



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 1/46

# SERVICE BULLETIN

Czech Aircraft Group s.r.o.  
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686 04 Kunovice  
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REV.: 1

DATE: 2024-09-20

<b>MODEL AFFECTED:</b>	SportCruiser / PiperSport operating outside EASA rules
<b>SUBJECT:</b>	Replacement of canopy glass
<b>AIRCRAFT AFFECTED:</b>	All SportCruiser / PiperSport aircraft operating outside EASA rules
<b>COMPLIANCE:</b>	According to the owner's decision

**DESCRIPTION:**

This Service Bulletin contains instructions for the replacement of canopy glass.

**AUTHORISATION TO PERFORM:**

Repairman (LS-M) or Mechanic (A&P)

**REASON:**

When the canopy glass needs to be replaced.

**MANPOWER:**

20 hours (without the time required for curing)

**SPECIAL TOOLS:**

Common tools for aircraft maintenance.

**WEIGHT AND BALANCE:**

N/A

**ELECTRICAL LOAD DATA:**

N/A

**PUBLICATIONS AFFECTED:**

N/A

**MATERIAL AND COSTS:**

All costs to be covered by the aircraft owner / operator.

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CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 2/46

# SERVICE BULLETIN

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## LIST OF REVISION:

REV.	REVISION NAME / NOTES	ISSUE DATE
-	Initial issue	2020-11-05
1	Added procedure for making the assembly stand	2024-09-20
-	-	-

## MATERIAL:

ITEM No.	NOMENCLATURE	DESCRIPTION	QUANTITY
001	SF0353N	Acrylic glass of canopy	1 pc
002	SF0370N <sup>1</sup>	Handle assembly	1 pc
003	3119A619	Bolt M6 x 16 DIN 965 STAINLESS (cross recessed countersunk head)	4 pcs
004	3800C092 <sup>1</sup>	Koger sunshade on the KS200T	1 pc
005	3800C113 <sup>1</sup>	Left venting window with the venting flap to the cockpit canopy	1 pc
006	3800C114 <sup>1</sup>	Right venting window with the venting flap to the cockpit canopy	1 pc
007	3111A422	AN4-22A Bolt	2 pcs
008	3121B654	AN365-428 Self-locking nut	2 pcs
009	3131A416	AN960-416 Washer	2 pcs
010	SF0316N	Blinder (cut out of ORACAL 641 foil)	4 pcs
011	512K3517	White silicone sealing A13/6, diameter of 6 mm	5.1 m
012	8120A023	Paper adhesive tape, width = 25 mm (light yellow)	1 pc
013	8120A002	Paper adhesive tape, width = 50 mm (light yellow)	1 pc
014	8120A029	Self-adhesive double-sided sealing 9 mm x 1.1 mm – 500 mm “TESA” tape 12 mm, red (66 m)	1 pc
015	430PA025	Fine line tape from PVC 3M 471, blue, (33 m)	1 pc
016	8120A026	Electrical tape, water-resistant	1 pc
017	N/A <sup>2</sup>	Sand cloth P60, format A4	1 pc
018	N/A <sup>2</sup>	Duster	1 pc
019	8210A002	Soft paper cloth	30 pcs
020	4410V019	SILPRUF SILICONE sealant	4 pcs

<sup>1</sup> use the original one, <sup>2</sup> order in local store, <sup>3</sup> technological material, <sup>4</sup> non-alcohol based



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 3/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

ITEM No.	NOMENCLATURE	DESCRIPTION	QUANTITY
021	4410V057	"DOW CORNING 796" neutral silicone sealant, white	1 pc
022	4170A006	"PLASTIC CLEANER" cleaning agent	1 pc
023	N/A <sup>2</sup>	Detergent (e.g. "AJAX")	1 pc
024	N/A	Degreaser <sup>4</sup>	0.5 l
025	N/A	Acrylic glass – thickness of 2~3 mm, 400 x 400 mm, see Section 3.11	1 pc
026	N/A <sup>2,3</sup>	Duralumin sheet metal – thickness of 1~2 mm, 200 x 500 mm, see Section 3.14	1 pc
027	N/A <sup>2,3</sup>	Rubber hose – inner diameter of about 25 mm, wall thickness of about 3 mm, see Section 3.34	0.15 m
028	N/A <sup>2</sup>	Marker pen	1

<sup>1</sup> use the original one, <sup>2</sup> order in local store, <sup>3</sup> technological material, <sup>4</sup> non-alcohol based

NOTE: If there is a note concerning the material indicated in this section "Use the original material", it is necessary to understand this term as the material dismantled from the airplane and from the cockpit canopy according to sections 1. and 2. If the indicated original material isn't applicable, it is necessary to order it individually.

## JIGS AND TOOLS:

ITEM No.	NOMENCLATURE	DESCRIPTION	QUANTITY
A01	1-519-0057 <sup>1</sup>	Assembly stand	1
A02	1-519-0058 <sup>2</sup>	Manipulation jig	1
A03	N/A	Self-retracting tape measure, L = 2 m	1
A04	N/A	Gun for application of silicone sealant	1
A05	N/A	Vacuum cleaner	1
A06	N/A	Utility cutter for plastic materials	1
A07	N/A	Scissors for paper	1
A08	N/A	Hand drill	1
A09	N/A	Grinding wheel – see Section 3.22	1
A10	N/A	Drill bit, diameter of 2.1 mm	1
A11	N/A	Cleco fasteners, diameter of 2.1 mm	60
A12	N/A	Electrical hand lamp	1
A13	N/A	Water sprinkler – see Section 3.35	1
A14	N/A	Paint brush – see Section 3.43	1

<sup>1</sup> can be replaced, <sup>2</sup> can be replaced by a table of a suitable size covered with foam



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 4/46

# SERVICE BULLETIN

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A15	N/A	Cutting jigs – see Section 3.8	3
A16	N/A	Gauge – see Section 3.21	1
A17	N/A	Card scraper – see Section 3.22	1
A18	N/A	Spatula – see Section 3.39, 3.43	1

## INTRODUCTION:

The purpose of this Service Bulletin (hereinafter referred to as the “SB”) is to present the technological process of replacement of the acrylic glass of the canopy of the aircraft. It was worked out exclusively for approved maintenance organization.

## ACCOMPLISHMENT INSTRUCTIONS:

NOTE: During the implementation of this SB follow AC43-13 and SC-AMM-1-0-00.

NOTE: Canopy glass cannot be degreased by the alcohol-based degreaser.

### 1. Dismantling cockpit canopy from the airplane:

- 1.1. In the axis of canopy rotation, remove the bolt blinders adhesively bonded on the outer side of skin of the front part of fuselage; remove the bolts and the canopy from the airplane (see Fig. 1). Set the canopy to position and by means of bolts attach it to the assembly stand (see Fig. 56 and Fig. 57).

### 2. Removal of the accessories from the cockpit canopy:

- 2.1. Remove the handle from the canopy, remove the “KOGER” sunshade from the acrylic glass by cutting it off and remove the venting windows. Store the dismantled material at a suitable place (see Fig. 50 and Fig. 53).

NOTE: Remove the venting windows just in the case when they aren't damaged and they will be installed on the new glass of the canopy (see Section 3.61).

- 2.2. Place protective tape very close to the joint between the acrylic glass and the canopy frame on the whole frame circumference (it protects the frame coating from damaging). Cut the old steel cables and pull out from the canopy frame. Untide the screw from the holder and remove the rear part of the steel cable with cable thimble.
- 2.3. By means of a utility cutter and using a small wedge, cut out the acrylic glass of the canopy frame on the circumference. The first cut must be performed very close to the edge of the acrylic glass perpendicularly to the surface of the canopy and the second cut must be performed diagonally in the joint so that the cutter blade can penetrate under the acrylic glass cutting the sealant under the acrylic glass. Take down the acrylic glass from the canopy frame.
- 2.4. Remove the sealant residues as well as the protective adhesive tape from the canopy frame.



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 5/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

### 3. Installation of the new acrylic glass and full completion of the cockpit canopy:

**NOTE:** When trimming the new acrylic glass and when fitting and sticking the new acrylic glass to the canopy frame, the canopy frame must be necessarily mounted on the assembly stand 1-519-0057 and positioned on the stops of the jig, as shown in Fig. 57 and Fig. 58. If these conditions are not met, it is very probable there will be deformations of the canopy and the canopy will not fit well on the airplane fuselage from which it was dismantled.

**NOTE:** If there is a term "MARK OUT, MARK OFF", "MARK", etc. in the text of this technological process, it is necessary to understand this term of marking out, marking off or marking as performed with the "Centropen 0.6 mm" marker pen or with a similar marker pen. When performing the mentioned operations, the acrylic glass surface mustn't be damaged and the coating of parts, on which the mentioned operations are being performed, mustn't be damaged either.

**NOTE:** The paper adhesive tapes (width of 25 mm) and the paper adhesive tapes (width of 50 mm), that are used when performing the work according to this technological process, are of light yellow colour. This colour appears in some pictures that are part of this technological process, as white, and in other pictures as light yellow. In the text of this technological process, the colour of these tapes is defined as white.

**NOTE:** The standard conditions used for hardening sealants "SILPRUF SILICONE" and "Dow corning 796" are defined as the environment with room temperature and relative humidity of 50 %.

- 3.1. Stick the protective adhesive tapes on the canopy frame in such a way that the frame coat is protected during the treatment of the frame recess for the acrylic glass (see Section 3.2). Stick the protective tapes as follow.
  - 3.2. Stick the red plastic tape (width of 12 mm) on the outer surface of the frame. Stick the above-mentioned tape on the whole circumference of the recess for the acrylic glass in such a way that the tape edge is located at the edge of the recess (see Fig. 57).
  - 3.3. Stick the white paper tape (width of 25 mm) on the outer surface of the frame and partly on the red plastic tape. Stick the above-mentioned tape on the whole circumference of the recess for the acrylic glass (see Fig. 2).
  - 3.4. Stick the red plastic tape (width of 12 mm) on the inner surface of the frame at a distance of 8 to 9 mm from the edge of the frame. Stick the above-mentioned tape on the whole circumference of the recess for the acrylic glass (see Fig. 3).
  - 3.5. Stick the white paper tape (width of 25 mm) on the inner surface of the frame and partly on the red plastic tape. Stick the above-mentioned type on the whole circumference of the recess for the acrylic glass (see Fig. 4).
  - 3.6. Roughen the whole surface of the recess of the frame for the acrylic glass with the sand cloth. Suck the created dust by means of the vacuum cleaner. Wipe the recess with the duster (see Fig. 5).
  - 3.7. On the canopy frame, in the corner of the recess for the acrylic glass, mark the surface line of the recess corner with the "CENTROPEN" marker pen (or with a similar marker pen) having a thickness of 0.6 mm on the whole circumference of the recess (see Fig. 6).
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CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 6/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

- 3.8. On the outer surface of the canopy frame (on the protective tapes and in the corner of the recess for the acrylic glass), mark the longitudinal axis of the frame by means of the marker pen. When measuring out the mentioned axis in the front part of the frame, take as the reference point the position of the canopy attachments. In the rear part of the frame when measuring out the mentioned axis, take as the reference point the spacing of the holes designed for attaching the handle (see Fig. 7).
- 3.9. On the canopy frame, on the whole circumference of the recess, mark the spacer axes and the centers of the holes with a diameter of 2.1 mm for cleco fasteners (both having a spacing of 98 mm). Drill the mentioned holes for cleco fasteners while keeping the specified angle. Suck the metal splinters and dust by means of the vacuum cleaner (see Fig. 8).

NOTE: When measuring out the positions of the spacer axes and those of the hole centers, take as the reference point the longitudinal axis of the canopy frame.

- 3.10. Transfer the axes of the holes drilled out in the corner of the recess for the acrylic glass to the protective tapes adhesively bonded on the outer surface of the canopy frame, transfer the axes on the whole circumference of the recess (see Fig. 9).
- 3.11. Create beads from silicone sealant "SILPRUF SILICONE" by the application gun on the technological table of acrylic glass. Let the beads harden for 7 days at room temperature and relative humidity of 50 %. After hardening, cut the beads off the acrylic glass by means of the utility cutter (see Fig. 10).

NOTE: The beads will be used for the production of spacers.

NOTE: The total length of the beads must be about 3000 mm.

NOTE: Width of the bead must be about 12 mm.

NOTE: Height of the bead must be about 12 mm.

- 3.12. From the beads, that were made according to Section 3.7, produce by means of the workshop jigs 17 pcs of spacers with a thickness of 3 mm + 7 pcs of spacers with a thickness of 4 mm + 26 pcs of spacers with a thickness of 2 mm (see Fig. 11).
- 3.13. On the canopy frame, in the recess for the acrylic glass, in the positions marked as the centers of spacers, create the targets from "SILPRUF SILICONE" silicone sealant. According to the plan, stick the spacers made according to Section 3.8 on the targets. Let the adhesively bonded joints harden until the next day under the standard conditions (see Fig. 12).
- 3.14. From the sheet metal having a thickness of ca. 1 mm to 1.5 mm, produce 100 pcs of splice plates with a format of 15 mm x 30 mm, including the holes with a diameter of 2.5 mm. Stick the plastic tapes having a width of 50 mm around the splice plates and insert the cleco fasteners into the holes in the splice plates (see Fig. 13).
- 3.15. Position the new acrylic glass of the canopy on the manipulation jig 1-519-0058.
- 3.16. From the outer side of the new acrylic glass of the canopy, tear off the protective foil (having a width of ca. 50 to 60 mm) with fingers, cut off the mentioned strip on the whole circumference of the acrylic glass (see Fig. 14).
- 3.17. On the outer side of the new acrylic glass of the canopy, stick the white protective adhesive paper tape having a width of 25 mm at a distance of 40 mm from the edge of the acrylic glass on the whole circumference of the acrylic glass (see Fig. 15).



