



AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.

Number:

CF-2023-74

Effective Date:

5 December 2023

ATA:

53

Type Certificate:

A-276

Subject:

Fuselage – Non-Destructive Testing Manual – Revision of Calibration Standards for Ultrasonic Inspection Procedures

Applicability:

MHI RJ Aviation ULC. (MHIRJ) (formerly Bombardier Inc.) model CL-600-2B19 aeroplanes, all serial numbers.

Compliance:

As indicated below, unless already accomplished.

Background:

MHIRJ discovered that ten Non-Destructive Testing Manual (NDTM) Part 4 Ultrasound Inspection (UT) Procedures, associated with Airworthiness Limitations (AWL) Tasks and Structural Deviation Inspection Requirements (SDIR) potentially could not detect cracks. This is due to differences in sound attenuation between aeroplane structures assembled with faying surface sealant and the Calibration Reference Standards (CRS) used to calibrate the UT probes which were assembled without faying surface sealant. MHIRJ revised these NDTM Part 4 UT Procedures to introduce new CRS with faying surface sealant. Undetected cracks could lead to structural failure of the aeroplane.

This AD prohibits use of the discrepant NDTM Part 4 UT Procedures and mandates the use of the revised NDTM Part 4 UT Procedures when performing the inspections required by the associated AWL and SDIR Tasks.

Corrective Actions:

- A. Perform the AWL and SDIR Tasks listed in Table 1 below, as applicable to the aeroplane configuration, at the intervals specified in the Maintenance Requirements Manual (MRM) Part 2 using the associated revised NDTM Part 4 UT Procedures listed in Table 1.
- B. For aeroplanes that, as of the effective date of this AD, have been inspected as required by the AWL and SDIR Tasks listed in Table 1 below, as applicable to the aeroplane configuration, using earlier revisions of the associated NDTM Part 4 UT Procedures, perform the AWL and SDIR Tasks within the Phase-In as specified in Table 1 using the revised associated NDTM Part 4 UT Procedures.
- C. As of the effective date of this AD, it is prohibited to use NDTM Part 4 UT Procedures covered in this AD that have issue dates prior to the issue date shown in Table 1 below when performing AWL Tasks and SDIR Tasks listed in Table 1.

Table 1: List of AWL Tasks and associated NDTM Part 4 UT Procedures

AWL	NDTM Part 4 Procedure	Temporary Revision (TR) number Issue Date 15 Sep 2023	NDTM Part 4 Procedure Title	Phase-In
53-41-182	53-41-182	TR 53-128	Inspection of the Lateral Beam Web and Lower Cap Flanges at FS513.00	Within 6000 Flight Cycles (FC) from the effective date of this AD
53-41-141	53-41-141	TR 53-131	Inspection of the Lateral Beam Web at FS513.00 Between LBL3.10 and RBL3.10	Within 2000 FC from the effective date of this AD
53-61-110	53-61-110	TR 53-130	Special Detailed Inspection of the Engine Support Beam Upper and Lower Cap Angles at FS625.3 and FS640.0, Between LBL36.2 and RBL36.2	Within 2000 FC from the effective date of this AD
53-61-114	53-61-114	TR 53-135	Special Detailed Inspection of the Engine Support Beam at FS640.0 Between LBL18.0 and RBL18.0	Within 2000 FC from the effective date of this AD
53-61-142	53-61-142	TR 53-129	Special Detailed Inspection of the Engine Support Beam Upper and Lower Cap Angles at FS625.3 and FS640.0, Between LBL36.2 and RBL36.2	Within 6000 FC from the effective date of this AD
53-61-148	53-61-148	TR 53-134	Special Detailed Inspection of the Engine Support Beam, Reinforcement to FS640.00 Cap Angles for Baseline Structure Already Repaired by GREO-601R-53-61-345	If the total accumulated FC since performing the structural modification is less than 27 000 FC, inspect before accumulating 29 000 FC from performing the structural modification or at the next planned repeat inspection, whichever occurs first.
53-61-149	53-61-149	TR 53-133	Special Detailed Inspection of the Engine Support Beam, FS640.00 Cap Angles, preventative or Repair Modification	
53-61-152	53-61-152	TR 53-132	Alternative Means of Compliance (AMOC) To AD CF-2001-26R1 (Service Bulletin 601R-53-071), Inspection of the Upper and Lower Webs and Doublers, and AFT Web of the Repair Engine Support Beam at FS640.00	If the total accumulated FC since performing the structural modification is equal to 27 000 FC or more from performing the structural modification, inspect within 2000 FC from the effective date of this AD.
SDIR 601R-53-61-345(POST Repair Engineering Order (REO) 601R-53-61-345)	51-53-61-345	TR 51-028	Special Detailed Inspection of the Repair to Engine Support Beam Upper and Lower Webs	If the total accumulated FC since performing the structural repair is less than 27 000 FC from performing the structural repair, inspect before accumulating 29 000 FC from performing the structural repair or at the next planned repeat inspection, whichever occurs first.
SDIR 601R-53-61-870(POST REO 601R-53-61-870)	51-53-61-870	TR 51-027	Inspection of the Upper and Lower Webs and Doublers, and AFT Web of the Repair Engine Support Beam at FS640.00	If the total accumulated FC since performing the structural repair is 27 000 FC or more from performing the structural repair, inspect within 2000 FC from the effective date of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 21 November 2023

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