



## EASA Safety Information Bulletin

**SIB No.:** 2008-39  
**Issued:** 29 May 2008

- Subject:** Procedures for a “propeller search inspection” or “general visual inspection” and performance of “cosmetic repairs”.
- Ref. Publication:** FAA Special Airworthiness Information Bulletin (SAIB) NE-08-22 dated 14 May 2008.
- Description:** The Federal Aviation Administration (FAA) has published the referenced SAIB (attached as pages 3 through 6 of this bulletin) to recommend the accomplishment of a “propeller search inspection” or “general visual inspection” in addition to any (minor) repairs performed on the propeller. The FAA finds that aircraft owners, operators, and propeller repair stations should have acceptable guidelines for performing “cosmetic repairs”. This SAIB contains such guidelines.
- Applicability:** Propellers (type designs) owned and/or manufactured by the companies identified below and in the attached FAA SAIB; these guidelines may equally be applied to other propeller type designs from other approval (TC) holders.  
 These propellers are installed on general aviation (i.e. Normal, Utility and Acrobatic category – Part 22 and 23) and Transport category (Part 25) aircraft.
- Contact:** For Ratier-Figeac, EVRA, Hamilton Sundstrand, Flottrop, Great American, Sensenich and MT Propellers:  
 Pascal Lair, EASA Project Certification Manager (PCM), EASA, Ottoplatz 1, D- 50679 Cologne, Federal Republic Germany (FRG);  
 e-mail [pascal.lair@easa.europa.eu](mailto:pascal.lair@easa.europa.eu);  
 telephone: +49 (0)221 89990 4061; fax: +49 (0)221 89990 4561.
- For Hoffmann, Smith (Dowty), Aircraft Design & Certification (D4 Fascination, WD Aircraft), McCauley and Hartzell Propellers:  
 Uwe-Horst Nickel, EASA PCM, EASA, Ottoplatz 1, D- 50679 Cologne, FRG; e-mail [uwe-horst.nickel@easa.europa.eu](mailto:uwe-horst.nickel@easa.europa.eu);  
 telephone: +49 (0)221 89990 4179; fax: +49 (0)221 89990 4679.
- For Stemme, Schleicher, Technoflug, Fischer, DG-Flugzeugbau, Lange-Flugzeugbau, Sportine Aviacija and Binder Propellers:  
 Detlef Walter, EASA PCM, Luftfahrt-Bundesamt (LBA), Hermann-Blenk-Str. 26, 38108 Braunschweig, FRG;  
 e-mail [Detlef.Walter@lba.de](mailto:Detlef.Walter@lba.de); telephone: +49 (0)531 2355 299;

This is information only. Recommendations are not mandatory.

For Avia Propeller, VZLU and LOM Praha Propellers:  
Pavel Kulovaný, EASA PCM, Civil Aviation Authority (CAA), Ruzyně  
Airport, 160 08 Prague 6, Czech Republic; e-mail [kulovany@caa.cz](mailto:kulovany@caa.cz)  
telephone: +420 225 421 730; fax: +420 220 562 270.

For Aero SP and EADS "PZL-Warszawa-Okecie" Propellers:  
Jan Janson, Civil Aviation Office (CAO), 59 Żelazna Street, 00-848  
Warsaw, Poland; e-mail [JJanson@ulc.gov.pl](mailto:JJanson@ulc.gov.pl);  
telephone: +48 22 520 7319.

For further information contact the Airworthiness Directives, Safety  
Management & Research Section, Certification Directorate, EASA.  
E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).



**SUBJ:** Propeller Search Inspection (General Visual Inspection)

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## **Introduction**

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners, operators, mechanics, and certificated repair stations of **recommended procedures for a “propeller search inspection” or “general visual inspection” and performance of “cosmetic repairs”**.

Propeller repair stations can service propellers without performing a complete overhaul. Such work is typically performed because of a minor service problem with the propeller or perhaps to comply with a service bulletin or airworthiness directive. When repair work is performed (whether the propeller is disassembled or not), repair stations are expected to perform a “propeller search inspection” or “general visual inspection” in addition to the original task. Such an inspection has value in that serious problems or airworthiness issues might easily be found and corrected. The scope of a propeller “search inspection” or “general visual inspection” has been debated and could be better defined.

