



# FLEXIGLASS BUILD MANUAL - SECTION 1.1L

## COMBO CANOPY BUILD ISSA5

**Note:** Familiarise yourself with the instructions before you start to ensure you are clear on all aspects of the build

| SAFETY EQUIPMENT                 |
|----------------------------------|
| ● Hearing protection as required |
| ● Eye protection as required     |

| MATERIALS & PARTS REQUIRED                    |             | (BUILD KIT) |
|---|-------------|-------------|
| Part No.                                      | Description | Qty.        |
| See relevant NaVision KITBOM for canopy size. |             |             |

| TOOLS REQUIRED                             |
|--|
| ● Drill - Electric / Compressed Air        |
| ● Rivet Gun - Air / Hand 3mm & 5mm tips    |
| ● Hacksaw - Air / Hand                     |
| ● Drill bits 3mm, 4.9mm & countersink rose |
| ● Pneumatic tek screw driver 1/4" hex bit  |
| ● 11R & 6R vice grips                      |
| ● Soft faced mallet                        |
| ● Toledo cable strippers                   |
| ● Würth Cable strippers                    |

### CAUTIONARY NOTES

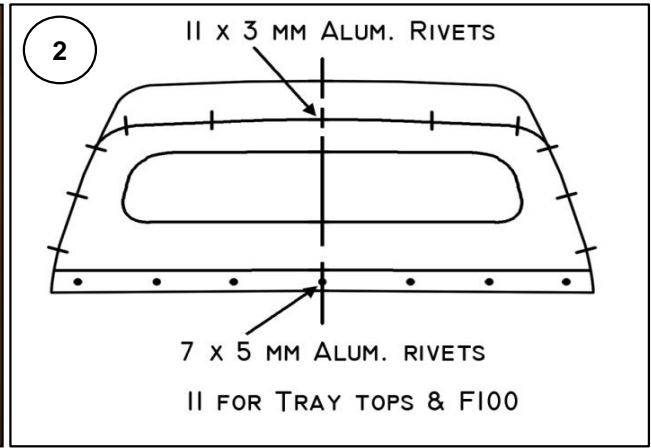
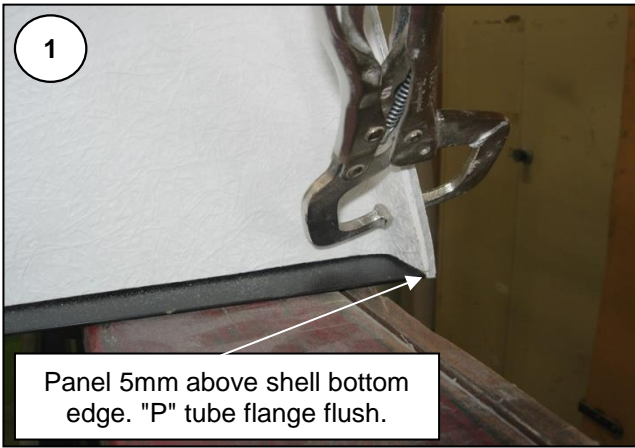
- A** Side access door size is **DRSA5419** for which the opening width, at the baserail, is 1395-1400mm. There must be 190mm of baserail/shell in front of the door opening and greater than 200mm at the rear for mounting purposes. Therefore combo's cannot be fitted safely to trays with dropsides shorter than 1800mm, such as TRYSTD01 & 02.
- B** When cutting the door openings in the shell, leave the side door opening offcut(s) in the opening attached by a series of small tabs. Do not finish cutting until the inner baserail has been attached and clamped to the build bench to maintain the integrity of the overall length.