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 7/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

- 3.18. Turn the new acrylic glass of the canopy positioned on the manipulation jig in such a way that the lower part of the acrylic glass is up and carry out the operations according to Sections 3.12 and 3.13 on the inner side of the mentioned acrylic glass (see Fig. 16).
- 3.19. Position the acrylic glass of the canopy on the canopy frame (see Fig. 17, dimension of 765 mm from the front edges of the openings for the venting windows up to the hole centers of the front attachments of the canopy frame + see Fig. 18, dimension of 129 mm from the lower edges of the openings for the venting windows up to the lower edges of the canopy frame).

NOTE: The acrylic glass has an allowance on the circumference.

NOTE: It is necessary to measure the above-mentioned dimensions on the both sides of the canopy, the dimension of 129 mm is approximate, but it is important to be the same on both sides.

- 3.20. On the acrylic glass of the canopy, transfer the lines marking the longitudinal axis of the canopy according to the lines made on the front part and on the rear part of the canopy frame. On the both sides of these lines, carry out other 2 + 2 lines in the area of corners of the front part and the rear part of the canopy, namely in such a way that the half of each of the mentioned lines is made on the canopy frame and the other half is made on the acrylic glass. On all the above-mentioned lines, mark the dimension of 100 mm (10 cm), while the beginning of the dimension must be marked always on the canopy frame and the end of the dimension on the acrylic glass (see Fig. 19).

NOTE: When measuring out the positions of the spacer axes and those of the hole centers, take as the reference point the longitudinal axis of the canopy frame.

- 3.21. On the left side and on the right side of the canopy (on the acrylic glass as well as on the canopy frame), carry out in the area of the openings for the venting windows 1 + 1 lines, namely in such a way that the half of line is located on the frame and the other half is located on the acrylic glass. Mark out the dimension of 80 mm (8 cm) on each of the above-mentioned lines, while the beginning of the dimension is always located on the frame and the end of the dimension is always on the acrylic glass, namely at the lower edge of the opening for the window (see Fig. 20).
- 3.22. On the acrylic glass on the whole circumference, mark the lower corner of the recess made in the canopy frame for the mentioned acrylic glass (see the line highlighted by the white paper inserted under the acrylic glass Fig. 21).
- 3.23. Put the acrylic glass of the canopy on the manipulation stand 1-519-0058 and grind the acrylic glass of the canopy on the whole circumference in accordance with the marking (see Fig. 22).
- 3.24. Transfer the acrylic glass of the canopy from the manipulation stand 1-519-0058 to the canopy frame attached to the stand 1-519-0057, position the acrylic glass of the canopy on the canopy frame according to the lines and the dimensions made according to Sections 3.20 and 3.21. Fasten the acrylic glass on the frame on the whole circumference by means of the white paper adhesive tape having a width of 50 mm. During the application of the fixation adhesive tape, choose the spacing of about 150 mm (see Fig. 23).



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 8/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

- 3.25. Using the gauge, mark the acrylic glass of the canopy on the whole circumference, perform marking at first between the tapes and then always unstick one tape, mark the acrylic glass under the tape, stick again the mentioned tape and repeat this process under all tapes (see Fig. 24).

NOTE: The gauge indicated in this section is a workshop jig that allows marking the acrylic glass of the canopy that guarantees a play of 6 mm, located between the acrylic glass and the wall of the recess in the canopy frame, after the completion of work according to Section 3.26.

- 3.26. From the acrylic glass of the canopy and from the canopy frame, remove the fixation tapes, take down the acrylic glass from the frame, put it on the manipulation stand 1-519-0058, grind the acrylic glass to final condition with a sand cloth according to the marking. Chamfer the edges of the ground and finished surfaces by means of the card scraper (see Fig. 25).
- 3.27. Carefully clean the acrylic glass of the canopy in order to remove the dust.
- 3.28. On the outer surface of the acrylic glass of the canopy, mark a dashed line on the whole circumference of the acrylic glass at a distance of 25 mm from the edge of the acrylic glass (see Fig. 26).
- 3.29. Turn the acrylic glass with a lower part up. According to the marking (see Section 3.24), stick the blue plastic adhesive tape having a width of 3/8 inch (9.525 mm) on the inner side of the acrylic glass at a distance of 25 mm from the edge of the acrylic glass. Stick the above-mentioned tape on the whole circumference of the acrylic glass (see Fig. 27 and Fig. 28).
- 3.30. On the inner side of the acrylic glass of the canopy, stick the white paper adhesive tape with a width of 25mm on the unprotected part of the acrylic glass between the blue plastic adhesive tape and the previously bonded paper adhesive tape. Stick the above-mentioned tape on the whole circumference of the acrylic glass.
- 3.31. Using a sand cloth, roughen the acrylic glass of the canopy from the inner side so that there is a rough strip with a width of 25 mm that is located between the blue adhesive tape and the edge of the acrylic glass (see Fig. 29).
- 3.32. From the inner side of the canopy frame, stick the black adhesive tape on the frame edge and on the red adhesive tape, namely on the whole circumference of the frame.
- 3.33. On the inner side of the acrylic glass of the canopy, apply the "SILPRUF SILICONE" sealant by means of the application gun. Apply the sealant on the whole circumference of the acrylic glass (see Fig. 30).
- 3.34. Spread the sealant bead made according to Section 3.29 on the whole circumference of the acrylic glass of the canopy. The sealant must be spread from the edge of the acrylic glass up to the masking tape. The created layer of sealant must be without bubbles. Check the quality of the spreading from the outer side of the acrylic glass by means of the lamp that enables a better detection of bubbles (see Fig. 31).
- 3.35. By means of the application gun, apply a bead of the "SILPRUF SILICONE" sealant into the recess of the canopy frame. Apply and spread the sealant bead on the whole circumference of the recess. It is necessary to spread the sealant properly up to the recess edge, around the distance targets and on the targets (see Fig. 32).
- 3.36. Position the acrylic glass of the canopy on the canopy frame, wipe off the excessive material with the spatula, attach the acrylic glass to the frame by means of the cleco fasteners and the sheet metals taped up with plastic adhesive tapes (see Fig. 33 and Fig. 34).





CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 9/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

NOTE: Position the acrylic glass of the canopy on the canopy frame by means of the position lines made on the acrylic glass and on the frame and by means of the distances of 10 cm (100 mm), 8 cm (80 mm), marked on the mentioned lines (see Section 3.20 and 3.21).

NOTE: Fasten the acrylic glass of the canopy on the canopy frame by means of the sheet metals and cleco fasteners, at first in the front part and in the rear part of the acrylic glass and the frame and then gradually on the left side and on the right side of the acrylic glass and the frame. In the case when the fixation isn't sufficient in a certain position (it is necessary to put more pressure on the acrylic glass), the mentioned position is fixed by the cleco fastener with two sheet metals.

NOTE: During every installation of the cleco fastener and the sheet metal, the acrylic glass is pressed down on the frame and consequently the sealant flows out from the joint between the acrylic glass and the frame. The excessive sealant between the fixation elements must be wiped off immediately by means of the spatula.

NOTE: The fixation by means of cleco fasteners and sheet metals is performed by installing several cleco fasteners side by side, then again several cleco fasteners are installed side by side on the opposite side and this procedure is repeated until reaching the full fixation on the whole circumference of the acrylic glass of the canopy on the canopy frame.

3.37. After the installation of all cleco fasteners, check carefully whether all the used cleco fasteners are properly pressing down the acrylic glass on the canopy frame, if this is not the case, the detected defects must be eliminated.

3.38. Remove the excessive sealant squeezed out between the acrylic glass and the frame from the inner side of the canopy frame assembly with the acrylic glass. Remove the excessive sealant by means a rubber hose (inner diameter of hose = 25 mm, thickness of hose wall = 3 mm). Remove the excessive sealant in such a way that a uniform width of the sealant field is achieved and that the blue masking tape is as wide as possible, which allows achieving a straight line of sealant after removing the blue masking tape from the canopy frame (see the gray sealant and the blue masking tape in Fig. 35).

NOTE: If the sealant isn't sufficiently removed from the blue masking tape during the operations in this Section (see the narrow visible width of tape), there will be a torn-out line of sealant after removing this tape and not a required straight line of sealant.

3.39. From the inner side of the canopy frame assembly with the acrylic glass, spray the mixture of water and detergent by means of the sprinkler on the field of sealant and then smooth out the field of sealant with finger (see Fig. 36).

NOTE: Prepare detergent water in advance that is used for the work in this section by mixing 1 part of detergent and 10 parts of water.

NOTE: Before use, don't moisten your finger that is used for shaping and smoothing out the sealant with detergent water.



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 10/46

## SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

3.40. From the inner side of the canopy frame assembly with the acrylic glass, remove the masking tapes delimitating the field of sealant (the upper line of the sealant field is delimitated by the blue plastic tape with the white paper tape, the lower line of the sealant field is delimitated by the black plastic tape). Spray the mixture of water and detergent on the sealant field by the sprinkler and then smooth out the field of sealant with finger (see Fig. 37).

**NOTE:** The work specified in this section (smoothing out of sealant) must be performed within 3 hours since the assembling of the acrylic glass of the canopy with the canopy frame. When applying the sealant to position (i.e. before smoothing it out with finger), it is necessary to sprinkle the sealant field by a mixture of detergent and water (see Section 3.39).

3.41. From the inner side of the canopy frame assembly with the acrylic glass, remove the red plastic masking tape with the white paper tape. Remove the mixture of detergent and water from the frame by means of a cloth.

**NOTE:** In the photo, looking from the inner side of the canopy frame assembly with the acrylic glass, it is possible to see the field of sealant in light gray.

3.42. Let the sealant, applied in the canopy frame assembly with the acrylic glass, harden for 24 hours.

3.43. On the outer side of the canopy frame assembly with the acrylic glass in the area between cleco fasteners, cut off the sealant in the joint between the canopy frame and the acrylic glass by means of the utility cutter (the type used for cutting carpets). Remove the sealant from the joint by means of the spatula. Remove the sealant between the cleco fasteners on the whole circumference of the acrylic glass (see Fig. 38).

**NOTE:** The gauge indicated in this section is a workshop jig that allows marking the acrylic glass of the canopy that guarantees a play of 6 mm, located between the acrylic glass and the wall of the recess in the canopy frame, after the completion of work according to Section 3.26.

**NOTE:** The work according to this section must be performed after 24 hours since the assembling of the acrylic glass of the canopy with the canopy frame. If the work takes longer than specified, it is necessary to take into account a difficult removal of sealant.

3.44. Let the sealant, applied in the canopy frame assembly with the acrylic glass, harden for 24 hours.

3.45. From the canopy frame assembly with the acrylic glass, gradually dismantle the cleco fasteners with the sheet metals. From the joint between the canopy frame and the acrylic glass in the area under the dismantled cleco fasteners, cut off the applied sealant using the utility cutter (the type used for cutting carpets). Remove the sealant from the joint by means of the spatula, refix the acrylic glass on the canopy frame by means of the cleco fasteners with the sheet metals covered with new adhesive tape (see Fig. 39 and Fig. 40).

**NOTE:** It is necessary to remove the sealant in the area under the sheet metals with the cleco fasteners gradually so that always one area under one cleco fastener only is in the unfixed state.



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 11/46

# SERVICE BULLETIN

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REV.: 1

DATE: 2024-09-20

- 3.46. Let the sealant applied in the canopy frame assembly with the acrylic glass harden for 72 hours.
- 3.47. From the canopy frame assembly with the acrylic glass, dismantle all the cleco fasteners with sheet metals. Carefully remove the sealant from the joint between the canopy frame with the acrylic glass from the outer side by means of the utility cutter (the type used for cutting carpets) and the spatula. Perform the final cleaning of the joint by means of a suitable paint-brush or a suitable small brush and by means of compressed air (see Fig. 41 and Fig. 42).

NOTE: The cleaning of the joint between the canopy frame and the acrylic glass has an essential influence on the quality of final filling of the mentioned joint with sealant. If some residues of the old sealant remained in the joint, the surface of the final sealing of the joint would be rough and wouldn't be possible to smooth it out perfectly.

- 3.48. Clean the unprotected parts of the acrylic glass and the surface of the canopy frame by means of the "PLASTIC CLEANER" cleaning agent in form of spray and by paper cloth.
- 3.49. On the outer side of the acrylic glass of the canopy, on the whole circumference, stick the blue plastic masking tape having a width of 3/8 inch (9.525 mm). It is necessary to stick the tape on the acrylic glass very carefully, namely the edge of the tape must exactly copy the edge of the acrylic glass delimitating the edge of the field of sealant in the joint between the acrylic glass and the canopy frame (see Fig. 43).
- 3.50. On the outer side of the canopy frame, stick the black plastic masking tape, having a width of 10 mm, on the whole circumference according to the principles shown in section 3.45, delimitating the width of the sealant field in the joint between the acrylic glass and the frame (see Fig. 44).
- 3.51. Stick the white masking paper adhesive tape having a width of 25 mm on the blue masking tape (see Section 3.45) and on the acrylic glass of the canopy from the outer side of the canopy. Stick the tape on the whole circumference of the acrylic glass (see Fig. 45).

NOTE: The blue and especially the white paper masking tape protect the acrylic glass from the contamination in the course of sealing of the joint between the acrylic glass and the canopy frame.

- 3.52. On the black masking tape adhesively bonded on the canopy frame (see Section 3.50) and on the canopy frame, stick the white paper masking adhesive tape having a width of 25 mm from the outer side of the canopy. Stick the tape on the whole circumference of the frame (see Fig. 46).

NOTE: The black and especially the white paper masking tape protects the frame from the contamination in the course of sealing of the joint between the acrylic glass and the canopy frame.