Service issues, such as oil leaks or minor blade damage, typically involve repair of the specific problem without repair or rework of the entire propeller. During repair of a specific problem, propellers are sometimes given additional cosmetic repairs, for example, repainting of blades and/ or replacement of decals. If the blade is not given a thorough rework and inspection prior to repainting, there is concern that the paint may hide flaws such as nicks, corrosion, or other material surface flaws. Airplane owners, operators, and propeller repair stations should have FAA accepted guidelines for performing “cosmetic repairs”.

## **Recommendations**

### **For a “Propeller Search Inspection”**

- Perform a visual inspection of all observable component parts for evidence of wear, damage, corrosion, grease leaks, or oil leaks. Any defects found will require further evaluation to determine whether the component remains serviceable until the next scheduled maintenance or overhaul. If vibration, oil, or grease leakage was reported, this may be a sign of a failed seal(s) or a more serious flaw such as a fractured hub or blade (especially if both an oil or grease leak and vibration initiate simultaneously), and a more thorough investigation is appropriate.
- If the work being performed does not require complete disassembly, additional disassembly is not required to satisfy Propeller Search Inspection requirements unless evidence of observed defects suggests the need for further investigation.
- Perform a logbook review that includes:
  - Determination of the date and flight time-since-last-overhaul.
  - Confirmation that the basic propeller model, blade model, and diameter are approved for the aircraft application involved (use FAA data, e.g., TCDS, or propeller manufacturers’ application guide).

- Verification of the basic propeller model, blade model, and diameter for the application involved (if there is no propeller logbook or if time-in-service is unknown, a further Propeller Search Inspection might be warranted to determine airworthiness).
- A properly maintained logbook is important and is required by FAA regulation.
- Review and discuss the following items with the aircraft owner/ operator:
  - Determination of the date and flight time-since-last-overhaul (from propeller logbook).
  - Determination of compliance with all applicable FAA airworthiness directives.
- Make a logbook entry of all repairs. If the customer either does not authorize, or postpones, correction of conditions found during a search inspection; the repairman should record the issues through entries in both the propeller logbook and customer work order. The aircraft owner/ operator should be notified that this documentation was created.
- Examples of defects that might be returnable to service:
  - Minor deterioration of paint or corrosion protection (however, consider that if repair or overhaul may be some years in the future, immediate repair of damaged paint or corrosion may be appropriate).
  - Light wear or scoring typical of normal operation. Refer to the propeller manufacturer’s instructions for continued airworthiness (ICAW) for the appropriate acceptance criteria.
- Examples of defects that require maintenance action or further evaluation prior to return to service:
  - Unusual wear of either unexpected severity or in an unexpected location that might be beyond the manufacturer’s service limits.
  - Damage or corrosion of aluminum blades, hubs, or other highly stressed propeller parts.
  - Deteriorated seals or O-rings.
  - Incomplete adhesion or sealing of de-ice boots, erosion shields, or decals.
  - Any suspected crack indication requires confirmation with the appropriate nondestructive test (NDT) inspection.
  - Deteriorated or broken electric de-ice lead wires.
  - If only one blade is removed for repair and found to have either external or internal corrosion, also remove and inspect other blades as they are likely to have similar defects.
- Reference Documents - For additional guidance, refer to the appropriate manufacturers’ Propeller Maintenance Manuals and Owner’s Manuals; FAA Advisory Circular 20-37E, Aircraft Propeller Maintenance; and FAA Advisory Circular 43.13-1B, Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair.

**For “Cosmetic Repairs”**

- For aluminum propeller blades, prior to painting, rework all damage using the manufacturer’s published field rework procedures in the manufacturers’ manuals or the FAA Advisory Circulars mentioned above. Before painting, inspection and application of a chemical conversion coating and primer paint are required following the manufacturer’s ICAW.
- For exposed aluminum surfaces, an exposed defect can be inspected while a hidden defect cannot be inspected. A cosmetic repair that creates a hidden defect in an exposed surface is an unacceptable practice. Complete rework and proper repair should be accomplished prior to painting.

