

Airworthiness Directive Schedule

Aeroplanes

Douglas DC3C-S1C3G (Dakota)

30 June 2016

- Notes**
1. This AD schedule is applicable to Douglas DC3C-S1C3G aircraft manufactured under FAA Type Certificate (TC) No. A-669 held by the Boeing Company (formerly Douglas Aircraft Company Inc, and McDonnell Douglas Corporation).
 2. For these aircraft compliance is required with the ADs listed in this AD Schedule including those ADs issued by the FAA (State of Design).
 3. The FAA is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for aircraft manufactured under FAA TC No. A-669. State of Design ADs can be obtained directly from the FAA web site at http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet
 4. The date above indicates the amendment date of this schedule.
 5. New or amended ADs are shown with an asterisk *

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- DCA/DC3/101 Propeller Feathering and Engine Oil Systems - Modification**
- Applicability:** All model DC-3 and C-47 series aircraft.
- Requirement:** Modify per Douglas SB C47-79.
- Compliance:** By 31 July 1955.
- DCA/DC3/102 Wing Tip - Modification**
- Applicability:** All model DC-3 and C-47 series aircraft.
- Requirement:** Modify per Douglas SB 215.
- Compliance:** By 31 July 1955.
- DCA/DC3/103 Rudder Hinge Bracket - Modification**
- Applicability:** All model DC-3 and C-47 series aircraft.
- Requirement:** Modify per Douglas SB 218.
- Compliance:** By 31 July 1955.
- DCA/DC3/106A Tachometer Marking - Modification**
- Applicability:** All model DC-3 and C-47 series with Pratt and Whitney Military R-2000 or Twin Wasp D series engines.
- Requirement:** On instrument panel in clear view of pilot affix a placard which reads:
"AVOID CONTINUOUS OPERATION OF THE ENGINES BETWEEN 2310 AND 2510 RPM"
- Compliance:** By 31 July 1955.
- * DCA/DC3/108B Fuel Selector Valve - Modification**
- Applicability:** All model DC-3 and C-47 series aircraft.
- Note:** This AD revised to clarify the requirements and align the AD with UK CAA AD 2843 PRE 80, which mandates the instructions in Modification Leaflet 1106. No action required for those aircraft embodied with universal joint P/N AN271-B8, Air Registration Board (ARB) Mod. 1106, or other approved alternative.
- Requirement:** Install an improved universal joint in the fuel selector valve control by embodying universal joint P/N AN271-B8, Air Registration Board (ARB) Mod. 1106, or other approved alternative.
(UK CAA AD 2843 PRE 80 refers)
- Compliance:** Compliance is required before issue of a New Zealand Certificate of Airworthiness, or at the next ARA, whichever is the sooner, unless previously accomplished.
- Effective Date:** DCA/DC3/108A - 31 July 1955
DCA/DC3/108B - 30 June 2016
- DCA/DC3/109 Control Boot - Modification**
- Applicability:** All model DC-3 and C-47 series aircraft.
- Requirement:** Modify per Douglas SB 231.
(FAA AD 46-13-05 refers)
- Compliance:** By 31 July 1955

