U.S. Department
of Transportation
**Federal Aviation
Administration**

JUN 2 5 2015

Small Airplane Directorate
901 Locust, Room 301
Kansas City, Missouri 64110

Laurie Marshall
Western Aircraft Propeller Services Inc.
1610 NW Perimeter Way
Troutdale, OR 97060

Subject: Alternative Method of Compliance (AMOC) request for Airworthiness Directive (AD) 2010-15-05, Docket No. FAA-2010-0457 for the Aircraft Industries a.s. Model L 23 Super Blanik Glider

Dear Ms. Marshall:

This is in response to your letter, dated May 15, 2015, which was sent to the Federal Aviation Administration, Aerospace Engineer, Kansas City, Missouri, requesting a new AMOC for use of an alternate inspection method to accomplish the repetitive inspection requirements of paragraph (f)(2) of AD 2010-15-05 for Aircraft Industries a.s. Model L 23 Super Blanik Glider serial number 917817. You later requested that the applicability of the AMOC proposal be expanded to include all affected Aircraft Industries a.s. Model L 23 Super Blanik Gliders.

Paragraph (f)(2) requires repetitive inspections of the elevator inner hinges on the stabilizer following paragraphs A.1., A.2., and A.4. of Aircraft Industries a.s. Mandatory Bulletin MB No.: L23/052a, dated March 2, 2010, at intervals not to exceed every 1,000 hours' time-in-service (TIS). Paragraph A.2. of the referenced service information specifies performing the inspection through non-destructive penetrant testing in accordance with one of the following industry standards:

- CSN EN 571-1 – Non-destructive testing – Penetrant testing;
- ASTM E-165 – Standard Practice for Liquid Penetrant Inspection;
- ASTM-E-1209 – Standard Method for Fluorescent Penetrant Examination Using the Water Washable Process;
- AMS-2647 – Fluorescent Penetrant Inspection-Aircraft and Engine Component Maintenance;
- MIL-STD-271 – Requirements for Non-destructive Testing.

In your letter, you state that during a previous accomplishment of the inspection, the part was inspected using "Red Liquid Dye". You state that use of this dye is no longer deemed acceptable in aircraft safety inspections. You further state that use of the other specified "Zyglo" or Fluorescent Penetrant methods cannot be used over the "Red Liquid Dye", as they will not react to get a proper reading thereby making you unable to accomplish the next repetitive AD inspection.

You are requesting that the inspection required in paragraph (f)(2) of AD 2010-15-05 and further defined in paragraph A.2. of Aircraft Industries a.s. Mandatory Bulletin MB No.: L23/052a,

dated March 2, 2010, is accomplished by an eddy current method in accordance with ASTM-E426-92. Your alternative inspection procedure is defined in Attachment 1 to this letter. You state that the eddy current inspection will not be affected by previous use of red liquid dye and will give a better reading when checking for cracks around the hinges. Your procedure defines the required equipment, the required work steps, and the inspector qualifications.

The FAA has reviewed your global AMOC request, the proposed alternative inspection, and the related AD and company service information. Since our office is responsible to coordinate such proposals with the state of design authority and the TC holder, we shared this request by e-mail with the European Aviation Safety Agency (EASA). The EASA Certification Manager coordinated the request with the current TC Holder and, after consultation, did not object to the proposed alternate inspection method for the elevator inner hinges. In addition, we shared this request with an FAA expert in non-destructive testing who provided several recommendations which you incorporated into the final procedure.

After further consideration, the FAA accepts the eddy current inspection procedure specified in Attachment 1 to this letter. The FAA also approves the request to add this eddy current inspection as an alternative method of compliance to the repetitive inspection required in paragraph (f)(2) of AD 2010-15-05 and further defined in paragraph A.2. of Aircraft Industries a.s. Mandatory Bulletin MB No.: L23/052a, dated March 2, 2010.

Before using this AMOC, operators are to notify their appropriate principal inspector (PI), or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. This approval is subject to the following conditions:

1. The Small Airplane Directorate will revoke this AMOC, if we later determine that this AMOC does not provide an acceptable level of safety.

2. All provisions of AD 2010-15-05 that are not specifically referenced above remain fully applicable and must be complied with accordingly.

3. A copy of this letter is kept with the aircraft logbook.

If all the above conditions are met, then this AMOC is granted for the Aircraft Industries a.s. Model L 23 Super Blanik Gliders, all affected serial numbers, certificated in any category.

This AMOC is transferable.

If you have any questions or require additional information, please contact Mr. Jim Rutherford by telephone at 816-329-4165, by fax at 81-329-4090, or by email at jim.rutherford@faa.gov.

Sincerely,

William Schnurstock

for Jacqueline Jambor
Manager, Project Support Branch

**ATTACHMENT 1**

**Global AMOC - Alternative Inspection Method to those specified in Paragraph A.2. of Aircraft Industries a.s. Mandatory Bulletin MB No.: L23/052a, dated March 2, 2010**
**FAA AD No. 2010-15-05, Paragraph (f)(2)**
**EASA EAD No. 2010-0037-E**
**Dated 06/17/15**

**Discussion:**
Manufacturer: Aircraft Industries, a.s, LET k.p., LET A.S. and LETECKE ZAVODY a.s.

ATA 55 Stabilizers- Elevator Inner Hinges-Inspection/Replacement

EASA EAD No. 2010-0037-E states:

*Cracks on the stabilizer elevator inner hinges of seven L 23 SUPERBLANIK sailplanes have been detected during an inspection.*