### BEFORE STARTING

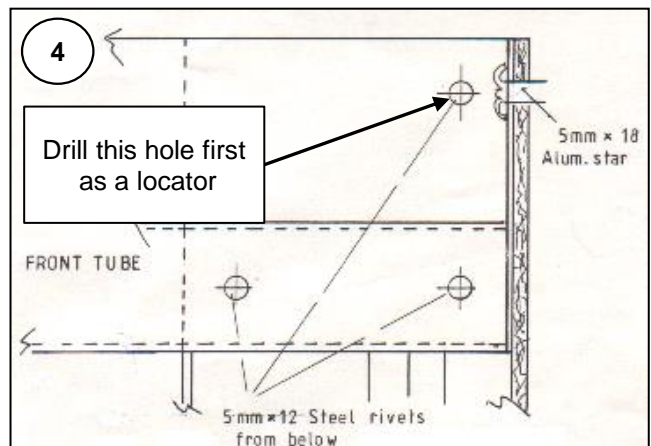
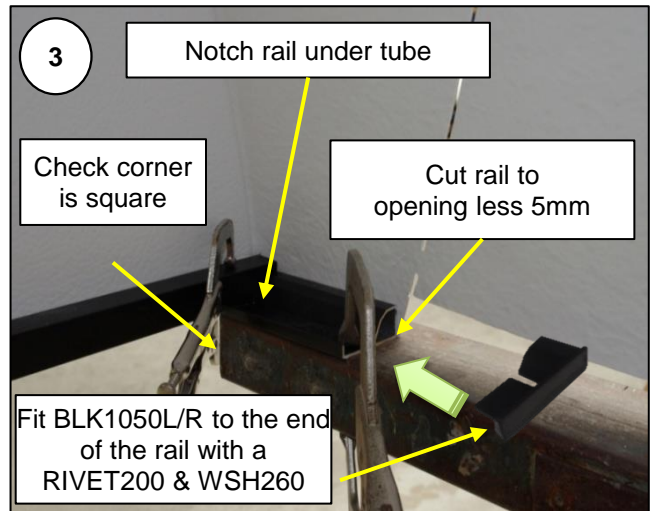
- Inspect the canopy shell and front panel for any damage or mistakes that may have occurred during the cutting process.
- The cutting and measurements should have been checked and passed by the Supervisor or Quality Control at the marking out stage. Checking should be done before proceeding with build.
- Checks should be for correct length, correct height, correct door, correct windows, correct panel, correct panel cut out, correct shell, correct model / style / type
- Once marking out & cutting stage has been cleared by Supervisor and / or QC the building of the canopy may proceed.

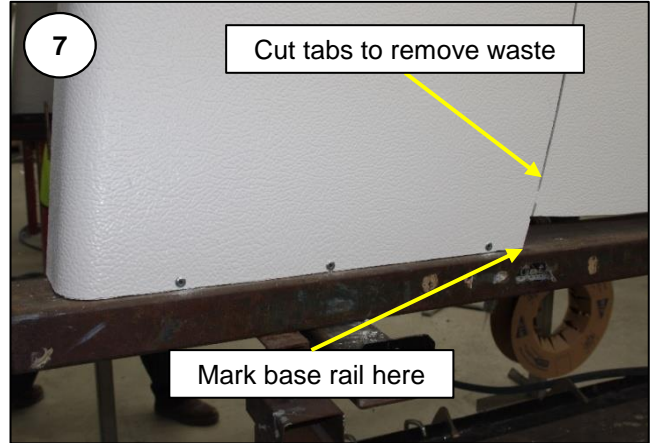
### BUILDING THE CANOPY

- 1** Position and clamp front panel into shell flush with front edge, make sure bottom corner is flush with front corners of shell on both sides.
- 2** Cut a length of **TUBP2000** to the width of the bottom edge of the front panel and fit it, with the flange forward, inside the canopy and under the panel, clamp panel fully.  
**Note:** Front edge of "P" tube should be level with the front cut edge of the canopy shell. See **Photo 1**.
- 3** Drill countersink and fasten with eleven 3 mm x 10 **RIVET100** alloy rivets, 4 mm from front edge so pinchweld covers rivet heads. See **Diag 2**. (**Do not rivet to the "P" tube yet**)

