Single Engine

Service Bulletin

May 26, 2003

TITLE

ENGINE FUEL SUPPLY SYSTEM MODIFICATION

EFFECTIVITY

<table>
<thead>
<tr>
<th>Model</th>
<th>Serial Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>172R</td>
<td>17280001 and On</td>
</tr>
<tr>
<td>172S</td>
<td>172S8001 and On</td>
</tr>
</tbody>
</table>

REASON

To announce the availability of a modification kit that is designed to assist in enhancing engine operation at low power settings during hot weather conditions.

DESCRIPTION

This modification may be installed on an airplane that is exhibiting rough engine idle or less than satisfactory engine acceleration from low power settings. The modification should not be installed unless all normal maintenance and troubleshooting actions have been accomplished and have failed to resolve the above stated conditions.

COMPLIANCE

Optional; may be accomplished if desired.

APPROVAL

FAA approval has been obtained on technical data in this publication that affects airplane type design.
MANPOWER

Approximately 2.0 man-hours per airplane

REFERENCES


NOTE: Make sure all publications used are complete and current.

NOTE: This information shall be considered an amendment to the Cessna Manufacturer's Service/Maintenance Manual.

OTHER PUBLICATIONS AFFECTED

Model 172R and Model 172S Illustrated Parts Catalog

NOTE: Make sure all publications used are complete and current.

MATERIAL PRICE AND AVAILABILITY

The following are available from Cessna Parts Distribution through an appropriate Cessna Service Station for the suggested list price shown.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Qty/Airplane</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK172-71-03</td>
<td>Engine Fuel Supply System Modification Kit</td>
<td>1</td>
<td>$628.00 (S) ea.</td>
</tr>
<tr>
<td>RTV106RED2.8OZ (Alternate U064014)</td>
<td>Sealant (2.8 oz Tube)</td>
<td>(as required)</td>
<td>$33.50 (PS) ea.</td>
</tr>
<tr>
<td>LOCTITE569 (Alternate LOCTITE569-31)</td>
<td>Sealant (1.69 oz Bottle)</td>
<td>(as required)</td>
<td>$85.30 (PS) ea.</td>
</tr>
</tbody>
</table>

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CREDIT INFORMATION

Not applicable
ACCOMPLISHMENT INSTRUCTIONS

MK172-71-03 Engine Fuel Supply System Modification instructions are attached.

OWNER NOTIFICATION

On June 9, 2003 the following Owner Advisory message will be sent to applicable owners of record (airplanes delivered from the factory prior to the date of SB03-71-01) in SB03-71-01A.

Dear Cessna Owner:

This Owner Advisory is to inform you that Service Bulletin SB03-71-01 has been issued to announce the availability of a modification kit that is designed to assist in enhancing engine operation at low power settings during hot weather conditions. This modification may be installed on an airplane that is exhibiting rough engine idle or less than satisfactory engine acceleration from low power settings. The modification should not be installed unless all normal maintenance and troubleshooting actions have been accomplished and have failed to resolve the above stated conditions.

Compliance is optional, may be accomplished if desired.

The information contained in the referenced Cessna Service Bulletin shall be considered an amendment to the Cessna Manufacturer's Service/Maintenance Manual.

Please contact a Cessna Single Engine Service Station for detailed information and if desired, arrange to have Cessna Service Bulletin SB03-71-01 accomplished on your airplane.

* * * * * * * * * *
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<tr>
<td>172S</td>
<td>172S8001 and On</td>
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</table>

DESCRIPTION
This modification kit provides parts and instructions to install modifications to the fuel system located in the engine compartment.

APPROVAL
FAA approval has been obtained on technical data in this publication that affects airplane type design.

REFERENCE
SB03-71-01

CHANGE IN WEIGHT AND BALANCE
Negligible

April 11, 2003

To obtain satisfactory results, procedures specified in this publication must be accomplished in accordance with accepted methods and prevailing government regulations. Cessna Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277, U.S.A. (316) 517-5800, Facsimile (316) 942-9006