- 3.53. Using the application gun, apply a bead of the "SILPRUF SILICONE" sealant in the joint between the frame and the acrylic glass on the outer side of the canopy. Create a bead of sealant on the whole circumference of the canopy (see Fig. 47).
- 3.54. Remove the excessive sealant from the joint between the frame and the acrylic glass on the outer side of the canopy. Remove the sealant on the whole circumference of the canopy by means of the spatula (see Fig. 48).



# SERVICE BULLETIN

3.55. Sprinkle the sealant applied in the joint between the frame and the acrylic glass of the canopy (see Sections 3.53 and 3.54) with detergent water, and shape and smooth out the mentioned sealant with finger (see Fig. 49).

NOTE: Prepare detergent water in advance that is used for the work in this section by mixing 1 part of detergent and 10 parts of water).

NOTE: Before use, don't moisten your finger that is used for shaping and smoothing out the sealant with detergent water.

3.56. From the outer side of the canopy, remove all the masking and the protective tapes, except for the paper tape adhesively bonded on the interface of the unprotected area of the acrylic glass and the protective foil of the acrylic glass.

3.57. Resprinkle the sealant, applied in the joint between the frame and the acrylic glass of the canopy (see Sections 3.53, 3.54 and 3.55), with detergent water a shape it and smooth it out with finger in order to reach the final condition.

3.58. Using the paper cloth, carefully wipe off the excessive detergent water from the acrylic glass and from the canopy frame and let the sealant in the joint between the frame and the acrylic glass of the canopy harden for 72 hours at a minimum temperature of 20°C.

NOTE: When performing the work according to this section, be careful in order not to damage the shaped and smoothed sealant in the joint between the frame and the acrylic glass of the canopy.

3.59. After hardening the sealant in the joints between the frame and the acrylic glass of the canopy, wash the outer side of the canopy to eliminate the dried detergent water.

3.60. On both sides of the canopy, remove the protective foil from the inner side and from the outer side of the acrylic glass, namely in a scope allowing the installation of the venting windows.

3.61. Gradually install the upper and lower rails of windows on both sides of the acrylic glass of the canopy. Install the previously assembled windows and window stops on the rails (see Fig. 50).

NOTE: If the venting windows dismantled from the original acrylic glass of the canopy are not damaged (see Section 2.1), it is possible to use them for performing work according to this Section (i.e. Section 3.61).

3.62. Using degreaser, degrease the inner side of the canopy frame in the area where the sealing is adhesively bonded.

3.63. On the protective foil adhesively bonded on the inner side of the acrylic glass of the canopy, mark the longitudinal axis of the canopy and mark the position of the rear part of the sunshade on mentioned axis. For marking the position of the rear part of the sunshade, use the paper adhesive tape, having a width of 25 mm, that is adhesively bonded on the acrylic glass of the canopy (see Fig. 51).

3.64. Tear off the self-adhesive tapes from the original rail of the sunshade (see Section 2.1). Degrease the rail in the positions of new self-adhesive tape sticking, using degreaser. Set the new self-adhesive double-sided tapes to position on the rail and stick them. Shape the rail according to the appropriate profile of the acrylic glass of the canopy (see Fig. 56).

3.65. In the position of the sunshade rail, tear off the protective foil on the inner side of the acrylic glass of the canopy.



CRUISER  
AIRCRAFT

**No.:** SB-SC-081

**DATE:** 2020-11-05

**PAGE:** 13/46

# SERVICE BULLETIN

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**DATE:** 2024-09-20

- 3.66. Position the sunshade rail on the acrylic glass of the canopy and stick it by pressing it down (see Fig. 52).
  - 3.67. Assemble the sunshade and install the sunshade on the rail that is adhesively bonded on the acrylic glass of the canopy.
  - 3.68. Install the handle on the canopy frame (see Fig. 53).
  - 3.69. In the position of sealing sticking, stick the black masking tapes intended for a delimitation of silicone adhesive field on the inner side of the canopy frame (see Fig. 54).
  - 3.70. Apply the "Dow Corning 796" silicone sealant between the masking tapes adhesively bonded on the canopy frame (see Section 3.69), spread the sealant, remove the masking tapes and stick the sealing on the canopy frame (see Fig. 55).
  4. Installation of the cockpit canopy on the airplane:
    - 4.1. Install the cockpit canopy on the airplane, including adhesive bonding of the blinders for the bolt holes that are made in the skin in the front part of the fuselage (see Fig. 1).
    - 4.2. Tear off the protective foil from inner and outer side of the acrylic glass.
  5. Restore the aircraft:
    - 5.1. Restore the aircraft to airworthy condition.
    - 5.2. Update aircraft records to reflect compliance with this Service Bulletin.
-

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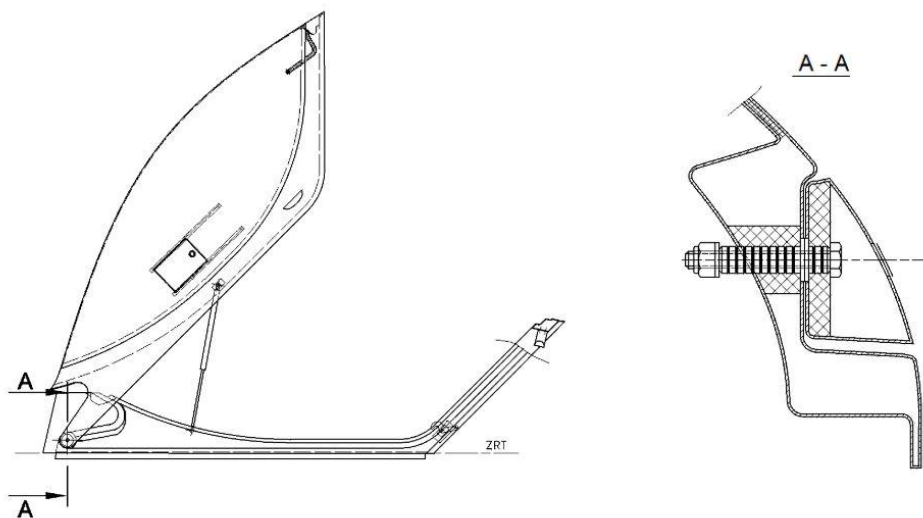


Fig. 1: Bolts for canopy frame



Fig. 2: Canopy frame without canopy glass



Fig. 3: Red tape on the canopy frame

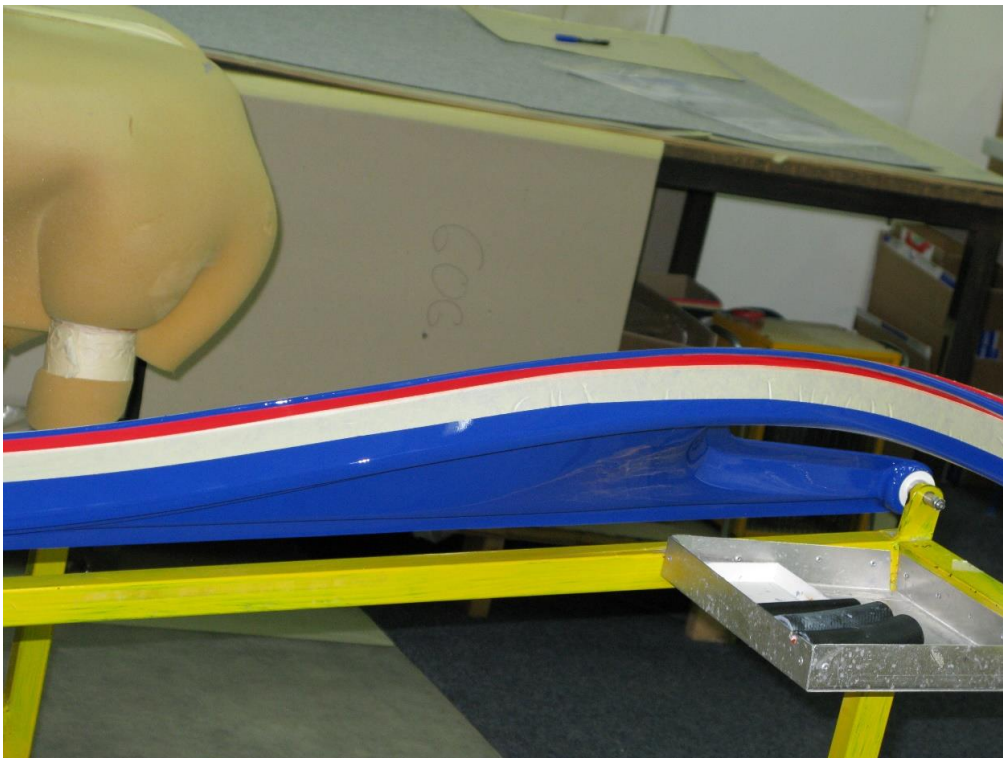


Fig. 4: Paper tape on the canopy frame

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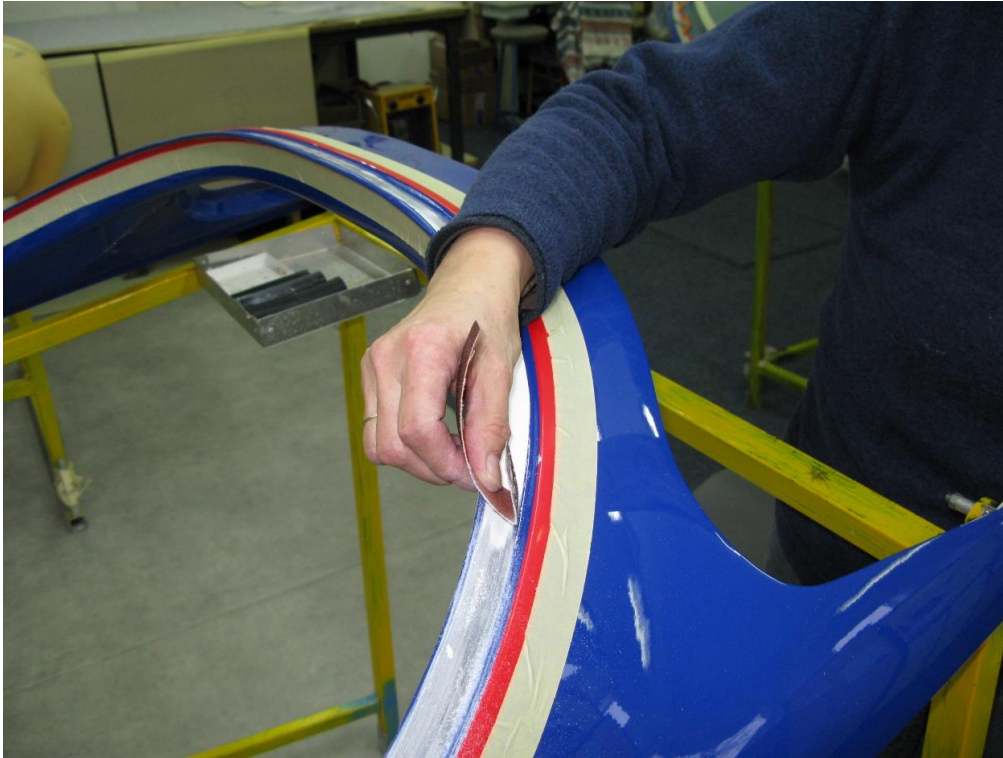


