

# Airworthiness Directive Schedule

## Helicopters

### Robinson R44 Series

26 March 2020

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- Notes:**
1. This AD schedule is applicable to Robinson R44 Raven and R44 Raven II helicopters manufactured under FAA Type Certificate No. H11NM.
  2. The Federal Aviation Administration (FAA) is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for these helicopters. State of Design ADs can be obtained directly from the FAA website at [http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAD.nsf/MainFrame?OpenFrameSet](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet)
  3. The date above indicates the amendment date of this schedule.
  4. New or amended ADs are shown with an asterisk \*
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**DCA/R44/1 Cyclic Stick Assembly - Removal of Parts**

**Applicability** R44 series helicopters, S/N less than but not including 0017.

**Requirement:** To prevent failure of the cyclic stick assembly and loss of control of the helicopter accomplish the following:

Remove the following cyclic control system parts and replace with the corresponding replacement parts per the applicable maintenance manual:

<b>Remove P/Ns:</b>	<b>Replace with P/Ns:</b>
A205-3	A205-5 Revision J or higher
C175-1	C175-2 Revision H or higher
C176-1	C176-2 Revision B or higher
C177-1	C177-2 Revision F or higher
C319-1	C319-3 Revision I or higher
C320-1	C320-1 Revision L or higher
C958-4	C958-5 Revision E or higher
A101-4	D173-1 Revision A or higher
C338-1	C338-4 Revision C or higher
A211-2	A211-3 Revision I or higher
A137-1	A137-2 Revision C or higher

(FAA AD 94-26-10 refers)

**Compliance:** Before further flight

**Effective Date:** 16 September 1994

**DCA/R44/2B Fanwheel and Shaft - Replacement**

**Applicability** R44 series helicopters, S/Ns 0006 through to 0246, except S/N 0014, 0069, 0090, 0182, 0186, 0215, 0228, 0237 and 0239.

**Requirement:** To prevent loss of engine cooling, replace the fanwheel and shaft assembly, per Robinson R44 SB -14.

**Note:** With the replacement of the fanwheel and shaft assembly, Textron Lycoming recommends the installation of P/N 14W22647 counterweight rollers, per Textron Lycoming Service Instruction No. 1500. If this has not been accomplished, comply with DCA/LYC/211.

**Compliance:** Within the next 100 hours TIS, unless already accomplished.

**Effective Date:** DCA/R44/2A - 7 June 1996  
DCA/R44/2B - 31 August 2006

**DCA/R44/3C Cancelled**

**Effective Date:** 25 November 2004

**DCA/R44/4 Cancelled - Purpose Fulfilled**

**DCA/R44/5 Cyclic Control System - Replacement and Inspection**

**Applicability** R44 series helicopters, S/N 0001 through to 0150.

**Requirement:** To prevent binding in the cyclic control system and subsequent loss of control of the helicopter, accomplish the following:

1. Replace, the existing push-pull tube sleeve guide assembly with a C439-7 assembly (included in the KI-88 push-pull tube guide kit) per Robinson SB-4. Inspect the C121-7 push-pull tube sleeve for signs of wear per SB-4. Replace if necessary using the sleeves and adhesive in the KI-88 kit before further flight.
2. Inspect the C121-7 push-pull tube sleeve for signs of wear per the applicable maintenance manual. Replace if necessary using the sleeves and adhesive in the KI-88 kit before further flight.

(FAA AD 95-09-07 refers)

**Compliance:**

1. Within next 25 hours TIS.
2. At intervals not to exceed 100 hours TIS.

**Effective Date:** 7 July 1995

**DCA/R44/6A Main Rotor RPM Warning Unit - Adjustment**

**Applicability** All R44 series helicopters.

**Requirement:** To minimise the possibility of pilot mismanagement of the main rotor RPM, which could result in unrecoverable main rotor blade stall and subsequent loss of control of the helicopter, accomplish the following:-

Adjust the A569-6 low-RPM warning unit so that the warning horn and caution light activate when the main rotor RPM is between 96% and 97% rotor RPM per the procedures contained in the R44 maintenance manual.

Revise the R44 Flight Manual (AIR2479) to include the FAA-approved Flight Manual revision dated July 25, 1996.

(FAA AD 97-02-15 refers)

**Compliance:** Within next 30 days unless already accomplished.

**Effective Date:** DCA/R44/6 - 5 July 1996  
DCA/R44/6A - 14 March 1997

**DCA/R44/7 Main Rotor Gearbox Ring Gear Bolts - Inspection**

**Applicability** All R44 series helicopters fitted with main rotor gearbox P/N C006-1, revisions A through to P.

**Requirement:** To prevent loosening of the bolts securing the gear to the gear carrier which could lead to fatigue failure of the gear carrier, accomplish Robinson SB-15.

(FAA Priority Letter AD 96-18-22 refers)

**Compliance:** Within next 5 hours TIS.

**Effective Date:** 4 September 1996

**DCAR44/8 Main Rotor Clutch - Inspection and Replacement**

**Applicability:** R44 series helicopters, S/N 0001 through to 0332.

**Requirement:** To prevent failure of the sprag clutch to lock or unlock, accomplish the following:

1. Inspect both up-limit switches, P/N V3-1001, for proper operation per Robinson R44 SB-21. If the motor runs when the springs are depressed on one side, the switch on the OPPOSITE side is not functioning properly. If either up-limit switch does not function properly, before further flight replace the up-limit switch with an airworthy up-limit switch per SB-21.
2. Replace the clutch assembly, P/N C018-1, with a clutch assembly, P/N C018-2 or P/N C018-2A, per Robinson R44 SB-23.

(FAA AD 97-16-02 refers)

**Compliance:**

1. Inspect within next 25 hours TIS and thereafter at intervals not to exceed 100 hours TIS.
2. Replace within next 50 hours TIS.