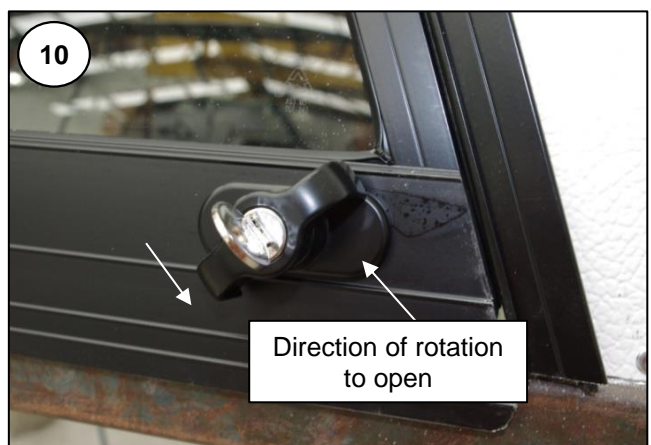
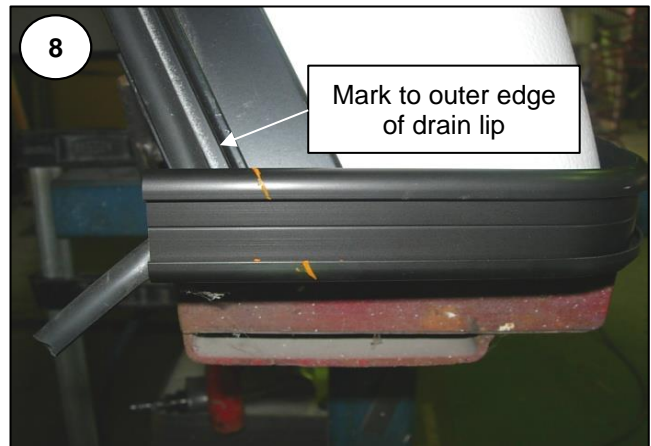


- 4 Cut and notch two short lengths (approx, 190mm) of **RAIL11750** under the "P" tube and back to the door opening. Fit **BLK1050L/R** to the end of the rail with a **RIVET200 & WSH260**  
See **Photo 3**.
- 5 Apply silicone sealant to the notched section of the inner rail stubs and place them under their respective ends of the "P" tube.
- 6 Move canopy forward so that the front lip and the "P" tube overhangs the build rails.
- 7 Clamp the baserail stubs and front tube together on the build bench and use a square to set them at 90°.
- 8 Drill the 3 of 3/16" (5mm) holes through the baserail / "P" tube overlap, (See **Diag 4**) two holes through the shell bottom edge and inner rail. See **Photo 5**.
- 9 Fit and tighten 5 of **RIVET200** to the holes just drilled checking that the corners remain square.
- 10 Fit a pair of **BLK1020R&L** to the ends of the remaining inner base rail with a **RIVET200 & WSH260** as shown in **Photo 6**.
- 11 Push the rail/block assemblies into their respective corners and mark the rear end of the door opening onto the inner rails.
- 12 Cut rail 5mm shorter and replace them on the build bench.
- 13 Ensure the rear section is in a straight line with the front stubs and correctly positioned in the rear corners, then clamp and rivet as shown in **Photo 7** using **RIVET200**.
- 14 Cut the tabs around the side door opening and remove the offcut.

