Single Engine

Service Bulletin

January 21, 2002

TITLE

PROPELLER SPINNER AND BULKHEAD INSPECTION

EFFECTIVITY

The following airplanes except airplanes incorporating Modification Kit MK172-61-01.

<table>
<thead>
<tr>
<th>Model</th>
<th>Serial Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>172R</td>
<td>172S8001 thru 172S8937, 172S8939 thru 172S9006,</td>
</tr>
<tr>
<td></td>
<td>172S89010, 172S9012 and 172S9021</td>
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<tr>
<td></td>
<td>172S8971, 172S8973, 172S8975 thru 172S8999 thru 172S9006,</td>
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<td></td>
<td>172S9010, 172S9012 and 172S9021</td>
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<td></td>
<td>172S89010, 172S9012 and 172S9021</td>
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<tr>
<td>172S</td>
<td>172S8001 thru 172S8937, 172S8939 thru 172S9006,</td>
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<tr>
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<td>172S8971, 172S8973, 172S8975 thru 172S8999 thru 172S9006,</td>
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<td></td>
<td>172S9010, 172S9012 and 172S9021</td>
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</tbody>
</table>

REASON

To inspect the propeller spinner and bulkhead installation.

DESCRIPTION

The propeller spinner and aft bulkhead should be inspected for cracks, fit and clearance. Non-compliance with this service bulletin may result in cracks developing in the propeller spinner and/or aft spinner bulkhead.

COMPLIANCE

Recommended, should be accomplished within the next 100 hours of operation or 12 months, whichever occurs first.

APPROVAL

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

1.1 man-hours per airplane for inspection

If required, 0.7 man-hour per airplane for adjustment or modification of the propeller spinner.

If required, 0.9 man-hour per airplane for replacement of the propeller spinner.

If required, 1.3 man-hours per airplane for replacement of the aft propeller spinner bulkhead.

REFERENCES


Model 172, 182, T182, 206 And T206 Structural Repair Manual

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 and should be accomplished within the specified time requirement.

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>0550321-11</td>
<td>Bulkhead, Aft</td>
<td>1 (if required)</td>
<td>$433.00 (1) ea.</td>
</tr>
<tr>
<td>0550367-1</td>
<td>Spinner</td>
<td>1 (if required)</td>
<td>$316.00 (SE) ea.</td>
</tr>
<tr>
<td>0550367-2</td>
<td>Spinner, Polished Model 172S</td>
<td>1 (if required)</td>
<td>$515.00 (1) ea.</td>
</tr>
<tr>
<td></td>
<td>Millennium Edition</td>
<td></td>
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</table>

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE
CREDIT INFORMATION

A labor allowance credit of 1.1 man-hours per airplane will be provided to inspect the propeller spinner and aft bulkhead for cracks and proper clearance. If necessary, an additional labor allowance credit of 0.7 man-hour per airplane will be provided to adjust or modify the propeller spinner to obtain the specified clearance around the propeller blades.

If necessary, applicable parts credit and an additional labor allowance credit per airplane will be provided as follows:

0.9 man-hour to replace the propeller spinner (includes painting the new spinner).

1.3 man-hours to replace the aft propeller spinner bulkhead.

To receive credit, the work must be completed and a Warranty Claim submitted by a Cessna Single Engine Service Station before the dates shown below. If replacement is necessary, the removed bulkhead and/or spinner must be returned with the Warranty Claim.

<table>
<thead>
<tr>
<th>Domestic</th>
<th>January 21, 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>January 21, 2003</td>
</tr>
</tbody>
</table>

Special Note to Service Stations:

When completing the Warranty Claim, the labor allowance claimed must be itemized for each action completed as listed above.

