Airworthiness Directive Schedule

Aeroplanes

Cessna 414 Series

31 January 2013

Notes

1. This AD schedule is applicable to Cessna, manufactured under Federal Aviation Administration (FAA) Type Certificate No. A7CE.
2. As there are no aircraft of this type currently registered in New Zealand this AD schedule is not being maintained. The schedule will be reactivated once the New Zealand Civil Aviation Authority receives an application to register an aircraft of this type. At that time the applicable ADs will include all those published by the state of design (FAA).
3. The date above indicates the amendment date of this schedule.
4. New or amended ADs are shown with an asterisk *

Contents

DCA/CESS414/1A Cancelled – DCA/CESS414/16 now refers

DCA/CESS414/2 Trim Control Systems - Inspection

Applicability: All model 414 Series

Requirement: Inspect aileron, elevator, and rudder trim tabs, trim tab actuators and attaching linkages in accordance with Cessna MESL ME 77-34 Supplement No. 1

Compliance: Not later than next 25 hours TIS, and thereafter at intervals not exceeding 100 hours TIS

Effective Date: 20 March 1978

DCA/CESS414/3 Cancelled: Purpose Fulfilled

DCA/CESS414/4 Flexible Fuel Tanks - Inspection

Applicability: All model 414 Series with Goodyear BTC-39 series fuel tanks

Requirement: Accomplish the following:

1. Visual inspection per Cessna MESL ME 78-7.

2. Detailed inspection and pressure test per Cessna MESL ME 78-7.

(Goodyear SB FT-77-1 and FAA AD 78-05-06 also refer)

Compliance: 1. Within the next 25 hours TIS or 30 days whichever is the sooner.

2. Within the next 100 hours TIS or 6 months whichever is the sooner and thereafter at intervals not exceeding 12 months.

Effective Date: 21 July 1978

DCA/CESS414/5C Engine Mount - Inspection and Modification

Applicability: Model 414A S/N 414A0001 through 414A1206.

Requirement: To prevent failure of the engine mount beam caused by fatigue cracks, which could result in engine separation and loss of the aircraft, accomplish the following:-

(a) For aircraft with Cessna Kit SK414-17 incorporated, within the next 1,600 hours TIS (to coincide with the next engine overhaul), incorporate Cessna Kit SK414-19-1, and one of the following, as applicable, per the instructions to Service Kit SK414-19B, Revised: March 4, 1986:

(1) Cessna Kit SK414-19-2: All of the affected Model 414A that are equipped with propeller unfeathering accumulators;

(2) Cessna Kit SK414-19-3: Model 414A S/N 414A0001 through 414A0646;

(3) Cessna Kit SK414-19-5: Model 414A S/N 414A0647 through 414A1206.

(b) For aircraft without Cessna Kit SK414-17 incorporated, within the next 200 hours TIS (to coincide with the next inspection that would have been required by DCA/CESS414/5B, which is superseded by this AD), incorporate Cessna Kit SK414-19-1, and one of the following, as applicable, per the instructions to Service Kit SK414-19B, Revised: March 4, 1986:

(1) Cessna Kit SK414-19-2: All of the affected Model 414A that are equipped with propeller unfeathering accumulators;

(2) Cessna Kit SK414-19-4: Model 414A S/N 414A0001 through 414A0646;

(3) Cessna Kit SK414-19-5: Model 414A S/N 414A0647 through 414A1206.

(c) Within 9,600 hours TIS after the modification required by paragraph (a) or (b) of this AD, as applicable, and thereafter at intervals not to exceed 9,600 hours TIS, inspect, using radiographic methods, the engine mount beams for cracks per the ACCOMPLISHMENT INSTRUCTIONS section of Attachment to SB MEB85-3, Revised - August 23, 1985, as referenced in Cessna SB MEB85-3, Revision 2, dated October 23, 1987.

(1) If any crack is found in the left side (vertical portion) of the left engine beam of either nacelle, prior to further flight, obtain a repair scheme from the manufacturer, and then incorporate this repair scheme.

(2) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is less than 1.75 inches, prior to further flight, stop drill each end of each crack using a 0.098-inch drill bit.

(3) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is equal to or greater than 1.75 inches, but less than 2.75 inches, prior to further flight, obtain a repair scheme from the manufacturer, and then incorporate this repair scheme.

(4) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is equal to or greater than 2.75 inches, prior to further flight, replace the engine beam with a P/N specified in the instructions to Service Kit SK414-19B, Revised: March 4, 1986.

(d) If parts for any of the engine beam modifications required by paragraphs (a) and (b) of this AD have been ordered from the manufacturer but are not available, accomplish the following per the ACCOMPLISHMENT INSTRUCTIONS section of Attachment to SB MEB85-3, Revised - August 23, 1985, as referenced in SB MEB85-3, Revision 2, dated October 23, 1987:

(1) For aircraft with Cessna Kit SK414-17 incorporated, within the next 1,600 hours TIS (to coincide with the next engine overhaul); and thereafter at intervals not to exceed 1,600 hours TIS; provided no provision specified in paragraph (e) of this AD occurs, inspect the engine mount beams using radiographic methods.

