

GFA AIRWORTHINESS DIRECTIVE

- TYPE AFFECTED:** SZD-38A 'Jantar 1'
- SUBJECT:** Replacement of the wing spar spigots at 1500 hours total time in service and the extension of the service life to 4500 hours total time in service.
- BACKGROUND:** Continued fatigue testing of the affected sailplane types has shown that the service life may be increased to 4500 hours total time in service provided the spar spigot pins are replaced at 1500 hours total time in service.
- DOCUMENTATION:** PZL-Bielsko bulletins BE-028/87 and BE-036/89 both or which form part of this AD.
- ACTION REQUIRED:**
1. Upon reaching 1500 hours total time in service the spar spigot pins must be replaced in accordance with PZL-Bielsko bulletin BE-028/87.
 2. After replacing the spar spigots the Technical Service Manual must be amended to reflect the total service life of 4500 hours total time in service.
- WEIGHT AND BALANCE:** Not affected
- IMPLEMENTATION:** The replacement of the spar spigot pins must be performed by the holder of a DA 1109 glider inspectors certificate endorsed for 'Major Repairs FRP'.
- Amendment of the Technical Service manual may be performed by the Certificate Holder.
- COMPLIANCE:** The requirements of this GFA Airworthiness Directive are mandatory. This Directive is issued pursuant to the Rules and Regulations of the Gliding Federation of Australia.

SIGNED:

CHIEF TECHNICAL OFFICER AIRWORTHINESS

For and on behalf of:

**THE GLIDING FEDERATION
OF AUSTRALIA**

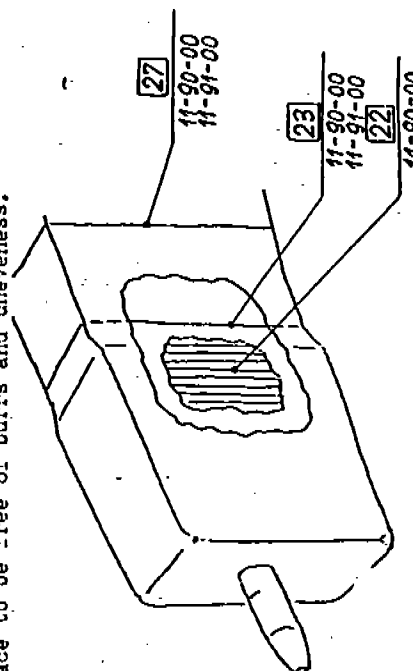
PDPs "PZL-BIELSKO"	BULLETIN No BE-028/87 "JANTAR-1"	Page: 2 of: 3
1. <u>1. GROUNDS FOR INTRODUCING THIS BULLETIN</u> The results of ground fatigue-tests of the wing main spar pivots of SZD-38A "Jantar-1" sailplane type allow to define the life-time of these pivots for 1500 flying-hours. In respect to the above the extension of life-time (above 1500 flying-hours) requires the spar pivots to be replaced with the new ones. 2. <u>2. LIST OF SAILPLANE FACT. NOS COVERED WITH THIS BULLETIN</u> This Bulletin covers all the gliders of SZD-38A "Jantar-1" type having the following Fact. Nos: X-108, X-109 and B-608 to B-689. 3. <u>3. DESCRIPTION OF CHANGES INTRODUCED WITH THIS BULLETIN</u> It the extension of life-time of the above sailplane type is required the replacement of wing spar pivots is necessary acc. to the procedures described in the "Enclosure No 1" to this Bulletin. 4. <u>4. LIST OF ENCLOSURES</u> "Enclosure No 1" to this Bulletin contains the "Instruction for Replacement of Wing Spar Pivots on SZD-38A "Jantar-1" Sailplane Type after Completing 1500 Flying-hours". 5. <u>5. FINAL STATEMENTS</u> 5.1. The gliders of SZD-38A "JANTAR-1" type having 1500 flying-hours completed are not allowed for further operation. The extension of the life-time is possible for the ships having the wing spar pivots replaced with the new ones. 5.2. The pivots can be replaced by the producer or the aircraft factory recognized by the Authority. The pivot with block is supplied by the producer for the order.		