Fig. 5: Grinding the surface



Fig. 6: Mark the surface line



# SERVICE BULLETIN



Fig. 7: Measuring the axis

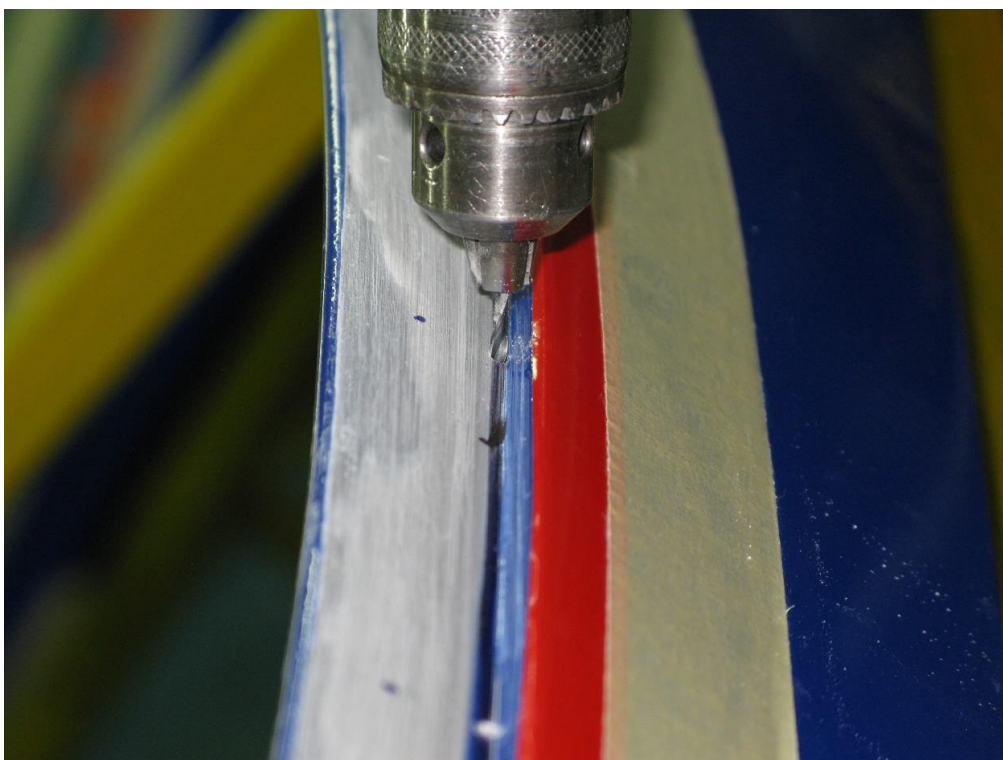


Fig. 8: Drill the holes

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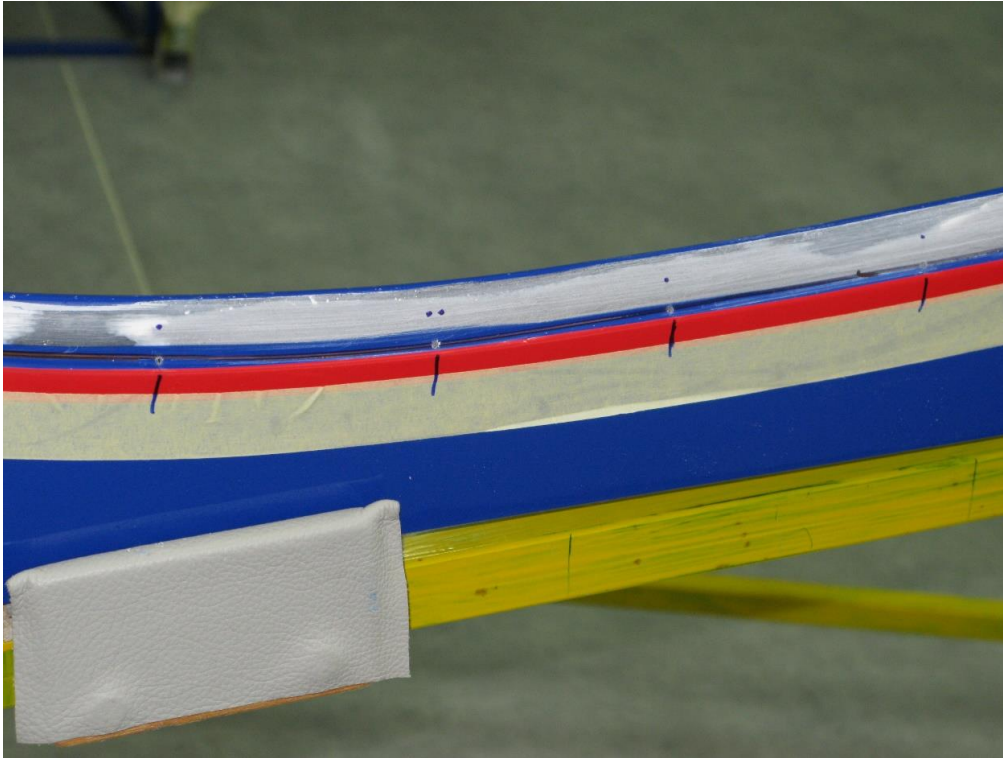


Fig. 9: Drilled holes



Fig. 10: Silicone beads

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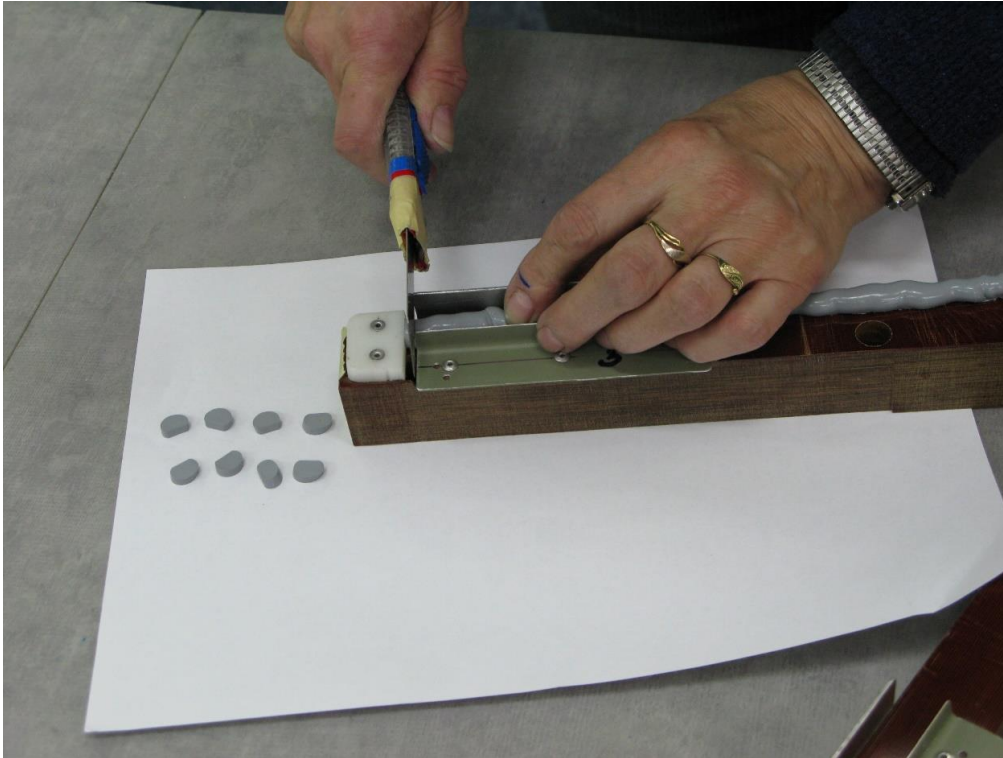


Fig. 11: Cutting the silicone beads

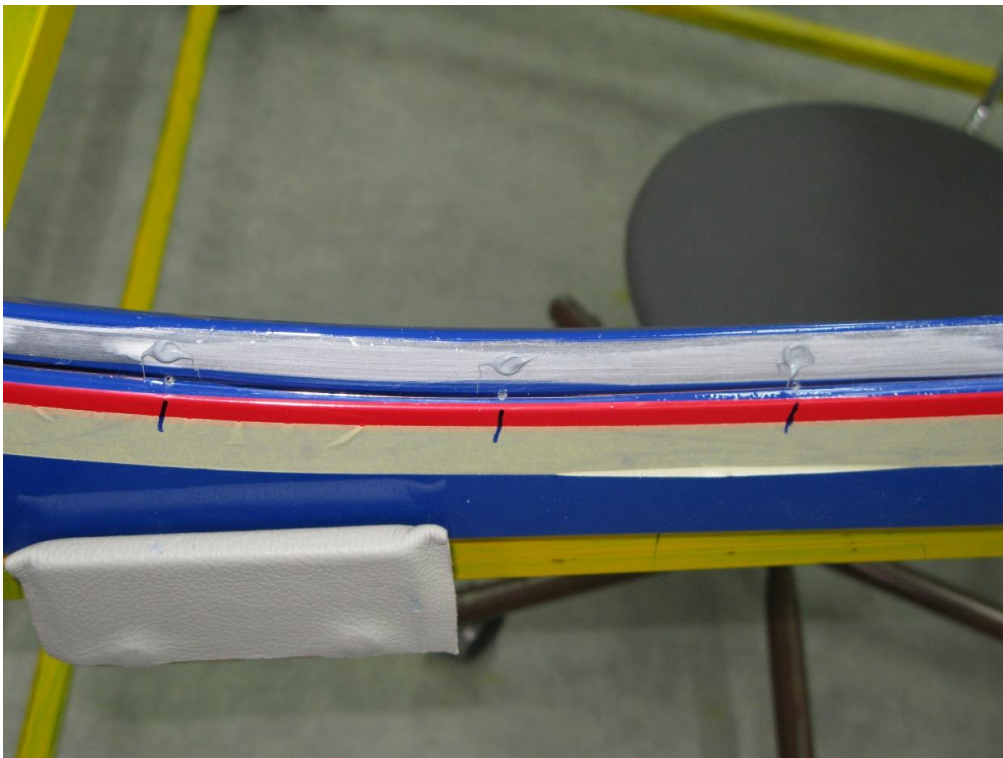


Fig. 12: Silicone targets

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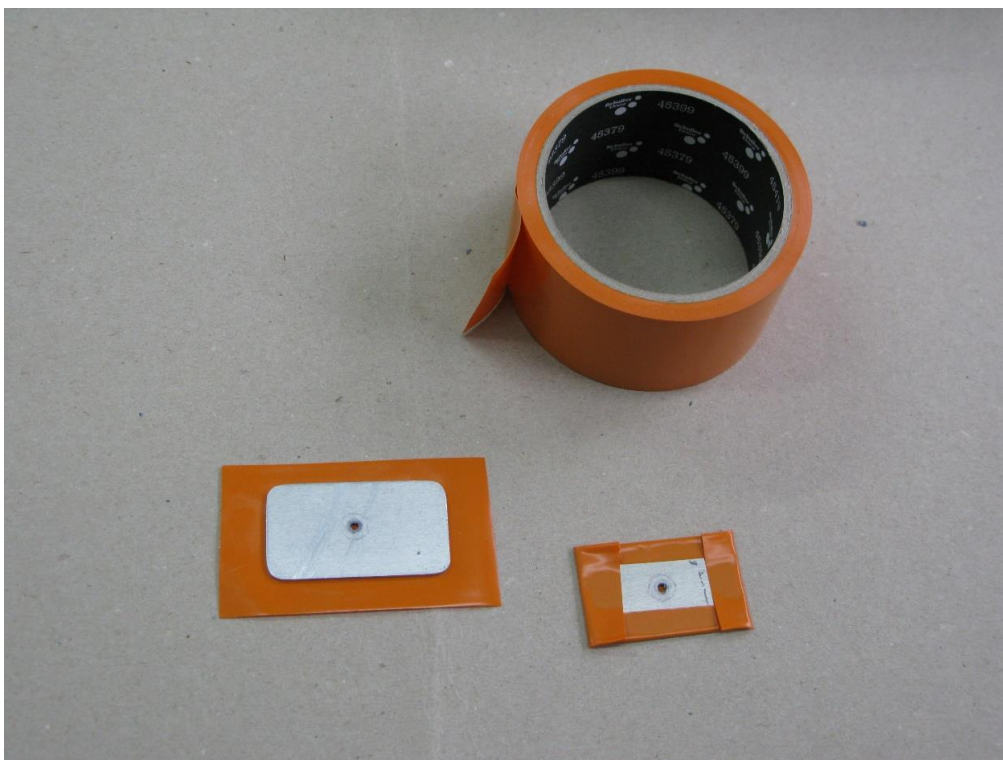


