

Sorensen Tim

From: Torgerson, Anne (FAA) [REDACTED]
Sent: Tuesday, October 5, 2021 8:31 AM
To: Sorensen Tim
Cc: Hempen, Patrick (FAA); Rigsby, Matthew (FAA); LaNou, Thomas (FAA)
Subject: RE: NTSB Request 21-304

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Hi Tim,

This is the response for question 2 of the request. Please see below.

AD 2000-18-12 requires inspections per PZL SB# E/02.170/2000 dated Aug 3, 2000

This SB states "Use the magnetic particle inspection procedures that are in the maintenance manual for these inspections".

The person accomplishing the Magnetic Particle Inspection must be appropriately trained, qualified and certified (level I, II or III) in the NDT/NDI method to be used per the Service Bulletin. The NDT/NDI must be accomplished per the instructions provided in the Service Bulletin. The equipment used to perform the Magnetic Particle Inspection must be in proper functioning condition and calibrated.

Have a great day.

Anne

Anne Torgerson
Aviation Safety
Accident Investigation, AVP-100
FAA
[REDACTED]

From: Torgerson, Anne (FAA)
Sent: Wednesday, September 29, 2021 11:35 AM
To: Sorensen Tim [REDACTED]
Cc: Hempen, Patrick (FAA) [REDACTED]; Rigsby, Matthew (FAA) [REDACTED]; LaNou, Thomas (FAA) [REDACTED]
Subject: NTSB Request 21-304

Hi Tim,

This is in response to NTSB Request 21-304. Please see response below and the attached documents.

Background: N9310R, Seiling, OK, 7/12/2021 – PZL M18 accident - NTSB questions on AD 2000-18-12

AD 2000-18-12 related to the wing lugs requires recurring inspections outlined in PZL SB E/02.170/2000. The SB states, "The only acceptable inspection method is magnetic cracks detection."

- 1) Please provide a clarification regarding the exact meaning of "magnetic cracks detection." Some in the maintenance community interpret that to mean only magnetic particle inspection is approved. Others seem to take that to include other NDT methods such as eddy current or dye penetrant.

Response – The FAA AD 2000-18-12 specifically calls out magnetic particle inspections, which is the same as what the type certificate (TC) holder Polskie Zaklady Lotnicze Co. Ltd. Service Bulletin No. E/02.170/2000, dated August 3, 2000 states. After the AD was issued, the FAA has received request from the field asking if other methods such as eddy current could be used. The FAA has coordinated these requests with the TC holder and both the FAA and TC holder have denied use of eddy current in place of the required magnetic particle inspection that is required and explained in the aircraft maintenance manual (AMM) section 4.27a.

- 2) Please clarify what, if any, specific qualifications are required of maintenance personnel to conduct the NDT inspection required by the AD.

Response – The AMM has specific procedures on how to conduct this inspection. More to come on this after AIR and Flight Standards discuss exactly what is allowed by a general aviation A&P to conduct magnetic particle inspections.

- 3) Please advise what, if any, alternative methods of compliance have been approved for the AD

Response – The FAA has only granted one AMOC for this AD and denied several others. All AMOC requests were coordinated with the TC holder and either EASA or the Polish Civil Aviation Office (CAO). The FAA granted the AMOC on Feb. 10, 2021 applicable to three M-18 airplanes operated and maintained by Western Pilot Service and this AMOC granted an increase of the repetitive inspection in between inspections from 12 months to 36 months, based on changes of operational usage of the airplanes and other mitigating features.

The FAA denied an AMOC on June 16, 2011 to Mr. Schumpert of Canam Aviations, Inc. that requested using eddy current inspections in place of the required magnetic particle inspection. The FAA has had several phone calls through the years from operators asking if eddy current can be used in lieu of magnetic particle inspection and the FAA has responded with the answer no, so the AMOC requests did not get officially submitted.

Per the TC holder, the magnetic particle inspection is required due to the material the fittings are made from and the fact that this method allows detection of cracks on corroded and strongly corroded surfaces, on cadmium-plated surfaces and for performing tests on edges of holes, lugs and other surfaces.

Have a great day.

Anne

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