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BULLETIN No BE-028/87 "JANTAR-1" Ref: Life-time of SZD-38A "JANTAR-1" sailplanes Way of introducing: Obligatory when 1500 flying-hours have been completed. Elaborated in PDPs-TKS on 1987-01-20 Director of PDPs "PZL-BIELSKO" Dipl. Ing. J. CIEŚLA This is the translation of original Polish text approved by C.A.C.A. Translated by: Dr Ing. W. Stafiej		

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5.3. For the sailplanes of the above mentioned type having replaced the wing spar pivots acc. to the "Enclosure No 1" the life-time is extended for further 1500 flying-hours with no operational restrictions (that means 3000 flying-hours totally) 5.4. The replacement of the pivot should be noticed in the Sailplane Log Book. In the "Technical Service Manual", Chapter Maintenance Works. The allowed (temporarily) life-time of the sailplane should be revised from 1500 into 3000 flying-hours (with inspection after each 1000 flying-hours. The 1000 flying-hours inspections should be performed acc. to the Bulletin No BE-08/79 "JANTAR". - THE END -		

- 1.5. Remove the covering 27 and 23 as well as the roving braid 22 (Drawings 11-90-00 and 11-92-00). Clean the spar surface to be free of burrs and unevenness.

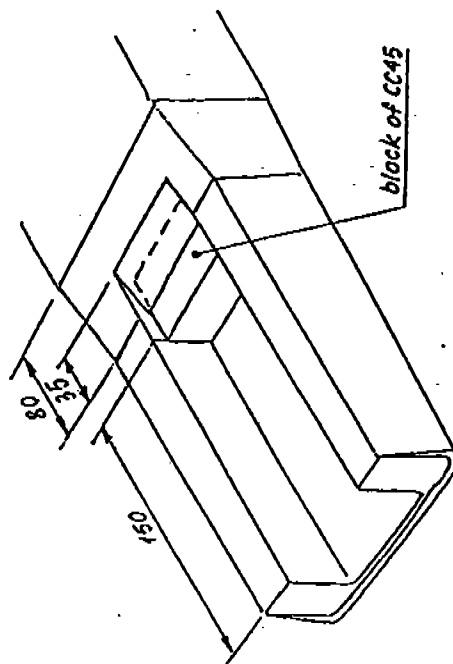


2.3. Using the face plate of the tool fit the pivot with block the cavity between the spar longerons and the wall (it should be fitted with no stressing).

2.4. Prepare the block of CC45 foam of 40 mm thickness and glue it up using the composition on the 160 mm length measured from the spar root.

This foam block is aimed to plug the space behind the duraluminium block against the excessive amount of the resin composition filled with the cut roving.

Close the opening in the pivot with the CC-45 foam plug.



3. GLUING OF THE PIVOT WITH BLOCK (14-04-00)

3.1. Remove the grease out of the duraluminium block, sand it with the abrasive paper, remove the dust.

Using the 11-90-00/PX4 tool glue in the duraluminium block into the spar with composition of Ep 52+Zi+cut roving and 3 % of Aerosil filler. The space behind the duraluminium block should be filled with the above mentioned composition (the cut roving ratio about 40 %).

3.2. After 2 hours the tool should be removed. Prepare the surface for gluing the completing fabrics.

Glue on the 92110 X fabrics in such a way that it forms the "C-shaped" element till the arm of "C-shaped" element decreases to 2 mm. Then the last fabric layers

1.6. Make the drills and cuts parallel to the pivot axis on the external side of spar wall (perpendicular to the root rib plane when viewed from top).

1.7. Adjust the pivot position by means of the tool 11-90-00/PX4 using the grave marking on the pivot when adjusting the depth. Remove the face plate from the tool fixed on the spar.

1.8. Remove the pivot 14-04-00 (SZD-38A) drilling parallelly to its axis (on "oblique" wall side) to separate the pivot out of the wall.

NOTE: Do not damage the roving spar longerons and internal wall "oblique" in respect to the rib plane.

2. PROCEDURES FOR PREPARING THE CAVITY FOR THE PIVOT WITH BLOCK AND THE SURFACE FOR RECONSTRUCTION OF THE SPAR WALL.

2.1. The cavity from which the old pivot has been removed should be cleaned for housing the pivot with duraluminium block (Drawing 14-04-00 adopted with revisions from SZD-42-2 sailplane type). The length of the cavity on the removed wall side should range 160 mm (when measured from the spar root). Extend the hole width up to the edges of spar longerons.

2.2. On the opened side remove the wall fabrics on the length of opening (160 mm) up to the roving longeron face.

After the opening chamfer the fabrics on the length of 80 mm and the thickness resulting from the amount of fabrics removed out of the spar longerons. On the upper and lower spar faces chamfer the fabrics on the fabric layer thickness ranging the 160 mm length beginning from the opened side of spar.

On the chamfer of 80 mm length make the additional chamfer of about 35 mm length ranging between the spar longerons up to the length of the block with pivot.

should be put flat. The ends of "C-shaped" and flat fabric elements should be glued with the 35 mm chamfered section.

