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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0791; Directorate Identifier 2008-NM-213-AD; Amendment 39-16303; AD 2010-10-24]

RIN 2120-AA64

Airworthiness Directives; Dassault-Aviation Model FALCON 2000 and FALCON 2000EX Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

During the overhaul of a Main Landing Gear (MLG) of a Falcon 2000, the sleeve on the hydraulic flow restrictor in the shock absorber was found displaced, because of the rupture of its three retaining screws. * * *

Failure of the retaining screws has been determined to be the final phase of a slow unscrewing process under normal operational conditions. The unsafe condition only exists once the three screws have failed.

* * * * *

The unsafe condition is failure of three retaining screws of the MLG shock absorber, which could adversely affect the structural integrity of these airplanes. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective June 25, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 25, 2010.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Tom Rodriguez, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1137; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on September 24, 2009 (74 FR 48668). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

During the overhaul of a Main Landing Gear (MLG) of a Falcon 2000, the sleeve on the hydraulic flow restrictor in the shock absorber was found displaced, because of the rupture of its three retaining screws. In this situation, the energy dissipation function of the shock absorber is lost and high loads may be transmitted to the aircraft structure during landing. Structural integrity may thus not be guaranteed over the entire certified landing conditions domain particularly in combination of high landing weight and high vertical speed.

Failure of the retaining screws has been determined to be the final phase of a slow unscrewing process under normal operational conditions. The unsafe condition only exists once the three screws have failed.

For the reasons described above, Airworthiness Directive (AD) 2008-0178 had been released to require a repetitive borescope inspection of the flow restriction system [for damage; such as condition of the sleeve of the dumping device, and broken or loose screws] and, if necessary, repair of the shock absorber per Dassault Aviation Service Bulletins (SB) F2000-367 and F2000EX-185 (corresponding to modification M3120) developed with the landing gear manufacturer's instructions. * * *

After qualification testing, modification M3120 has been approved by EASA as a definitive solution.

As a consequence, the present AD retains the requirements of AD 2008-0178 which is superseded and introduces M3120 as a terminating action to the repetitive inspections requirement, and further mandates its embodiment no later than the next MLG shock absorber overhaul.

The unsafe condition is failure of three retaining screws of the MLG shock absorber, which could adversely affect the structural integrity of these airplanes. The repair can include additional inspections, modifying the shock absorbers, and contacting the manufacturer for repair instructions and doing the repair. You may obtain further information by examining the MCAI in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Request To Extend Compliance Time

Dassault-Aviation (Dassault) asks that we extend the compliance time for repairing the shock absorber if any damage is found from before further flight to the compliance times specified in European Aviation Safety Agency (EASA) AD 2009-0050, dated March 5, 2009. Dassault states that requiring immediate repair of the shock absorber before further flight is unnecessary because it has been established that a two-tier approach of prompt inspection followed by repair, if necessary, is a more efficient means of addressing the unsafe condition. Dassault adds that this requirement would cause scheduling issues at maintenance facilities with trained personnel available to perform the repair, and would result in unnecessary grounding of its airplanes.

We agree with the commenter. The compliance times referred to in EASA AD 2009-0050, and specified in Dassault Mandatory Service Bulletins F2000-366, Revision 2; and F2000EX-167, Revision 1; both dated December 1, 2008; are based on technical information and calculations coordinated between EASA and Dassault. The compliance times for the repairs are based on inspection results showing the number of loose or broken screws that attach the sleeve of the damping device to the shock absorber. If one, two, or three screws are loose with a visible gap, the screws must be repaired within 12 months after the damage is found. If one screw is broken the screw must be repaired within 6 months after the damage is found. If two screws are broken, the screws must be repaired within 10 flight cycles after the damage is found. And, if three screws are broken and the damping device is no longer attached, the repair must be done before further flight. Extending the compliance times for the repairs based on the number of loose or broken screws would not adversely affect airplane safety. Therefore, we have changed the requirements specified in paragraphs (f)(1), (f)(2), and (f)(3) of this AD and added a new Table 1 to allow the repair to be done at the applicable compliance times specified in the Accomplishment Instructions of the applicable service bulletin. We have reidentified subsequent tables accordingly. In addition, we have removed the compliance time difference specified in paragraph (1) under Note 1 of the NPRM.

Request To Change the Description of the Unsafe Condition

Dassault also asks that we revise the NPRM to remove the language describing the unsafe condition as failure of three retaining screws of the MLG shock absorber, which could result in collapse of the landing gear during ground maneuvers or landing. Dassault states that, based on engineering studies, it believes that the failure or absence of these screws will not result in collapse of the landing gear during ground maneuvers or landing. Dassault adds that, as specified in the EASA AD, the failure of these screws would only potentially affect the life of the airplane structure under all landing conditions, particularly with respect to the combination of high landing weights and high vertical speeds at touchdown. Dassault notes that the current language in the NPRM has caused needless alarm and concern among Model Falcon 2000 and Falcon 2000EX owners and operators.