DCA/DC3/110	Rudder Pedal Slide Tube - Modification
Applicability:	All model DC-3 and C-47 series aircraft.
Requirement:	Modify per Douglas SB C47-101. (FAA AD 46-43-02 refers)
Compliance:	By 31 July 1955
DCA/DC3/119	Hydraulic System - Modification
Applicability:	All model DC-3 and C-47 series aircraft.
Requirement:	Modify per Douglas SB 239. (UK CAA AD 2853 PRE 80 refers)
Compliance:	By 31 July 1955
DCA/DC3/121A	Elevator Hinge Brackets - Modification
Applicability:	All model DC-3 and C-47 series aircraft.
Requirement:	Modify per Douglas SL dated 15 January 1943. (FAA AD 43-12-01 refers)
Compliance:	By 28 February 1971
DCA/DC3/122A	Horizontal Stabiliser - Modification
Applicability:	All model DC-3 and C-47 series aircraft.
Requirement:	Modify per Douglas SB 226.
Compliance:	By 28 February 1971
DCA/DC3/123A	Elevator Ribs - Inspection
Applicability:	All model DC-3 and C-47 series aircraft.
Requirement:	Visually inspect elevator ribs for cracking. Cracked ribs without an 0.040" thick reinforcing doubler shall be either: <ul style="list-style-type: none"> (a) Reinforced with an 0.040" thick doubler and rebalanced per Douglas SB 244, (b) replaced with rib made from 0.040" thick material, or (c) modified and reinspected per an approved method. Cracked ribs with an 0.040" thick doubler shall be either: <ul style="list-style-type: none"> (a) Replaced with a rib made from 0.040" thick material, or (b) modified and reinspected per an approved method. Cracked ribs shall be rectified before further flight, except that aircraft may be returned to base for repair. (FAA AD 68-07-05 refers)
Compliance:	Ribs without an 0.040" doubler - at intervals not exceeding 250 hours TIS. Ribs with an 0.040" doubler - at intervals not exceeding 2500 hours TIS.
Effective Date:	28 February 1970

DCA/DC3/124A Elevator Torque Tube - Modification

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Apply anti-corrosive treatment per Douglas SB 217.
Compliance: By 28 February 1971

DCA/DC3/125A Elevator Tab Horn - Modification

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Modify per Douglas SB 234.
Compliance: By 28 February 1971

DCA/DC3/128B Flap Tube Attach Angles - Modification

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Modify per Douglas SB 216.
Compliance: By 28 February 1971

DCA/DC3/130A Outer Wing Ribs - Inspection

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Inspect per Douglas SB 230.
Compliance: At every wing overhaul.
Effective Date: 28 February 1970

DCA/DC3/131A Ice Protection Strips - Inspection

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Inspect per Douglas SB 115.
Compliance: At intervals not exceeding 2000 hours TIS.
Effective Date: 28 February 1978

DCA/DC3/132 Cancelled - Purpose fulfilled**DCA/DC3/135A Outer Wing/Centre Section Attach Angles - Inspection**

Applicability: All model DC-3 and C-47 series aircraft.
Requirement: Clean and remove paint then visually inspect, using at least 4 power magnification lens, upper and lower attach angles (particularly between front and rear spars) for cracks and corrosion between bolt holes.
Compliance: At intervals not exceeding 450 hours TIS, except that agricultural aircraft shall be inspected at intervals not exceeding 260 hours TIS. Defective angles shall be rectified before further flight.
Effective Date: 28 February 1970

DCA/DC3/137C Aileron Outer Hinge Assembly - Inspection**Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** To detect fatigue cracks and prevent possible failure:

1. Remove cover from aileron outer hinge brackets and visually inspect hinge assembly and associated structure external to the wing tip for cracking, in the web, in the flanges, and at rivets securing brackets to ribs.
2. Cut two 19mm (0.75") diameter holes located either side of aileron hinge rib at station 383 in wing tip upper or lower skin approximately 25mm (1") clear of rib flanges and 63.5mm (2.5") forward of wing tip trailing edge.
3. Insert a borescope or similar optical aid through holes and inspect rib between rear spar and trailing edge member for cracks in web and flanges.
4. Repair any defects found before further flight.
5. After inspection, holes must be appropriately sealed.

Compliance: At intervals not exceeding 260 hours TIS.**Effective Date:** 30 December 1988**DCA/DC3/139 Exhaust Collector Ring - Inspection****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** Visually inspect collector ring and support brackets for cracking at point where lugs P/N's 5115224-28, -29, -30, -33, -34 and -35, for attachment to engine blower section (bracket P/N 2118783), are welded to exhaust manifold collector segments P/N's 5115224-1, -2, -3, -4, -5, -6, and -7. Cracked components shall be rectified before further flight.**Compliance:** At intervals not exceeding 130 hours TIS.**Effective Date:** 31 August 1950**DCA/DC3/140 Control Surface Locks - Modification****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** Rework control locks as follows:

1. Permanently unite elevator and rudder locks with kite cord or approved equivalent, and attach bright red streamers not less than 3' long, mid way along each cord loop.
2. Identify aileron locks with 'PORT' and 'STARBOARD' in yellow and green paint respectively and attach a bright red streamer, not less than 3' long, to each.