(2) For aircraft without Cessna Kit SK414-17 incorporated, within the next 200 hours TIS (to coincide with next inspection that would have been required by DCA/CESS402/11, which is superseded by this AD); and thereafter at intervals not to exceed 200 hours TIS; provided no provision specified in paragraph (e) of this AD occurs, fluorescent penetrant inspect the engine mount beams.

(e) If any one of the following occurs during any of the inspections required by paragraph (d) of this AD, prior to further flight, accomplish the specified actions:

(1) If parts become available, terminate the repetitive inspections specified in paragraph (d) of this AD, incorporate the modification kits as required by paragraph (a) or (b) of this AD, and inspect the engine mount beams as specified in paragraph (c) of this AD;

(2) If any crack is found in the left side (vertical portion) of the left engine beam of either nacelle, obtain a repair scheme from the manufacturer, incorporate this repair scheme, and continue the repetitive inspections required by paragraph (d) of this AD;

(3) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is less than 1.75 inches, stop drill each end of each crack using a 0.098-inch drill bit, and continue the repetitive inspections required by paragraph (d) of this AD;

(4) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is equal to or greater than 1.75 inches, but less than 2.75 inches, obtain a repair scheme from the manufacturer, incorporate this repair scheme, and continue the repetitive inspections required by paragraph (d) of this AD; or

(5) If cracks are found in the top (horizontal portion) of the engine beam and the total length of the cracks is equal to or greater than 2.75 inches, replace the engine beam with a P/N specified in the instructions to Service Kit SK414-19B, Revised: March 4,

1986, and inspect the engine mount beams as specified in paragraph (c) of this AD. (FAA AD 97-26-16 refers)

Compliance: Compliance is required at the times specified within the requirement of this airworthiness directive.

Effective Date: DCA/CESS414/5B - 13 December 1985
DCA/CESS414/5C - 13 February 1998

DCA/CESS414/6 Windshield Installation - Inspection

Applicability: Model 414A S/Ns 414A0001 through 414A0858

Requirement: Inspect windshield attachment bolt holes and rework as necessary per Cessna SIL ME 83-33 & Rev. 1.
(FAA AD 84-03-04 refers)

Compliance: Within the next 50 hours TIS unless already accomplished

Effective Date: 6 April 1984

DCA/CESS414/7A Main Landing Gear Scissor Assembly - Modification

Applicability: Model 414 Series S/N 414-0001 through 414A1001

Requirement: To preclude possible loss of wheel alignment due to failure of scissor assembly washer allowing migration of connecting bolt, modify per Cessna SIL ME 83-37

Compliance: Within the next 100 hours TIS

Effective Date: DCA/CESS414/7 - 29 June 1984
DCA/CESS414/7A - 27 July 1984

DCA/CESS414/8 Nose Landing Gear Actuator Rod - Modification

Applicability: Model 414A S/N 414A0001 through 414A1003

Requirement: To preclude collapse of nose landing gear modify per Cessna SIL ME 84-10
(FAA AD 84-20-02 refers)

Compliance: Within the next 200 hours TIS

Effective Date: 16 November 1984

DCA/CESS414/9 Auxiliary Fuel Pump Wiring - Modification

Applicability: All model 414 Series which have been modified per Cessna MEB 88-3

Requirement: To overcome unsatisfactory features introduced by Cessna MEB 88-3, modify per Cessna MEB 88-3 Rev. 1

Compliance: Within the next 100 hours TIS unless already accomplished

Effective Date: 16 February 1990

DCA/CESS414/10 MLG Inner Bearing - Inspection

Applicability: Model 414 Series S/N 414-0001 through 414A0340

Aircraft fitted with P/N 5141109-1 bearing in each MLG are not affected

Requirement: To prevent jamming of the MLG inner and outer barrels, inspect per Cessna MEB 88-7. Rectify defective assemblies before further flight.
(FAA AD 90-02-13 refers)

Compliance: At 1300 hours TTIS or within next 300 hours TIS, whichever is the later and thereafter at intervals not to exceed 1000 hours TIS

Effective Date: 21 September 1990

DCA/CESS414/11A Fuel Inlet Float Valve - Inspection and Replacement

Applicability Model 414A, S/N 414A0001 through 414A1212.

Requirement: To prevent possible loss of engine power caused by failure of a fuel inlet float valve, accomplish the following:-

1. For aircraft fitted with fuel inlet float valve P/N 9910242-1, -4, -5, -6, -7, -8, -205, -206, -207 and -208:

(a) Perform the appropriate valve test per paragraph 2 or 3 of Cessna MEB93-10R1. Any valve which fails the tests, must be replaced with a P/N 9910242-11 or -12 valve before further flight.

