Single Engine

MODIFICATION KIT

MK172-61-01

TITLE
PROPELLER SPINNER AFT BULKHEAD REPLACEMENT

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>1728001 and On</td>
</tr>
</tbody>
</table>

DESCRIPTION
This modification kit provides instructions for propeller spinner aft bulkhead replacement.

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

REFERENCES
Model 172R and Model 172S Illustrated Parts Catalog
Model 172, 182, T182, 206 And T206 Structure Repair Manual

NOTE: Ensure all publications used are complete and current.

CHANGE IN WEIGHT AND BALANCE

MODELS ............................... 172R and 172S
WEIGHT CHANGE ........................ Negligible

November 14, 2001
**MATERIAL INFORMATION**

<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>MK172-61-01</td>
<td>1</td>
<td>Kit, Consisting of the following parts:</td>
<td>0550321-10 or 0550321-11</td>
<td>Discard or return to Cessna for warranty credit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aft Bulkhead</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Instructions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following safety wire will be required to accomplish the propeller bolt retorque procedures of this modification kit:

<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>S488599</td>
<td>As Required</td>
<td>Safety Wire 0.041 Stainless (MS20995C)</td>
<td>Same</td>
<td>Discard</td>
</tr>
</tbody>
</table>

One of the following parts may be required if inspection reveals cracks in the propeller spinner:

<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>0550367-1</td>
<td>1 (If required)</td>
<td>Spinner (Model 172R/172S)</td>
<td>0550236-14 or 0550236-13 or 0550367-1</td>
<td>Discard or return to Cessna for warranty credit</td>
</tr>
<tr>
<td>0550367-2</td>
<td>1 (If required)</td>
<td>Spinner, Polished (Model 172S Millennium Edition)</td>
<td>Same</td>
<td>Discard or return to Cessna for warranty credit</td>
</tr>
</tbody>
</table>

**ACCOMPLISHMENT INSTRUCTIONS**

1. Electrically ground the airplane and turn all switches to the "OFF" position. If external power is connected to the airplane, disconnect external power from receptacle.

2. Remove cowl ing and disconnect the battery. (Refer to the 172 Series 1996 And On Maintenance Manual, Chapter 24, Electrical Power.)

3. Attach maintenance warning tags to the battery and external power receptacle stating: **DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS.**

**WARNING:** EXERCISE CARE WHEN WORKING WITH THE PROPELLER. ALWAYS TREAT THE PROPELLER AS IF THE IGNITION SWITCH WERE ON. **DO NOT STAND, NOR ALLOW ANYONE ELSE TO STAND, WITHIN THE ARC OF THE PROPELLER. MAKE SURE MAGNETO SWITCH IS IN THE OFF POSITION BEFORE TURNING PROPELLER.**

**WARNING:** **MAKE SURE MAGNETO IS GROUNDED BEFORE TURNING PROPELLER.**
4. (Refer to Figure 1, Sheets 1 and 2.) Remove and inspect propeller spinner:
   A. Remove screws securing spinner to forward and aft propeller spinner bulkheads and remove spinner.
   B. Inspect the contour of the spinner at the propeller opening and all screw holes for cracks. If any cracks are found in the spinner discard spinner. (Spinners within warranty period must be returned to Cessna to obtain credit.)