**Effective Date:** 14 August 1997

**DCAR44/9 Cyclic Control System - Inspection**

**Applicability:** R44 series helicopters, S/N 0002 through to 0420, 0425, 0426, and 0427 fitted with a C056-1 Rev A through to G spring assembly.

**Requirement:** To detect excessive wear on the lateral cyclic trim spring 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:-

Measure the diameter of the shaft per the Compliance Procedure contained in Robinson R44 SB-26.

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.

Replacing the C056-1 Rev. A through G spring assembly with a C056-1 Rev. H spring assembly per SB-26 is considered terminating action for the requirements of this AD.

(FAA Priority Letter AD 98-04-12 refers)

**Compliance:** Within next 10 hours TIS, and thereafter at intervals not to exceed 20 hours TIS.

**Effective Date:** 13 February 1998

**DCAR44/10 Oil Line Elbows - Replacement**

**Applicability:** R44 series helicopter, S/N 0001 through to 0330.

**Requirement:** To prevent failure of either the 45 degree or 90 degree aluminium 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, accomplish the following:-

Remove any aluminium (blue-coloured) 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 per Robinson R44 SB-25.

(FAA AD 98-05-10 refers)

**Compliance:** Within next 50 hours TIS.

**Effective Date:** 10 April 1998

**DCAR44/11A Main Rotor Blades – Inspection and Replacement**

**Applicability:** R44 series helicopters, S/N 0002 through to 0486 fitted with main rotor blades P/N C016-1.

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

1. Perform a dye-penetrant inspection of the main rotor blade skin around both inboard trim tab alignment rivets as follows, referring to Figure 1.

a) 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 coarse sanding marks. Sand only in a spanwise direction. Do not use chemical paint strippers.

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

**Note 1:** Chord-wise cracks in the paint up to 2 inches long which are located along either inboard or outboard edge of the trim tab are acceptable.

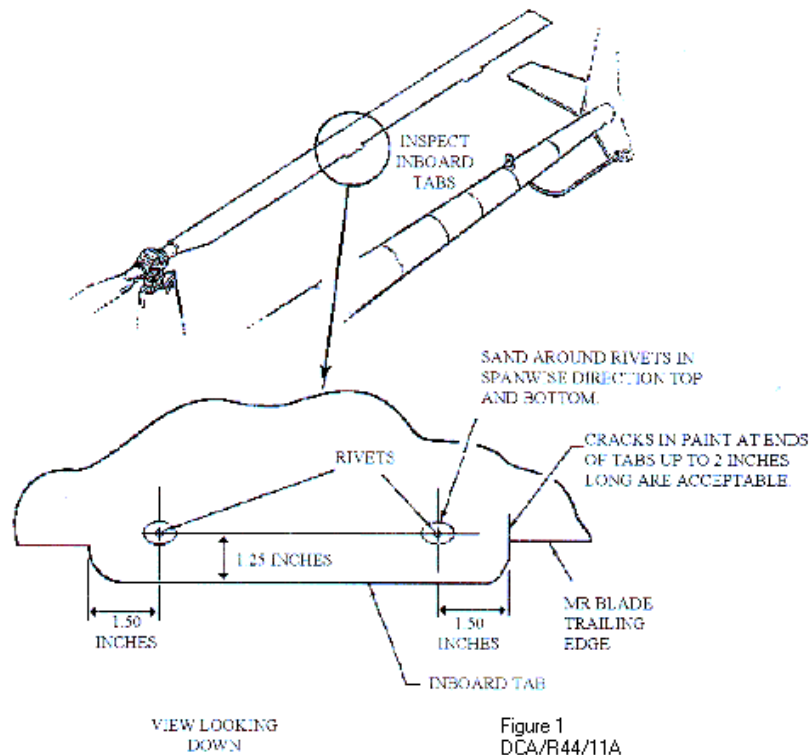
c) Clean the sanded areas prepared in accordance with paragraph a) of this AD with 111-Trichloroethane or methyl ethyl ketone (MEK) and then apply clear lacquer to seal the unpainted areas.

**Note 2:** Do not bend the inboard main rotor blade tabs from their present position or utilise them for any subsequent main rotor blade tracking adjustment.

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

**Note 3:** The daily inspection may be accomplished by pilot subject to:  
Adequate instruction by LAME responsible for the aircraft.  
Aircraft Technical Log to be endorsed to refer to inspection requirement.

3. Install a set of main rotor blades, P/N C016-2. This constitutes terminating action for the inspections required by this AD.



**Note 4:** Robinson Helicopter Company R44 SB-27B, and SB-28, pertain to the subject of this AD.

(FAA AD 98-22-16 refers)

- Compliance:**
1. Within the next 5 hours TIS
  2. After accomplishing part 1, prior to the first flight of each day, or at intervals not to exceed 5 hours TIS, whichever occurs first.
  3. By 16 November 1998

**Effective Date:** DCA/R44/11 - 11 June 1998  
DCA/R44/11A - 5 November 1998

#### DCA/R44/12A Cyclic Control Grip Assembly - Replacement

**Applicability:** R44 series helicopters, S/N 0001 through to 0159, except S/N 0143, 0150 and 0156 fitted with a cyclic control pilot's grip assembly P/N A756-6, revision N or prior.

**Requirement:** 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:  
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 O (or later), per R44 Pilot's Grip Assembly Upgrade Kit instructions KI-112, dated December 20, 1996.

(FAA AD 98-21-36 refers)

**Compliance:** Within next 25 hours TIS or 30 days, whichever is the sooner.

**Effective Date:** DCA/R44/12 - 5 November 1998  
DCA/R44/12A - 18 December 1998

**DCA/R44/13** Cancelled – DCA/R44/17 refers.

**DCA/R44/14 Auxiliary Fuel Tank Sump Drain - Modification**

**Applicability:** R44 series helicopters, S/N 0002 through to 0529, except S/N 0440, 0485, 0512, 0515, 0519, 0526, 0527 and 0528.