Fig. 13: Splice plates



Fig. 14: Cutting the protective foil

# SERVICE BULLETIN



Fig. 15: Protective foil on the outer side



Fig. 16: Prepare inner protective foil

# SERVICE BULLETIN



Fig. 17: Position the acrylic glass



Fig. 18: Check the right position



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 23/46

# SERVICE BULLETIN

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DATE: 2024-09-20

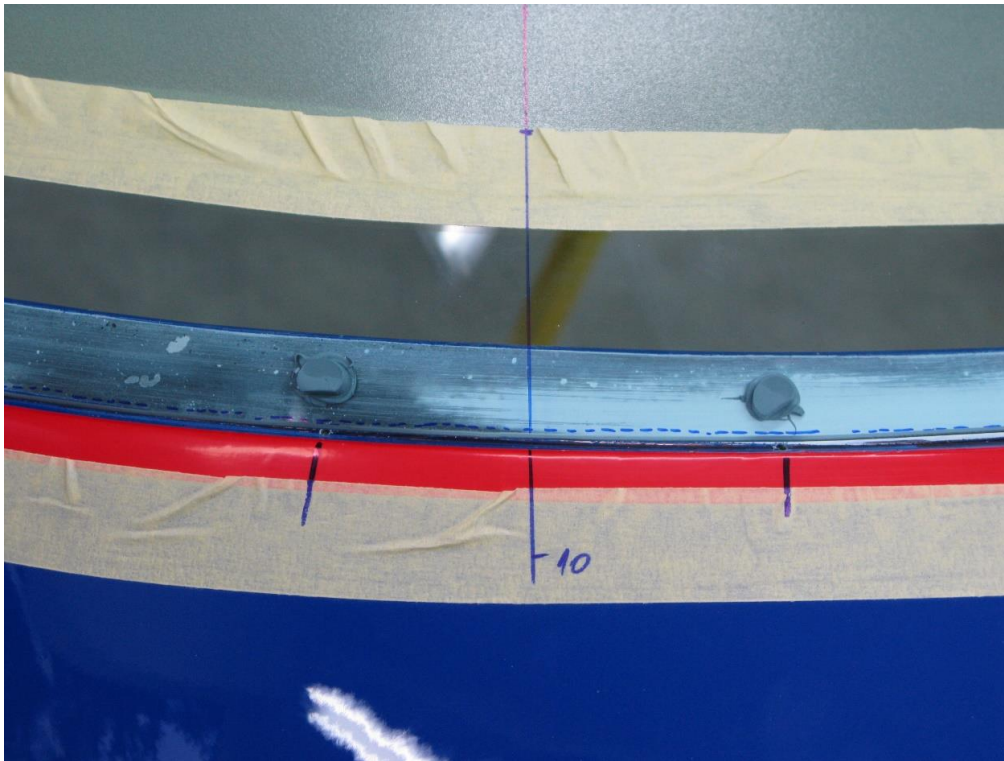


Fig. 19: Marked lines

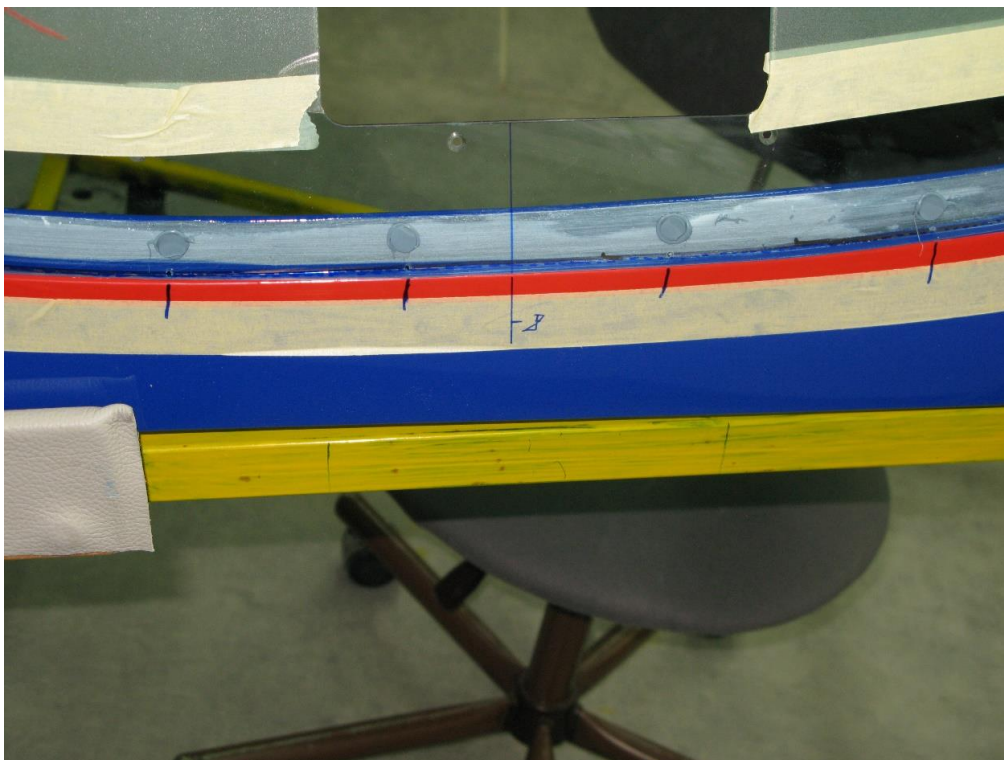


Fig. 20: Marked lines

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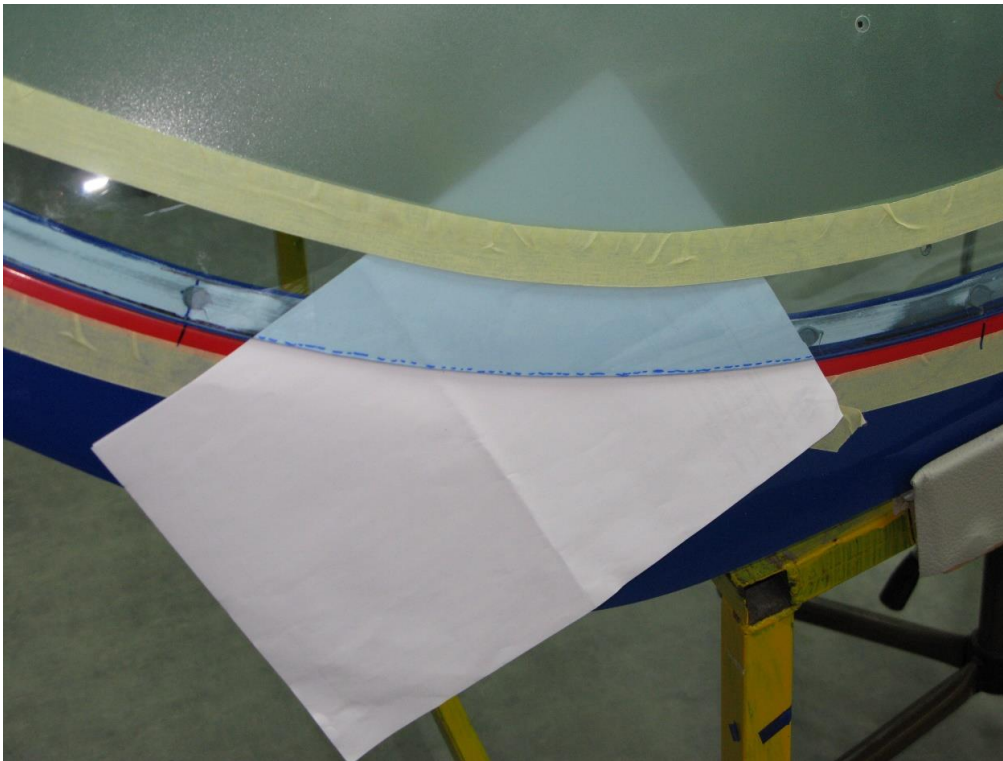


Fig. 21: Marked lower corner

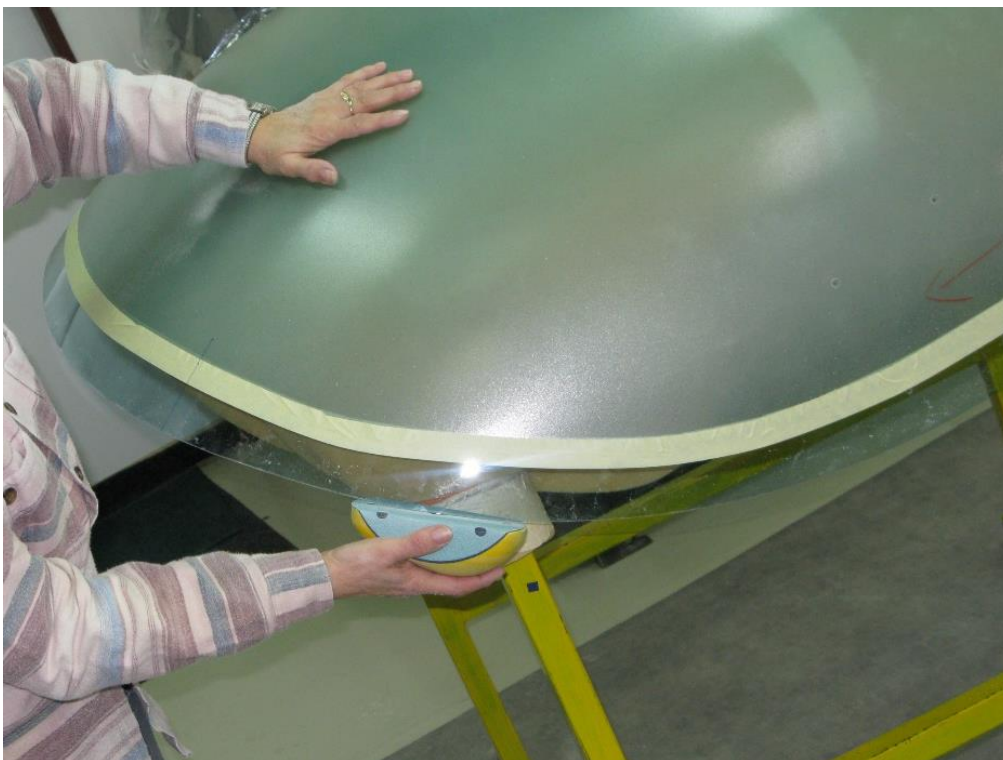


Fig. 22: Grinding the acrylic glass





Fig. 23: Acrylic glass fixed with paper tape

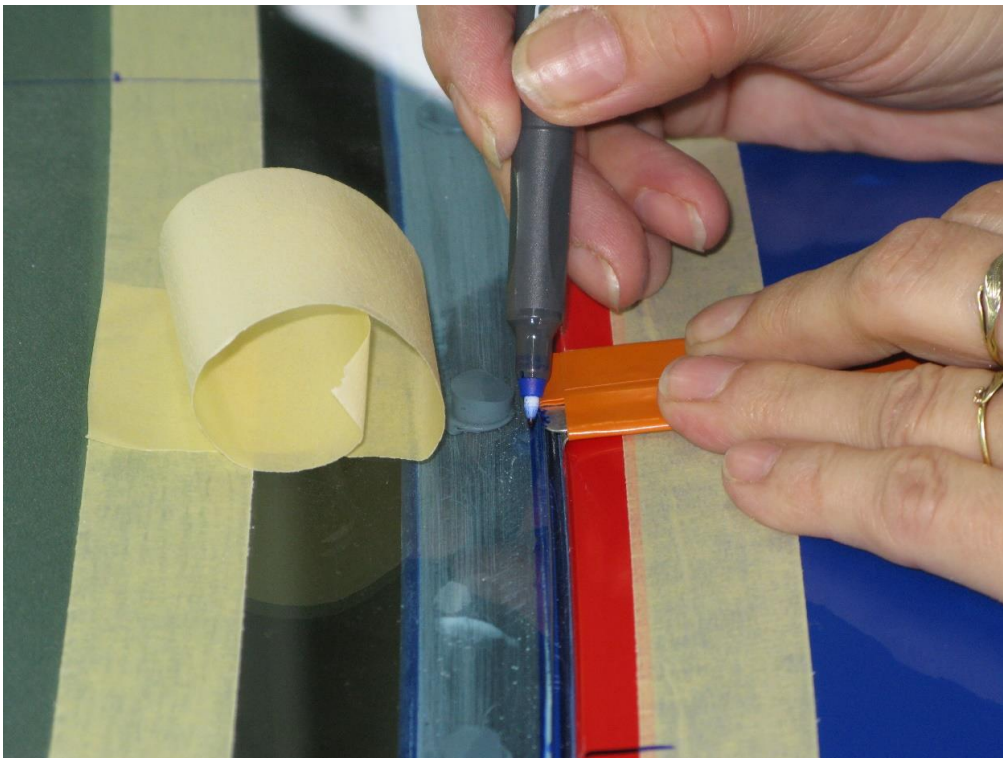


Fig. 24: Marking the line

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Fig. 25: Scrape the edge



Fig. 26: Marking the line

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Fig. 27: Turned acrylic glass

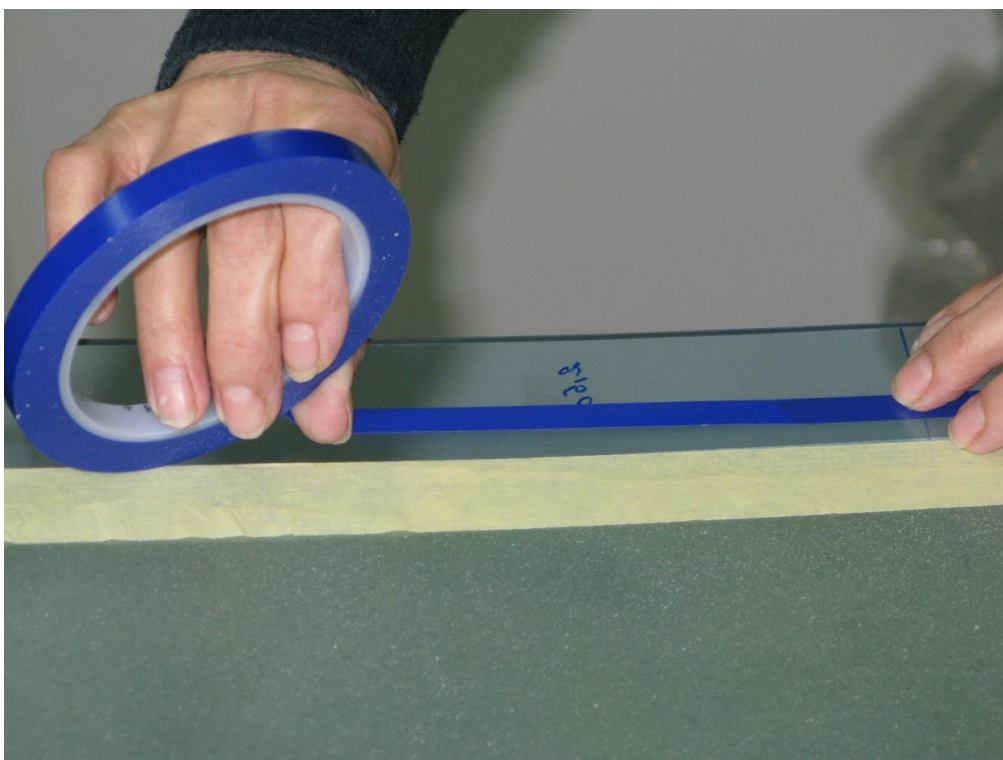


Fig. 28: Blue plastic tape on the canopy frame



Fig. 29: Grinding the surface



Fig. 30: Apply the sealant

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Fig. 31: Spread the sealant bead



Fig. 32: Apply the sealant



Fig. 33: Wipe off the excessive material



Fig. 34: Attach the acrylic glass

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Fig. 35: Wipe off the excessive material

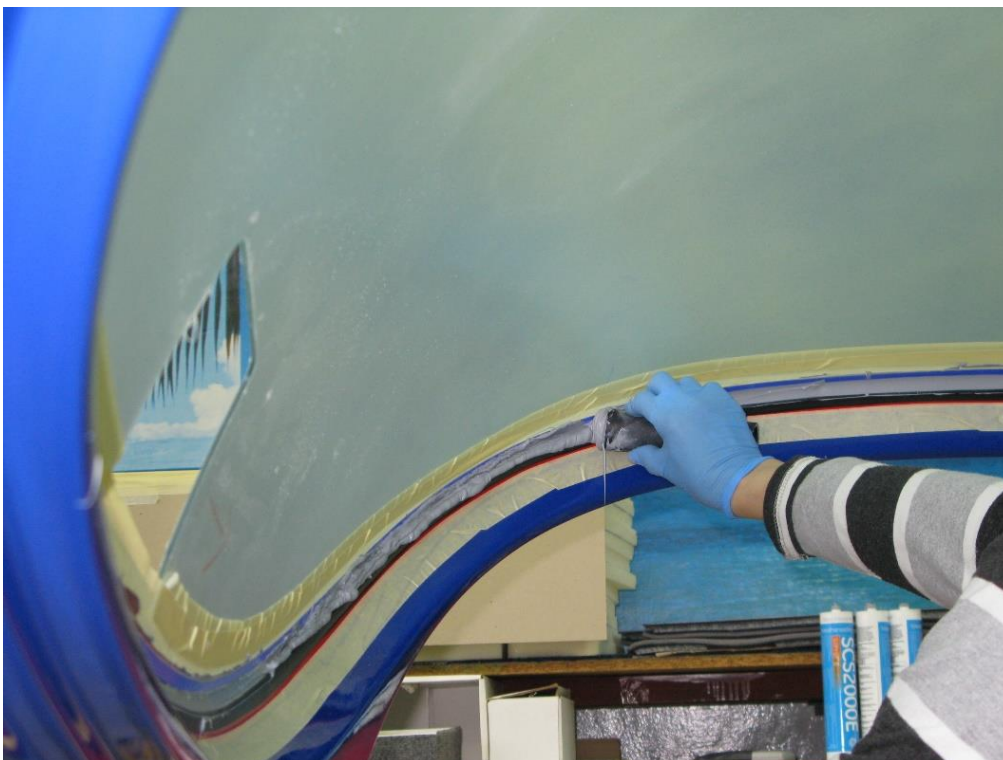


Fig. 36: Smooth out the field of sealant with finger

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Fig. 37: Smooth out the field of sealant with finger

