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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-CE-26-AD; Amendment 39-12500; AD 2001-23-03]

RIN 2120-AA64

Airworthiness Directives; Cessna Aircraft Company Models 172N, 172P, R172K, 172RG, F172N, F172P, FR172J, and FR172K Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes Airworthiness Directive (AD) 80-04-08, which requires inspecting (one-time) the fuel line and map light switch in the left hand forward door post for chafing or arcing on certain Cessna Aircraft Company (Cessna) Model 172N, R172K, F172N, and FR172K airplanes and repairing any damage found. AD 80-04-08 also requires providing at least a 0.50-inch clearance between the map light switch and the fuel line; and installing a switch cover (insulator) over the map light switch. This AD requires you to extend the inspections and installation of the switch cover requirement to certain 172N, 172P, R172K, 172RG, F172N, F172P, FR172J, and FR172K series airplanes. This AD also requires replacement of the fuel line, if damaged; and makes the switch cover inspection and replacement repetitive. This AD is the result of FAA receiving several reports of incidents of electrical shorts on Cessna Model 172N airplanes. The actions specified by this AD are intended to detect and correct any chafing between the map light switch and the bordering fuel line, which could result in a fuel leak and an in-flight fire.

DATES: This AD becomes effective on December 27, 2001.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of December 27, 2001.

ADDRESSES: You may get the service information referenced in this AD from the Cessna Aircraft Company, PO Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800, facsimile: (316) 942-9006. You may examine this information at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2000-CE-26-AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mr. Clyde Erwin, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209, telephone: (316) 946-4149; facsimile: (316) 946-4407.

SUPPLEMENTARY INFORMATION:

Discussion

Has FAA taken any action to this point? The FAA issued AD 80-04-08, Amendment 39-3696, February 16, 1980, in order to preclude the possibility of a fuel leak or an in-flight fire due to contact between a map light switch and an adjacent fuel line of certain Cessna Models 172N, R172K, F172N, and FR172K airplanes. AD 80-04-08 requires that you do the following on the affected airplanes:

- Visually inspect the fuel line and map light switch located in the left hand forward door post for chafing or arcing and replace damaged parts as necessary. If not already existing, provide at least a 0.50-inch clearance between the map light switch and the fuel line in accordance with procedures in FAA Advisory Circular 43.13-1A.
- Install a cover (insulator), Cessna Part Number 0511080-1, over the map light switch in accordance with Cessna Single Engine Service Information Letter SE80-3 and Supplement #1 thereto, both dated January 21, 1980.

AD 80-04-08 was the result of instances of chafing between the map light switch and the adjacent fuel line on the affected airplanes. When the chafing caused an electrical short, insulation melted from the map light wire and a hole was burned in the fuel line.

What has happened to necessitate further AD action? Since issuance of AD 80-04-08, FAA has received several reports of incidents of electrical shorts on Cessna Model 172N airplanes. These electrical shorts have resulted because the mounting screws may be elongated or broken out on the affected airplanes or doorpost cover shapes have changed over time. Switch covers may:

- Deteriorate over time;
- Receive damage from service activities,
- Be left off after service activities;
- Not be mounted properly; or
- Not be used in after-market interior installations.

AD 80-04-08 applied to only certain serial numbers and did not cover all of the models that have map light switches in the doorpost.

Has FAA taken any action to this point? We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to certain Cessna Model 172N, 172P, R172K, 172RG, F172N, F172P, FR172J, and FR172K series airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on January 8, 2001 (66 FR 1273). The NPRM proposed to supersede AD-80-04-08 with a new AD that would require:

- Repetitively inspecting for the existence and damage to the cover (insulator) for the doorpost map light switch;
- Installing a cover (insulator) if missing or damaged; and
- Replacing the fuel line, if damaged.

Was the public invited to comment? The FAA encouraged interested persons to participate in the making of this amendment. At the request of several commenters, we issued an NPRM to extend the comment period from February 12, 2001, to April 13, 2001. This document was published in the Federal Register on February 12, 2001 (66 FR 9779). A summary of the comments received on both of these documents follow, along with our responses.

Comment Issue No. 1: Agree That This AD Will Correct an Unsafe Condition and Provide Aviation Safety

What is the commenter's concern? One commenter suggests that the proposed AD is necessary because the doorposts in these aircraft have become conduits for wiring of add-on systems accomplished by the field approval process. The commenter suggests that repetitive inspections would significantly enhance the safety and reliability of airplane operation.

Several commenters agree that FAA is correct in adding aircraft serial numbers to the proposed AD.

What is FAA's response to the concern? Since the comments agree with the NPRM as written, we are not changing the final rule as a result of these comments.

Comment Issue No. 2: AD 80-04-08 Already Addresses the Unsafe Condition

What is the commenter's concern? Several commenters suggest that a new AD is not necessary to correct the unsafe condition. They believe AD 80-04-08 adequately addresses this issue. The commenters suggest that if any further action regarding this unsafe condition is taken, FAA should either revise or suspend the current AD. Two commenters suggest that accomplishment of the manufacturer's service bulletin by the owners/operators of the affected airplanes will correct the unsafe condition.

