



	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

Subject: MT-Propeller Hub inspection

To: All Owners / Operators of MT-Propeller MTV-27-1-E-C-F-R(G)/CFRL240-55d which are installed on Mitsubishi MU-2B- ().

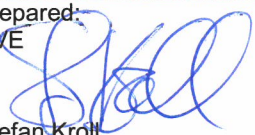
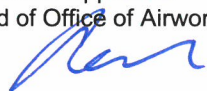
Type Affected: All MTV-27-1-E-C-F-R(G)/CFRL240-55d Propeller hubs installed in Mitsubishi Heavy Industries MU-2-B- ().
NOTE: this exact Propeller P/N is only installed in combination with a low RPM gearbox (1591 RPM).

Accomplishment: Visual inspection of the propeller hub for cracks.

Reason: During a regular propeller overhaul on the above-mentioned installation, the start of crack propagation on the inner side of the hub between front plate and plate bearing has been detected.
Following an intensive material analysis, it is most likely, that the reason for crack initialization is caused by inappropriate etching during hub overhaul. An additional vibration test focusing on the cracked area also supports this analysis.
In worst case, this crack propagation could, if not identified early enough, lead to a blade separation and therefore further in field experience shall be gained.

Inspection Interval: With the next propeller maintenance event in a MT-Propeller certified Service center.

Action: **This inspection must only be accomplished by authorized aircraft maintenance personal appropriately qualified for the described work.**
Read all instructions thoroughly prior performing work and complete the accomplishment instructions provided on the next pages.
Submittal of Report Form to MT-Propeller is a requirement for compliance with this SB.
In case of uncertainties or any questions as well as for submittal of the Report Form, please contact MT-Propeller Techsupport: techsupport@mt-propeller.com

Prepared: CVE  Stefan Kroll	Original Issue: April 24, 2023	Checked / Approved: Head of Office of Airworthiness  Martin Albrecht
---	-----------------------------------	--

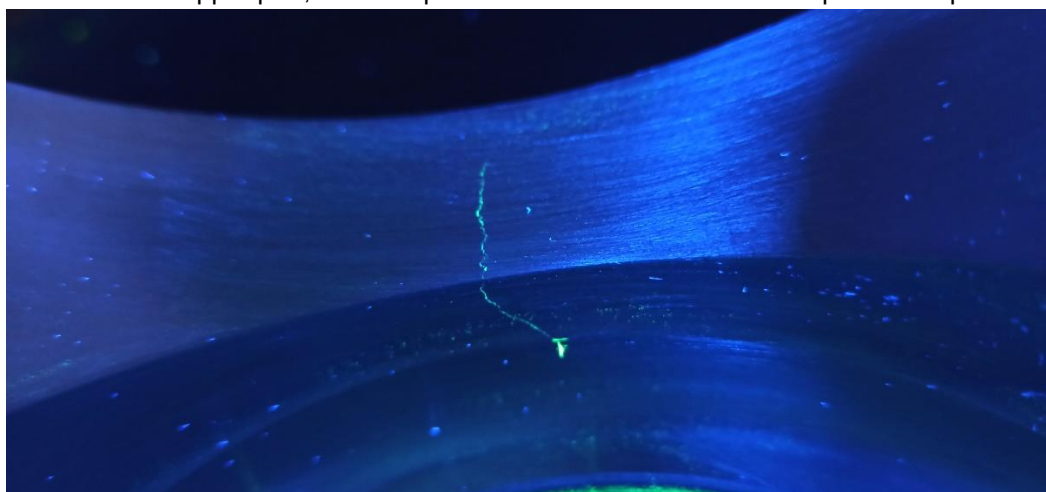
	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

Description of detected crack:

The crack has been found inside the hub on the smallest material thickness between the front plate and the blade bearing. The pictures below shall provide more precise description of the detected crack.



This picture shows the detected crack on the inner part of the hub. The blade bearing is located on the upper part, the front plate is mounted on the lower left part of the picture.



The crack gets clearly visible by dye penetration testing. The blade bearing is located on the lower part of the picture and the front plate is mounted on the upper part of the picture.

	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

List of consumables:

Name	Part Number:	QTY:
Permatex	No. 2	AR
Safety Wire	MS20955C025/032	AR
Sealant	RTV-109	AR
Propeller Grease	MT-2	AR

NOTE: These consumables are commercially available, MT-2 grease is available at any MT-Propeller Service Center.

