



# FLEXIGLASS BUILD MANUAL - SECTION 1.1E

## STANDARD ADHESIVE BASE RAIL BUILD ISSA9

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

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

MATERIALS & PARTS REQUIRED		(BUILD KIT)
Part No.	Description	Qty.
	See relevant NaVision kit BOM for vehicle	

TOOLS REQUIRED
● Drill - pneumatic, 10mm capacity.
● Drill bits, 3mm, 4.9mm & countersink
● Rivet gun, pneumatic 3mm and 5mm
● Hacksaw - Air / Hand
● Angle grinder/sander pneumatic.
● Vice grip clamps 11R and 6R
● Soft faced mallet

These instructions are compiled to assist in the building of all Flexiglass canopies.  
**Ford Falcons prior to the AU, Commodore from WB onwards, Subaru Brumby, Suzuki Sierra and ML Triton have additional intructions or drawings to be read in conjunction with these.**

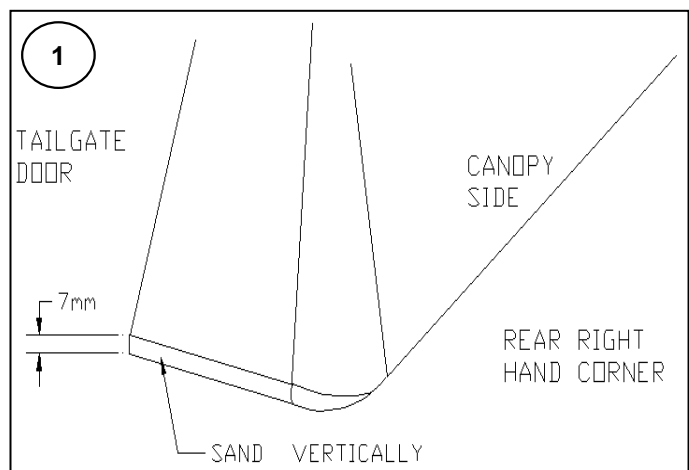
### BEFORE STARTING

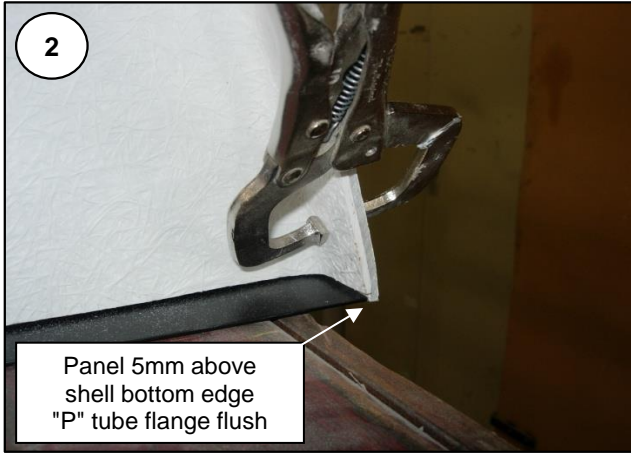
Follow Section 1.1D Iss A5 for canopy cutting procedure.

- 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.