**Requirement:** To prevent fuel leaks from the auxiliary fuel tank sump drain, which could cause a fire and subsequent loss of the helicopter, accomplish the following:-

Install a shutoff clamp, P/N D663-1, by sliding it onto the auxiliary fuel tank sump drain tube, P/N A729-7, as shown.

Install placard decal, P/N A654-93, as shown.

(FAA AD 99-13-11 refers)

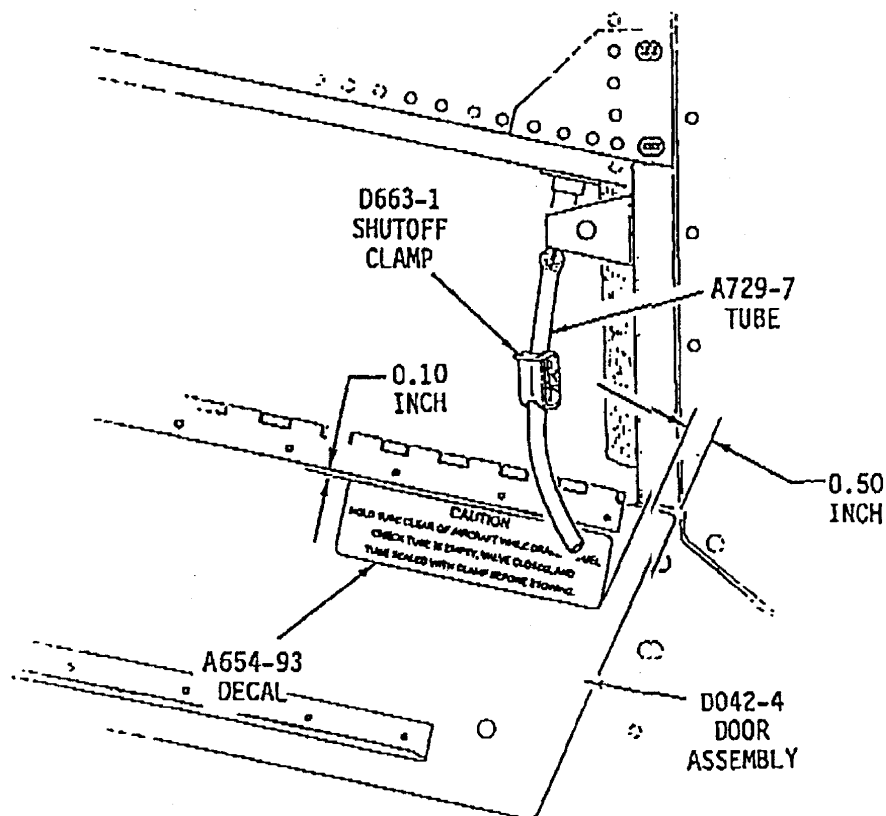


FIGURE 1  
AD 99-13-11

**Compliance:** Within 100 hours TIS or 3 months, whichever occurs first.

**Effective Date:** 30 July 1999



**DCA/R44/15 Yoke Assembly P/N C908-1 – Replacement**

**Applicability:** R44 series helicopters, S/N 0219 and 0535 through to 0608 (except S/N 0565, 0582, and 0592).

**Requirement:** 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, determine, if the yoke assembly, P/N C908-1C, from Lot No 36B, 37, or 38 is installed. Yoke assemblies, P/N C908-1C, from Lot Nos 36B, 37, and 38 were installed as original equipment in R44 helicopters, S/N 0219 and 0535 through 0608 (except S/N's 0565, 0582, and 0592). 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 per Robinson Helicopter Company R44 SB-35. (FAA AD 99-17-17 refers)

**Compliance:** Before further flight

**Effective Date:** 24 September 1999

**DCA/R44/16 Fuel Line Assembly – Inspection and Modification**

**Applicability:** R44 series helicopters, S/N 0002 through to 0462.

**Requirement:** 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, remove the cover, P/N C474-1, from between the rear seatbacks.

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. 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.

Install a 3-inch section of spiral wrap tubing, P/N B161-8, on the fuel line assembly as shown in Robinson SB-31. Push the spiral wrap tubing down until it is against the fuel line fitting.

**Note:** *FAA AC 43.13-1B, Chapter 11, describes procedures acceptable for replacing the wire harness if required.*  
(FAA AD 2000-07-03 refers)

**Compliance:** Within next 100 hours TIS or by 31 July 2000, whichever is the sooner.

**Effective Date:** 27 April 2000

**DCA/R44/17 Sprag Clutch - Replacement**

**Applicability:** R44 series helicopters, S/N 0001 through to 0541, 0543, 0550, 0556 and 0565 fitted with sprag clutch P/N C188-3, S/N 0003 through to 0505.

**Requirement:** To prevent sprag clutch failure, loss of main rotor RPM during autorotation, and subsequent loss of control of the helicopter, replace sprag clutch, P/N C188-3, S/N 0003 through 0505, with sprag clutch P/N C188-3, S/N 0506 or higher.

Remove from the Rotorcraft Flight Manual the Special Pilot Caution contained in Robinson Helicopter Company R44 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 airworthiness directive DCA/R44/13, as applicable.

(FAA AD 2000-08-04 refers)

**Compliance:** Within next 50 hours TIS or by 24 June 2000, whichever is the sooner.

**Effective Date:** 25 May 2000

**DCA/R44/18 Horizontal Stabilizer Assembly – Life Limit**

**Applicability:** All R44 series helicopters fitted with horizontal stabilizer assembly, P/N C044-1; and S/N 0009 through 0224, except S/N 0018, 0090, 0094, 0111, 0129, 0144, 0161, 0178, 0201, and 0223.

