at http://ad.easa.eu.int/.

	3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int 4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company (Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198).

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 63

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2006-059 **"DOOR HINGES - MODIFICATION"**

Påbudet gjelder:

Robinson Helicopter Company R22 helikopter som beskrevet i vedlagte kopi av EASA AD 2006-0167.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av EASA AD 2006-0167.

Tid for utførelse:

Til de tider som er beskrevet i vedlagte kopi av EASA AD 2006-0167.

Referanse:

EASA AD 2006-0167.

Gyldighetsdato:

2006-11-27.

MERK! For at angjeldende flymateriell skal være luftdyktig må påbudet være utført til rett tid og notat om utførelsen ført inn i vedkommende journal med henvisning til denne LDPs nummer.

EASA	AIRWORTHINESS DIRECTIVE
	**AD No: 2006 - 0167** **Date: 14 June 2006**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name:	**Type/Model designation(s):**
Robinson Helicopter Company	R22

TCDS Number: FAA H10WE Rev. 12

Foreign AD: None

Supersedure: CAA Additional Airworthiness Directives 002–10–94

ATA 52	**Doors – Hinges – Modification**
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R22 Helicopters
Reason:	To reduce the likelihood of an in-flight separation of a door from the helicopter.
Effective Date:	28 June 2006
Compliance:	Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest Replace the left and right hand lower door-mounted hinge parts (Part Nos. A227–3 and A227–4) with parts having the same Part No. but to Revision H or later standard. Parts to be replaced have a clevis pin which protrudes only ¼ inch from the hinge bracket. Revision G and H parts have a clevis pin which protrudes 0.45 inches. Revision G parts, if fitted, are acceptable provided that the hole drilled in the clevis pin is orientated so as to permit installation of a split pin. Install split pins (cotter pins) Part No. MS24665–151 in upper and lower hinges of both left and right hand doors.
Ref. Publications:	None
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-094 for consultation on 06 April 2006 with a comment period until 05 May 2006. The Comment Response Document can be

	found at http://ad.easa.eu.int/. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int 4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company (Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198).

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LUFTDYKTIGHETSPÅBUD (LDP)

MOTORDREVNE LUFTFARTØY

ROBINSON - 64

Med hjemmel i lov av 11. juni 1993 nr. 101 om luftfart, § 15-4 jf. § 4-1 og det vedtak om delegering av myndighet til Luftfartstilsynet av 10. desember 1999 nr. 1273

2007-042 " PREVENTION OF POSSIBLE SEAT BELT FAILURE"

Påbudet gjelder:

Robinson Helicopter Company., Modell R44 helikopter som nærmere beskrevet i vedlagte kopi av FAA AD 2007-11-01.

Påbudet omfatter:

Utfør tiltak som beskrevet i vedlagte kopi av FAA AD 2007-11-01.

Tid for utførelse:

Innen det tidsintervall som er beskrevet i vedlagte kopi av FAA AD 2007-11-01 med virkning fra denne LDPs gyldighetsdato, dersom ikke allerede utført.

Referanse:

FAA AD 2007-11-01.

Gyldighetsdato:

2007-10-24.

2007-11-01 Robinson Helicopter Company: Amendment 39-15058. Docket No. FAA-2006-26696; Directorate Identifier 2006-SW-19-AD.

Applicability: Model R44 helicopters, through serial number (S/N) 1576, and Model R44 II helicopters, through S/N 11107, with a seat belt buckle assembly (buckle assembly) part number C628-4, revision M or prior, installed, certificated in any category.

Compliance: Required within 100 hours time-in-service, unless accomplished previously.

To prevent cracking in the buckle assembly stainless support strap and failure of a seat belt, accomplish the following:

(a) Remove the buckle assembly and any A130-52 buckle assembly spacer, and replace them with a C628-4, revision N buckle assembly and a new A130-52 buckle assembly spacer, in accordance with the Compliance Procedure, paragraph 3, in Robinson Helicopter Company Service Bulletin SB-56, dated March 29, 2006. The new A130-52 buckle assembly spacers have been redesigned to be slightly longer than the previous A130-52 buckle assembly spacers, to reduce friction in the joint.

Note: Inspecting the buckle assembly for cracks is not required by this AD.

(b) Replacing the buckle assembly and buckle assembly spacer with a C628-4, Revision N buckle assembly and a new A130-52 buckle assembly spacer is a terminating action for the requirements of this AD.

(c) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Los Angeles Aircraft Certification Office, FAA, ATTN: Venessa Stiger, Aviation Safety Engineer, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5337, fax (562) 627-5210, for information about previously approved alternative methods of compliance.

(d) The replacements shall be done in accordance with Robinson Helicopter Company Service Bulletin SB-56, dated March 29, 2006. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Robinson Helicopter Company, 2901 Airport Drive, Torrance, California 90505, telephone (310) 539-0508, fax (310) 539-5198. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:
http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(e) This amendment becomes effective on June 27, 2007.

Issued in Fort Worth, Texas, on May 8, 2007.

David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. E7-9687 Filed 5-22-07; 8:45 am]