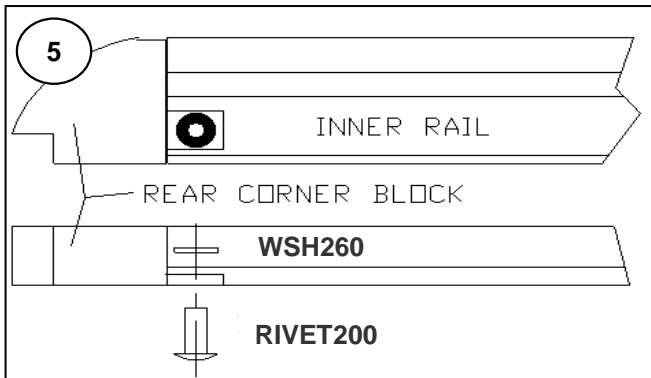
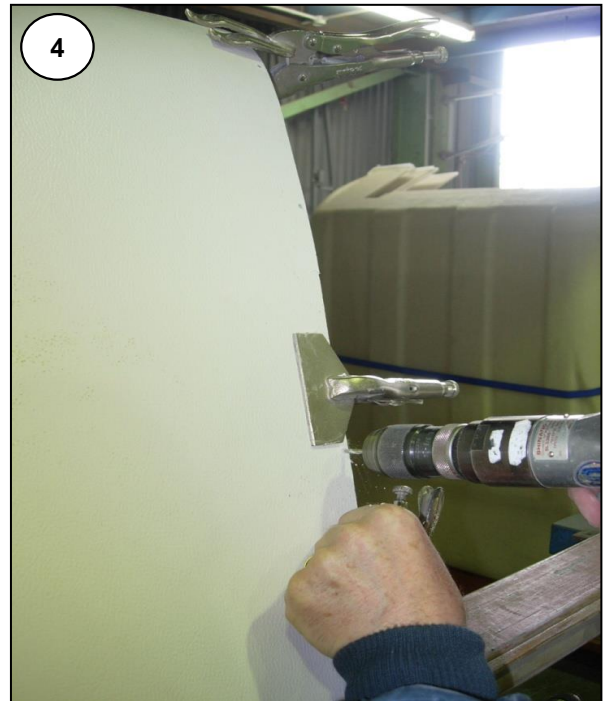
**Note:** Canopies without a corner up-stand will need to be sanded as shown in **Diagram 1**. This will minimise any gap forming at the top of the outer rail.

- 1 Position and clamp front panel into shell flush with front edge, make sure bottom corner is approximately 5 mm above the bottom edges of the shell on both sides. See **Photo 2**.
- 2 Use the front "P" tube to ensure that the front panel will be hard against the front rail section and the flange of the front rail lines up with the bottom corner of the canopy shell and clamp. Do this for both corners. Apply enough clamps so that the front panel can be riveted to the shell. See **Photo 2 & 3**.
- 3 Drill and fasten with eleven 3 mm **RIVET100** alloy rivets, 4 mm from front edge and countersink so pinchweld covers rivet heads. See **Photo 4**.
- 4 If painting is required, preparation, priming and painting should be carried out now in the approved manner.



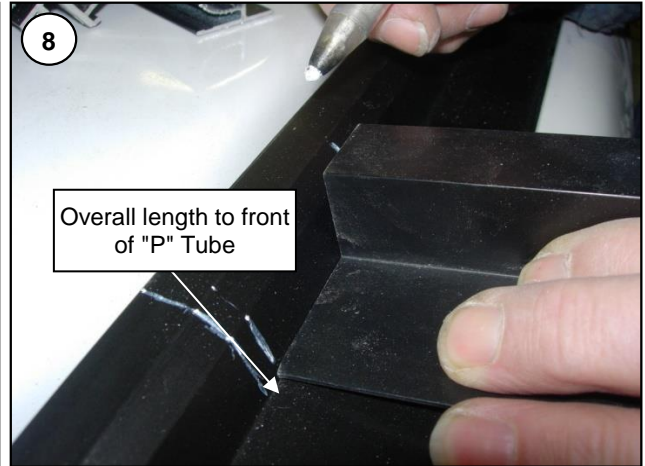
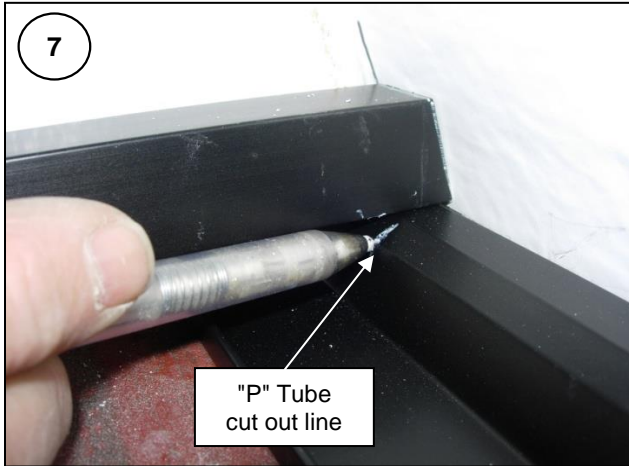