*This condition, if not corrected, could result in no longer retaining the elevator in place and in jamming of the Pilot's elevator control system, and subsequent loss of elevator control.*

*For the reasons stated above, this Emergency AD requires the inspection of the elevator inner hinges, and the accomplishment of the relevant corrective actions as necessary.*

FAA AD No. 2010-15-05, paragraph (f) (2) states:

*Repetitively thereafter at intervals not to exceed every 1,000 hours' time-in-service, inspect the elevator inner hinges on the stabilizer following paragraphs A.1., A.2., and A.4. of Aircraft Industries, a.s. Mandatory Bulletin MB No.: L23/052a, dated March 2, 2010.*

Paragraph A.2. of Aircraft Industries a.s. Mandatory Bulletin MB No.: L23/052a, dated March 2, 2010, calls out both Red Dye Liquid Penetrant and Fluorescent Penetrant as being acceptable NDT test methods. However, if the Red Dye Liquid Penetrant has been used previously, then subsequent use of the Fluorescent Penetrant is no longer acceptable due to the incorrect readings that can occur.

**Alternate Compliance:**
Conducting NDT Eddy Current inspection of elevator inner hinges on the stabilizer.

**Required Equipment:**

- Olympus Nortec 100 Eddy current machine or equivalent,
- Certified test piece .008 to .040 thickness for setup,

- Probe – Nortec P/N 9222164 ML/100KHZ-500KHZ-/A/90.5/6 or equivalent,
- Certified test piece- three notches .008, .020, and .040 in depth. Test material equivalent to hinge material.

**Work Procedure:**

**Pre-clean**

Clean the part that will be inspected. Part must be clean from dirt, residue, or solvent.

**Initial Setup**

Setup the instrument on the same type power supply that will be used for evaluation. Adjust the instrument to compensate for .003 inch to .005 inch (0.07 to 0.12 mm) liftoff.

NOTE – a piece of standard notebook paper or a piece of masking tape may be used for liftoff.

**Calibration**

Balance the probe on a calibration standard area known to be free from discontinuities. Scan the 0.020 inch (0.51mm) EDM notch perpendicular to the notch length.

Minimum permitted responses are:

1. Meter – Type instruments for example ED-50 must displace a 150 increment deflection.
2. Dial-Type instrument for example Hocking Locator, must displace a 70 percent full scale deflection
3. Phase-type instruments, for example Phasec 220, MiZ 22 etc, must displace a 50 percent amplitude response.

**Inspection Procedure**

Position probe on the surface of the hinge web and inspect both sides round the oval unstressing hole. See Photos 1 and 2 below. Hold probe steady and perpendicular to the area being scanned. Each scan must overlap the previous scan by 50 percent of probe diameter for maximum coverage of inspection area. Maintain a scanning rate of less than .5 inch per second.

**Inspection Findings and Follow-on Actions**

As noted in FAA AD No. 2010-15-05.

**References:**

Inspector to be a qualified level II IAW accepted industry standards.

ASTM E426-92: "Standard Practice for Electromagnetic (Eddy Current) Examination of Seamless and Welded Tubular Products, Austenitic Stainless Steel and Similar Alloys."

EDDY CURRENT TESTING OF AEROSPACE MATERIALS PT-TE-1421

MIL-STD-271 - Requirements for Non–destructive testing.

**PHOTO 1**

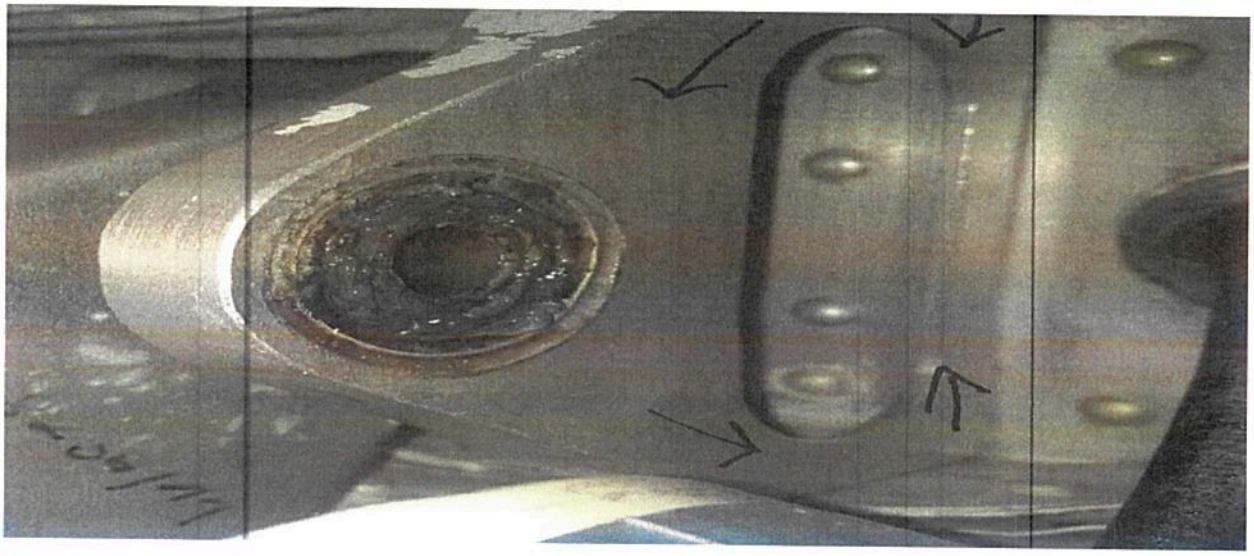

**PHOTO 2**