Single Engine

Service Bulletin

February 22, 1991

TITLE

PROPELLER OIL-FILL MODIFICATION REQUIREMENT

EFFECTIVITY

The following airplanes equipped with McCauley model D2A34C58, F2A34C58 or D2A34C98 propellers that have not been modified to the oil-filled configuration.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MODEL</th>
<th>SERIAL NUMBERS</th>
</tr>
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<tbody>
<tr>
<td>1961 thru 1985</td>
<td>185 Series</td>
<td>185-0001 thru 18504448</td>
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<tr>
<td>1966 thru 1983</td>
<td>188 Series</td>
<td>188-0001 thru 18803968 T</td>
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<tr>
<td>1963 thru 1964</td>
<td>205 Series</td>
<td>205-0001 thru 205-0577</td>
</tr>
<tr>
<td>1964 thru 1977</td>
<td>206 Series</td>
<td>206-0001 thru U20604074</td>
</tr>
<tr>
<td>1965 thru 1966</td>
<td>P206 Series</td>
<td>P206-0001 thru P206-0306</td>
</tr>
<tr>
<td>1969 thru 1976</td>
<td>207 Series</td>
<td>20700001 thru 20700362</td>
</tr>
<tr>
<td>1960 thru 1964</td>
<td>210 Series</td>
<td>5700001 thru 21058510</td>
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</tbody>
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NOTE: This Service Bulletin supersedes Single Engine Service Letter SE77-12, Propeller Hub Inspection And Modification.

PURPOSE

To announce the suspension of the periodic disassembly and inspection of affected propellers as an alternative to being modified to an oil-filled configuration. All affected propellers are required to be modified to the oil-filled configuration as described in McCauley Service Bulletin 122B (or later revision).

The oil-filled configuration is designed to assist in providing improved lubrication, corrosion protection and provide a built-in means for crack detection. New production propellers are being manufactured in only the oil-filled configuration.

COMPLIANCE

Mandatory: as stated in the attached McCauley Service Bulletin 122B (or later revision).
APPROVAL

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

MAN-HOURS

Not applicable.

MATERIAL

Not applicable.

ACCOMPLISHMENT INSTRUCTIONS

Detailed instructions are provided in the attached McCauley Service Bulletin 122B (or later revision).

CREDIT

Not applicable.

OWNER NOTIFICATION

On March 22, 1991 a copy of this Service Bulletin will be sent to applicable owners of record.

*   *   *   *   *   *   *   *
SERVICE BULLETIN 122B

Necessary and Required Action

November 1, 1990

TO: FAA Approved Propeller Repair Stations, Beech Aircraft Co.

SUBJECT: Requirement to "Oil Fill" Propellers

MODELS AFFECTED: D2A34C58, F2A34C58, D2A34C98

AIRCRAFT MODELS AFFECTED (BUT NOT LIMITED TO): Cessna A188, A188A, A188B; Transavia PL-12

SERVICE MANUAL AFFECTED: 720415

Service Bulletin 122B replaces Service Bulletin 122A dated July 16, 1990. This change updates inspection criteria only. The oil-fill compliance schedule and added parts remain unchanged. Additionally, like SB 122A, periodic disassembly and inspection is no longer permitted as an option to oil-filling. Please note that propellers modified/inspected under SB 122A do not need reinspection under SB 122B. (Vertical lines indicate changes).

CONDITION: The affected models are now being manufactured as "oil filled" propellers. To provide improved lubrication and corrosion protection as well as a built-in means of crack detection, modification to the "oil filled" configuration is necessary for existing propellers in the field.

CORRECTION: Modification to "oil filled" configuration shall be accomplished per Service Manual 720415, Supplement #1, and inspection criteria detailed on pages 2 and 3 of this bulletin.

COMPLIANCE: Any D2A34C58, F2A34C58 or D2A34C98 propeller not already oil-filled (see Propeller Compliance Identifier Table on page 4) shall have the above inspection/modify performed in accordance with the compliance table on page 4.

WARNING

If a propeller blade or hub is found without truncated or shot peened threads, Service Bulletin 81-A, Service Bulletin 88, later FAA approved revisions, or specific repair station modification documents (that have been approved by the FAA Manager, Chicago Aircraft Certification Office) must be complied with prior to hub modification.

1 TO OBTAIN SATISFACTORY RESULTS, PROCEDURES SPECIFIED IN THIS SERVICE INFORMATION MUST BE ACCOMPLISHED IN ACCORDANCE WITH ACCEPTED METHODS AND PREVAILING GOVERNMENT REGULATIONS. MCCAULEY ACCESSORY DIVISION CANNOT BE RESPONSIBLE FOR THE QUALITY OF THE WORK PERFORMED IN ACCOMPLISHING THIS SERVICE INFORMATION.
CLEANING AND INSPECTION

CLEANING

Blades:

1. Soak in solvent (Turco Transpo) to loosen paint and grease (1 hour minimum).
2. Clean with a non-metallic brush and/or scrape with a plastic or rubber knife. Remove all dirt from balance hole.
3. Thoroughly rinse with water and a soft brush.
4. Soak blade in lacquer thinner if necessary to remove sealer.
5. Repeat step 2 above.