What is FAA's response to the concern? We do not concur that AD 80-04-08 addresses the unsafe condition. Reports indicate electrical shorts on Cessna Model 172N airplanes have occurred after compliance with AD 80-04-08. We have determined that the electrical shorts resulted because the doorpost cover deteriorated over time from heat and sunlight, which caused the attachment bolt holes to become elongated or broken out and resulted in the fuel line and the switch contact to become jammed together. AD 80-04-08 did not cover all of the airplane models that have map light switches in the doorpost. In addition, AD 80-04-08 only required an initial inspection so no requirement exists for detecting damaged doorpost covers that occur after the initial inspection. Since we are adding additional requirements and additional airplanes, we must supersede the current AD because it provides an additional burden over that in AD 80-04-08.

We concur that accomplishment of the referenced service bulletin will correct the unsafe condition. However, we can only require compliance through AD action.

We are not changing the AD based on these comments.

Comment Issue No. 3: The Condition Results From Poor or Lack of Maintenance

What is the commenter's concern? Several commenters suggest that the conditions referenced in the proposed AD are a result of incorrect maintenance activities. The commenters state that, if damage to the doorpost cover is a result of maintenance activities, e.g., left off or not properly mounted, an AD would not correct this situation. These conditions result from incorrect aircraft maintenance and airframe and powerplant (A&P) mechanic functions and not AD requirements. If these problems arise, the pilot should report the condition so that corrective maintenance can be performed.

What is FAA's response to the concern? We do not concur. The unsafe condition is a result of the doorpost cover deteriorating over time because of the material it is made of, exposure to the heat, and use. The deterioration of the doorpost cover causes the attachment bolt holes to become elongated or broken out, which results in the fuel line and the switch contact to become jammed together.

We are not changing the AD based on these comments.

Comment Issue No. 4: Correct the Applicability

What is the commenter's concern? Several commenters suggest that FAA should clarify whether Model F172N airplanes, serial numbers F17201515 through F17201639, should be included in the AD. We infer that the commenters believe that they should be included.

What is FAA's response to the concern? We concur. We inadvertently left Model F172N airplanes, serial numbers F17201515 through F17201639, out of the proposed AD. These airplane models will be covered in the applicability of this AD.

We are changing the final rule to include these airplane models. None of these airplanes are currently on the U.S. Register so this would not add any additional burden upon the public.

Comment Issue No. 5: Extend the Comment Period 60 Days

What is the commenter's concern? Two commenters request the comment period be extended to allow the FAA a greater opportunity to hear from more people in the aviation community.

What is FAA's response to the concern? We concur with this comment. The comment period was extended on the NPRM from February 12, 2001, to April 13, 2001, to give the public an additional 60 days to respond.

Comment Issue No. 6: Change or Eliminate the Repetitive Inspection Interval

What is the commenter's concern? Several commenters suggest that the need for repetitive inspections are not necessary because they add no safety value. Specifically, one commenter suggests that the doorpost cover, switch, insulator, and fuel line should be inspected as part of the annual inspection (or when any work is performed in that area) or extended to 5 year intervals because the material the doorpost cover is made of will not deteriorate in a year's time. Another commenter suggests that the affected area is not designed for repeated access and could, in fact, contribute to and exacerbate the problem addressed by the proposed AD or create new ones. All commenters suggest that if required maintenance is done properly, there would be no need for repetitive inspections because the switch retaining screws will remain installed until they are removed; and, if installed correctly, the insulator is designed as such that it will function properly until it is removed.

What is FAA's response to the concern? We do not concur. As discussed previously, electrical shorts result because the doorpost cover deteriorates over time from heat and sunlight. Our analysis shows that 12 months is a reasonable time period for detecting such a problem. A longer period would not provide the assurance that the condition was detected before a serious problem developed. We have determined that, if correctly accessed, new problems will not occur. The 12 month repetitive inspection interval should also coincide with annual inspections.

We are not changing the final rule as a result of these comments.

FAA's Determination

What is FAA's final determination on this issue? After careful review of all available information related to the subject presented above, we have determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. We determined that these minor corrections:

- Will not change the meaning of the AD; and
- Will not add any additional burden upon the public than was already proposed.

Cost Impact

How many airplanes does this AD impact? We estimate that this AD affects 7,750 airplanes in the U.S. registry.

What is the cost impact of this AD on owners/operators of the affected airplanes? We estimate the following costs to accomplish the initial inspection:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
1 workhour x \$60 per hour = \$60.	No parts required for the inspection.	\$60	7,750 x \$60 = \$465,000.

The FAA has no way of determining the number of repetitive inspections each owner/operator will incur over the life of each of the affected airplanes, or how many covers (insulators) or fuel lines will need to be replaced. If replacement parts are required as a result of the inspection, the estimated cost per airplane for the cover (insulator) is \$6.00. The cost for a replacement fuel line varies from \$26.00 to \$129.00, plus labor, depending on the airplane model.