**Requirement:** 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:-

Remove the vertical stabilizer and inspect the nutplate on channels, P/N D283-1 and -2. If the nutplates are P/N MS21086L4, no further action is required by this AD. If the nutplates are P/N NAS697A4, replace the channels with airworthy channels, P/N D296-1 or -2, before further flight.

Robinson SB-39 also refers to the subject of this AD.

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.

(FAA AD 2001-20-18 refers)

**Compliance:** Before accumulating 2200 hours TIS on the assembly.

**Effective Date:** 29 November 2001

**DCA/R44/19 V-Belt Restraint Panel Assembly - Replacement**

**Applicability:** R44 series helicopters, S/N 0002 through to 0240.

**Requirement:** To prevent failure of the support structure for the right hand V-belt restraint, replace the C309-1 panel assembly per Robinson Helicopter Company SB-16.

**Compliance:** By 31 August 2002

**Effective Date:** 30 May 2002

**DCA/R44/20 Tail Rotor Pitch Control - Inspection**

**Applicability:** R44 series helicopters, all S/N up to and including S/N 1208, except S/N 1143, 1165, 1183, 1189, 1192, 1196, 1197, 1198, 1200, 1203 and 1204 fitted with a pitch control assembly, P/N C031-1, revision G or prior.

**Requirement:** To detect corrosion of a tail rotor pitch control bearing and to prevent bearing failure and loss of directional control of the helicopter, accomplish the following:

Inspect the pitch control assembly for roughness or binding of the pitch control bearings by hand-rotating the pitch control bearing housing in accordance with Robinson Helicopter Company SB-43A, Revision A. If the housing does not rotate freely, replace the unairworthy pitch control assembly with an airworthy unit before further flight.

(FAA AD 2003-04-05 refers)

**Compliance:** Within 50 hours TIS or by 31 March 2003 whichever occurs first. Thereafter inspect at intervals not to exceed 300 hours TIS or 12 months, whichever occurs first.

**Effective Date:** 27 February 2003

**DCA/R44/21 Main Rotor Swashplate and Tail Rotor Blade Attachment Bolts - Replacement**

**Applicability:** All R44 and R44II helicopters.

**Requirement:** To prevent failure of the main rotor swashplate and tail rotor blade attachment bolts, and subsequent loss of control of the helicopter, accomplish the following:

1. For model R44 S/N 0210, 0565, 0641, 0987, and 1312 through 1349, except 1345 and 1346; and R44II helicopters, S/N 10010, 10062, and 10083 through 10212, except 10092, 10173, 10204, 10207, 10210, and 10211, accomplish the following:-

Visually inspect each bolt for fretting residue under the bolt head as indications of a loose or cracked bolt. Apply 10-15 ft-lb (13-20 Nm) torque to each bolt head and verify no rotation. See Figure 1 of Robinson SB-51. 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.

Within 10 hours TIS or by 31 December 2003, whichever occurs first, replace each bolt, P/N NAS6605-31, which has vendor identification marking 01DO on the bolt head, with an airworthy bolt, P/N NAS6605-31, that has an alternate vendor identification marking.

2. For all other R44 and R44II helicopters accomplish the following:-

Determine if maintenance has been performed after 7 February 2003 on the areas specified in Figure 1 of Robinson SB-51, and determine if any bolt, P/N NAS6605-31, shown in Figure 1 has been replaced for any reason. If any bolt has been replaced, or if it is uncertain whether any bolt has been replaced after 7 February 2003, remove the paint from the bolt head to reveal the vendor identification marking. Determine if the bolt vendor identification is 01DO.

If the bolt vendor identification is 01DO before further flight accomplish the following:

Visually inspect each bolt for fretting residue under the bolt head as indications of a loose or cracked bolt. Apply 10-15 ft-lb (13-20 Nm) torque to each bolt head and verify no rotation. See Figure 1 of Robinson SB-51. If residue or rotation of the bolt is found, then before further flight, replace each unairworthy bolt with an airworthy bolt that does not have a vendor identification marking of 01DO.

Within 10 hours TIS or by 31 December 2003, whichever occurs first, replace each bolt, P/N NAS6605-31, which has vendor identification marking 01DO on the bolt head, with an airworthy bolt, P/N NAS6605-31, that has an alternate vendor identification marking.

3. Bolt, P/N NAS6605-31, with vendor identification marking 01DO on the bolt head, is NOT ELIGIBLE for installation on any helicopter.

(FAA 2003-24-51 AD refers)

**Compliance:** Before further flight.

**Effective Date:** 4 December 2003

**DCA/R44/22A Fuel Control Unit – Modification**

**Applicability:** All R44 II series helicopters fitted with Lycoming engine model IO-540-AE1A5 not embodied with Robinson SB No. 55.

**Note 1:** This AD revised to mandate the fuel control unit modification per Robinson SB No. 55.

**Requirement:** To prevent corrosion inside the fuel control unit, which may lead to loss of engine power and in-flight engine failure, accomplish the following:

Modify the fuel control unit per Robinson SB No. 55 dated 20 July 2005.

**Note 2:** This modification rotates the fuel control through 90 degrees to reduce the possibility of water entering the fuel control unit intake.

(NZ occurrences refer)

**Compliance:** Within the next 100 hours TIS or annual inspection whichever is the sooner, unless previously accomplished.

**Effective Date:** 30 July 2009

**DCA/R44/23B Sprag Clutch Assembly – Inspection**

**Applicability:** All R44 series helicopters fitted with a sprag clutch assembly P/N C188-3 revisions D, E, F, G or H.

**Note 1:** DCA/R44/23B revised to clarify the applicability and the requirements. The AD mandates lubricant inspections for sprag clutch assemblies P/N C188-3 revisions D, E, F, G and H.

**Requirement:** To prevent failure of the clutch assembly due to worn or broken parts which could either result in loss of the main rotor drive, or result in the clutch assembly failing to disengage during autorotation, accomplish the following:

1. Review the aircraft records, or inspect the sprag clutch assembly fitted to the aircraft and determined if both the forward and aft retainers P/N C168-X fitted to the sprag clutch have a screw P/N B289-3.