(b) Replace the valve with a P/N 9910242-11 or -12 valve per MEB93-10R1.

2. For aircraft fitted with fuel inlet float valve P/N 9910242-9 or -10:

(a) Perform the appropriate valve test per paragraph 2 or 3 of Cessna MEB93-10R1. Any valve which fails the tests, must be replaced with a P/N 9910242-11 or -12 valve before further flight.

(b) Install the K74D retainer kit per MEB93-10R1.

(FAA AD 95-09-13 also refers)

Compliance: 1. (a) Test within next 200 hours TIS and thereafter at intervals not to exceed 200 hours TIS until valve replacement per 1(b), then test at intervals not to exceed 600 hours TIS.

(b) At 1800 hours TTIS or within next 12 months, whichever is the later.

2. (a) Test within next 200 hours TIS and thereafter at intervals not to exceed 200 hours TIS until valve modification per 2(b), then test at intervals not to exceed 600 hours TIS.

(b) Within next 12 months.

Effective Date: DCA/CESS414/11 13 April 1993
DCA/CESS414/11A 7 July 1995

DCA/CESS414/12 Landing Gear, Emergency Extension System - Modification

Applicability: Model 414A All S/N's

Requirement: To preclude possible emergency extension system malfunction, embody an end fitting on operating cable which, when inner cable is operated, fully restrains cable outer conduit and positively locates clamp assembly

Compliance: By 31 January 1997

Effective Date: 20 December 1996

DCA/CESS414/13 Fuel, Oil or Hydraulic Hose - Removal

Applicability: All model 414 series, all S/Ns.

Requirement: To prevent fuel, oil or hydraulic systems failure caused by a collapsed hose, check the aircraft maintenance records for any fuel, oil or hydraulic hose, Cessna P/N S51-10, replaced between March 1995 and 14 March 1997. If any fuel, oil or hydraulic hose, Cessna P/N S51-10, has been replaced between March 1995 and 14 March 1997, accomplish the following:-

Before further flight physically check for a diagonal or spiral external reinforcement wrap per Cessna SB MEB96-10. Replace any P/N S51-10 hose that has a diagonal or spiral pattern external reinforcement wrap with a P/N S51-10 hose that has a criss-cross pattern external wrap per SB MEB96-10.
(FAA AD 97-01-13 refers)

Compliance: Within next 60 hours TIS or 60 days, whichever is the sooner.

Effective Date: 10 April 1998

DCA/CESS414/14 Severe Icing Conditions - Flight Manual Revision

Applicability: Models 414 and 414A

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 Aircraft Flight Manual

"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 EXITINGTHE 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 98-04-28 refers)

Compliance: By 10 May 1998

Effective Date: 10 April 1998

DCA/CESS414/15 Engine Exhaust System Wye Tube - Replacement

Applicability: Model 414A, S/N 1 through 1212 that are equipped with any wye tube, P/N 9910299-25 or P/N 9910299-26, in the engine exhaust system.

Requirement: To detect and correct exhaust leaks caused by non-welded exhaust system components, which could result in aluminium fuel lines bursting with consequent fuel spillage, an aircraft fire, and/or an explosion, accomplish the following:-

Remove from service any P/N 9910299-25 or P/N 9910299-26 engine exhaust system wye tube. These P/N 9910299-25 or P/N 9910299-26 wye tubes may be replaced with any of the following per the instructions in the applicable maintenance manual or other applicable approved document:

P/N 9910299-8 (for the P/N 9910299-25) or P/N 9910299-9 (for the P/N 9910299-26) wye tubes; or

Any other FAA-approved engine exhaust system wye tube that is not P/N 9910299-25 or P/N 9910299-26.

As of the receipt of this priority letter AD, no person shall install, on any affected aircraft, any P/N 9910299-25 or P/N 9910299-26 engine exhaust system wye tube. (FAA AD 98-24-14 refers)

Compliance: Prior to further flight.

Note: Cessna is considering issuing service information pertaining to this subject. This AD takes precedence over any existing or future service information on this subject.

Effective Date: 19 November 1998

DCA/CESS414/16 Exhaust System – Inspection, Pressure Testing and V Band Clamp Replacement

Applicability: All model 414 and 414A.

Requirement: To detect and correct cracks and corrosion in the exhaust system, which could result in exhaust system failure and a possible uncontrollable in-flight fire, accomplish FAA AD 2000-01-16.

A copy of FAA AD 2000-01-16 will be provided free of charge to aircraft owners and maintenance engineers. A copy may be obtained from:
The Library
Civil Aviation Authority
PO Box 31441
Lower Hutt

Compliance: Compliance is required at the times specified within FAA AD 2000-01-16.

Effective Date: 24 February 2000