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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0223; Project Identifier AD-2020-00539-A; Amendment 39-21550; AD 2021-10-17]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Mooney International Corporation Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Mooney International Corporation (Mooney) Model M20V airplanes. This AD was prompted by reports of short circuit and arcing of the alternator main power cable in the engine compartment. This condition, if unaddressed, could result in a fire hazard, loss of engine thrust control, and reduced control of the airplane. This AD requires inspecting the alternator main power cable and the exhaust crossover tube for damage, replacing damaged parts as necessary, and installing an additional alternator cable clamp. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective July 7, 2021.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 7, 2021.

**ADDRESSES:** For service information identified in this final rule, contact Mooney International Corporation, 165 Al Mooney Road, North Kerrville, TX 78028; phone: (800) 456-3033; email: support@mooney.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA 2021-0223.

#### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0223; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Jacob Fitch, Aviation Safety Engineer, Fort Worth ACO Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: (817) 222-4130; fax: (817) 222-5245; email: jacob.fitch@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered Mooney Model M20V airplanes. The NPRM published in the Federal Register on March 9, 2021 (86 FR 13502; corrected March 17, 2021, 86 FR 14554). The NPRM was prompted by reports of short circuit and arcing of the alternator main power cable in the engine compartment. Mooney determined the alternator main power cable was incorrectly positioned with slack in the cable and allowed contact between the alternator main power cable and turbocharger right-hand (RH) exhaust crossover tube. In one instance, this contact caused arcing of the alternator main power cable and created a hole in the RH exhaust crossover tube, which may result in a fire hazard. A damaged crossover tube may also decrease effectiveness of the turbochargers and cause complete loss of engine power at higher altitudes (above 9,000 ft. above sea level). In the NPRM, the FAA proposed to require inspecting the alternator main power cable and the exhaust crossover tube and modifying the alternator main power cable routing by installing an additional alternator cable clamp, part number (P/N) MS21919WCJ6. This condition, if not addressed, could result in an inflight fire and loss of engine thrust control, which may lead to reduced control of the airplane. The FAA is issuing this AD to address the unsafe condition on these products.

### **Discussion of Final Airworthiness Directive**

#### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

#### **Conclusion**

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed Mooney International Corporation Service Bulletin M20-340C, dated February 14, 2020. The service information specifies inspecting the alternator main power cable and the exhaust crossover tube for damage and replacing damaged parts as necessary. The service information also contains procedures for modifying the alternator main power cable routing by installing an additional alternator cable clamp, P/N MS21919WCJ6.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### **Costs of Compliance**

The FAA estimates that this AD affects 18 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

**Estimated Costs**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspect the cable and exhaust crossover tube for damage	.5 work-hour × \$85 per hour = \$42.50	\$0	\$42.50	\$765
Install additional cable clamp	.5 work-hour × \$85 per hour = \$42.50	\$10	\$52.50	\$945

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The agency has no way of determining the number of airplanes that might need these replacements:

**On-Condition Costs**

Action	Labor cost	Parts cost	Cost per product
Replace alternator main power cable	8 work-hours × \$85 per hour = \$680	\$1,000	\$1,680
Replace exhaust crossover tube	8 work-hours × \$85 per hour = \$680	\$2,500	\$3,180

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

**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.

The FAA is 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) Will not affect intrastate aviation in Alaska, 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.

**List of Subjects in 14 CFR Part 39**

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

**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:



# **AIRWORTHINESS DIRECTIVE**

**2021-10-17 Mooney International Corporation:** Amendment 39-21550; Docket No. FAA-2021-0223; Project Identifier AD-2020-00539-A.

**(a) Effective Date**

This airworthiness directive (AD) is effective July 7, 2021.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Mooney International Corporation Model M20V airplanes, serial numbers 33-0001 through 33-0018, certificated in any category.

**(d) Subject**

Joint Aircraft System Component Code 2400, Electrical Power System.

**(e) Unsafe Condition**

This AD was prompted by reports of short circuit and arcing of the alternator main power cable in the engine compartment. The FAA is issuing this AD to prevent arcing of the alternator main power cable in the engine compartment. This condition, if not addressed, could result in an inflight fire and loss of engine thrust control, which may lead to reduced control of the airplane.

**(f) Compliance**

Comply with this AD before further flight after the effective date of this AD, unless already done.

**(g) Required Actions**

(1) Inspect the alternator main power cable and the exhaust crossover tube for burn marks, chafing, holes, and cracks, and replace any cable and crossover tube that has a burn mark, chafing, a hole, or a crack.

(2) Install an additional alternator cable clamp part number MS21919WCJ6 and ensure correct routing of the alternator main power cable by following steps 1.5. through 1.9. of the Instructions in Mooney International Corporation Service Bulletin M20-340C, dated February 14, 2020.

**(h) Special Flight Permit**

A special flight permit may be issued with the following limitations:

- (1) Flights must not carry passengers;
- (2) Operation in daytime visual meteorological conditions only;
- (3) Straight and level flight must be maintained;
- (4) Operation in areas of known turbulence prohibited; and
- (5) Altitude limited to 9,000 ft. above sea level.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Fort Worth ACO Branch, 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 certification office, send it to the attention of the person identified in Related Information.

(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.

**(j) Related Information**

For more information about this AD, contact Jacob Fitch, Aviation Safety Engineer, Fort Worth ACO Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: (817) 222-4130; fax: (817) 222-5245; email: jacob.fitch@faa.gov.

**(k) Material Incorporated by Reference**

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Mooney International Corporation Service Bulletin M20-340C, dated February 14, 2020.

(ii) [Reserved]

(3) For Mooney International Corporation service information identified in this AD, contact Mooney International Corporation, 165 Al Mooney Road, North Kerrville, TX 78028; phone: (800) 456-3033; email: support@mooney.com.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this 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, email: fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on May 5, 2021.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

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