If both the forward and aft retainers P/N C168-X are found fitted with screws P/N B289-3, then accomplish requirement 2 of this AD.

If early revision retainers P/N C168-X are found fitted, which do not have screws P/N B289-3, then accomplish requirement 3 of this AD.

**Note 2:** Sprag clutches with retainers P/N C168-5 are fitted with a screw P/N B289-3. Older clutch assemblies may not have retainers fitted with screws P/N B289-3. To determine the dash number of the forward and aft retainers fitted to the sprag clutch refer to the RHC R44 IPC.

2. For a sprag clutch with retainers fitted with screws P/N B289-3:

Accomplish steps 4 through to 7 in Robinson R44 SB-79, dated 20 December 2010 or later approved revision.

If any evidence of metal contamination is found, remove the clutch assembly P/N C018-X from the aircraft, and replace with a new or overhauled clutch assembly per the instructions in the Robinson R44 MM.

If no metal contamination is found, service the sprag clutch assembly with lubricant per the instructions in steps 8 through to 11 in Robinson R44 SB-79.

3. For a sprag clutch with retainers not fitted with screws P/N B289-3:

Remove the clutch assembly P/N C018-X from the aircraft per the instructions in section 7.210 of Robinson R44 Maintenance Manual (MM), and remove the aft and forward seal retainers per the instructions in section 7.213 of the R44 MM to expose the bearing cavity, and inspect for metal particle contamination.

If any evidence of metal contamination is found or if any defective parts are found, replace with a new or overhauled clutch assembly per the instructions in the Robinson R44 MM

If there is no evidence of metal contamination, rotate the sheave drive shaft in the free wheel direction and feel for momentary drag. As the rotation is continued in the free wheel direction inspect for a notchy feel, listen for unusual noises and roughness from the sprag clutch area.

If any of these symptoms are detected, or if any defective parts are found, replace with a new or overhauled clutch assembly per the instructions in the Robinson R44 MM.

Remove any light surface corrosion at the shaft-to-seal junctures and apply a suitable corrosion inhibitor, and replace all clutch assembly seals, o-rings and lubricant per the clutch assembly seal replacement instructions in section 7.213 of the Robinson R44 MM, before further flight.

Restore the actuator drive belt tension per the instructions in section 7.500 of the Robinson R44 MM. Adjust the actuator, as required, per the instructions in section 7.540 of the Robinson R44 MM.

(NZ occurrences refers)

- Note 3:** Older clutch assemblies fitted with early revision retainers can be retrofitted with retainers P/N C168-5 with the embodiment of RHC Kit KI-202.
- Note 4:** Symptoms of a worn clutch assembly or cracked sprag ends may include leaking clutch assembly oil seals, unusual noise from the upper sheave or unusual aircraft vibration on engine shutdown, or momentary drag with clutch overrun during autorotation.
- Note 5:** If metal contamination is found, submit a defect report form CA005D to the Civil Aviation Authority per Rule Part 12.57 and provide the clutch assembly hours TIS and the nature of the defects found.
- Compliance:** 1. 2. & 3. At 500 hours TTIS, or within the next 50 hours TIS, whichever is the later, unless previously accomplished, and thereafter at intervals not to exceed 500 hours TIS.
- Effective Date:** DCA/R44/23 - 31 May 2007  
DCA/R44/23A - 21 April 2011  
DCA/R44/23B - 30 August 2018

#### **DCA/R44/24 Seat Belt Buckle Assembly – Replacement**

- Applicability:** R44 helicopters, all S/N through to 1576.  
R44 II helicopters, all S/N through to 11107.  
Fitted with a seat belt buckle assembly P/N C628-4 revision M or earlier.
- Requirement:** To prevent cracks developing in the stainless support strap of the seat belt buckle assembly which could result in failure of a seat belt, remove the buckle assembly and the spacer, and replace with a buckle assembly P/N C628-4, revision N and a new buckle assembly spacer P/N A130-52, per the procedure in paragraph 3 of Robinson Helicopter Company Service Bulletin SB-56.  
(FAA AD 2007-11-01 refers)
- Note 1:** The new buckle assembly spacers have been redesigned to be slightly longer than the previous spacers to reduce friction in the joint.
- Note 2:** Inspecting the buckle assembly for cracks is not a requirement of this AD.
- Compliance:** Within the next 100 hours TIS unless already accomplished.
- Effective Date:** 28 June 2007

**DCA/R44/25 Helipod R44 5 Place Kit – Removal from Service**

**Applicability:** All R44 and R44 II helicopters fitted with Helipod R44 5 place kit P/N MHPR44BS25200.

**Requirement:** To prevent a reduction of the level of occupant safety, from that provided by the manufacturer, accomplish the following:

1. The carriage of a passenger in the centre rear seat position is prohibited. Insert a copy of this AD into the AFM, opposite the supplement for the Helipod 5 Place Kit.
2. Remove the rear seat P/N MHPR44BS25200 and return the aircraft to an approved configuration. Remove the Flight Manual Supplement and AD from the AFM.

**Note:** It has not been demonstrated that this modification kit maintains the existing level of occupant safety for the centre seat passenger in an emergency landing. The modification may also reduce the existing occupant safety features of the two other rear seats.

**Compliance:**

1. From 20 September 2007
2. By 20 October 2007

**Effective Date:** 20 September 2007

**DCA/R44/26B Cancelled – DCA/R44/29 refers**

**Effective Date:** 7 July 2011

**DCA/R44/27A Door Hinge Security – Inspection and Installation**

**Applicability:** All R44 and R44 II helicopters.

**Note 1:** This AD revised to introduce requirement 2 which requires the installation of cotter pins or ring-cotters on the upper and lower hinge assemblies every time any of the doors are refitted to the aircraft.

