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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0182; Directorate Identifier 2012-CE-005-AD; Amendment 39-16958; AD 2012-03-52]

RIN 2120-AA64

Airworthiness Directives; Mooney Aviation Company, Inc. (Mooney) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Mooney Aviation Company, Inc. (Mooney) Models M20R and M20TN airplanes. This emergency AD was sent previously to all known U.S. owners and operators of these airplanes. This AD requires inspecting the tail pitch trim assembly for correct positioning and proper attachment and inspecting the Huck Bolt fasteners for proper security with repair as necessary. The AD also requires sending the inspection results to the FAA and Mooney. This AD was prompted by a report of an incident on a Mooney Model M20TN airplane regarding failure of the tail pitch trim assembly, which could result in loss of control. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective February 29, 2012 to all persons except those persons to whom it was made immediately effective by Emergency AD 2012-03-52, issued on February 10, 2012, which contained the requirements of this amendment.

The Director of the Federal Register approved the incorporation by reference of a certain publication identified in the AD as of February 29, 2012.

We must receive comments on this AD by April 16, 2012.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Mooney Aviation Company, Inc., 165 Al Mooney Road North, Kerrville, Texas 78028; telephone: (830) 896-6000; email: technicalsupport@mooney.com; Internet: www.mooney.com. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

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 this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Andrew McAnaul, Aerospace Engineer, ASW-150 (c/o MIDO-43), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; telephone: (210) 308-3365; facsimile: (210) 308-3370; email: andrew.mcanaul@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On February 10, 2012, we issued Emergency AD 2012-03-52, which requires inspecting the trim fitting, hinge, and filler plate of the tail pitch trim assembly for correct positioning and proper attachment and inspecting the Huck Bolt fasteners for proper security on certain Mooney Aviation Company, Inc. (Mooney) Models M20R and M20TN airplanes. If incorrect positioning or improper/loose attachment is found, the owner/operator must contact Mooney for FAA-approved repair instructions. The AD also requires sending the inspection results to the FAA and Mooney. This emergency AD was sent previously to all known U.S. owners and operators of these airplanes.

This AD action was prompted by a report of an incident on a Mooney Model M20TN airplane regarding the tail pitch trim assembly. In this report, the affected airplane experienced an uncommanded significant pitch up attitude within seconds after takeoff and during the climb. The pilot then pushed the yoke forward and the aircraft still maintained a nose-up attitude.

The pilot stated that the "forces acting on the control column were so large that single pilot wasn't able to handle that for more than just a few minutes." The pilot and copilot had to use their knees to hold forward pressure on the flight controls to aid in preventing a departure from controlled flight. They had to maintain between 80 to 100 percent power to keep the aircraft at about 90 knots indicated airspeed to prevent the airplane from stalling. The only way they were able to descend was to introduce a series of turns.

On Mooney Models M20TN and M20R airplanes, the pitch trim is adjusted by rotating the entire tail assembly. The actuating arm pushes on a hinge fixed to the empennage forward bulkhead. The hinge attaches to the bulkhead using 10 Huck Bolt fasteners with swaged collars.

This aircraft was immediately inspected, and all 10 swaged collars that hold the tail trim assembly together had become unattached.

Mooney inspected several other aircraft and found that on one airplane the filler plate was incorrectly installed. The filler plate was not correctly installed between the aft side of the hinge and the bulkhead. Instead, the filler plate was located on the forward side of the hinge between the hinge and trim fitting. It was then noted the incident aircraft had the same issue, as shown in the upper circle of figure 1.

Because the hinge has a lip on the bottom, on the side toward the bulkhead (as shown in the bottom circle of figure 1), if the filler plate is not installed correctly, the hinge will not fit flush against the bulkhead, the Huck Bolt fasteners will not fit perpendicular to the bulkhead, and the

collars will not swage properly. The condition also causes excessive tension pre-load on the Huck Bolts.



Figure 1

The incident aircraft was manufactured in 2008. Mooney has determined the incorrect installation was a manufacturing quality escape during production.

We are issuing this AD to detect incorrect positioning and improper attachment of the trim fitting, hinge, and filler plate of the tail pitch trim assembly and to verify security of the attaching Huck Bolt fasteners, which could lead to failure of the tail pitch trim assembly with consequent loss of pitch control.

Relevant Service Information

We reviewed Mooney Aviation Company, Inc. Service Bulletin No. M20-313, dated February 7, 2012. The service information describes procedures for inspecting the trim fitting, hinge, filler plate, and attaching fasteners of the tail pitch trim assembly.