ACCOMPLISHMENT INSTRUCTIONS

Weight And Balance Information

<table>
<thead>
<tr>
<th>MODELS</th>
<th>172R and 172S</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEIGHT CHANGE</td>
<td>Negligible</td>
</tr>
</tbody>
</table>
Material Information
The following part(s) may be necessary:

<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>0550321-11</td>
<td>1 (If required)</td>
<td>Bulkhead-Aft</td>
<td>0550321-10</td>
<td>Return to Cessna if cracked</td>
</tr>
<tr>
<td>0550367-1</td>
<td>1 (If required)</td>
<td>Spinner (Model 172R/172S)</td>
<td>0550236-14 or 0550236-13</td>
<td>Return to Cessna if cracked</td>
</tr>
<tr>
<td>0550367-2</td>
<td>1 (If required)</td>
<td>Spinner-Polished (Model 172S Millennium Edition)</td>
<td>Same</td>
<td>Return to Cessna if cracked</td>
</tr>
<tr>
<td>S488599</td>
<td>As Required</td>
<td>Wire-Safety 0.041 Stainless (MS20995C)</td>
<td>Same</td>
<td>Discard</td>
</tr>
</tbody>
</table>

Procedure

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 cowling or battery access panel as necessary 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.

4. Spinner and Aft Bulkhead inspection:

   A. Inspection:

   (1) (Refer to Figure 1, Sheet 5, Detail G.) Inspect gap between the spinner and aft bulkhead for clearance of 0.03 inch or less:

      (a) Remove cowling upper nose cap.

      (b) Insert a 0.03 inch feeler gauge 0.50 inch wide between the spinner and aft bulkhead inspecting around the circumference of the aft bulkhead attach points (six places):

      1 If all gaps are 0.03 inch or less, proceed to Step 4.A.(2).

      (c) Any gap that is greater than 0.03 inch is not acceptable. Proceed to Step 5. and replace aft bulkhead.

   (2) (Refer to Figure 1, Sheet 6, Detail H.) Inspect for a minimum clearance of 0.10 inch between the propeller blade and spinner:

      (a) If clearance is at least 0.10 inch proceed to Step 4.A.(3).

      (b) If clearance is not at least 0.10 inch remove and adjust the spinner. It is permissible to trim the spinner a maximum of .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.)

CAUTION: USE GOOD SENSE AND PROPER VISUAL MEASUREMENT IN THE DETERMINATION OF SIGNIFICANT CROSS SECTIONAL AREA CHANGES OF BOTH DEPTH AND LENGTH OF ANY TYPE (OR COMBINATIONS) OF DAMAGE MENTIONED IN THE FOLLOWING PROCEDURES.

(3) (Refer to Figure 1, Sheet 2, Details B and C; Figure 1, Sheet 3, Detail D; and Figure 1, Sheet 4, Detail E.) Inspect the contour of the spinner at the propeller opening for cracks. Check all screw holes for radiating cracks. Inspect the aft bulkhead flanges for cracks near the bend radius at the propeller cutout. If present, blend and smooth any rough, jagged or saw-toothed edges in these areas with abrasive paper or cloth. Finish with 400 grit abrasive paper and restore corrosion protection. (Refer to Model 172, 182, T182, 206 And T206 Structure Repair Manual, Chapters 51-10-00 Damage Investigation and Classification and 51-11-00 Corrosion and Corrosion Control - General.)

(a) If any crack(s) is (are) found in the spinner or aft bulkhead, proceed to Step 5. and replace with new parts as required.

5. (Refer to Figure 1, Sheet 1, Detail A.) Aft Bulkhead Removal/Installation:

A. Remove aft bulkhead (Refer to Model 172 Series 1996 And On, Chapter 61, Maintenance Practices.):

(1) Remove screws securing spinner to forward and aft bulkheads and remove spinner.

(2) Cut and discard existing safety wire from propeller mounting bolts.

(3) 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 service bulletin 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.

(4) Remove spacer and 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. 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.

(c) 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 forward bulkhead, propeller, spacer and new aft bulkhead.

(2) Assemble spacer, aft bulkhead, propeller and forward bulkhead to crankshaft:

NOTE: The spacer and propeller have been balanced as a pair and must be reinstalled together. Make sure the serial number stamped on the spacer lines up with serial number stamped on the propeller.

(a) Spacer, aft bulkhead and propeller assembly:

1 Locate spacer on arbor press table, hub mating surface face up.
2. If dowels were removed from spacer, 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.

3. Locate propeller hub on arbor press table, spacer mating surface face up.

4. Place bulkhead over hub aligned with dowel holes.

5. Align spacer so that serial number stamping 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.

(b) Position spacer, new 0550321-11 Aft Bulkhead, propeller and forward bulkhead to the crankshaft and install retained propeller mounting bolts finger tight.

(c) Position spinner over bulkheads and install screws in forward bulkhead finger tight.