**Requirement:** To prevent a cabin door separating from the aircraft, accomplish the following:

1. Inspect the upper and lower hinge assemblies P/N C227-1, C227-2 C227-3, C227-4 on both the forward cabin doors for the installation of cotter pins or ring-cotters.

Also inspect the upper and lower hinge assemblies P/N C389-3, C389-4, C389-9 and C389-10 on both the aft cabin doors for the installation of cotter pins or ring-cotters.

If cotter pins or ring-cotters are not fitted to all door hinges assemblies, fit cotter pins P/N MS24665-151 or ring-cotters P/N B427-1 (or an approved equivalent part).

On doors where the lower hinge pin may be too short for a cotter to be fitted, replace the lower hinge with a hinge which has a longer pin and provision for a cotter.

On doors where the hinges may be misaligned, rework the hinges to correct alignment and permit the installation of cotters in the upper and lower cabin door hinges.

2. Install cotter pins or ring-cotters on the upper and lower hinge assemblies on both the aft and forward cabin doors.

**Note 2:** Requirement 2 of this AD may be accomplished by adding the requirement to the tech log. Requirement 2 may be performed and certified under the provision in Part 43 Appendix A.1 (7) by the holder of a current pilot licence, if that person is rated on the aircraft, appropriately trained and authorised (Part 43, Subpart B refers), and the maintenance is recorded and certified as required by Part 43.

**Note 3:** The Robinson R44 IPC specifies the installation of cotter pins P/N B427-1 on all the upper and lower door hinge assemblies.

**Note 4:** Doors are known to pop open in flight due to turbulence. If the aircraft is descending, an open door could be forced upward by the airflow. If the lower hinge is a poor fit and the door is only secured by one pin (on the upper hinge), the door could depart the aircraft in flight. If a cabin door strikes the main or tail rotor, the resultant damage to a blade could cause severe out of balance vibration and a catastrophic accident.

(NZ Occurrence 06/633 refers)

**Compliance:**

1. By 29 November 2009 and thereafter at every annual inspection.
2. Every time the aft or forward cabin doors are refitted to the aircraft.

**Effective Date:** DCA/R44/27 - 24 April 2008  
DCA/R44/27A - 29 October 2009

#### **DCA/R44/28 Tail Rotor Control Pedals – Inspection and Rework**

**Applicability:** R44 and R44 II helicopters, S/N 0001 through to 1200 with more than 2200 hours TTIS.

**Requirement:** To prevent failure of the tail rotor (T/R) control pedal bearing block support which can bind the T/R control pedals and result in a reduction of yaw control and loss of aircraft control, accomplish the following:

1. Accomplish a visual inspection of the pedal support A359-1 (left) and A359-2 (right) for cracks per the figure in Robinson Helicopter Company (Robinson) SB No. SB-63, dated 22 February 2008.

If any cracks are found in a support, replace the cracked support with an airworthy support that is at least 0.050-inch thick, before further flight.

For every uncracked support, measure the thickness of the support. If the support is less than 0.050-inch thick, install a safety tab on the support per the compliance procedures section, steps 4 and 5 in SB-63, before further flight.

2. Replace all supports that are less than 0.050-inch thick with an airworthy support that is at least 0.050-inch thick per the instructions in SB No. SB-63.

(FAA AD 2010-24-03 refers)

**Compliance:**

1. Within the next 100 hours TIS.
2. At the next 2200 hours TIS overhaul.

**Effective Date:** 23 December 2010

#### **DCA/R44/29B Cancelled - FAA AD 2014-23-16 refers**

**Effective Date:** 9 January 2015

The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at <http://www.caa.govt.nz/airworthiness-directives/states-of-design/>. If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.

**2013-05-15      Emergency Floats – Inspection**

**Effective Date:** 30 April 2013

**DCAR44/30      Bladder Fuel Tanks – Retrofit**

**Applicability:** All R44 and R44 II helicopters not fitted with bladder fuel tanks.

**Note 1:** This AD mandates the installation of bladder fuel tanks to improve the fuel system's resistance to post accident fuel leaks, reduce the risk of post crash fires and increase the survivability in such an event. Overseas experience has revealed that post crash fires are the primary cause of fatalities and injuries in survivable helicopter accidents. The CAA considers that this airworthiness directive should be accomplished at the earliest opportunity but has allowed a 6 month compliance time to provide for maintenance planning.

**Requirement:** To improve the fuel tanks resistance to post-accident rupture and fuel leaks which could result in a non survivable fire, accomplish the following:

Replace the aluminium fuel tanks with bladder-type tanks, per the instructions in Robinson Helicopter Company R44 SB-78B dated 28 September 2012.

**Note 2:** Robinson Helicopter Company R44 SB-78B introduces bladder tank retrofit kits KI-196-1 and KI-196-2 for R44 series aircraft not already fitted with bladder tanks.

**Compliance:** At the next helicopter overhaul, or by 27 December 2013 whichever occurs first.

**Effective Date:** 27 June 2013

**2014-23-16      Main Rotor Blade Skin - Inspection**

**Note:** The visual inspection required before the first flight of every day per requirement (f)(1) of FAA AD 2014-23-16 may be accomplished by adding the inspection requirement to the tech log. The visual inspection may be performed and certified under the provision in Part 43 Appendix A.1 (7) by the holder of a current pilot licence, if that person is rated on the aircraft, appropriately trained and authorised (Part 43, Subpart B refers), and the maintenance is recorded and certified as required by Part 43. If any bare metal in the skin-to-spar bond line area is found, an engineer shall accomplish the corrective actions per the AD before further flight.