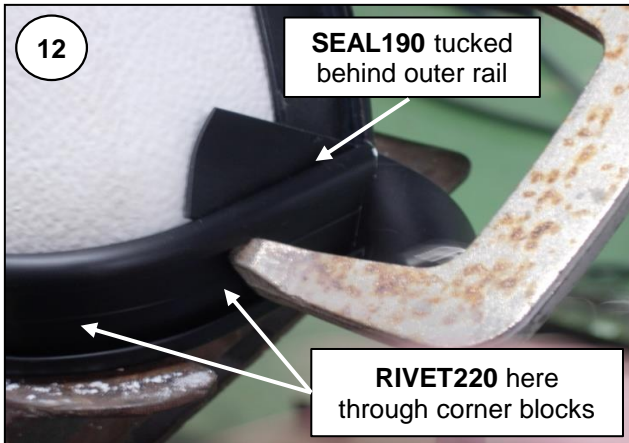
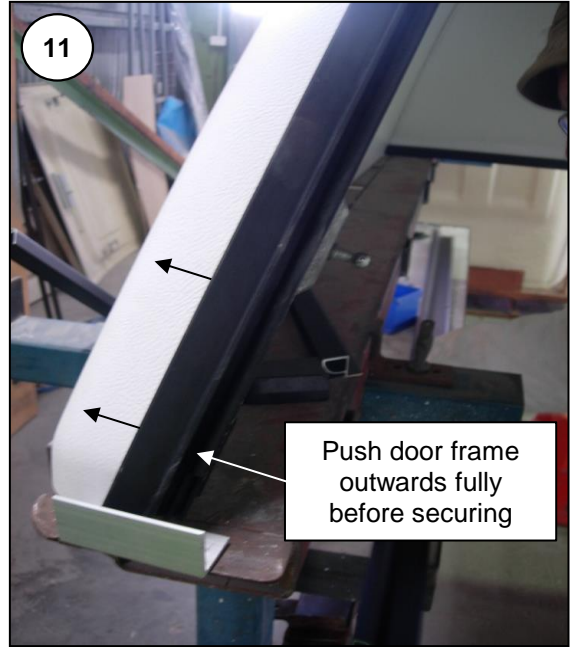




- 15 Clamp the outer rails temporarily in place and curve them around the rear corners.
- 16 Mark the rear end to the length and rear door angle. See **Photo 8**.
- 17 Remove from canopy and trim to the marks just made and clean up rough edges with a fine file.
- 18 Apply a strip of **TAPE160** to the centre line of the back face of each rail. See **Photo 9**.
- 19 Check all doors for damage - repair/straighten where possible before fitting.
- 20 Fit door handles to bottom sash ensuring that they rotate in the correct direction each side. (Latch bar must rotate upwards to open). See **Photo 10**.
- 21 Using 18 mm tek-screws **SCRHBTX1520** pre-tec the lock ring to the door frame in about four places, then remove to the build bench.
- 22 Position and clamp doors into shell with door frames 3mm higher than shell base cut, pull door frames firmly against cut edges of openings. See **Photo 11**.
- 23 The door is fastened to the canopy shell via the locking ring and tek screws.
- 24 Position the outer rails on the shell and lightly clamp the rear corners. Once corner fit is correct, clamp the rest of the rail.



- 25 Measure and cut vinyl **SEAL190**, insert end behind rail on an angle at the rear door, to achieve a neat fold around rail end, drill and fasten through rail, vinyl, door frame, shell and rear corner block with **5mm x 25 RIVET160** alloy rivet. See **Photo 12 & 13**.
- 26 Position pieces of 40 x 40 x 2 alloy angle **AL1600/2000FA** under inside base rail (an aid to clamp against) and clamp to build table.
- 27 Clamp the outer rail to the canopy sides with modified 11R Vice grips (50mm of 8mm rod welded across one jaw end to act as a load spreader) with the clamp going around the bench rail from beneath.
- 28 Drill and rivet the corners with 2 of **RIVET220** as indicated in **Photo 14**.



- 29 At the front corners ease the shell and panel apart with a screwdriver at the bottom and insert about 30mm of the end of short lengths of **SEAL190** into the gaps then remove the screwdriver. See **Photo 15**.
- 30 Mark and cut short lengths of **RAIL02950** to fit between the front of the canopy shell and the safety lip of the side door frame.



- 31 Drill 5mm hole through outer rail, panel and shell 10mm from front edge and through the end of the length of vinyl trim. See **Photo 16**.

**32** Insert a **RIVET220** rivet through the hole and pull up.

**33** Bring the ends of the **SEAL190** to the side door frame ends, do not fit into the outer rail yet.

**34** Fold the ends of the **SEAL190** around the trimmed ends of the outer rail in the same way as at the rear door. See **Photo 12**.

**35** Drill 3/16" (5mm) holes through the outer rail vinyl trim door frame, shell and inner rail then secure with **RIVET160** as in **Photo 13**.

