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EASA.AP176

ACCEPTED BY	APPROVED
President of Zaklady Lotnicze, Marganski&Myslowski on: *[---],08.08.2007* (signature, date) Edward Marganski, MSc. Eng.	

MANDATORY BULLETIN - *draft*
No BO-16/07 MDM-1 FOX/ MDM-1P FOX-P
for the sake of time, and approaching World Championships '2007 this draft has been approved only by President of Zaklady Lotnicze to enable glider verification before competition flying

DESIGNATION-TYPE/MODEL:	MDM-1 FOX/ MDM-1P FOX-P	
SERIA / NUMBER:	All gliders of MDM-1 FOX/ MDM-1P FOX-P model	
CONCERNS:	Canopy hinge	
COMPLIANCE TIME:	Action 1:	prior to the next flight, and at every following inspection "at the start of flying season"
	Action 2:	prior to the next flight
	Action 3,4:	before the next flying season, not later than 1 March, 2008

ELABORATED BY:	AGREED
Responsible for Type Design Tadeusz Zbos, MSc. Eng. *[---], 8.08.2007* (signature, date)	.

Translated by

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Tadeusz Zbos

1. GROUNDS FOR ISSUANCE OF THIS BULLETIN

At the glider inspection, on several (4+1) MDM-1 FOX gliders, the cracks in the area of welded joint between the attachment cone and hinge plate (Dwg. No. B2-14.15.20) have been found at the canopy gas-spring attachment points on front&rear cockpit canopy.

It has been observed also that on some MDM-1 FOX gliders the jamming of gas-strut occurs, resulting in increased loads to canopy hinges at gas-spring attachment point.

2. LIST OF FACTORY NOS COVERED WITH THIS BULLETIN

This Bulletin concerns all MDM-1 FOX/ MDM-1P FOX-P model gliders.

3. PROCEDURE

All hinges on front and rear canopy must be visually inspected against cracks and damage in welded joints, on all MDM-1 FOX/ MDM-1P FOX-P gliders.

At the same time, the gas-spring operation must be checked against jamming.

Action 1. (a) Visually inspect all hinges on front and rear canopy for cracks, with special attention paid to area of attachment cone welded joint.
(b) After disconnecting at the top attachment point, check the gas-spring operation against jamming (evidenced by e.g. increased force, resistance to motion).

Action 2. (a) If evidence of cracks in welded joint area has been detected at the hinge, the attachment cone must be re-welded to hinge plate – as per instruction in the Enclosure No 1 to this Bulletin.
If no cracks/defects have been stated, no further action to canopy hinge is required.
(b) If any evidence of jamming has been found, the gas-spring must be replaced with new one
If the gas-spring operation is smooth, without evidence of jamming, no further action to gas-spring is required.
Re-assemble the canopy hinge with gas-spring. Check correct connection and locking of assembly details, and correct operation of canopy locking mechanism.

Action 3. At later time, after flying season '2007, a replacement of actual canopy hinge with modified solution – to be developed and produced by the glider manufacturer - might be required. If this would be a case, the necessary parts together with the modification procedure will be available from producer.
Before the next flying season, not later than 1 March, 2008, the gas-spring at canopy hinge must be verified against the following producer recommendation:
-herewith, the service life of canopy gas-spring installed on a glider is limited to 5 years,
-the gas-spring must be verified at every inspection "before the next flying season", in case of any defects – immediately replaced with new one

Action 4. Replace the pages of Technical Service Manual, listed under „Enclosures", with corresponding pages (marked:, MDM-1 FOX, TSM, iss. III - „Rev. 9/2007", MDM-1P FOX-P, iss.I – "Rev. 01/2007".

4. MASS (WEIGHT) AND BALANCE

No/ negligible influence

5. ENCLOSURES

Working Instruction, Enclosure No 1 to this Bulletin

Technical Service Manual, pages ##, ##, ##,

6. FINAL CONCLUSIONS

1. The Action 1 and 4 can be carried out by appropriately competent person, and must be documented in the aircraft log book.

2. The Action 2 and 3 must be carried out either by the glider manufacturer or by an aircraft service station accepted by the responsible airworthiness Authority. These Actions must be inspected, and entered in the log book.

3. The parts necessary for introduction of this Bulletin are listed in Enclosure No 1.

- THE END -

Enclosure No 1
to
Bulletin No BO-16/07 MDM-1 FOX/ MDM-1P FOX-P

WORKING INSTRUCTION INSPECTION & REPAIR OF CANOPY HINGE ASSEMBLY

Elaborated:

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Mariusz Wolak

1 Action 2A – re-welding of damaged hinge

1. Disassemble the hinge from canopy
2. Clean the whole welded joint thoroughly
3. Verify the detail against next/ other mode cracks and damages
4. Re-weld the cracked area with thorough penetration, extending the area of penetration slightly beyond the edge of visible crack
5. Detail hardening operation/ 880 deg C – oil
6. Detail tempering operation/ 540 deg C – water or oil / 27-33 HRC hardness
7. Clean the welded area from scale
8. Protect the detail with anti-corrosion paint.
   NOTE: do not paint the openings and conical surface
9. When assembling, cover the non-painted surface with grease
10. As a result of hardening, the increased clearance at opening- and conical mating surface may appear.
11. Welding by TIG inert gas method

material necessary for implementation of the a.m. procedure:

- welding wire – same as for the 4130 steel (Polish spec. Sp20G1H1M)
- welding electrode - 2-3 mm diameter

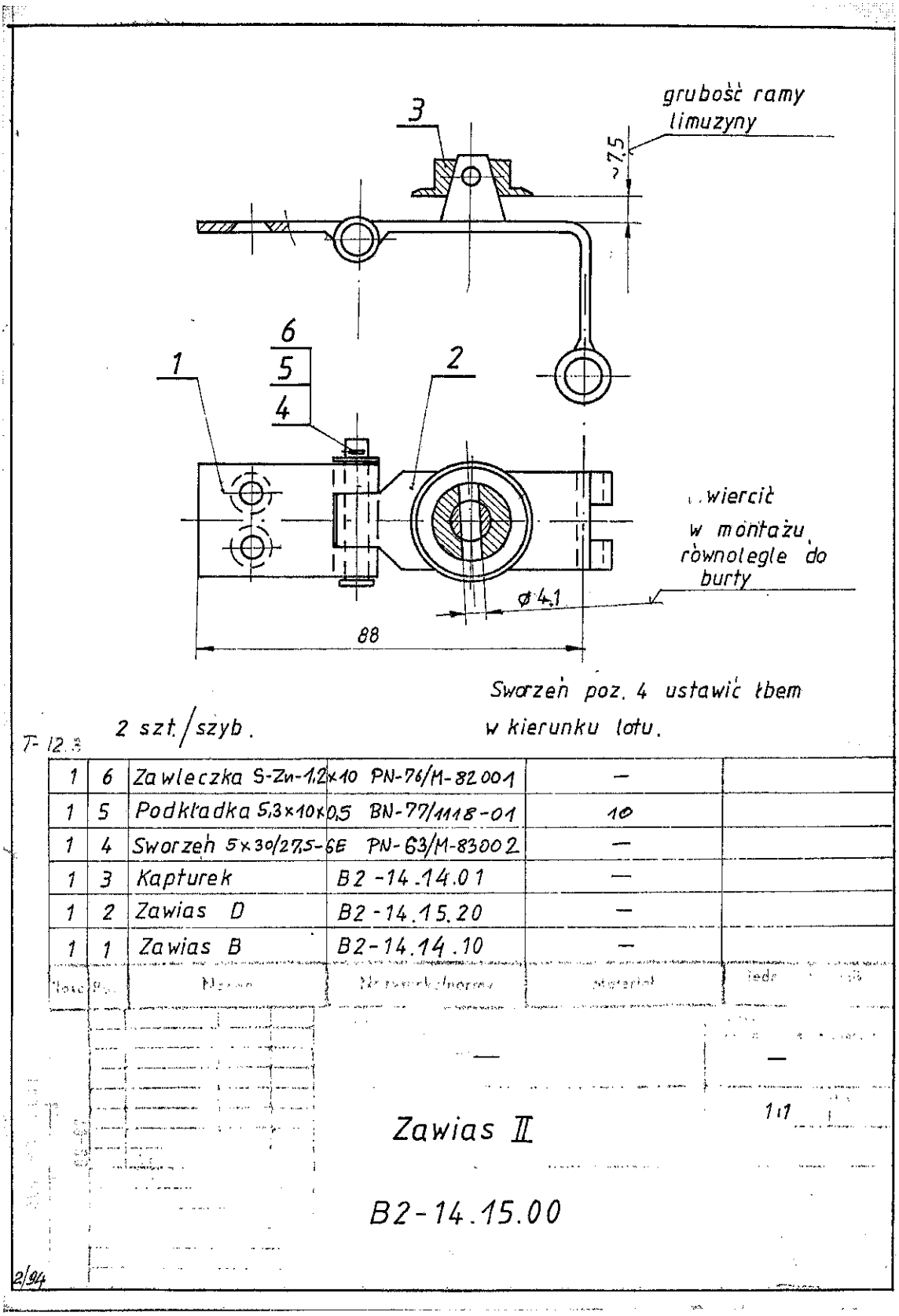
2. Action 2B – replacement of damaged hinge with new one

In this case, replacement of affected hinge with new one – simple operation of metal element bonding to composite structure with subsequent curing

NOTE:
Considered an alternative to Action A2 – production of 4 pcs. initiated, with scheduled execution time 14 August, afternoon;
delivery via courier agency to Niederoblarn airfield

For today, some operations within the production process outside of company make this execution time uncertain