Hubs:

1. Remove loctite residue from stud holes by tapping with an undersize tap (fine thread use 1/2–20NF GH1 tap). Take care not to remove any metal.
2. Soak hub in lacquer thinner long enough to loosen all decals and grease.

<table>
<thead>
<tr>
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<tr>
<td>Generally, all blades and a few hubs require additional cleaning prior to inspection. Thorough cleaning cannot be overemphasized. Any foreign material or unusual stain on the parts is sufficient indication that further cleaning is required.</td>
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</table>

PROCEDURE:

1. Blast clean threaded surfaces with very fine glass shot size MS-XLX (40 psi maximum). Blast should use minimal pressure and duration sufficient only to clean the surface without eroding any aluminum. Do not use sand, larger shot, or high pressure as either could close a very small crack at the surface.

<table>
<thead>
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<tr>
<td>After the part has been glass cleaned, it is necessary to etch it in caustic soda prior to inspection. The etching makes a tight crack easier to detect. Also, once aluminum parts have been caustic etched, they must be reanodized prior to returning to service.</td>
</tr>
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</table>

2. Immerse parts in caustic soda solution (approximately 15% concentrate) until a smooth, even coat of black smut appears, usually within 30 seconds to one minute maximum.
CAUTION

Temperature and the concentration of the solution drastically affect the amount of etching in a given time period. Extreme care must be used with caustic solutions as the parts can be easily destroyed through excessive etching.

3. Rinse thoroughly with water immediately after caustic dip.

4. Immerse in approximately 50% nitric acid solution to remove black smut, approximately 10 seconds is usually adequate.

5. Rinse thoroughly with water immediately after acid dip. Take extra care to make sure all acid has been removed from stud and cylinder holes.

DYE PENETRANT INSPECTION:

Dye penetrant inspect all parts per MIL-STD-6866 or as follows:

1. Check to make sure parts are properly cleaned.

2. Heat parts 70–120°F (120° maximum). Either oven or vapor degreaser can be used.

3. Immerse in dye penetrant (Turco A160038) for 20 minutes.

4. Hang parts to drain excess penetrant.

5. Rinse parts in remover emulsifier (Turco D161338). Under no circumstances allow part to remain in remover emulsifier in excess of 20 seconds.

6. Rinse with water (under pressure). Thoroughly rinse all stud and cylinder holes.

7. Heat parts in oven (vapor degreaser unacceptable) to approximately 150°F. Allow to dry completely, make sure all water has vaporized.

8. Spray with developer (Turco A165626) while the hub is still hot. Complete coverage is necessary but it must be a thin, even coating avoiding any thick accumulation in thread roots.

9. Check for crack indications. Use a high intensity inspection light and dental mirror. Any pink indication, no matter how small, is cause for suspicion, especially if found in the root or loaded side of a retention thread. Inspection should be made at least 5–10 minutes after the developer is applied but no later than 20 minutes.

NOTE

If a suspected crack is found but the results are not conclusive, it is advisable to reject the part or send it to McCauley for examination.

10. Keep a record: part numbers, serial numbers, date, findings.

NOTE

Although the fluorescent method of inspection is permitted, the McCauley factory has found the dye penetrant method to produce consistent satisfactory results. Regardless of which method is used, it is very important to observe the manufacturers precautions concerning contamination.
PROPELLER HUB MODEL

COMPLIANCE SCHEDULE of
PROPELLER INSPECTION and
MODIFICATION

Applies to Model D2A34C58, F2A34C58
and D2A34C98 Propellers Installed on
Any Category Aircraft.

Greater than 900 hours/59 calendar months
since last overhauled/inspected or installed
new; or prior history unknown.

Less than or equal to 900 hours/59 calendar
months since last overhauled/inspected or
installed new.

Within the next 100 hours, or at the next
annual inspection or within twelve (12)
calendar months after receipt of this Service
Bulletin, whichever occurs first.

Prior to the accumulation of 1000 hours/60
calendar months since last overhauled/new,
whichever occurs first.

<table>
<thead>
<tr>
<th>Propeller Compliance Identifier:</th>
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</thead>
<tbody>
<tr>
<td>Any D2A34C58, F2A34C58 or D2A34C98 propeller hub already oil filled will have an oil-fill plug and should be stamped following the model number as shown below:</td>
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</tbody>
</table>

D2A34C58-( )O or subsequent
F2A34C58-( )O or subsequent
D2A34C98-( )O or subsequent

NOTE:

McCauley requests to be notified of any cracks found during compliance with this service bulletin.

Customer Support Department
McCauley Accessory Division
3535 McCauley Drive, P. O. Box 430
Vandalia, Ohio 45377-0430
Telephone 513-890-5246 x 235
Telefax 513-890-6001

APPROVAL:

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