We agree with the commenter for the reasons provided. Based on those reasons, we have changed the description of the unsafe condition throughout this AD as follows: "The unsafe condition is failure of three retaining screws of the MLG shock absorber, which could adversely affect the structural integrity of these airplanes."

Explanation of Change Made to This AD

We have changed this AD to identify the legal name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

Explanation of Change to Costs of Compliance

After the NPRM was issued, we reviewed the figures we have used over the past several years to calculate AD costs to operators. To account for various inflationary costs in the airline industry, we find it necessary to increase the labor rate used in these calculations from \$80 per work hour to \$85 per work hour. The cost impact information, below, reflects this increase in the specified hourly labor rate.

Costs of Compliance

We estimate that this AD will affect 236 products of U.S. registry. We also estimate that it will take about 25 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$501,500, or \$2,125 per product.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the

national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:



2010-10-24 Dassault-Aviation: Amendment 39-16303. Docket No. FAA-2009-0791; Directorate Identifier 2008-NM-213-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective June 25, 2010.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all Dassault-Aviation Model FALCON 2000 and FALCON 2000EX airplanes, certificated in any category.

Subject

- (d) Air Transport Association (ATA) of America Code 32: Landing gear.

Reason

- (e) The mandatory continuing airworthiness information (MCAI) states:

During the overhaul of a Main Landing Gear (MLG) of a Falcon 2000, the sleeve on the hydraulic flow restrictor in the shock absorber was found displaced, because of the rupture of its three retaining screws. In this situation, the energy dissipation function of the shock absorber is lost and high loads may be transmitted to the aircraft structure during landing. Structural integrity may thus not be guaranteed over the entire certified landing conditions domain particularly in combination of high landing weight and high vertical speed.

Failure of the retaining screws has been determined to be the final phase of a slow unscrewing process under normal operational conditions. The unsafe condition only exists once the three screws have failed.

For the reasons described above, Airworthiness Directive (AD) 2008-0178 had been released to require a repetitive borescope inspection of the flow restriction system [for damage; such as condition of the sleeve of the dumping device, and broken or loose screws] and, if necessary, repair of the shock absorber per Dassault Aviation Service Bulletins (SB) F2000-367 and F2000EX-185 (corresponding to modification M3120) developed with the landing gear manufacturer's instructions. * * *

After qualification testing, modification M3120 has been approved by the European Aviation Safety Agency (EASA), as a definitive solution.

As a consequence, the present AD retains the requirements of AD 2008-0178 which is superseded and introduces M3120 as a terminating action to the repetitive inspections requirement, and further mandates its embodiment no later than the next MLG shock absorber overhaul.

The unsafe condition is failure of three retaining screws of the MLG shock absorber, which could adversely affect the structural integrity of these airplanes. The repair can include additional inspections, modifying the shock absorbers, and contacting the manufacturer for repair instructions and doing the repair.

Actions and Compliance

(f) Unless already done, do the following actions.

(1) For airplanes on which each new or previously overhauled MLG shock absorber has accumulated 4,200 or more total landings since new or overhauled as of the effective date of this AD: Within 8 months after the effective date of this AD, inspect the shock absorber for damage, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable. If any damage is found, repair the shock absorber at the time specified in Table 1 of this AD, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable.

(2) For airplanes on which each new or previously overhauled MLG shock absorber has accumulated 1,900 or more total landings and less than 4,200 total landings since new or overhauled as of the effective date of this AD: At the applicable compliance time specified in paragraph (f)(2)(i) or (f)(2)(ii) of this AD, inspect the shock absorber for damage, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable. If any damage is found, repair the shock absorber at the applicable time specified in Table 1 of this AD, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable.

(i) For airplanes on which 6 or more steep-approach landings have been performed before the effective date of this AD: Within 8 months after the effective date of this AD, do the actions required by paragraph (f)(2) of this AD.

(ii) For airplanes on which less than or equal to 5 steep-approach landings have been performed before the effective date of this AD: Within 18 months after the effective date of this AD or 5,000 total landings since new or overhauled, whichever occurs first, do the actions required by paragraph (f)(2) of this AD.