5. (Refer to Figure 1, Sheet 1.) Aft Bulkhead Removal/Installation:
   A. Remove aft bulkhead (Refer to Model 172 Series 1996 And On, Chapter 61, Maintenance Practices.):
      (1) Remove and discard existing safety wire from propeller mounting bolts.
      (2) Remove and retain propeller mounting bolts, forward bulkhead, and propeller with aft bulkhead spacer assembly.
         **NOTE:** Propeller bolt inspection or replacement is not required in this modification kit unless the following criteria mandates such action: (1) Propeller mounting bolts must be magnetic particle inspected per ASTM E-1414 or liquid penetrant inspected per ASTM E-1417, or replaced at every overhaul. (2) Propeller mounting bolts must be replaced whenever the propeller is involved in a blade strike.
      (3) Remove spacer and aft bulkhead from propeller:
         (a) Support propeller by nesting it between two shot-filled or sand-filled bags, placed as closely to the hub as possible with the spacer down. Allow sufficient clearance (approximately 2 inches) for the spacer and bulkhead to separate from the hub.
         (b) Select a rod of proper diameter, approximately six inches long, and insert into propeller hub dowel pin holes.
         (c) With light hammer blows, alternately tap one dowel and then the other to free the spacer and bulkhead from the propeller hub. The dowels will remain captive in the spacer.
         (d) The tapered end of the dowel is to be installed in the spacer. If tapered end was installed in the propeller hub remove dowels from spacer by inserting rod into dowel pin holes in spacer. With light hammer blows, alternately tap one dowel and then the other to free the dowels from the spacer.
   B. Install new 0550321-11 Aft Bulkhead:
      (1) Clean the mating surfaces of the propeller, spacer and new aft bulkhead.
      (2) Assemble spacer, aft bulkhead and propeller:
         **NOTE:** The spacer and propeller have been balanced as a pair and must be reinstalled together. Ensure the serial number stamped on the spacer lines up with serial number stamped on the propeller.
         (a) If dowels were removed from spacer locate spacer on arbor press table, hub mating surface face up, and reinstall dowels with tapered end into spacer. Apply a film of oil to each selected dowel and press into spacer. Engage dowel into spacer just enough to hold dowel solidly (final dowel location will be made when spacer is installed in propeller hub). Extension of both dowels above face of spacer should be the same after pressing.
         (b) Locate propeller hub on arbor press table, spacer mating surface face up.
         (c) Place bulkhead over hub with dowel holes aligned.
         (d) Align spacer so that serial number stamped on spacer aligns with serial number stamped on propeller hub and so dowels will engage hub dowel holes. Press spacer down snug against hub but allow the bulkhead to rotate against the dowels for adjustment.
6. Install propeller assembly and adjust spinner-to-propeller clearance:
   A. Clean mating surfaces and position spacer, new 0550321-11 Aft Bulkhead, propeller and propeller spinner forward bulkhead to the crankshaft and install retained propeller mounting bolts finger tight.
   B. Position existing, or if required, new spinner over forward bulkhead and install screws in forward bulkhead finger tight.
   **NOTE:** (Refer to Figure 1, Sheet 3, Detail D.) The forward bulkhead propeller bolt holes may be undersized due to original torquing of the propeller bolts and may cause an inability to align the spinner to the bulkhead screw holes. The specified bolt hole diameter of the forward bulkhead is 0.516 inch to 0.527 inch. If required, remove bulkhead and enlarge bolt holes within specified hole size using a 33/64 inch diameter drill bit.
   C. Rotate aft bulkhead until spinner attach screws can be installed with little effort.
   **NOTE:** The aft bulkhead may need to be pushed forward slightly to engage spinner screws. It may be required to rotate the spinner 180° for best spinner attach screw alignment.
   D. (Refer to Figure 1, Sheets 1 and 4, Detail E.) Rotate spinner and aft bulkhead to establish a minimum clearance of 0.10 inch between spinner and propeller blades.
   **NOTE:** If maximum available adjustment does not provide a minimum 0.10 inch clearance it is permissible to trim the spinner a maximum of 0.080 inch. Trim spinner only if maximum adjustment does not allow adequate clearance. Remove as little material as possible for clearance to minimize propeller balance changes. Restore corrosion protection. (Refer to the Model 172 Series 1996 And On Maintenance Manual, Chapter 20 Interior and Exterior Finish.)
   E. Make index marks on propeller, spinner, and aft bulkhead.
   F. Remove spinner carefully so the forward and aft bulkheads remain in the same position aligned in Step 6., D. and E.
   G. Torque (dry) propeller bolts in a crossing pattern to 55 to 65 ft-lbs (660-760 in-lbs) while maintaining alignment and clearance established in Step 6., D. and E.

7. Install the spinner:
   A. Install spinner in same position as aligned in Step 6., D. and E.
   B. Check spinner to propeller blade clearance per Step 6., D. and E., and readjust if required.
   C. Install and tighten spinner screws in a crossing pattern to ensure equal pressure around the spinner.

8. Reinstall cowling. (Refer to the Model 172 Series 1996 And On Maintenance Manual, Chapter 71, Cowling.)

9. Remove maintenance warning tags from battery and external power receptacle. Reconnect the battery.

10. Make an entry in the airplane logbook stating this modification kit has been installed.
Figure 1. Propeller Spinner Aft Bulkhead Replacement and Spinner Inspection (Sheet 1)
Figure 1. Propeller Spinner Aft Bulkhead Replacement and Spinner Inspection (Sheet 2)
THE SPECIFIED BOLT HOLE DIAMETER IS 0.516 INCH TO 0.527 INCH. ENLARGE WITHIN SPECIFIED HOLE SIZE USING 33/64 INCH DRILL BIT.

DETAIL D

Figure 1. Propeller Spinner Aft Bulkhead Replacement and Spinner Inspection (Sheet 3)
INSPECT FOR A MINIMUM CLEARANCE OF 0.10 INCH BETWEEN PROPELLER BLADE AND SPINNER

SPINNER (REFERENCE)

PROPELLER BLADE (REFERENCE)

DETAIL E

Figure 1. Propeller Spinner Aft Bulkhead Replacement and Spinner Inspection (Sheet 4)