**NOTE:** The aft bulkhead may need to be pushed forward slightly to engage spinner screws. It may be necessary to rotate the spinner 180° for best spinner attach screw alignment.

(d) Rotate aft bulkhead until spinner attach screws can be installed with little effort. Make index marks on propeller, spinner, forward and aft bulkheads, and remove spinner carefully so the forward and aft bulkheads remain in the same aligned position.

**NOTE:** (Refer to Figure 1, Sheet 4, Detail F.) The forward bulkhead propeller bolt holes may have been 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 necessary, remove bulkhead and enlarge bolt holes within specified hole size using a 33/64th drill bit.

**NOTE:** Spinner attach screw holes in 0550321-11 Aft Bulkhead flanges may be increased to 0.205 inch diameter if necessary for fine adjustment (8 places).

(e) Torque (dry) propeller bolts in a crossing pattern to 55 to 65 ft-lbs (660-780 in-lbs) and safety wire bolts in pairs using S488599 Safety Wire. (Refer to Model 172 Series 1996 And On Maintenance Manual, Chapter 20, Safelying - Maintenance Practices.)

(f) Install the existing spinner, or (if necessary) a new spinner:

1. Install spinner in same position as aligned in Step 5.B.(2).(d).

2. Check spinner to propeller blade clearance per Step 4.A.(2) above, and adjust as necessary.

3. Install and tighten spinner screws in a crossing pattern to make sure equal pressure is obtained around the spinner.

4. Reinstall upper nose cap and engine cowling.

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

7. Make an entry in the airplane logbook stating compliance and method of compliance with this service bulletin.
Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 1)
Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 2)
DETAIL D
(PROPELLER NOT SHOWN FOR CLARITY)

CRACKS MAY ORIGINATE AT EDGE OF BULKHEAD, JUST INBOARD OF FLANGE BEND RADIUS.

ALSO INSPECT FOR ROUGH, JAGGED OR SAWTOOTH EDGES IN THESE AREAS. BLEND AND SMOOTH IF NECESSARY. RESTORE CORROSION PROTECTION.

Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 3)
Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 4)
INSPECT GAP BETWEEN SPINNER AND AFT BULKHEAD FOR CLEARANCE OF 0.03 INCH OR LESS

Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 5)
INSPECT FOR A MINIMUM CLEARANCE OF 0.10 INCH BETWEEN PROPELLER BLADE AND SPINNER.

Figure 1. Propeller Spinner and Aft Bulkhead Inspection/Replacement (Sheet 6)
OWNER NOTIFICATION

On February 4, 2002 the following Owner Advisory message will be sent to applicable owners of record in SB02-61-01A.

Dear Cessna Owner:

This Owner Advisory is to inform you that Service Bulletin SB02-61-01 has been issued concerning an inspection of the propeller spinner and aft bulkhead for cracks, fit and clearance. Your airplane is not affected if Modification Kit MK172-61-01: Propeller Spinner Aft Bulkhead Replacement, has been installed. Non-compliance with Service Bulletin SB02-61-01 may result in cracks developing in the propeller spinner and/or aft spinner bulkhead.

Compliance is recommended, should be accomplished within the next 100 hours of operation or 12 months, whichever occurs first.

The information contained in the referenced Cessna Service Bulletin shall be considered an amendment to the Cessna Manufacturer’s Service/Maintenance Manual and should be accomplished within the specified time requirement.

A labor allowance credit of 1.1 man-hours per airplane will be provided to inspect the propeller spinner and aft bulkhead for cracks and proper clearance. If necessary, an additional labor allowance credit of 0.7 man-hour per airplane will be provided to adjust or modify the propeller spinner to obtain the specified clearance around the propeller blades. If necessary, applicable parts credit and an additional labor allowance credit per airplane will be provided as follows: 0.9 man-hour to replace the propeller spinner (includes painting of the new spinner) and/or 1.3 man-hours to replace the aft propeller spinner bulkhead.

To receive credit, the work must be completed and a Warranty Claim submitted by a Cessna Single Engine Service Station before the dates shown below.

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<td>January 21, 2003</td>
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<td>International</td>
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Please contact a Cessna Single Engine Service Station for detailed information, and if applicable, arrange to have Cessna Service Bulletin SB02-61-01 accomplished on your airplane.

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