**36** Drill 5 mm hole through the outer rail and fibreglass only, for 18 mm tek-screws **SCRHBTX1520** approximately every 120mm (maximum) to keep the rails straight.  
**Note:** Do not over tighten tek-crews, this can cause denting.

**37** Remove screw clamps and alloy angle.

**38** Clean out debris from groove and position vinyl **SEAL190**. See **Photo 17**.  
**Note:** Do not pull tape tight as it will shrink with weathering.

**39** Fasten the bottom edge of the front panel to the "P" tube with 11 **RIVET200** as per **ILL 2**.

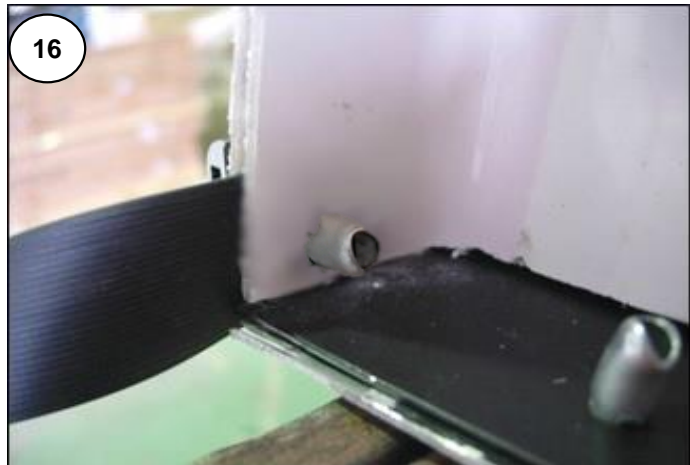
**40** Carefully drive the ends of the trim groove lips down onto the vinyl trim using a nylon mallet. See **Photo 18**.

**41** Cut the excess vinyl trim from the door openings flush with the door frame edges.

**42** Apply clear silicone around front edge of shell and panel. See **Photo 19**.  
**Note:** Do not use excessive silicone as this will squeeze out onto shell and has to be removed with turps or equivalent.

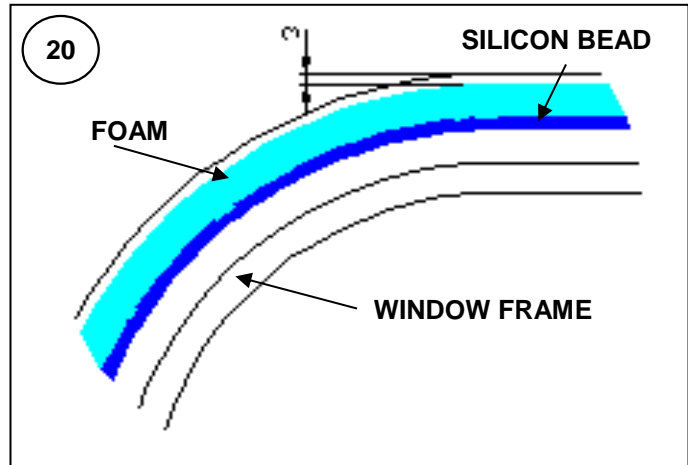
**43** Remove Steel Clip from pinchweld end, (to prevent rust showing) knock on evenly with rubber hammer and cut to length achieving a neat joint at the base rail - do not pull pinchweld tight.

**44** Apply clear silicone around total inside corner joint of front panel and canopy, smooth in with dampened finger, also silicone all joints of front tube and base rail.

