
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Boeing 747 Series Aeroplanes

AD/B747/275 Thrust Reverser Inspections, Modifications and Tests 7/2002

Applicability: Model 747 series aeroplanes powered by General Electric CF6-45 or -50 series engines.

- Requirement:
1. (a) Carry out the applicable detailed visual inspections and tests of the thrust reverser stow/deploy switches, bullnose seals and airmotor brake on each engine, in accordance with Work Package 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin (ASB)747-78A2160, Revision 1, dated 12 April, 2001; **OR**
 - (b) Install a thrust reverser actuation system (TRAS) lock on each thrust reverser half of each engine, in accordance with Boeing Service Bulletin (SB) 747-78-2150, Revision 1, dated 2 July, 1998. All of the modifications described in the Service Bulletins listed in paragraphs I.K.1.h. and I.K.1.j. of Boeing SB 747-78-2150, Revision 1, must be accomplished, as applicable, in accordance with those Service Bulletins, prior to, or concurrently with, the accomplishment of the installation of the TRAS lock.
 2. Repeat applicable detailed visual inspections and tests required by Requirement 1(a).
 3. Carry out a functional test of the TRAS lock on each thrust reverser half, in accordance with the appropriate approved maintenance data.
 4. (a) Repeat functional test if no discrepancy detected while carrying out Requirement 3.
 - (b) Repair in accordance with the procedures specified in the appropriate approved maintenance data if any discrepancy is detected while carrying out Requirement 3; **AND**
 - (c) Repeat Requirement 3.
 5. Carry out the applicable detailed visual inspections and tests of the overpressure shutoff valve electrical connectors, flexible shafts, directional pilot valve and the micro switch pack for each engine, in accordance with Work Package II of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-78A2160, Revision 1, dated 12 April, 2001.

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6. Repeat applicable detailed visual inspections and tests required by Requirement 5.
7. (a) If any of the inspections and tests required by Requirement 1(a) and 5 of this AD cannot be successfully performed, or if any discrepancy is detected during the inspections and tests, repair in accordance with Boeing ASB 747-78A2160, Revision 1, dated 12 April, 2001; **OR**
 - (b) Operate the aeroplane in accordance with the conditions and limitations of the Minimum Equipment List (MEL), applicable to the registration mark of the aeroplane, provided the MEL only approves dispatch with:
 - (i) no more than one thrust reverser on the aeroplane inoperative; and
 - (ii) the thrust reverser is deactivated in accordance with approved maintenance data; **AND**
 - (c) If the aeroplane is operated in accordance with Requirement 7(b), repair the effected thrust reverser in accordance with Boeing ASB 747-78A2160, Revision 1, dated 12 April, 2001; **AND**
 - (d) Repeat the inspections and tests required by Requirement 1(a) or 5, as applicable, after repair under Requirement 7(c); **AND**
 - (e) Carry out Requirement 7(a) if any inspection or test carried out under Requirement 7(d) was unsuccessful.

Spares

If, after incorporation of the modification required by Requirement 1(b) of this Directive, it becomes necessary to install a thrust reverser assembly that does not have the TRAS locks installed, the aeroplane may be dispatched in accordance with the conditions and limitations specified in the MEL approved for that aeroplane by registration mark, provided that the thrust reverser assembly that does not have the TRAS locks installed is deactivated in accordance with approved maintenance data. No more than one thrust reverser on any aeroplane may be deactivated under the provisions of this paragraph. Within 10 days after deactivation of the thrust reverser, install a thrust reverser assembly that has the TRAS locks installed, reactivate the thrust reverser and functionally test in accordance with the appropriate approved maintenance data. Repair in accordance with the procedures specified in the appropriate approved maintenance data if any discrepancy is detected while carrying out the tests.

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If, prior to incorporation of the modification required by Requirement 1(a) of this Directive, it becomes necessary to install a thrust reverser assembly that has the TRAS locks installed, the aeroplane may be dispatched in accordance with the conditions and limitations specified in the MEL approved for that aeroplane by registration mark, provided that the thrust reverser assembly that has the TRAS locks installed is deactivated in accordance with approved maintenance data. No more than one thrust reverser on any aeroplane may be deactivated under the provisions of this paragraph. Within 10 days after deactivation of the thrust reverser, install a thrust reverser assembly that has the TRAS locks installed, reactivate the thrust reverser and functionally test in accordance with the appropriate approved maintenance data. Repair in accordance with the procedures specified in the appropriate approved maintenance data if any discrepancy is detected while carrying out the tests.

Terminating Action

Accomplishment of the actions contained in Requirement 1(b) terminates the repetitive inspections required by Requirement 1(a) and 5 of this AD.

Accomplishment of the installation specified in Boeing SB 747-78-2150, dated 20 March, 1997, terminates the requirement to comply with the installation contained in Requirement 1(b) of this AD.

Note: FAA AD 2000-14-11 Amdt 39-11821 refers

- Compliance:
- For Requirement 1(a) **OR** (b): Prior to the issue of a Certificate of Airworthiness.
 - For Requirement 2: At intervals not exceeding 1,500 flight hours until accomplishment of Requirement 1(b).
 - For Requirement 3: Within 3,000 flight hours after accomplishment of Requirement 1(b) modifications.
 - For Requirement 4(a): At intervals not exceeding 3,000 flight hours.
 - For Requirement 4(b) and (c): Prior to further flight.
 - For Requirement 5: Prior to the issue of a Certificate of Airworthiness.
 - For Requirement 6: At intervals not exceeding 18 months until accomplishment of Requirement 1(b).
 - For Requirement 7(a) or (b): Prior to further flight.
 - For Requirement 7(c): Within 10 days after thrust reverser deactivation in accordance with the provisions of Requirement 7(b).
 - For Requirement 7(d) and (e): Prior to further flight.
- This Airworthiness Directive becomes effective on 11 July 2002.

Boeing 747 Series Aeroplanes

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Background: A study conducted by the manufacturer indicated that an uncommanded in-flight deployment of a thrust reverser could occur in climb at a high speed and engine power setting. Such a condition could result in a significant reduction in controllability of an aeroplane. The actions specified in this Directive are intended to ensure the integrity of the fail-safe features of the thrust reverser system by preventing possible failure modes, which could result in inadvertent deployment of a thrust reverser in-flight.



James Coyne
Delegate of the Civil Aviation Safety Authority

29 May 2002