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# MATERIAL INFORMATION

**NOTE:** The parts included in this modification kit cover installation for one airplane.

<table>
<thead>
<tr>
<th>New P/N</th>
<th>Quantity</th>
<th>Description</th>
<th>Old P/N</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK172-71-03</td>
<td>1</td>
<td>Kit, consisting of the following parts:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AE102-14-225ED</td>
<td>21.68 inches</td>
<td>Sleev ing</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>AE102-14-180ED</td>
<td>16.96 inches</td>
<td>Sleev ing</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>AE2463532G0180</td>
<td>1</td>
<td>Hose</td>
<td>AE3663161G0164</td>
<td>Discard</td>
</tr>
<tr>
<td>(Aeroquip)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AE2463532G0225</td>
<td>1</td>
<td>Hose</td>
<td>LW-12799-6S180</td>
<td>Discard</td>
</tr>
<tr>
<td>(Aeroquip)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN816-6-6D</td>
<td>1</td>
<td>Union (straight)</td>
<td>MS20822-6-6D</td>
<td>Discard</td>
</tr>
<tr>
<td>MS20470AD3-6A</td>
<td>2</td>
<td>Rivet</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>MS21042L3</td>
<td>1</td>
<td>Nut</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>MS21919WDG3</td>
<td>1</td>
<td>Clamp</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>MS21919WDG40</td>
<td>1</td>
<td>Clamp</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>MS3367-2-9</td>
<td>8</td>
<td>Tie Strap</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>MS35207-267</td>
<td>1</td>
<td>Screw</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>S1053K20T36.00</td>
<td>1</td>
<td>Duct</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>S1781-2</td>
<td>4</td>
<td>Sta Strap Connector</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>S1891-40</td>
<td>1</td>
<td>Clamp</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>S2357-2</td>
<td>4</td>
<td>Clamp</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>0550368-1</td>
<td>1</td>
<td>Warm Air Duct</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>75739 (Lycoming)</td>
<td>1</td>
<td>Fitting (straight)</td>
<td>72377</td>
<td>Discard</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Instructions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition to the above kit, the following material is necessary.

<table>
<thead>
<tr>
<th>New P/N</th>
<th>Quantity</th>
<th>Description</th>
<th>Use</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV106RED2.8OZ</td>
<td>As needed</td>
<td>Sealant</td>
<td>Warm Air Duct to Valve Body Sealant</td>
<td>Obtain from Cessna Parts Distribution</td>
</tr>
<tr>
<td>LOCTITE569</td>
<td>As needed</td>
<td>Sealant</td>
<td>Seal Fuel Fitting Threads</td>
<td>Obtain from Cessna Parts Distribution</td>
</tr>
<tr>
<td>(Alternate LOCTITE569-31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ACCOMPLISHMENT INSTRUCTIONS**

**Instructions**

1. Electrically ground the airplane and turn all switches to the "OFF" position.
2. Disconnect external power if it is connected to the airplane.
3. Pull fuel shutoff valve to the "OFF" position.


5. Disconnect the airplane battery. (Refer to the Model 172 Series 1996 And On Maintenance Manual, Chapter 24, Battery - Maintenance Practices.)

6. Attach maintenance warning tags to the battery and external power receptacle with the instructions that follow: **DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS.**

7. (Refer to Figure 1.) Attach the 0550368-1 Warm Air Duct to the 0453017 Valve Body.
   A. Bend the 0550368-1 Warm Air Duct flanges to match the upper contour of the 0453017 Valve Body and then align the warm air duct with the upper hole in the valve body.
   B. Attach the 0550368-1 Warm Air Duct to the upper contour of the 0453017 Valve Body with MS20470AD-3-6 Rivets as shown.
   NOTE: It is permissible to use equivalent structural blind fasteners.
   C. Fill seat the 0550368-1 Warm Air Duct to the upper contour of the 0453017 Valve Body with RTV106 Sealant.
   D. Attach the lower end of the S1053K20T Duct outlet four inches above the bottom edge of the firewall with the outlet directed toward the lower cowl opening.
      (1) Fit and attach the lower end of the S1053K20T Duct with the MS21919WDG3 Clamp, MS21042L3 Nut, MS21919WDG40 Clamp and the MS35207-267 Screw.
   E. Fit and attach the upper end or the S1053K20T Duct to the 0550368-1 Warm Air Duct with one S1891-40 Clamp and position it as shown.
   F. Install S1781-2 Sta Strap Connectors and MS3367-2-9 Tie Straps as needed to isolate the S1053K20T duct from the cabin heat control cables, the vacuum hose, and the engine controls.
   NOTE: It may be necessary to adjust the vacuum pump hose fitting to prevent a preloaded condition against the S1053K20T duct.