**Effective Date:** 9 January 2015

**DCAR44/31      Cancelled – Purpose Fulfilled**

**Effective Date:** 24 February 2015



**DCA/R44/32C Main Rotor Blades P/N C016-7**

**Applicability:** All Robinson R44 series helicopters fitted with main rotor blades P/N C016-7.

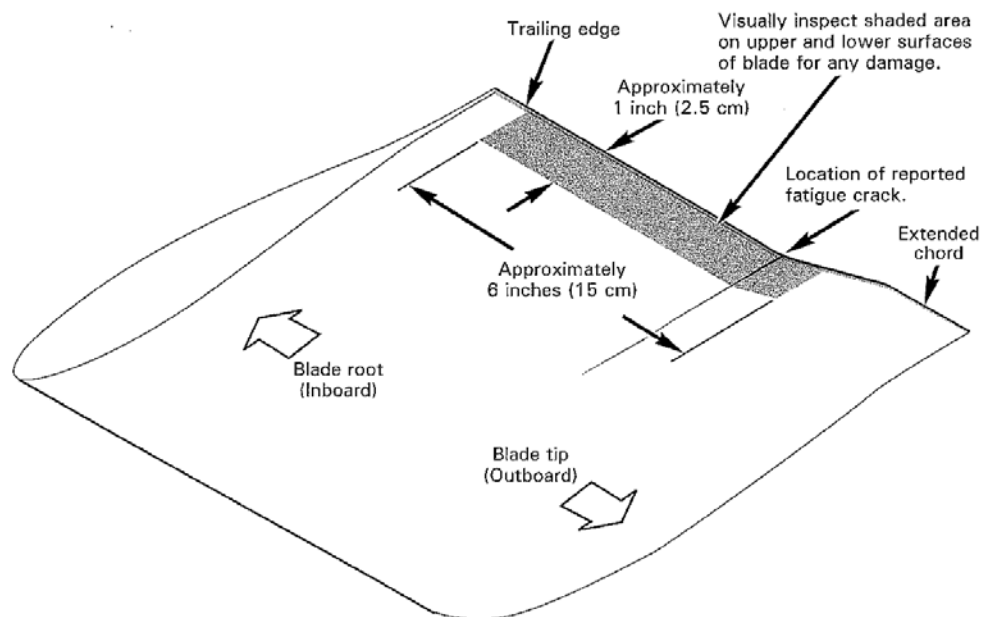
**Note 1:** DCA/R44/32C revised to clarify the visual inspection requirements and mandate the main rotor blade modification per the instructions in Robinson Helicopter Company R44 Service Bulletin SB-89 dated 30 March 2015.

**Requirement:** To prevent possible main rotor blade separation and loss of the helicopter, accomplish the following:

1. Inspect the upper and lower surfaces of each main rotor blade in the area shown in Figure 1. Inspect for any damage which may initiate a fatigue crack. A stepladder may be required to inspect the blades.

If the inspection reveals any damage or unusual marks, then the blades must be inspected by a maintenance engineer before further flight.

If any unusual rotor system vibration is detected in flight, land immediately and inspect the main rotor blades in the area shown in Figure 1. If the inspection reveals any damage or unusual marks, then the blades must be inspected by a maintenance engineer before further flight.



*Figure 1 – Section of MRB P/N C016-7 (View of blade lower surface)*

2. Modify the main rotor blades per the instructions in Robinson Helicopter Company R44 Service Bulletin SB-89 dated 30 March 2015.

**Note 2:** Requirement 1 of this AD may be accomplished by adding the inspection requirement to the tech log. The visual inspection may be performed and certified under the provision in Part 43 Appendix A.1 (7) by the holder of a current pilot licence, if that person is rated on the aircraft, appropriately trained and authorised (Part 43, Subpart B refers), and the maintenance is recorded and certified as required by Part 43.

**Note 3:** Report any defects to the CAA by completing a CA005 Defect Report form and provide as much detail as possible. The form can be obtained from [http://www.caa.govt.nz/Forms/CA005D\\_Form.pdf](http://www.caa.govt.nz/Forms/CA005D_Form.pdf) The completed form can be emailed to the CAA at [CA005@caa.govt.nz](mailto:CA005@caa.govt.nz)

(Occurrence #15/390 refers)

- Compliance:**
1. At every daily preflight inspection and before every engine start if the aircraft is to be flown until requirement 2 is accomplished.
  2. By 30 March 2016.

**Effective Date:** DCA/R44/32A - 27 February 2015  
 DCA/R44/32B - 02 April 2015  
 DCA/R44/32C - 24 September 2015

### **DCA/R44/33 Clutch Shaft and Yoke Installation - Inspection**

**Applicability:** All Robinson R44 series helicopters.

**Note 1:** This AD is prompted by a recent crack found in a clutch shaft on a R44 reported to the CAA. The investigation revealed that at the last assembly of the clutch shaft P/N C166 and the yoke P/N C907 a non-approved jointing compound (Mastinox) was used, and the aft attach bolt of the installation was found under torqued. The torque of the bolt probably reduced due to breakdown of the Mastinox which resulted in fretting corrosion and initiation of a fatigue crack.

**Requirement:** To prevent possible failure of clutch shaft P/N C166-4 which could result in loss of engine power to the main rotor gearbox, inspect the clutch shaft P/N C166-4 and the yoke P/N C907 installation for the following:

1. Review the aircraft records and inspect the clutch shaft/yoke installation and determine that a Robinson Helicopter Company (RHC) approved primer has been used for the assembly of the mating portion of the clutch shaft with the yoke.

If the type of primer at last assembly of the parts cannot be determined, or if a non-approved joining compound has been used at last assembly of the parts, then remove/dis-assemble and inspect the parts for corrosion and cracks.

Accomplish corrective actions, as required, per the instructions in the RHC R44 Maintenance Manual (MM) before further flight.

If a RHC approved primer has been used for the assembly of the mating portion of the clutch shaft at the last assembly, or if the installation is factory original, then accomplish requirements 2 and 3 of the AD.