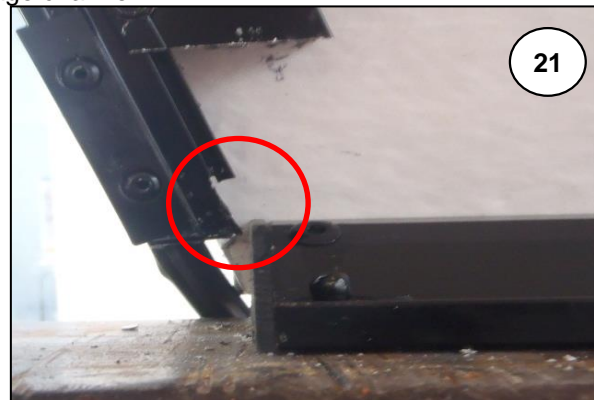


**FRONT AND SIDE WINDOWS**

- 45 Select front window and check for any damage.
- 46 If rejected, attach hold sticker, place in quarantine area and notify Supervisor.
- 47 Apply 12 mm foam seal tape **TAPE160** around flange 3 mm in from outside edge with a neat joint at bottom. See **Diag 20**.
- 48 Pre tek-screw lockring corners and centre and then remove to build bench.
- 49 Using clear silicone run a small bead around inside edge of tape. This is **ONLY** enough to fill the gaps of the leather grain finish.
- 50 Fit window to shell using 12 mm tek-screws **SCRHBTX1512** in pre screwed positions.
- 51 Adjust window so that it is parallel to the front tube (within say 2 mm). Fully tek window once in correct position.  
**Note:** Screws **MUST NOT PENETRATE** water drainage channel.



- 52 If the window frame touches to the **BLK1050L/R**, trim the touching corner of the frame by a hacksaw **Photo 21**.



- 53 Check sliding glass operates smoothly and locks.
- 54 Remove any excess silicone from pinchweld edge and window frames and wash all smears from gelcoat with turps (caution to be taken on painted canopies).
- 55 Silicone all joints of front tube and front panel, if not already done.

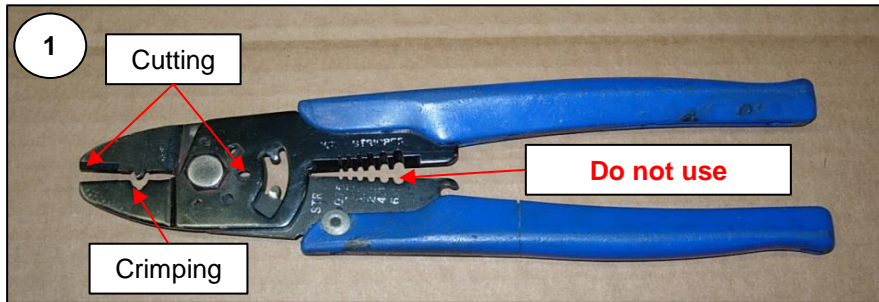
- 56 Stamp job/ stock/ serial number on aluminium tag and glue to left hand side base rail at rear or stamp on base rail. See **Photo 22**.
- 57 Each State has it's own prefix eg. NSW - S, QLD - B, WA - P, SA - A, & Vic - M.

- 58 Using plastic spacers ensure door gap is even on both sides adjust door hinge where necessary.



## ELECTRICAL WIRE STRIPPING SAFETY PROCEDURE

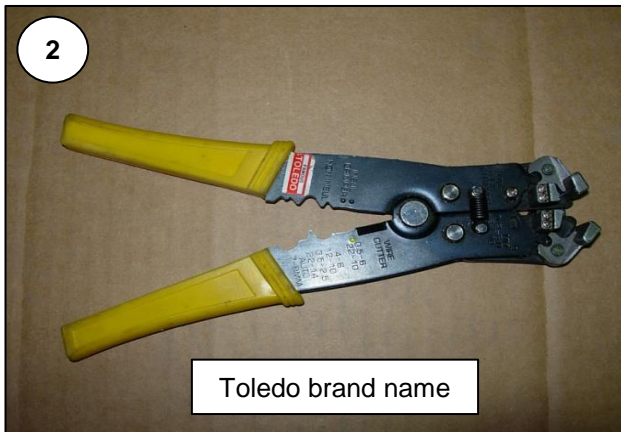
It is Flexiglass policy that the use of combination electrical cutting/crimping and stripping pliers be restricted to cutting and crimping use only.