**WARNING: OBEY ALL FUEL SYSTEM FIRE AND SAFETY PROCEDURES.**

8. Install the AE2463532G0180 Hose and the AN816-6-6D Union between the firewall fuel strainer and the engine driven fuel pump. (Refer to the Model 172/R/172S Illustrated Parts Catalog, Chapter 28, Fuel System, and to the Model 172 Series 1996 And On Maintenance Manual, Chapter 71, Powerplant, and Chapter 28, Fuel.)
   A. Remove the hose that connects the firewall fuel strainer to the engine driven fuel pump.
   B. Remove the existing 90° elbow from the firewall fuel strainer outlet.
   C. Apply LOCTITE569 to the threads of the AN816-6-6D Union and install it into the firewall fuel strainer outlet.
   **CAUTION:** TO ELIMINATE THE POSSIBILITY OF EXCESS SEALANT ENTERING THE PUMP, APPLY THREAD SEALANT SPARINGLY WITH NO SEALANT ON THE FIRST TWO THREADS.
   D. Install the AE102-14-180ED Sleeveving over the full length of the new Aeroquip AE2463532G0180 Hose.
      (1) Slide the AE102-14-180ED Sleeveving over the full length of a new AE2463532G0180 Hose.
      NOTE: LOW PRESSURE shop air applied to the inside of the sleeveving will help in installation of the sleeveving over the hose.
      (2) Attach the AE102-14-180ED Sleeveving to the AE2463532G0180 Hose at each end with S2357-2 Clamps.
   E. Install the AE2463532G0180 Hose between the firewall mounted fuel strainer and the engine driven fuel pump with the curved fitting installed at the fuel strainer.
9. Install a AE2463532G0225 Hose and 75739 Fitting between the fuel injection servo and the engine driven fuel pump. (Refer to the Model 172/R/172S Illustrated Parts Catalog, Chapter 28, Fuel System, and to the Model 172 Series 1996 And On Maintenance Manual, Chapter 71, Powerplant, and Chapter 28, Fuel.)
   A. Remove and discard the hose that connects the engine driven fuel pump to the fuel injection servo.
   B. Remove and discard the 90° fitting from the engine driven fuel pump outlet.
   C. Apply LOCTITE569 to the threads of the 75739 Fitting and install it into the outlet of the engine driven fuel pump.
   
   **CAUTION:** TO ELIMINATE THE POSSIBILITY OF EXCESS SEALANT ENTERING THE PUMP, APPLY THREAD SEALANT SPARINGLY WITH NO SEALANT ON THE FIRST TWO THREADS.

   D. Install the AE102-14-225ED Sleeveing over the full length of the new AE2463532G0225 Hose.
      (1) Slide the AE102-14-225ED Sleeveing over the full length of a new AE2463532G0225 Hose.
      **NOTE:** LOW PRESSURE shop air applied to the inside of the sleeving will help in installation of the sleeving over the hose.
      (2) Attach the AE102-14-225ED Sleeveing to the AE2463532G0225 Hose at each end with a S2357-2 Clamp.

   E. Install the AE2463532G0225 Hose between the engine driven fuel pump and the fuel injection servo with the curved fitting positioned at the fuel pump.

10. Reconnect the airplane battery. (Refer to the Model 172 Series 1996 And On Maintenance Manual, Chapter 24, Battery - Maintenance Practices.)

   **WARNING:** OBEY ALL FUEL SYSTEM FIRE AND SAFETY PROCEDURES.

11. Bleed the air from the fuel system and check for leaks.
    A. Set the mixture control to OFF.
    B. Set the throttle control to IDLE STOP.
    C. Loosen the fuel supply hose at the fuel injection servo inlet fitting.
    D. Turn the fuel valve on.
    E. Set the MASTER switch and then the FUEL PUMP switch to ON.
    F. Operate the electric auxiliary fuel pump until the air is removed from the fuel lines.
    G. Set the FUEL PUMP switch and then the MASTER switch to OFF.
    H. Tighten the fuel pump supply hose at the fuel injection servo Inlet.
    I. Set the MASTER switch and then the FUEL PUMP switch to ON.
    J. Check and make sure all fuel lines and fittings changed in this Modification Kit do not leak.
    K. Set the FUEL PUMP switch and then the MASTER switch to OFF.

12. Remove maintenance warning tags from battery and external power receptacle.

13. Install the engine cowl.

14. Make an entry in the airplane logbook stating that this modification kit has been installed.
NOTE 1: FILLET SEAL THE 0550368-1 WARM AIR DUCT TO THE 0453017 VALVE BODY WITH RTV106 SEALANT.

NOTE 2: INSTALL S1053K20T DUCT 4.00 INCHES ABOVE THE FIREWALL LOWER EDGE.

NOTE 3: IT IS PERMISSIBLE TO USE EQUIVALENT STRUCTURAL BLIND FASTENERS.

Figure 1. Warm Air Duct Modification (Sheet 1)