2. Inspect the clutch shaft and yoke installation for corrosion and cracks.

If any corrosion or cracks are found, accomplish corrective actions, as required, per the instructions in the R44 MM before further flight.

3. Check the torque of the attachment bolts P/N NAS6606-31 of the clutch shaft and yoke installation per the instructions in the R44 MM.

**Note 2:** RHC specify that the mating portion of the clutch shaft must be coated with zinc-chromate or epoxy primer, and the parts must be assembled while the primer is still wet. The RHC approved primers are listed in section 1.450 of the RHC R44 MM. The bolt torque is specified in section 1.320 of the RHC R44 MM.

**Note 3:** Report any defects found to the CAA by completing a CA005D defect report form and submit to the CAA at [CA005@caa.govt.nz](mailto:CA005@caa.govt.nz) Defect report form CA005D can be obtained from [http://www.caa.govt.nz/Forms/CA005D\\_Form.pdf](http://www.caa.govt.nz/Forms/CA005D_Form.pdf)

(Occurrence #15/5520 refers)

**Compliance:** 1. 2. & 3. At the next maintenance inspection, or within the next 50 hours TIS, whichever occurs sooner.

**Effective Date:** 14 December 2015

**DCA/R44/34 Cancelled - [CAA Notice NTC 61.365](#) refers**

**Effective Date:** 27 September 2018

**DCA/R44/35 Revised Instrument Marking**

**Applicability:** R44 helicopters S/N 0004 through to S/N 2449, and R44 II helicopters S/N 10001 through to S/N 14026.

**Requirement:** To introduce a yellow arc above 110 knots to the Airspeed Indicator (ASI), accomplish the following:

1. For aircraft fitted with an analogue Airspeed Indicator (ASI):

By 31 December 2016 accomplish the requirements in paragraph 1. of Robinson Helicopter Company (RHC) R44 SB-90 dated 14 November 2016, or later approved revision.

2. For aircraft fitted with an Electronic Flight Display (EFD):

By 31 December 2016 accomplish the requirements in paragraph 2. of RHC R44 SB-90.

**Note:** R44 helicopters are capable of high cruise speeds especially when lightly loaded. A yellow precautionary operating range has been added to the R44 ASI as a reminder to slow down for safety. The yellow arc indicates the maximum recommended cruise speed is 110 knots. Speeds above 110 knots are not recommended except in smooth air with the pilot's attention fully focused on flying.

(RHC SB-90 dated 14 November 2016 refers)

**Compliance:** Refer requirements section of the AD.

**Effective Date:** 24 November 2016

**2016-26-04 Main Rotor Blades – Inspection**

**Effective Date:** 8 February 2017

**DCA/R44/36 Helipod NZ Limited STCs – Report of Installation**

**Applicability:** All R44 series helicopters.

**Requirements:** If the helicopter is embodied with any of the following Helipod NZ Limited Supplemental Type Certificates (STCs), notify the CAA by emailing [airworthinessdirectives@caa.govt.nz](mailto:airworthinessdirectives@caa.govt.nz)  
In the email notification please provide the AD number, the STC number, the number of STC systems in service, the helicopter operator name, and the helicopter registration.

<b><u>STC number:</u></b>	<b><u>STC description:</u></b>	<b><u>Eligible aircraft models:</u></b>
1/21E/18	Auxiliary baggage containers	Robinson R44 series
1/21E/19	Agricultural spray system	Robinson R44 series
4/21E/4	Agricultural spray system	Robinson R44 series
4/21E/7	Auxiliary baggage containers	Robinson R44 series
5/21E/11	Auxiliary baggage containers	Robinson R44 series
5/21E/21	Conversion of STC 5/21E/11 with a low profile door	Robinson R44 series
5/21E/23	Clipper pod installation	Robinson R44 series
6/21E/4	Ski pod installation	Robinson R44 series
6/21E/7	Auxiliary baggage containers	Robinson R44 series
6/21E/10	Conversion of STC 4/21E/7 with a top loading door	Robinson R44 series
6/21E/11	Conversion of STC 6/21E/7 with a top loading door	Robinson R44 series
8/21E/6	Conversion of STC 6/21E/10 and 6/21E/11 to a seed dispersing system	Robinson R44 series

**Note:** This AD is prompted by a review of the STCs designed and manufactured by Helipod NZ Limited. The CAA is aware that these STCs no longer have continued airworthiness support by Helipod NZ Limited, or a Part 146 Design Organization.

**Compliance:** By 23 April 2018.

**Effective Date:** 22 March 2018

**2019-12-18 Engine Air Induction Hose – Inspection**

**Applicability:** R44 II helicopters, all S/N.

**Compliance:** Within the next 10 hours TIS.

**Effective Date:** 9 July 2019

**\* 2020-05-11 Agricultural Spray System STCs – Inspection**

**Applicability:** R44 and R44 II helicopters fitted with an agricultural spray system embodied by NZ STC 4/21E/4.

R44 and R44 II helicopters fitted with an agricultural spray system embodied by FAA STC SR00286BO with spray systems S/N 0045 through to 0178 inclusive.

**Note 1:** The requirements in FAA AD 2020-05-11 are also applicable to R44 and R44 II helicopters fitted with an agricultural spray system embodied by STC 4/21E/4.

**Note 2:** The repetitive inspection (i.e. before every flight) required by paragraph (g)(1) of FAA AD 2020-05-11, may be accomplished by adding the inspection requirement to the tech log. The visual inspection may be performed and certified under the provision in Part 43 Appendix A.1 (7) by the holder of a current pilot licence, if that person is rated on the aircraft, appropriately trained and authorised (Part 43, Subpart B refers), and the maintenance is recorded and certified as required by Part 43.  
If there are any signs of stress, cracking, fatigue, or evidence of leaking at the spray system pump fitting, then a maintenance engineer must accomplish paragraph (g)(2) of FAA AD 2020-05-11 before further flight.

**Effective Date:** 16 April 2020