Compliance: By 31 August 1951**DCA/DC3/142A Fire Extinguisher Installation - Modification****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** Modify per Douglas SB 246.
(FAA AD 47-06-07 refers)**Compliance:** By 28 February 1971

DCA/DC3/144 Geared Rudder Tab - Modification

Applicability: All model DC-3 and C-47 series aircraft.

Requirement: Modify per FAA AD 60-16-03.

Compliance: By 30 November 1961

DCA/DC3/145 Centre Section Front Spar Caps - Inspection

Applicability: All model DC-3 and C-47 series aircraft.

Requirement: 1. Inspect upper caps for cracking in area of landing gear cut-out corners.
2. Inspect rear cap in area of nacelle seal attachment screw holes using X-ray method.

Compliance: 1. Cut-out corners - at intervals not exceeding 300 hours TIS.
2. Seal attachment - at intervals not exceeding 1500 hours TIS.

Effective Date: 30 November 1960

DCA/DC3/147 Brake Installation - Inspection

Applicability: All model DC-3 and C-47 series aircraft.

Requirement: Inspect brake control valve tuning fork lever for cracks using magnetic particle or dye penetrant method.

Compliance: At intervals not exceeding 1200 hours TIS.

Effective Date: 31 October 1966

DCA/DC3/148A Centre Section Lower Skin - Inspection and Modification

Applicability: All model DC-3 and C-47 series aircraft.

Requirement: To prevent structural failure of the wings, inspect and modify as prescribed by FAA AD 92-06-15.

Compliance: As detailed in FAA AD 92-06-15.

Effective Date: DCA/DC3/148 - 31 October 1966
DCA/DC3/148A - 29 May 1992

DCA/DC3/150 Fuel Tank Filler Caps - Modification

Applicability: All model DC-3 and C-47 series aircraft.

Requirement: Fit each fuel tank filler cap well with a suitably hinged and fastened watertight cover.

Compliance: By 31 October 1967

DCA/DC3/151 Outer Wing/Centre Section, Attach Angles and Doublers - Inspection and Modification**Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** Inspect and modify per Douglas SB 262.
(FAA AD 66-18-02 refers)**Compliance:** As detailed in Douglas SB 262, except that agricultural aircraft shall be inspected at intervals not exceeding 2000 hours TIS or 2½ years, whichever is the sooner.**Effective Date:** 31 October 1969**DCA/DC3/152 Wing Attachment Angle Bolts - Torque Loading****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** When attaching outer wing to centre section, ensure that nut/bolt assembly is torque loaded within range 95 to 100 lb in, except that high strength bolts, NAS 1304 or as otherwise referred to in Douglas SB 262, shall be torque loaded within range 135 to 150 lb in. A properly calibrated torque wrench must be used. Bolts, nuts and washers (which must not be lubricated) should be installed at spars first, on upper and lower wing surfaces, then progressively tightened to evenly distribute load on attachment angles. Wings must be fully supported until all bolts have been torque loaded.**Compliance:** Whenever bolts are disturbed or renewed.**Effective Date:** 28 February 1970**DCA/DC3/153 Elevator Control System - Inspection****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** Inspect per FAA AD 78-18-02.**Compliance:** Within the next 25 hours TIS unless already accomplished, and thereafter at intervals not exceeding 600 hours TIS.**Effective Date:** 13 October 1978**DCA/DC3/154 Principal Structural Elements - Inspection****Applicability:** All model DC-3 and C-47 series aircraft.**Requirement:** To ensure continuing structural integrity, introduce an inspection programme which provides for inspection of the Principal Structural Elements (PSE) defined in Chapter I, Section 6 and Chapter III of McDonnell Douglas Corporation Report No. L26-013, "DC-3 Supplemental Inspection Document (SID)," Revision 1 dated January 1990. The non-destructive inspection techniques detailed in the SID provide acceptable methods for accomplishing the required inspections. All inspection results (negative or positive) must be reported to the McDonnell Douglas Corporation as prescribed in the SID and copied to CAA. Cracked structure must be repaired or replaced as prescribed in the SID before further flight.
(FAA AD 90-05-08 refers)**Compliance:** Inspection programme must be in place by 30 April 1991.**Effective Date:** 26 October 1990*The following NZCAR Part III leaflets are hereby cancelled B5-1, B5-1/1, B5-1/2, B5-1/3, B5-1/4, B5-1/5*