Front plate removal:

1. The Propeller does not need to be disassembled completely. Removal of front plate and springs is sufficient.
2. Remove front plate and springs i.a.w. MT-Propeller *Overhaul Manual and Parts List ATA-61-16-80 (E-680)* to the following state:

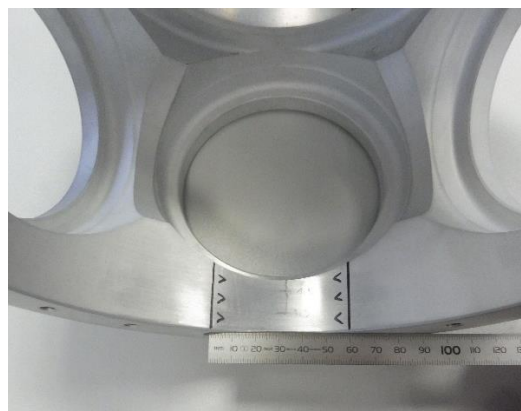


This picture shows the inner part of the hub after deinstalling the front plate and the springs. Do not further disassemble the pitch change mechanism or blades!

	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

Hub inspection:

1. The areas to be inspected are located on the blue surface on the inner side of the hub. The exact positions are located between the blade bearings and the front plate on each of the five blade locations, where the hub material is smaller than 30 mm (1.2 inch). This equals to a horizontal distance of +/- 30mm (1.2 inch) of the narrowest material in the middle of each blade bearing. In total, five areas have to be inspected.



Inspection area is located between +/- 30 mm (1.2 inch) on each side of the narrowest material (between the two black lines).



The surface which is smaller than 30 mm (1.2 inch) must be inspected (inside the black lines).



The surface which is smaller than 30 mm (1.2 inch) must be inspected (inside the black lines).

2. Clean the above marked area with industrial cleaner or brake disc cleaner, do not allow cleaner to enter the blade bearings inside.
3. Visually inspect the marked area with a 10x lens and a bright flashlight for any signs of cracks. Special focus shall be taken on the inner corner of the described area. Report any signs of cracks on the Compliance Form and send it to MT-Propeller Techsupport. In case of any crack detection, continue with Eddy Current inspection (details available from MT-Propeller).



	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

4. Only if the propeller is fully disassembled driven by another reason:
Perform dye penetrant testing at the previously described areas in addition to the visual inspection. In case of any crack detection, continue with Eddy Current inspection (details available from MT-Propeller).

Inspection results:

1. If any indications are detected during visual inspection or dye penetration testing:
 - a. Immediately remove the propeller from service.
 - b. Fill the data required on the Compliance Form, supplement it with a detailed photo documentation and send it to MT-Propeller Techsupport (techsupport@mt-propeller.com).
 - c. Establish communication with MT-Propeller Techsupport or Engineering to clarify further handling procedure.
 - d. Following a visual indication, the more precise Eddy Current inspection can be performed. A detailed procedure is available from MT-Propeller Techsupport.
2. If no indications of cracks have been found during visual inspection or dye penetration testing:
 - a. Fill the data required on the Compliance Form and send it to MT-Propeller Techsupport (techsupport@mt-propeller.com).
 - b. Reassembly the propeller as described below. Carry out functional checks, flight and ground tests i.a.w. *MT-Propeller Operation and Installation Manual ATA 61-01-24 (E-124)*, chapter 5.12 to 5.21.
 - c. Make propeller and airframe logbook entry and release propeller and aircraft to service.

Propeller reassembly:

1. Reassemble Propeller i.a.w. *MT-Propeller Overhaul Manual and Parts List ATA-61-16-80 (E-680)*.
2. Carry out functional checks, flight and ground tests i.a.w. *MT-Propeller Operation and Installation Manual ATA 61-01-24 (E-124)*, chapter 5.12 to 5.21. Make propeller and airframe logbook entry and release propeller and aircraft to service.



	SERVICE BULLETIN No. 38 - Revision 0 -	DOA No. EASA.21J.020
--	--	-------------------------

Alert Service Bulletin Compliance / Report Form

Owner Information:

*Name:	
*Address:	
*Phone/Fax Number:	
*E-Mail Address:	

Propeller Service Facility:

*Name of Repair Facility:	
*Address:	
*Contact Person:	
*Phone/Fax Number:	

	1 st Propeller	2 nd Propeller
*Propeller Type:		
*Propeller Serial Number:		
*Blade Serial Number:		
*TSN / TSO:		
*Inspection resultat:	☐ No cracks found ☐ Cracks found ¹	☐ No cracks found ☐ Cracks found ¹

¹ If cracks are identified in the aluminum hub, detailed photo documentation needs to be sent to MT-Propeller Techsupport (techsupport@mt-propeller.com). The Propeller is considered to be not airworthy and shall not be taken into operation (including no ground operation).

Send this Order Form to: techsupport@mt-propeller.com