(3) For airplanes on which each new or previously overhauled MLG shock absorber has accumulated less than 1,900 total landings since new or overhauled as of the effective date of this AD: Before the accumulation of 3,000 total landings since new or overhauled, inspect the shock absorber for damage, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable. If any damage is found, repair the shock absorber at the time specified in Table 1 of this AD, in accordance with the Accomplishment Instructions of Dassault Mandatory Service Bulletin F2000-366, Revision 2; or F2000EX-167, Revision 1; both dated December 1, 2008; as applicable.

Table 1 – Compliance Times for Repair

Damage Found	Compliance Time
1, 2, or 3 loose screws	Within 12 months after the finding
1 broken screw	Within 6 months after the finding
2 or 3 broken screws	Within 10 flight cycles after the finding
3 broken screws with detached damping device	Before further flight

(4) Repeat the inspections required by paragraphs (f)(1), (f)(2), and (f)(3) of this AD, as applicable, thereafter at intervals not to exceed 1,900 landings until accomplishment of the actions specified in paragraph (f)(6) of this AD.

(5) Accomplishment of any inspection or repair before the effective date of this AD in accordance the applicable service information specified in Table 2 of this AD is acceptable for compliance with the corresponding requirements of this AD.

Table 2 – Credit Service Information

Document	Revision	Date
Dassault Mandatory Service Bulletin F2000-366	1	August 18, 2008
Dassault Mandatory Service Bulletin F2000EX-167	Original	August 18, 2008
Dassault Service Bulletin F2000-366	Original	April 18, 2008

(6) For airplanes on which Dassault Modification M3120 has not been embodied as of the effective date of this AD: Before the accumulation of 6,000 total landings or 144 months on each new or previously overhauled MLG shock absorber, whichever occurs first: Modify the existing left- and right-hand MLG shock absorbers by installing MLG shock absorbers with part number (P/N) D23365000-4 or P/N D23366000-4 (for Model Falcon 2000 airplanes), or P/N D23745000-2 or P/N D23746000-2 (for Model Falcon 2000EX airplanes), in accordance with the Accomplishment Instructions of Dassault Service Bulletin F2000EX-185, Revision 2; or F2000-367, Revision 4; both dated February 4, 2009; as applicable. Where these service bulletins specify contacting the manufacturer for repair instructions, contact the manufacturer and do the repair at the applicable compliance times specified in the Accomplishment Instructions of the applicable service bulletin.

(7) Accomplishment of the modification required by paragraph (f)(6) of this AD before the effective date of this AD in accordance with the applicable service information specified in Table 3 of this AD is acceptable for compliance with the corresponding requirements of this AD.

Table 3 – Credit Service Information for Modification

Document	Revision	Date
Dassault Service Bulletin F2000EX-185	Original	August 18, 2008
Dassault Service Bulletin F2000EX-185	1	December 1, 2008
Dassault Service Bulletin F2000-367	1	July 10, 2008
Dassault Service Bulletin F2000-367	2	August 18, 2008
Dassault Service Bulletin F2000-367	3	December 1, 2008

(8) Accomplishment of the modification required by paragraph (f)(6) of this AD ends the repetitive inspections required by paragraph (f)(4) of this AD.

(9) As of the effective date of this AD, no person may install on any airplane as a replacement part, a MLG shock absorber, unless it has been modified according to the requirements specified in paragraph (f)(6) of this AD.

FAA AD Differences

Note 1: This AD differs from the MCAI and/or service information as follows: Paragraph (1) of the MCAI requires updating the operator's maintenance program; however, that action is not required by this AD. The maintenance program does not require FAA approval.

Other FAA AD Provisions

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to Attn: Tom Rodriguez, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-1137; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(h) Refer to MCAI EASA Airworthiness Directive 2009-0050, dated March 5, 2009, and the service information identified in Table 4 of this AD, for related information.

Table 4 – Service Information

Document	Revision	Date
Dassault Mandatory Service Bulletin F2000-366	2	December 1, 2008
Dassault Mandatory Service Bulletin F2000EX-167	1	December 1, 2008
Dassault Service Bulletin F2000-367	4	February 4, 2009
Dassault Service Bulletin F2000EX-185	2	February 4, 2009

Material Incorporated by Reference

(i) You must use the applicable service information contained in Table 5 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

Table 5 – Material Incorporated by Reference

Document	Revision	Date
Dassault Mandatory Service Bulletin F2000-366	2	December 1, 2008
Dassault Mandatory Service Bulletin F2000EX-167	1	December 1, 2008
Dassault Service Bulletin F2000-367	4	February 4, 2009
Dassault Service Bulletin F2000EX-185	2	February 4, 2009

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Dassault Falcon Jet, P.O. Box 2000, South Hackensack, New Jersey 07606; telephone 201-440-6700; Internet <http://www.dassaultfalcon.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on May 4, 2010.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.