FAA's Determination

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires inspecting the trim fitting, hinge, and filler plate of the tail pitch trim assembly for correct positioning and proper attachment, and inspecting the Huck Bolt fasteners for proper security. If incorrect positioning or improper/loose attachment is found, the owner/operator must contact Mooney for FAA-approved repair instructions. The AD also requires sending the inspection results to the FAA and Mooney.

Interim Action

We consider this AD interim action. Mooney and the FAA will analyze the results of the inspection required by this AD. We may take further rulemaking action in the future.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because failure of the tail pitch trim assembly could result in loss of control. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2012-0182 and Directorate Identifier 2012-CE-005-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

Costs of Compliance

We estimate that this AD affects 170 airplanes of U.S. registry.
We estimate the following costs to comply with this AD:

Estimated Costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection of the trim fitting, hinge, and filler plate of the tail pitch trim assembly, and security of the Huck Bolt fasteners, and reporting the inspection results	1 work-hour X \$85 per hour = \$85	Not applicable	\$85	\$14,450

We have no way of determining the cost of repair/replacement at this time. We have no way of determining the number of aircraft that might need repair or replacement.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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

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 that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

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 airworthiness directive (AD):



2012-03-52 Mooney Aviation Company, Inc. (Mooney): Amendment 39-16958; Docket No. FAA-2012-0182; Directorate Identifier 2012-CE-005-AD.

(a) Effective Date

This AD is effective February 29, 2012 to all persons except those persons to whom it was made immediately effective by Emergency AD 2012-03-52, issued on February 10, 2012, which contained the requirements of this amendment.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following Mooney Aviation Company, Inc. airplanes, certificated in any category:

Models	Serial Numbers
(1) M20R	29-0465 through 29-0519
(2) M20TN	31-0003 through 31-0127

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 55; Stabilizers.

(e) Unsafe Condition

This AD was prompted by a report of an incident on a Mooney Model M20TN airplane regarding failure of the tail pitch trim assembly. We are issuing this AD to detect incorrect positioning and improper attachment of the trim fitting, hinge, and filler plate of the tail pitch trim assembly; and detect improper security of the Huck Bolt fasteners to prevent failure of the tail pitch trim assembly, which could result in loss of control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection

Before further flight after receipt of this AD, inspect the trim fitting, hinge, and filler plate of the tail pitch trim assembly for correct positioning and proper attachment; and also inspect that the Huck

Bolt fasteners are properly secured following Mooney Aviation Company, Inc. Service Bulletin No. M20-313, dated February 7, 2012.

(h) Corrective Action

If during the inspection required in paragraph (g) of this AD you find incorrect positioning or improper attachment of the trim fitting, hinge, and filler plate of the tail pitch trim assembly; and/or you find loose or improperly installed Huck Bolt fasteners, before further flight, contact Mooney for FAA-approved repair instructions and perform the repair. Use the contact information found in paragraph (n)(2) of this AD.

(i) Reporting Requirement

Within 24 hours after the inspection required in paragraph (g) of this AD, send the inspection results to Mooney and to the FAA using the following contact information. Use the form on page 4 of Mooney Aviation Company, Inc. Service Bulletin No. M20-313, dated February 7, 2012, to comply with this AD action:

- (1) Mooney Aviation Company, Inc., 165 Al Mooney Road North, Kerrville, Texas 78028; telephone: (830) 896-6000; email: technicalsupport@mooney.com; Internet: www.mooney.com; and
- (2) Andrew McAnaul, Aerospace Engineer, ASW-150 (c/o MIDO-43), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; telephone: (210) 308-3365; facsimile: (210) 308-3370; email: andrew.mcanaul@faa.gov.

(j) Special Flight Permit

Special flight permits are prohibited for this AD.

(k) Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Fort Worth ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(m) Related Information

For more information about this AD, contact Andrew McAnaul, Aerospace Engineer, ASW-150 (c/o MIDO-43), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; telephone: (210) 308-3365; facsimile: (210) 308-3370; email: andrew.mcanaul@faa.gov.

(n) Material Incorporated by Reference

(1) You must use Mooney Aviation Company, Inc. Service Bulletin No. M20-313, dated February 7, 2012, to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Mooney Aviation Company, Inc., 165 Al Mooney Road North, Kerrville, Texas 78028; telephone: (830) 896-6000; email: technicalsupport@mooney.com; Internet: www.mooney.com.

(3) You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(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/cfr/ibr_locations.html.

Issued in Kansas City, Missouri, on February 16, 2012.
Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.