What is the difference between the cost impact of this AD and the cost impact of AD 80-04-08? The cost impact of this AD is more than currently required by AD 80-04-08. The differences between this AD and AD 80-04-08 are the additional airplane models that will be affected and the repetitive inspections each affected airplane owner/operator will incur over the life of the airplane.

Regulatory Impact

Does this AD impact various entities? The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

Does this AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this action (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); 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. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

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 Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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.

Sec. 39.13 [Amended]

2. FAA amends Sec. 39.13 by removing Airworthiness Directive (AD) 80-04-08, Amendment 39-3696, and by adding a new AD to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-23-03 Cessna Aircraft Company: Amendment 39-12500; Docket No. 2000-CE-26-AD; Supersedes AD 80-04-08, Amendment 39-3696.

(a) *What airplanes are affected by this AD?* This AD affects the following Cessna model airplanes, certificated in any category:

Model	Serial No.
172N.....	17267585 through 17270049; 17270051 through 17274009; 17261445, 17261578, and 17270050.
172P.....	17274010 through 17276654.
172RG.....	172RG0001 through 172RG1191; and 691.
F172N.....	F17201515 through F17202039.
F172P.....	F17202040 through F17202254.
FR172J.....	FR17200531 through 17200590.
FR172K.....	FR17200591 through 17200675.
R172K.....	R1722000 through R1723454; and 680.

(b) *Who must comply with this AD?* Anyone who wishes to operate any of the above airplanes must comply with this AD.

(c) *What problem does this AD address?* The actions specified by this AD are intended to detect and correct any chafing between the map light switch and the bordering fuel line, which could result in a fuel leak or an in-flight fire.

(d) *What actions must I accomplish to address this problem?* To address this problem, you must accomplish the following:

Actions	Compliance	Procedures
(1) Inspect the doorpost map light switch insulator (part number 0511080-1) to verify it is installed and(if installed) not damaged.	Initially inspect within the next 100 hours time-in-service (TIS) after December 27, 2001(the effective date of this AD), or within the next 12 calendar months after December 27, 2001 (the effective date of this AD), whichever occurs first. Repetitively inspect thereafter at intervals not to exceed 12 calendar months.	Do this action following the ACCOMPLISHMENT INSTRUCTIONS section of Cessna Service Bulletin SEB00-1, dated January 17, 2000.

(2) If a switch cover(insulator) is not installed or is damaged in any way, install a new insulator (part number 0511080-1).	Before further flight after the inspection where any damage is found or the cover is found missing.	Do this action following the ACCOMPLISHMENT INSTRUCTIONS section of Cessna Service Bulletin SEB00-1, dated January 17, 2000, and the Cessna Manufacturer's Maintenance Manual.
(3) If the fuel line is damaged in any way, install a new fuel line. The replacement fuel line part number varies with aircraft model.	Before further flight after the inspection where any damage is found.	Do this action following the ACCOMPLISHMENT INSTRUCTIONS section of Cessna Service Bulletin SEB00-1, dated January 17, 2000, and the Cessna Manufacturer's Maintenance Manual.

Note 1: The compliance times specified in Cessna Service Bulletin SEB00-1, dated January 17, 2000, are different from those required by this AD. The compliance times in this AD take precedence over those in the service bulletin.

(e) *Can I comply with this AD in any other way?*

(1) You may use an alternative method of compliance or adjust the compliance time if:

(i) Your alternative method of compliance provides an equivalent level of safety; and
(ii) The Manager, Wichita Aircraft Certification Office (ACO), approves your alternative. Submit your request through an FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

(2) Alternative methods of compliance approved in accordance with AD 80-04-08, which is superseded by this AD, are not approved as alternative methods of compliance with this AD.

Note 2: This AD applies to each airplane identified in paragraph (a) of this AD, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if you have not eliminated the unsafe condition, specific actions you propose to address it.

(f) *Where can I get information about any already-approved alternative methods of compliance?*

Contact Mr. Clyde Erwin, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209, telephone: (316) 946-4149; facsimile: (316) 946-4407.

(g) *What if I need to fly the airplane to another location to comply with this AD?* The FAA can issue a special flight permit under sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate your airplane to a location where you can accomplish the requirements of this AD.

(h) *Are any service bulletins incorporated into this AD by reference?* Actions required by this AD must be done in accordance with Cessna Service Bulletin SEB00-1 and Accomplishment Instructions, dated January 17, 2000. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You can get copies from the Cessna Aircraft Company, PO Box 7706, Wichita, Kansas 67277. You can look at copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) *Does this AD action affect any existing AD actions?* This amendment supersedes AD 80-04-08, Amendment 39-3696.

(j) *When does this amendment become effective?* This amendment becomes effective on December 27, 2001.

Issued in Kansas City, Missouri, on November 5, 2001.

Michael Gallagher,

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-28332 Filed 11-14-01; 8:45 am]

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