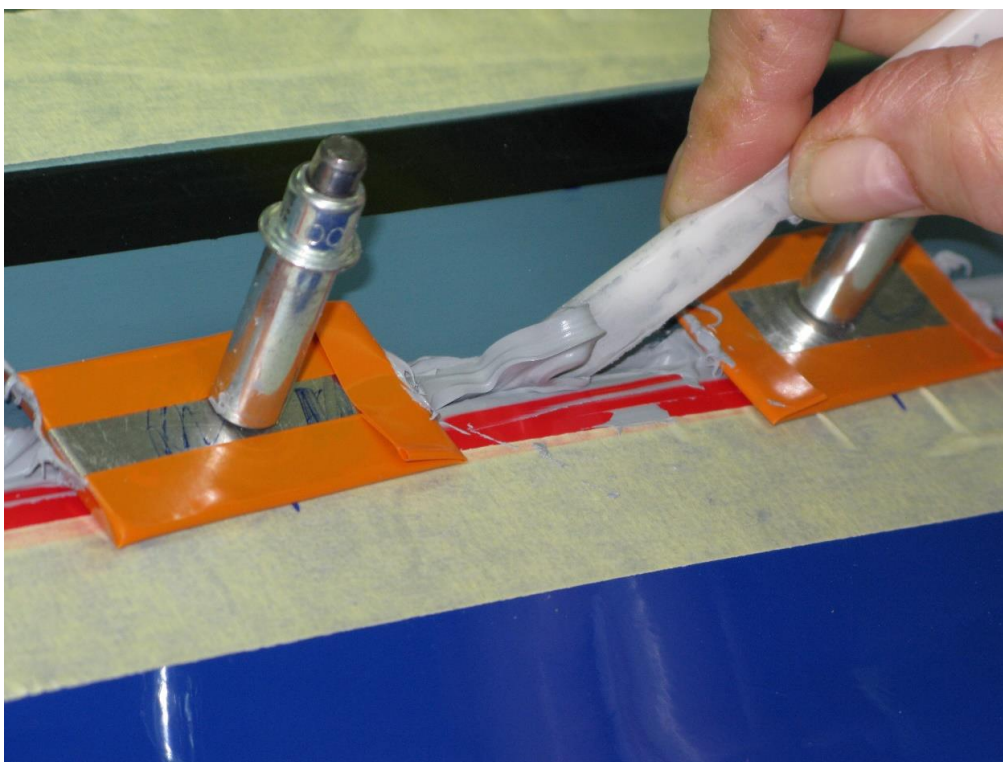


Fig. 38: Remove the sealant from the joint



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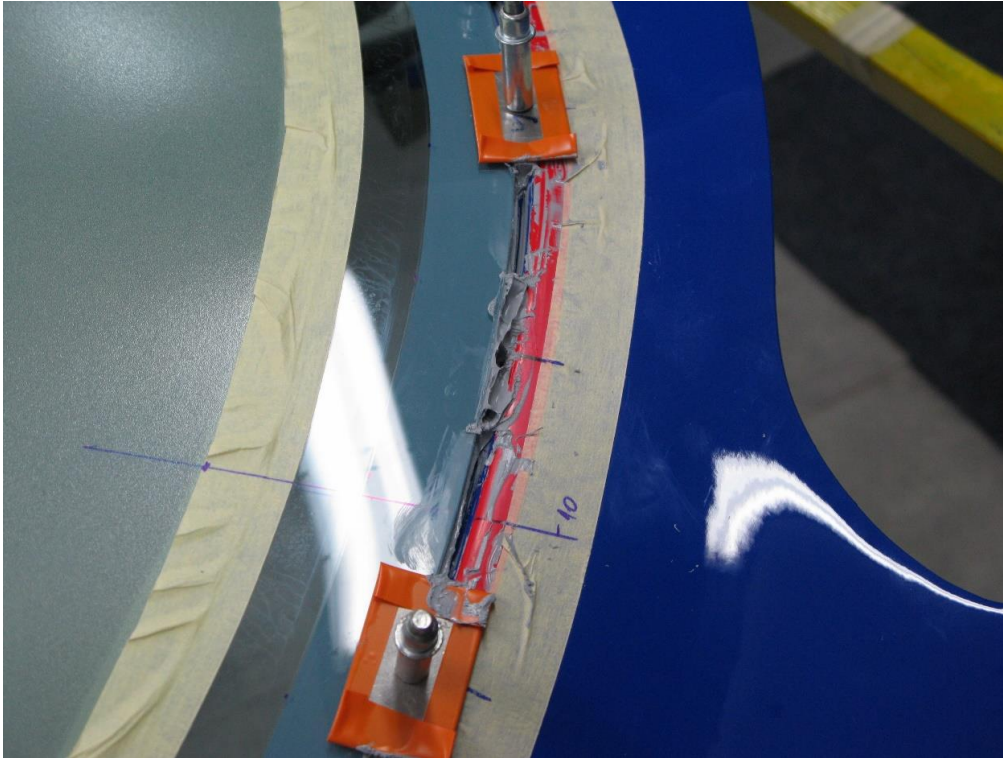


Fig. 39: Remove the sealant under the dismantled cleco fasteners

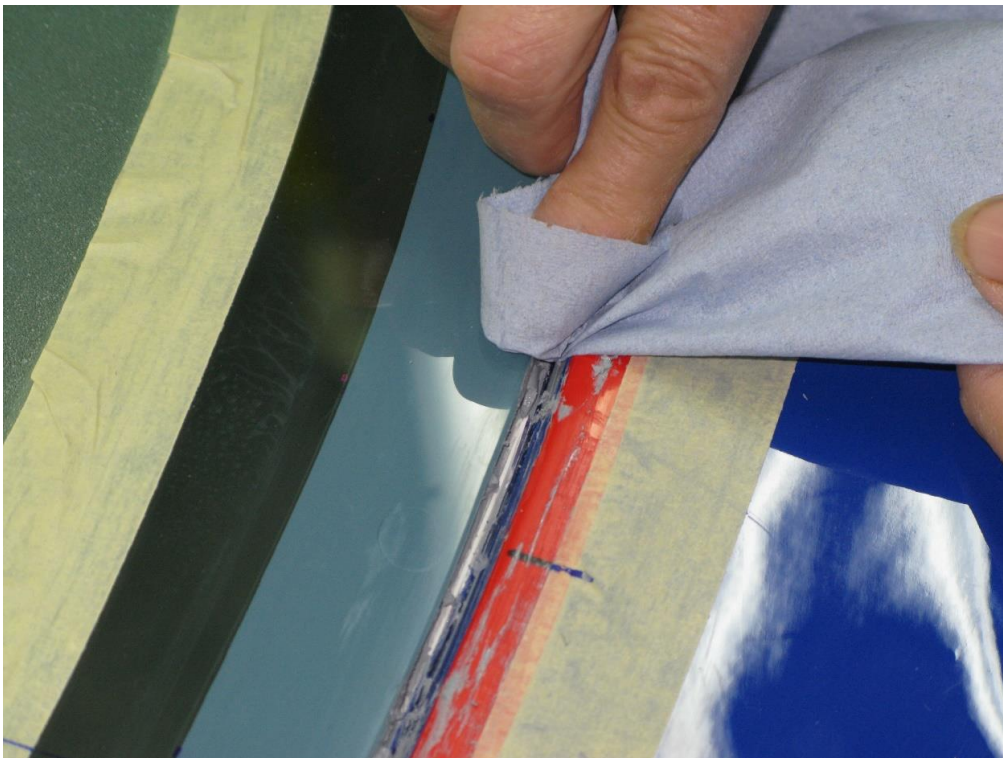


Fig. 40: Wipe out the sealant

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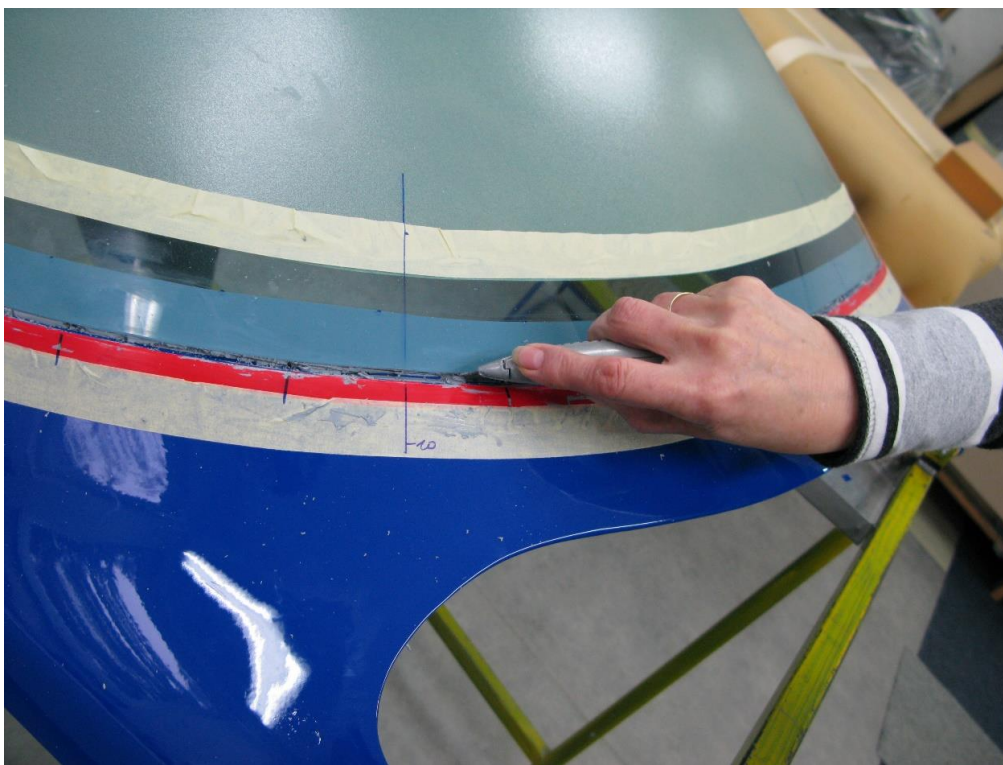