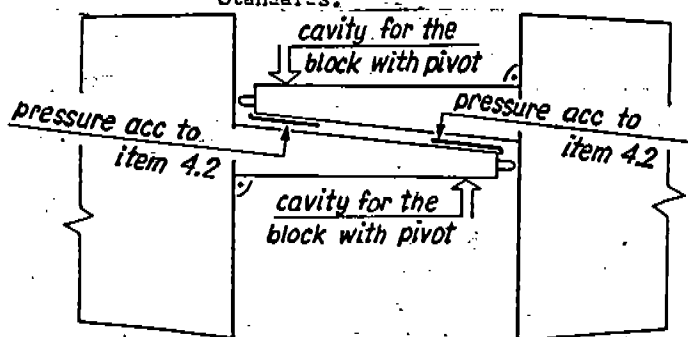
4. RECONSTRUCTION OF WALL AND FINISHING

- 4.1. Smooth and prepare the surfaces for wall reconstruction. Rebuilt the wall by means of glueing the 16 layers of 92110 ~~X~~ fabrics stepped according to the chamfer shape on the length and width. The eventual loss on the spar root should be completed with the composition with cut roving.
- 4.2. Smooth the whole set and after preparing the surface wind the 120 coils of roving ER-2003 on the length of about 120 mm from the spar root - then glue up the covering item 23 and 27 acc. do drawings 11-90-00 and 11-91-00. The item 27 should extend on 270 mm length from the spar root (item 23 - 1x92110 on 160 mm length, item 27 - 2x92110 ~~X~~).
Cure under the pressure applied on the internal wall side to ensure the required dimensions of spar ends.
- 4.3. After the curing finish the whole set.
- 4.4. Heat locally in the temperature of 60 to 65 °C during 6 hours.

NOTE: 1. The whole set shall be accepted by the Authority.

2. The marking of glass fabrics conform with the Interglas Catalogue.

The marking of roving acc. to Polish Standards.



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BULLETIN No BE-036/89 "JANTAR 1"

Ref: Extension of the life-time up to 4500 flying hours
for the SZD-38A "JANTAR 1" sailplanes on which the spar
root pins have been replaced acc. to the Bulletin
Nr BE-028/87 "JANTAR 1".

Way of introducing: Acc. to user's decision.

Elaborated in PDPS-TKE
on 1988-12-18.

Director of PDPS "PZL-BIELSKO"

Juliusz Boron, D.Sc.

This is the translation of the original Polish text
approved by C.A.C.A.

Translated by:

W. Stafiej, D.Sc.



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"PZL-BIELSKO"

BULLETIN No BE-036/89 "JANTAR 1"

Page: 2
of: 31. GROUNDS FOR INTRODUCING THIS BULLETIN.

The results of fatigue test of wing spar roots with pins fixed in duraluminium "block" allow to extend the life-time up to 4500 flying hours for the SZD-38 "JANTAR 1" sailplanes in which the wing spar root pins have been replaced acc. to the "Enclosure No 1" to the Bulletin No BE-028/87 "JANTAR 1".

2. LIST OF SAILPLANE FACT. NOS. COVERED WITH THIS BULLETIN.

This Bulletin concerns these sailplanes of the above mentioned type in which the wing spar root pins have been replaced, namely:

B-617 (HA-4350)	B-687 (HA-4356)
B-673 (HA-4353)	B-688 (HA-4357)

This Bulletin concerns also the sailplanes in which the wing spar root pins will be replaced acc. to the Bulletin No BE-028/87 "JANTAR 1" after completing 1500 flying hours.

3. DESCRIPTION OF THE CHANGES INTRODUCED WITH THIS BULLETIN.

For the sailplanes in which the wing spar root pins have been replaced acc. to above mentioned documentation the life-time is extended to the total amount of 4500 flying hours.

In respect to above in the Technical Service Manual the previous life-time is corrected respectively.

4. LIST OF THE ENCLOSURES.

No enclosures.

5. FINAL STATEMENTS.

5.1. The sailplanes having the wing spar root pins replaced and the life-time extended up to 3000 flying hours get the further 1500 flying hours (totaly up to 4500 flying hours).

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5.2. The sailplanes in which after completing 1500 flying hours the wing spar root pins will be replaced acc. to the above mentioned Bulletin obtain the additional life-time of 3000 flying hours (totaly 4500 flying hours also).

5.3. The inspections after each 1000 flying hours are obligatory to be performed acc. to the directions contained in the Bulletin No BE-08/79 "JANTAR".

5.4. The performed replacemnt of pins as well as the revision of the resulting life-time should be noticed in the glider documents after acceptation of the Authority.

- THE END -