DCA/DC3/155 Severe Icing Conditions – AFM Revision**Applicability:** All model DC-3 aircraft.**Requirement:** To minimise the potential hazards associated with operating the aircraft in severe icing conditions (by providing more clearly defined procedures and limitations associated with such conditions), incorporate the following into the Aircraft Flight Manual (AFM):-**1. Limitations Section of the AFM**

“WARNING

Severe icing may result from environmental conditions outside of those for which the aircraft is certificated. Flight in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals) may result in ice build-up on protected surfaces exceeding the capability of the ice protection system, or may result in ice forming aft of the protected surfaces. This ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the aircraft.

- During flight, severe icing conditions that exceed those for which the aircraft is certificated shall be determined by the following visual cues. If one or more of these visual cues exists, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions.
- Unusually extensive ice accumulation on the airframe and windshield in areas not normally observed to collect ice.
- Accumulation of ice on the upper surface of the wing aft of the protected area.
- Accumulation of ice on the engine nacelles and propeller spinners farther aft than normally observed.
- Since the autopilot, when installed and operating, may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when any of the visual cues specified above exist, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the aircraft is in icing conditions.
- All wing icing inspection lights must be operative prior to flight into known or forecast icing conditions at night. This supersedes any relief provided by the Master Minimum Equipment List (MMEL).”

2. Normal Procedures Section of the Aircraft Flight Manual

“THE FOLLOWING WEATHER CONDITIONS MAY BE CONDUCIVE TO SEVERE IN-FLIGHT ICING:

- Visible rain at temperatures below 0 degrees Celsius ambient air temperature.
- Droplets that splash or splatter on impact at temperatures below 0 degrees Celsius ambient air temperature.

PROCEDURES FOR EXITING THE SEVERE ICING ENVIRONMENT:

These procedures are applicable to all flight phases from takeoff to landing. Monitor the ambient air temperature. While severe icing may form at temperatures as cold as -18 degrees Celsius, increased vigilance is warranted at temperatures around freezing with visible moisture present. If the visual cues specified in the Limitations Section of the AFM for identifying severe icing conditions are observed, accomplish the following:

- Immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the severe icing conditions in order to avoid extended exposure to flight conditions more severe than those for which the aircraft has been certificated.
- Avoid abrupt and excessive manoeuvring that may exacerbate control difficulties.

- Do not engage the autopilot.
- If the autopilot is engaged, hold the control wheel firmly and disengage the autopilot.
- If an unusual roll response or uncommanded roll control movement is observed, reduce the angle-of-attack.
- Do not extend flaps when holding in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility of ice forming on the upper surface further aft on the wing than normal, possibly aft of the protected area.
- If the flaps are extended, do not retract them until the airframe is clear of ice.
- Report these weather conditions to Air Traffic Control.”

Note: This may be accomplished by inserting a copy of this AD in the AFM or by incorporating a manufacturer's flight manual revision that contains the wording per this AD.

3. Flight Crew Notification

Operators must ensure that flight crew are aware of the flight manual revision.

(FAA AD 98-04-35 refers)

Compliance: By 10 May 1998

Effective Date: 10 April 1998