Events Leading to This Priority Letter AD

This priority letter AD results from an occurrence of fuel loss on a Cessna Model 172R airplane. The fuel loss was severe enough to force an emergency landing. Investigation of the occurrence reveals that the cowling knocked the gascolator drain valve off the gascolator.

Further examination of the design of Model 172R airplanes shows that this condition exists when the tailpipe vibrates, during some starting conditions, into the cowling. The cowling then rubs against the gascolator drain valve, knocking the gascolator drain valve off the gascolator, and causing fuel to drain from the airplane at an extremely high flow rate. This results in engine stoppage with consequent forced landing or crash landing.

Relevant Service Information

Cessna has issued Service Bulletin 97-28-01, dated June 6, 1997, which includes procedures for modifying the gascolator to cowling clearance and tailpipe to cowling clearance.

The FAA's Determination

After examining the circumstances and reviewing all available information related to the incidents described above, including the relevant service information, the FAA has determined that AD action should be taken to prevent the cowling from rubbing against the gascolator drain valve or the tailpipe, which could result in fuel loss and engine stoppage.

Explanation of the Provision of This Priority Letter AD

Since an unsafe condition has been identified that is likely to exist or develop on other Cessna Model 172R airplanes of this same type design, this AD requires checking for the clearance between both the gascolator and cowling and the tailpipe and cowling. This priority letter requires modifying these areas immediately if any evidence of rubbing at either location is found or modifying the gascolator to cowling area within 10 hours time-in-service (TIS) if no evidence of rubbing at either location is found. Accomplishment of the modifications is in accordance with Cessna Service Bulletin 97-28-01, if rubbing is evident, or in accordance with Figure 1 of this AD if no rubbing is evident.

The owner/operator who holds at least a private pilot's certificate as authorized by sections 43.7 and 43.11 of the Federal Aviation Regulations (14 CFR 43.7 and 43.11) can accomplish the check required by this priority letter AD.

The AD

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958), pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this priority letter.

97-12-06 CESSNA AIRCRAFT COMPANY: Priority Letter issued on June 6, 1997. Docket No. 97-CE-35-AD.

Applicability: Model 172R airplanes, serial numbers 17280001 through 17280081, certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, 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 (d) 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 the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated in the body of this AD, unless already accomplished.

To prevent the cowling from rubbing against the gascolator drain valve or the tailpipe, which could result in fuel loss and engine stoppage, accomplish the following:

(a) Prior to further flight after receipt of this AD, check the clearance between both the gascolator and cowling area and the tailpipe and cowling area for evidence of rubbing.

(1) If any evidence of rubbing is found, prior to further flight, modify both the gascolator and cowling area and tailpipe and cowling area in accordance with Cessna Service Bulletin 97-28-01, dated June 6, 1997.

(2) If no evidence of rubbing is found, repeat the check in paragraph (a) before each flight, and within the next 10 hours time-in-service (TIS) after receipt of this AD, modify the gascolator and cowling area in accordance with Figure 1 of this AD.

(b) Modifying both the gascolator and cowling area and tailpipe and cowling area in accordance with Cessna Service Bulletin 97-28-01, dated June 6, 1997, is considered accomplishment of this AD. These modifications may be accomplished in place of the check required by paragraph (a) of this AD.

(c) The check required by paragraph (a) of this AD may be performed by the owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7), and must be entered into the aircraft records showing compliance with this AD in accordance with section 43.11 of the Federal Aviation Regulations (14 CFR 43.11).

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location to accomplish the modification requirements of this AD provided no evidence of rubbing is found during the check required by paragraph (a) of this AD.

(1) If evidence of rubbing is found in either the gascolator to cowling area or the tailpipe to cowling area during the check required by paragraph (a) of this AD, then no special flight permits will be granted.

(2) If more than 10 or more hours TIS have passed since the check required by paragraph (a) of this AD, the check must be accomplished again to assure that no evidence of rubbing exists in either the gascolator to cowling area or the tailpipe to cowling area.

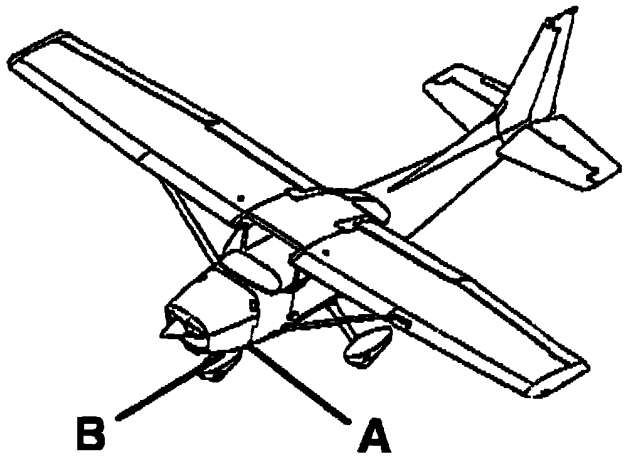
(e) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita ACO.

(f) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

(g) Priority Letter AD 97-12-06, issued June 6, 1997, becomes effective immediately upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Paul O. Pendleton, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone (316) 946-4143; facsimile (316) 946-4407.



ENGINE LOWER COWL CHANNEL (REFERENCE)

ENGINE LOWER COWL (REFERENCE)

OUTBD

FWD

ENLARGE HOLE AROUND THE FUEL STRAINER DRAIN VALVE TO 2.0 INCHES DIAMETER (CONCENTRIC). THE NEW HOLE WILL CUT INTO THE CHANNEL JUST AFT OF THE ORIGINAL HOLE ABOUT 0.50 INCH.

TRIM HOLE AROUND THE EXHAUST PIPE TO PROVIDE MINIMUM OF 0.50 INCH CLEARANCE.

IN AREAS OF CONTACT, ENLARGE TO 0.75 INCH CLEARANCE.

2.0 INCH DIAMETER

DETAIL A
VIEW LOOKING DOWN

POINT OF CONTACT (REFERENCE)

OUTBD

FWD

0.75 INCH MATERIAL TRIM

ENGINE LOWER COWL DOUBLERS (REFERENCE)

050 INCH MINIMUM CLEARANCE

EXHAUST PIPE DIAMETER (REFERENCE)

DETAIL B
VIEW LOOKING DOWN

NOTE: DIMENSIONS SHOWN IN INCHES

0510T1007
A0552T1004
B0552T1004

Engine Lower Cowling Modification
Figure 1