- Composite propeller blades have different inspection/ acceptance criteria than aluminum propeller blades. Composite propeller blades generally require strict adherence to the manufacturer's maintenance instructions. Any alternate procedures or materials require FAA approval.
- When resealing the edges of de-ice boots or applying decals to aluminum propeller blades, manufacturers commonly require that sealants and decals NOT be applied to bare aluminum. For long term corrosion protection, it is important that the aluminum be properly prepared and painted prior to resealing de-ice boots or applying decals. Likewise, sealants and adhesives should not be applied to bare aluminum unless specified by the propeller manufacturer's maintenance instructions.
- Polished propeller blades are rarely an acceptable configuration. Corrosion protection such as paint and anodize should not be removed from the surface of a propeller blade. If the original design had corrosion protection and the propeller manufacturer's ICAW call for corrosion protection, then the corrosion protection should be maintained to those instructions. Therefore, do not return polished propeller blades to service without verification of acceptability.

### **For Further Information Contact**

Jay Turnberg, Propeller Specialist, Standards Staff, FAA, Engine and Propeller Directorate; 12 New England Executive Park, Burlington, MA 01803; e-mail: [jay.turnberg@faa.gov](mailto:jay.turnberg@faa.gov); phone: (781) 238-7116; fax: (781) 238-7199.

For Hamilton Sundstrand, Avia, Dowty, Hoffmann, or MT Propellers:

Terry Fahr, Aerospace Engineer, Boston Aircraft Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; e-mail: [terry.fahr@faa.gov](mailto:terry.fahr@faa.gov); phone: (781) 238-7158; fax: (781) 238-7170.

For Hartzell Propellers:

Tim Smyth, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Propulsion Branch, 2300 East Devon Avenue, Des Plaines, IL 60018; e-mail: [timothy.smyth@faa.gov](mailto:timothy.smyth@faa.gov); phone: (847) 294-7132, fax: (847) 294-7834.

For McCauley Propellers:

Jeff Janusz, Aerospace Engineer, Wichita Aircraft Certification Office, FAA, Propulsion Branch, 1801 Airport Road, Room 100, Wichita, KS 67209; e-mail: [jeff.janusz@faa.gov](mailto:jeff.janusz@faa.gov); phone: (316) 946-4148; fax: (316) 946-4107.

For Sensenich Propellers:

James Delisio, Aerospace Engineer, New York Aircraft Certification Office, FAA, Propulsion Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; e-mail: [james.delisio@faa.gov](mailto:james.delisio@faa.gov); phone: (516) 228-7321; fax: (516) 794-5531.

### **For Related Service Information Contact**

Avia Propeller Ltd., Beranových 666, 199 00, Prague – Letňany, Czech Republic; phone: +420/0/2/9633 6530 or 31; fax: +420/0/2/9633 6519 or 33.

Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL 2 9QN, UK; phone: 44 (0) 1452 716000; fax: 44 (0) 1452 716001.

Hamilton Sundstrand, One Hamilton Rd, Windsor Locks, CT 06095; phone: (860) 654-6822; fax: (860) 654-5107.

Hartzell Propeller Inc., Hartzell Propeller Product Support, Attn: Product Support; One Propeller Place, Piqua, OH 45356-2634; phone: (937) 778-4379; fax: (937) 778-4391 (Intl. 001.937.778.4391).

Hoffmann GmbH & Co.KG, Kuepferlingstr. 9, D-83022, Rosenheim, Germany; phone: +49-8031-1878-0; fax: +49-8031-1878-78.

McCauley Propeller Systems, P.O. Box 7704, Wichita, KS 67277-7704; phone: (800) 621-7767; fax: (316) 831-3858.

MT-Propeller Entwicklung GmbH, Flugplatzstr. 1, D-94348 Atting, Germany; phone: +49-(0)9429-94090; fax: +49-(0)9429-8432.

Sensenich Propeller Manufacturing Company, Inc., 14 Citation Lane, Lititz, PA 17543; phone: (717) 569-0435; fax: (717) 560-3725.