It is a documented fact that the use of these pliers can cause personal injury due to the fact that they are reliant upon holding the cable in one hand while pulling with the pliers with the opposite hand. Any attachments to the gripped end can be pulled into and through the palm of the gripping hand causing injury.

The single hand action strippers are to be used at all times for stripping cable ends ready for joining or connecting.

Two types of cable strippers are recommended, one operates with the pliers at 90° to the cable (2) the other operates in-line with the cable (3).



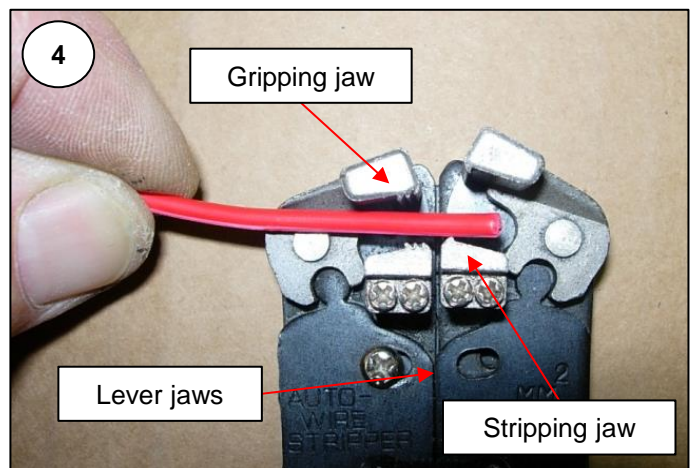
The tool in **ILL 2** is a generally stronger and harder wearing item but the other is very useful for getting to cables in restricted space, it is therefore recommended that both types be available.

## OPERATING INSTRUCTIONS

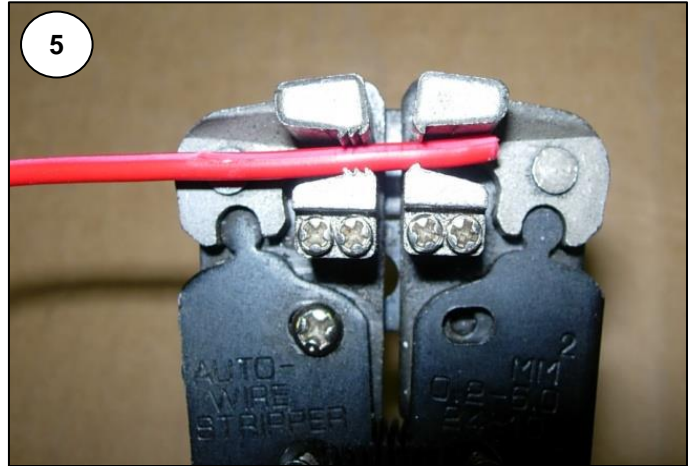
- 1 Squeeze handles sufficiently to bring the lever jaws together. Lay cable between stripping jaws as shown in **ILL 4**.

**Note:**

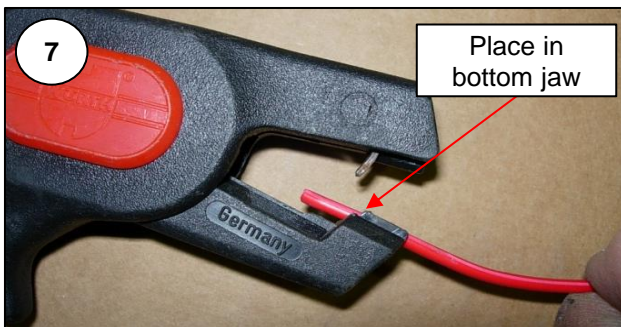
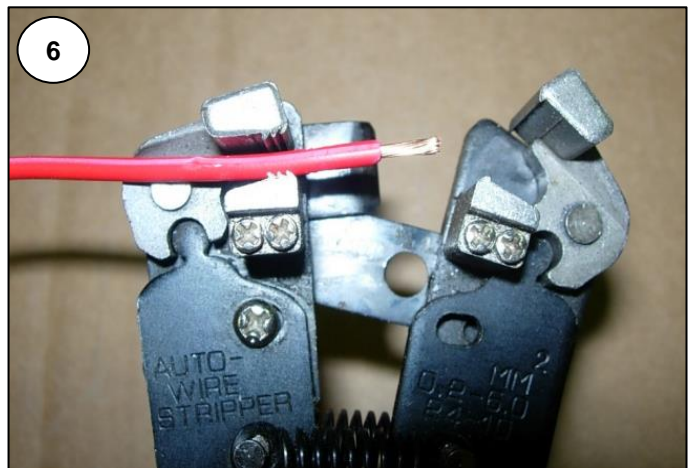
There should be no necessity to strip more than 10mm of sheathing from the cable end for any of the connectors used by Flexiglass. If for any reason a longer stripped end is required, do it in repeated 10mm bites, the pieces can then be slid off the end using the fingers.