Fig. 41: Cut out the sealant

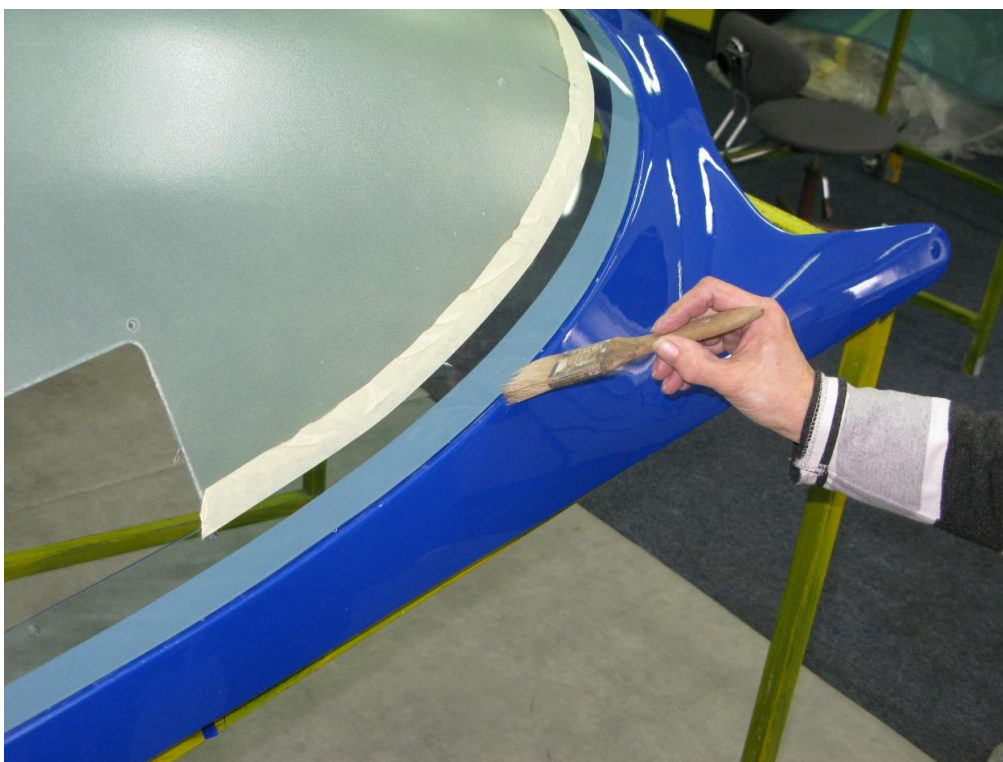


Fig. 42: Final cleaning of the joint

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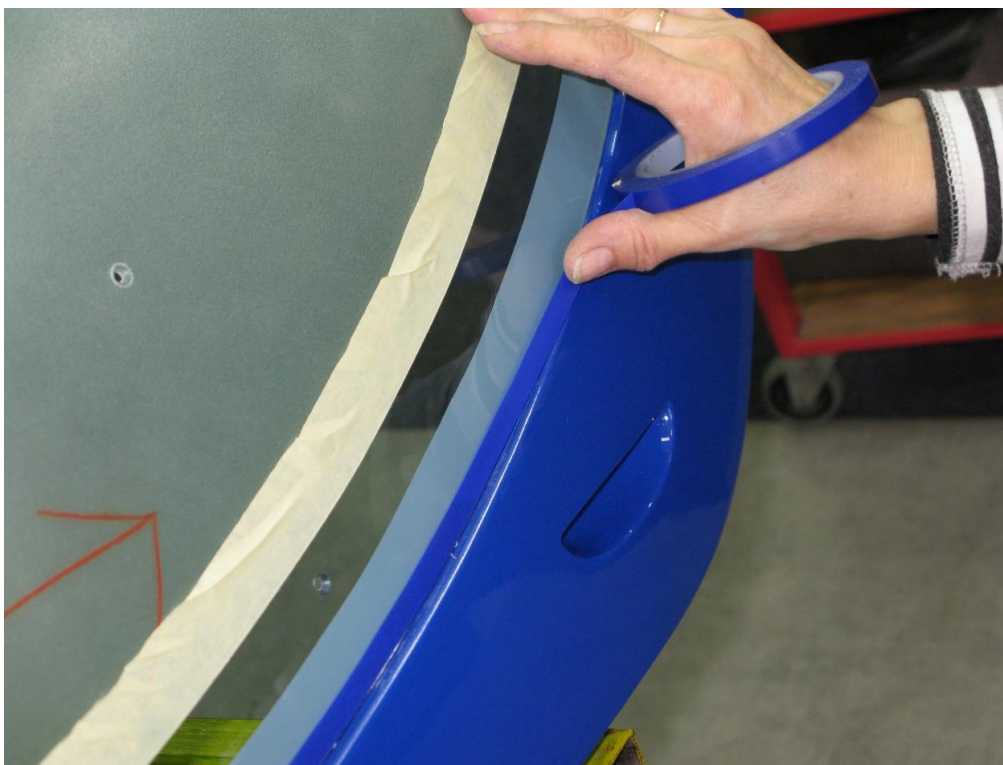


Fig. 43: Blue plastic tape on the acrylic glass

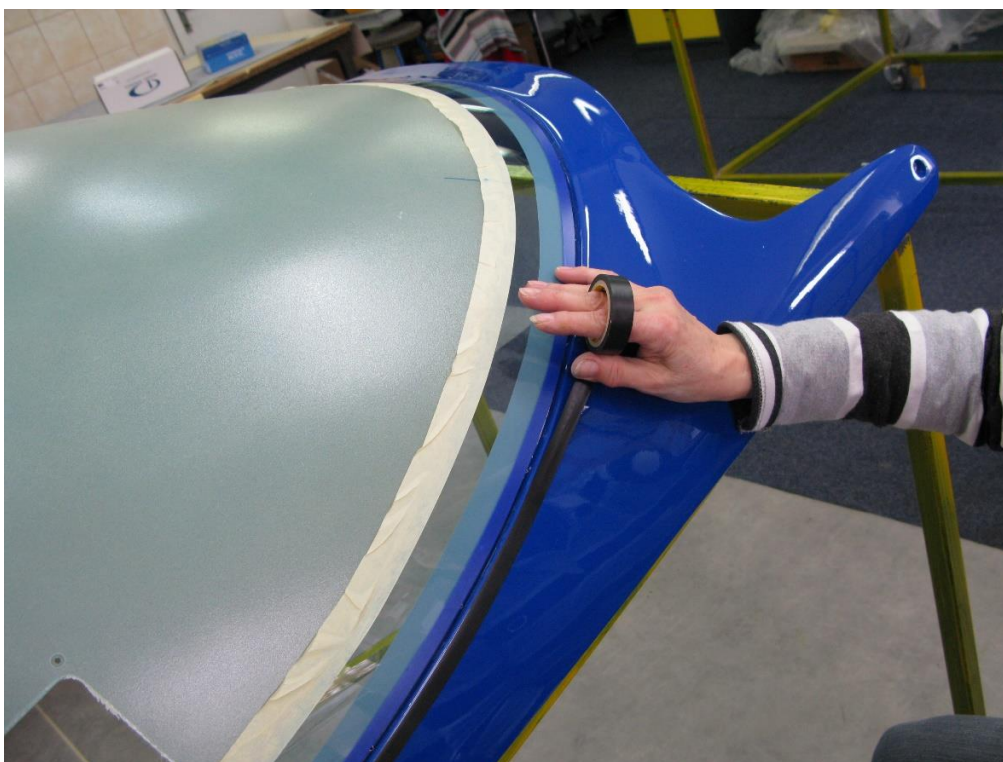


Fig. 44: Black plastic tape on the canopy frame

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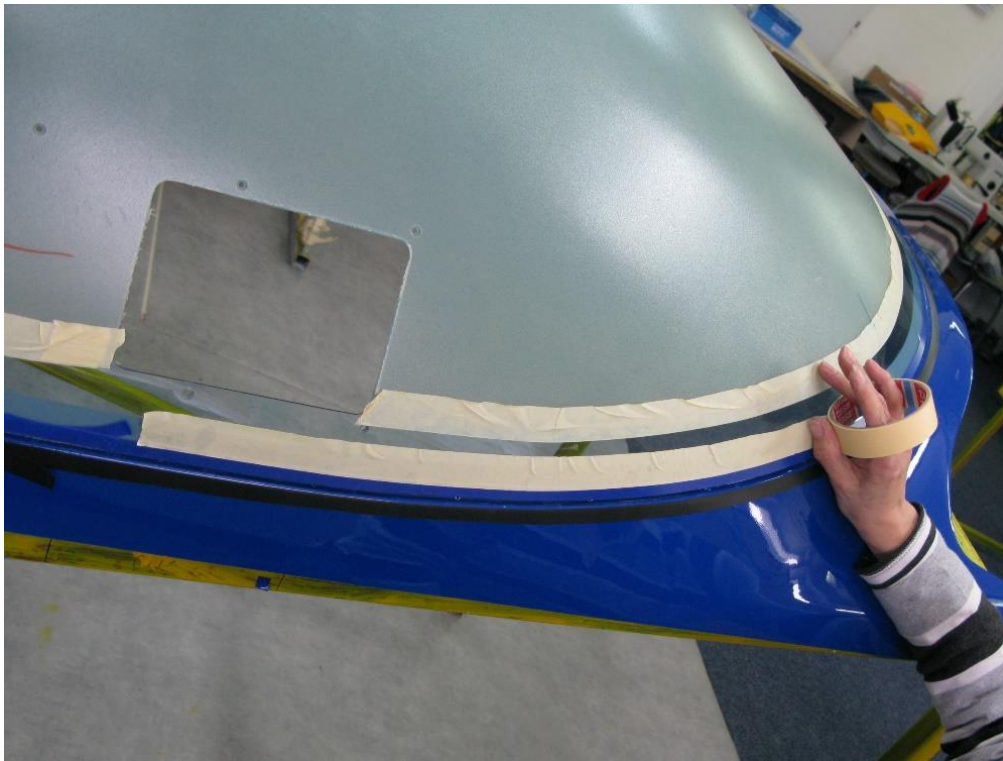


Fig. 45: Paper tape on the acrylic glass



Fig. 46: Paper tape on the canopy frame

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Fig. 47: Apply the sealant

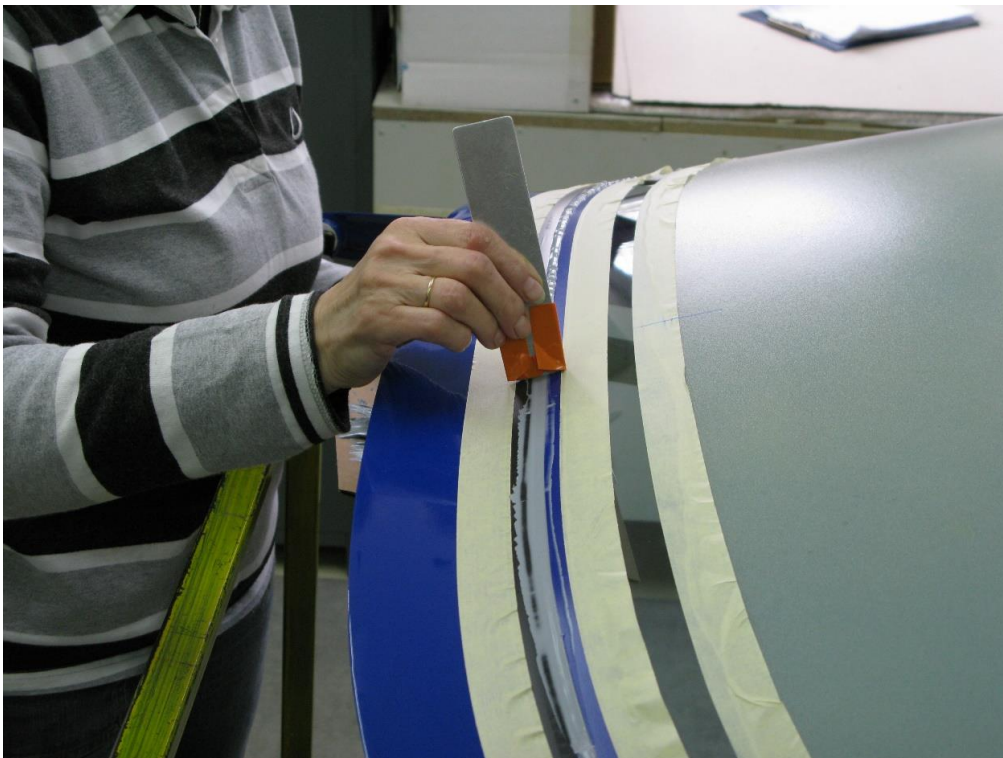


Fig. 48: Wipe off the excessive material

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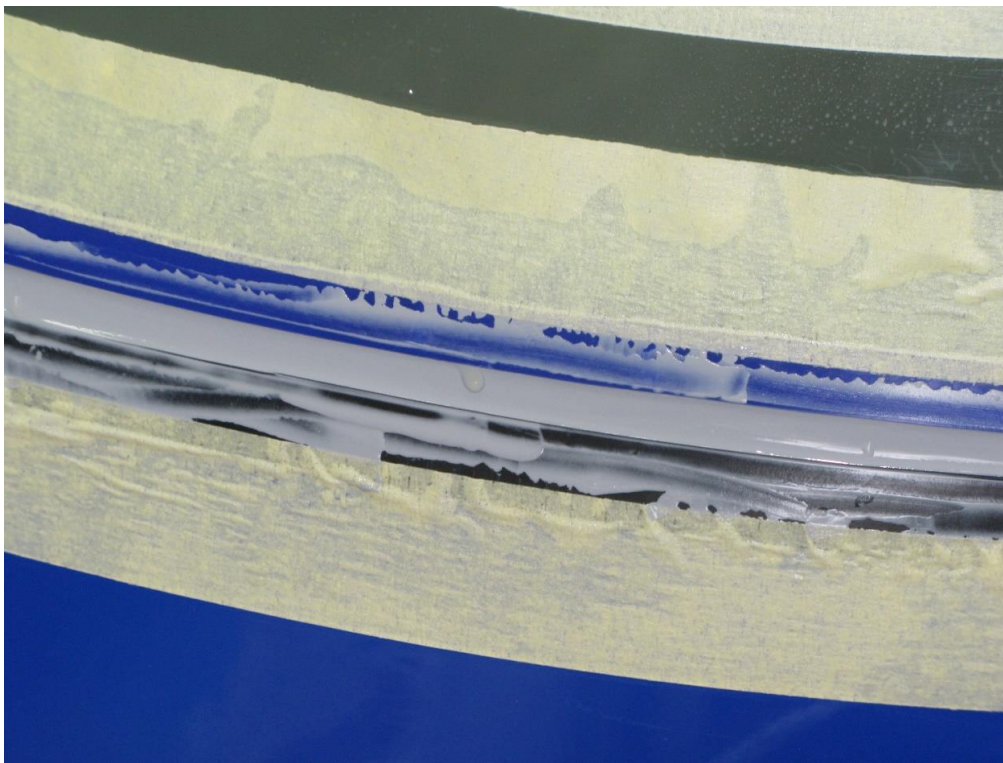