Dwg No B2-14.15.00



1	6	Zawleczka S-Zn-1,2×10 PN-76/M-82001	—		
1	5	Podkładka 5,3×10×0,5 BN-77/1118-01	10		
1	4	Sworzeń 5×30/27,5-6E PN-63/M-83002	—		
1	3	Kapturek	B2-14.14.01	—	
1	2	Zawias D	B2-14.15.20	—	
1	1	Zawias B	B2-14.14.10	—	
Poz.	Ilość	Nazwa	Nr rysunku/normy	Materiał	Uwagi

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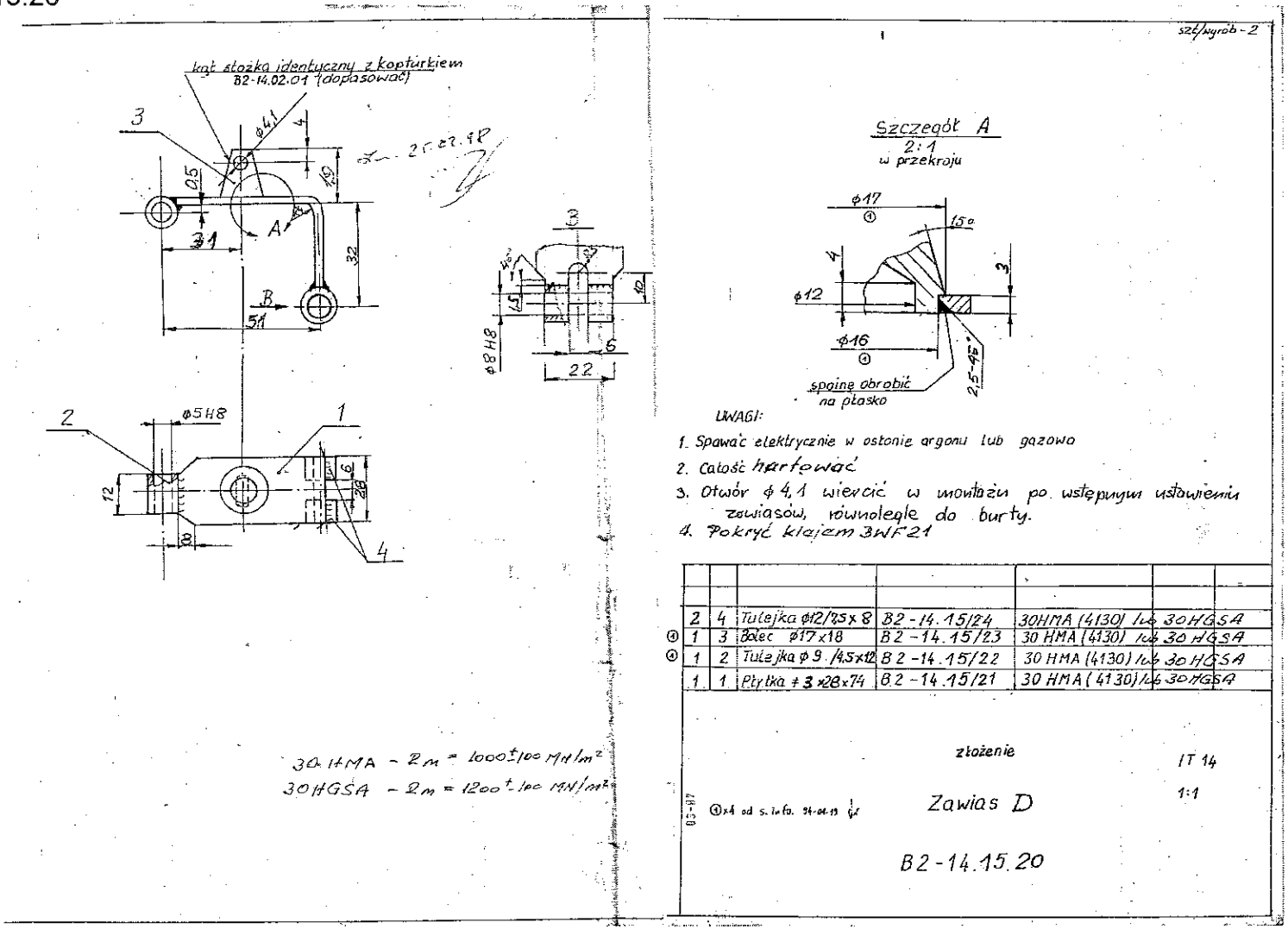
1:1

Zawias II

B2-14.15.00

2/94

3. Dwg No B2-14.15.20



2	4	Tulejka ϕ12/7,5x8	B2-14.15/24	30HMA (4130) lub 30HGSA		
③ 1	3	Zawias ϕ17x18	B2-14.15/23	30 HMA (4130) lub 30 HGSA		
④ 1	2	Tulejka ϕ9,1/4,5x12	B2-14.15/22	30 HMA (4130) lub 30 HGSA		
1	1	Płytka t=3 x28x74	B2-14.15/21	30 HMA (4130) lub 30HGSA		