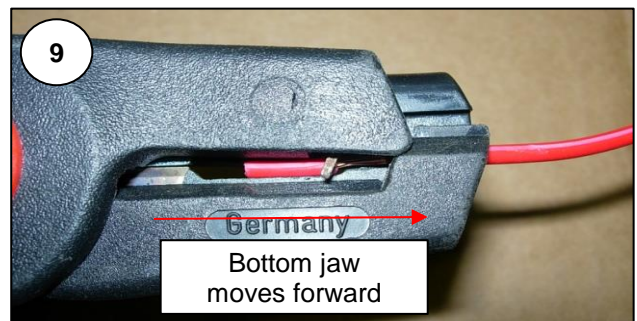
- 2 Continue squeezing the handles together to engage the gripping and stripping jaws.



- 3 Increase the pressure slightly as you continue to squeeze. The stripping jaws will then move independently of the pliers cutting and stripping the end of the wire until with a sharp click both sets of jaws will automatically disengage.



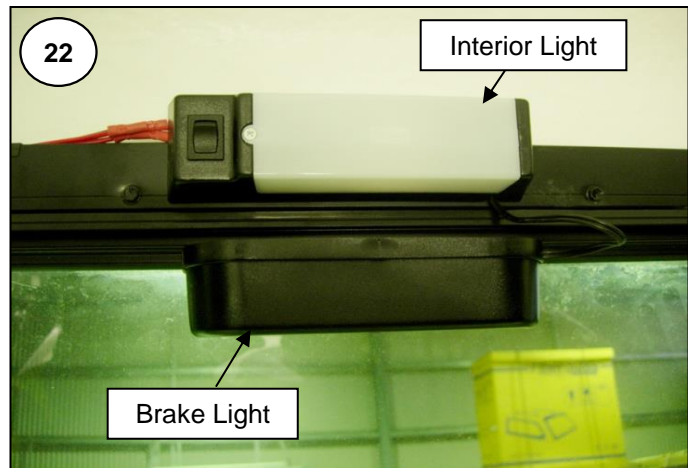
- 4 The Wurth pliers are simpler in operation. After placing the cable in the "V" of the bottom jaw, ILL 7, squeeze the handles together. The squeezing action brings the jaws together and forces the bottom jaw forward both cutting and pulling the sheath from the cable. See ILL 8 & 9.





### BRAKE LIGHT AND INTERIOR LIGHT

- 58 The brake light is attached by rivets to the inner door frame underneath the top, so it is visible through the glass. See **Photo 22**.
- 59 The interior light is tek screwed to the outer door frame clamp section at the top.
- 60 Attach **BADGE160** to centre of rear door sash and **BADGE100** to the right hand side as shown in **Photo 23**.
- 61 Apply **BADGE120** to each side at the rear corner as shown in **Photo 24**.  
**Note:** If there is insufficient room at the bottom apply them at the top.



### CANOPY DETAILING

- 62 Use paint pen to blacken aluminium exposed edges and corners also rivets or minor scratches.
- 63 Clean canopy inside and out, remove window stickers, clean glass door and windows with window cleaner.
- 64 Canopy must be checked and approved by Supervisor and / or Quality Control before being moved to storage or fitting area.