Fig. 49: Wiped sealant

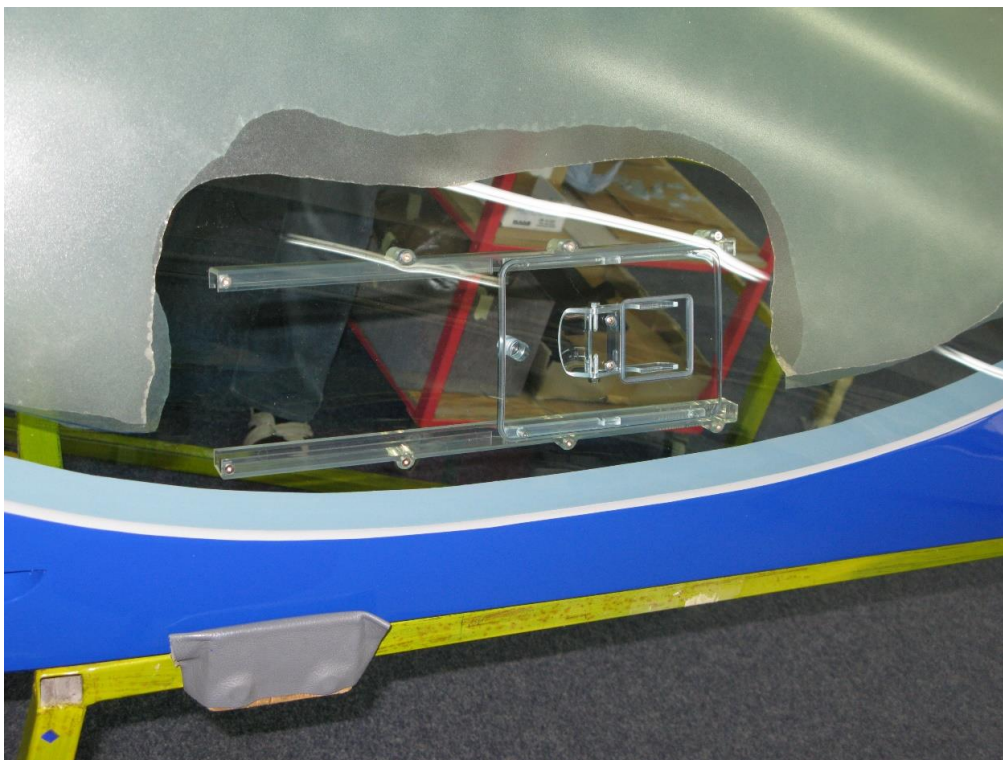


Fig. 50: Side windows



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 39/46

# SERVICE BULLETIN

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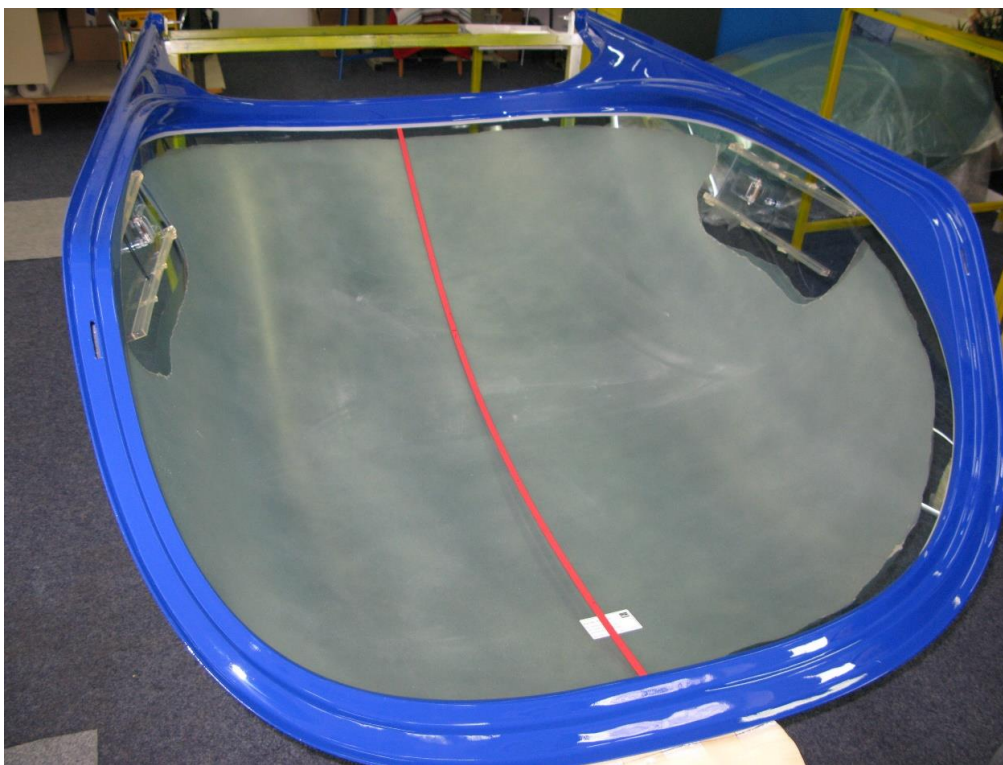


Fig. 51: Mark the longitudinal axis

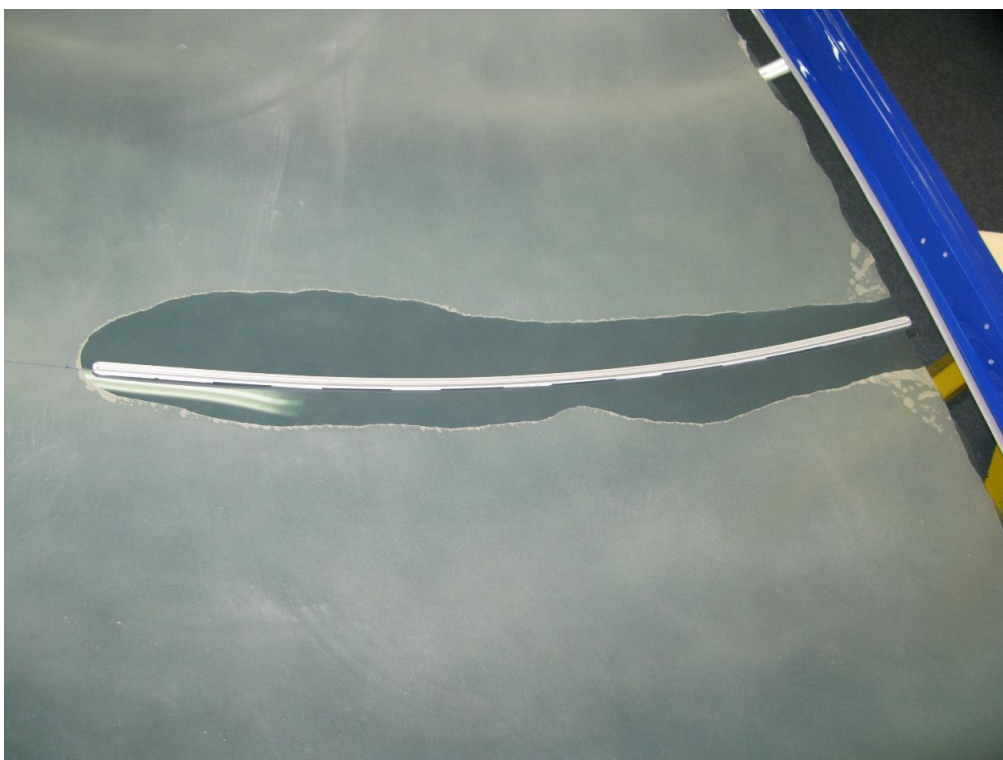


Fig. 52: Sunshade rail

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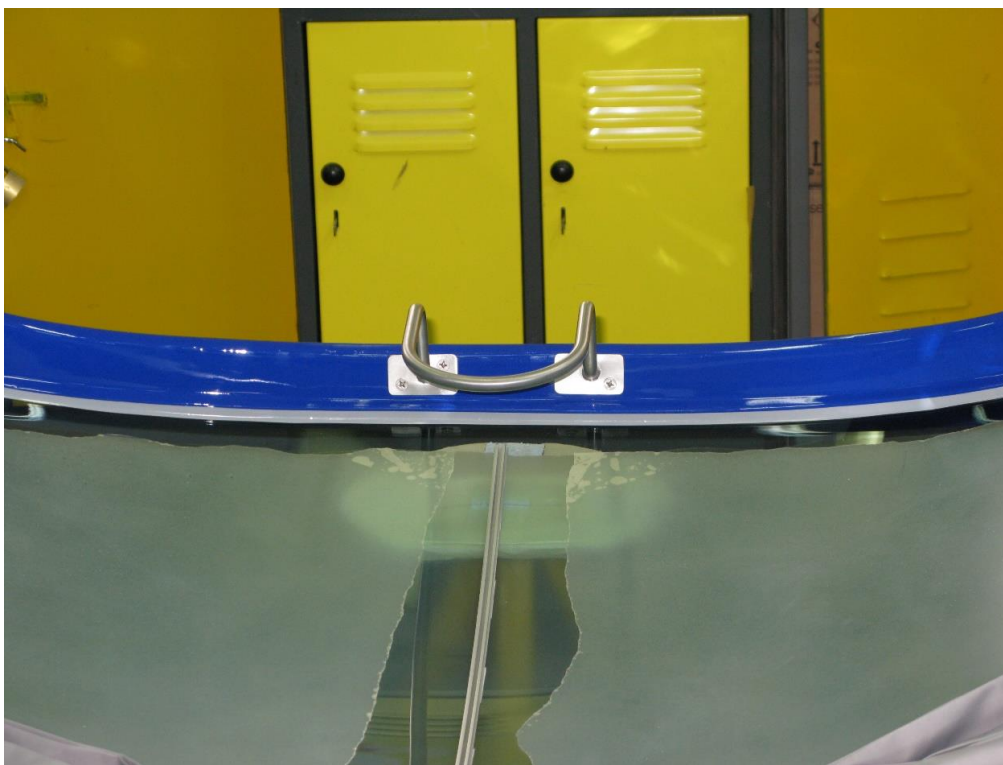


Fig. 53: Handle on the canopy frame



Fig. 54: Apply the sealant



# SERVICE BULLETIN



Fig. 55: Apply the sealant



Fig. 56: Acrylic glass with sunshade



No.: SB-SC-081

DATE: 2020-11-05

PAGE: 42/46

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REV.: 1

DATE: 2024-09-20



Fig. 57: Frame on assembly stand



Fig. 58: Bolts on assembly stand



CRUISER  
AIRCRAFT

**No.:** SB-SC-081

**DATE:** 2020-11-05

**PAGE:** 43/46

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**REV.:** 1

**DATE:** 2024-09-20

## APPENDIX:

If you do not want to order an assembly stand, it is possible to make them according to the drawings on the Fig. 59 and Fig. 60.

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No.: SB-SC-081

DATE: 2020-11-05

PAGE: 45/46

# SERVICE BULLETIN

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DATE: 2024-09-20

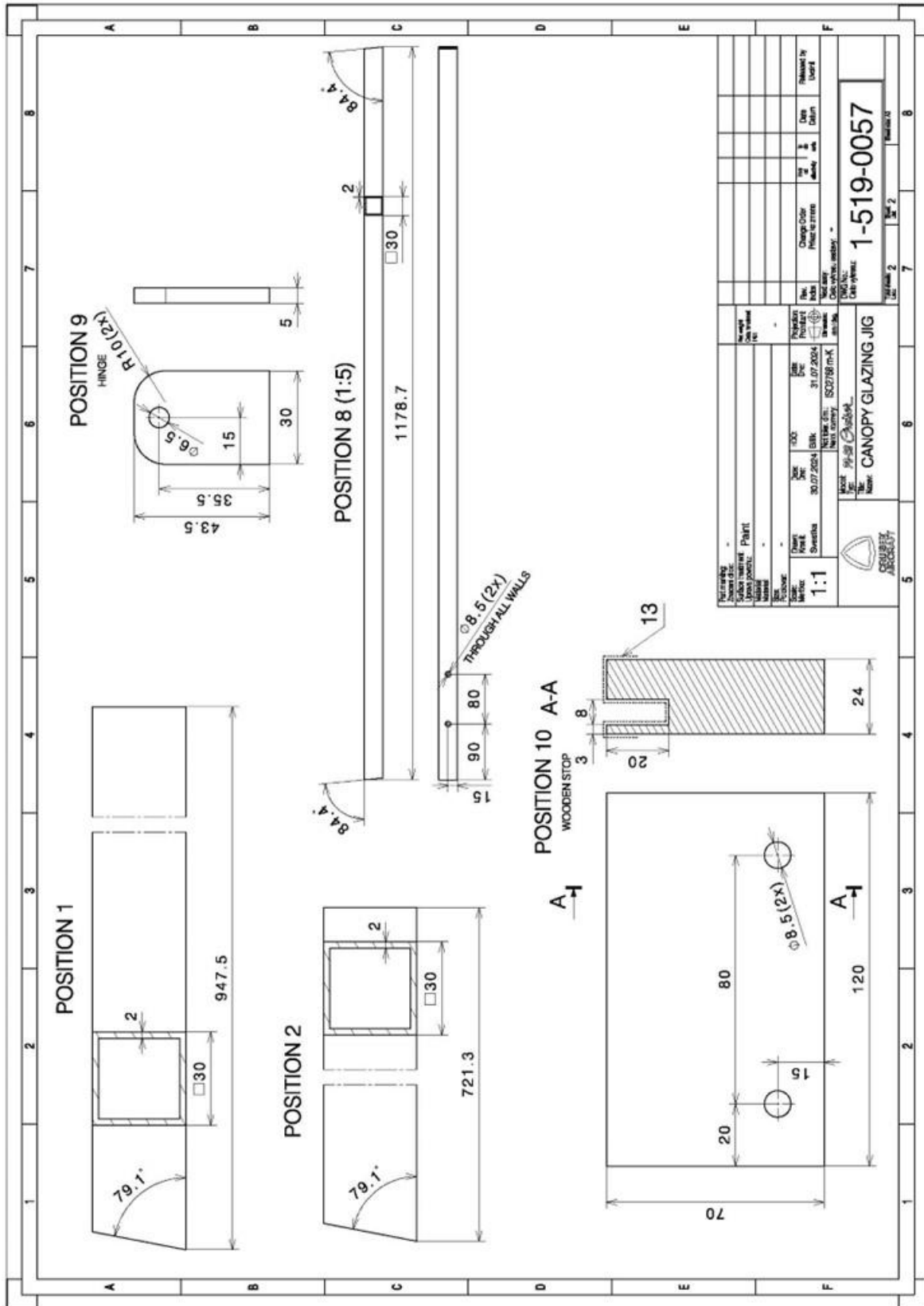


Fig. 60: Drawing, page 2



CRUISER  
AIRCRAFT

No.: SB-SC-081

DATE: 2020-11-05

PAGE: 46/46

# SERVICE BULLETIN

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## APPROVAL:

This Service Bulletin has been approved by:

<b>TITLE:</b>	Head of Design Organisation	Airworthiness Manager
<b>NAME:</b>	David Bilík	Roman Švestka
<b>HAND WRITTEN SIGNATURE:</b>		