- 5 Select correct length of inner and outer base rails and front tube from storage racks, check for any damage.
- 6 Secure the rear corner block through the lug of the block with an **RIVET200** rivet and a **WSH260** washer on top. See **Diagram 5 & Photo 6**.  
**Note:** With the adoption of the “plug in” type corner block only one build will require more than a 90° cut at the rear end. This will be the Suzuki Sierra which will require a 25mm long rebate. To be cut in the same way as the front “P” Tube rebate in a front panel build.

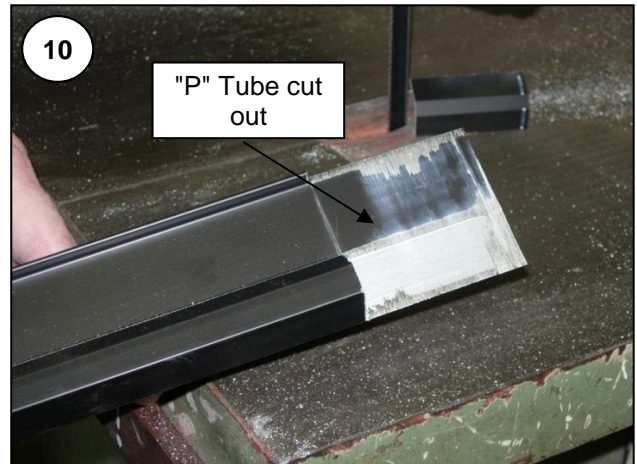


- 7 Position inner base rail, clamp at rear, mark overall length at front edge of shell, also mark front tube

cut-out position by placing tube off-cut against panel and marking rail. See **Photos 7 & 8.**



**8** Use docking saw to cut to length and the air hacksaw for tube cut-out. (If a band saw is available use it instead) See **Photos 9 & 10.**



**9** Thoroughly degrease the adhesive contact areas on the inner and outer rails and the inside and outside of the shell bottom edge using IPA or alcohol wipes in the approved manner. See **Photos 11 & 12.**



**10** Apply adhesive tape to the inside of the upright flange of the outer rail. Make sure it only comes to within 1 or 2 mm of the top edge. See **Photo 13 & 14.**



11 Mark approximate length of canopy on the base rail, so you don't extend the tape too far.

12 Apply a bead of adhesive sealant along the length of the inside of the canopy about 5mm above the bottom edge. See **Photo 15**.

13 If the model is one with a front panel, apply sealant between the front of the rail and the "P" Tube. See **Photo 16**.  
Push the inner base rail into place and clamp the rear corner.

14 Use reversed packers and clamps as in **Photo 17** to squeeze the rail onto the canopy side.



15 Use R11 clamps and spare **BLK100** to clamp base rail down onto the build bench rail and keep it flat. See **Photo 18**.



**Note:** Allowing for the fact of uneven cutting, the general rule is to keep the bottom face of the inner rail and the edge of the fibreglass flush with each other. In models with a concave cut such as the Falcon, Commodore and Mitsubishi ML Triton dual cab, packers used under the rail should extend under the fibreglass to ensure this occurs or great difficulty will be experienced attaching the outer rail.

- 16 Use 5 or 6 **RIVET100** counter sunk 3mm rivets to fix the canopy and inner rail together. Be sure not to drill more than 6mm up from the top face of the build rail, or packers if used. This will ensure the rivet head does not show above the outer rail when it is attached. See **Photo 19**.  
**Note:** The inner base rail must be riveted to the shell to stop the shell being able to pull away from the rail while the adhesive sets. The two end rivets should be placed no more than 30 mm from each end. The rest of the rivets are to be evenly spaced along the rail.

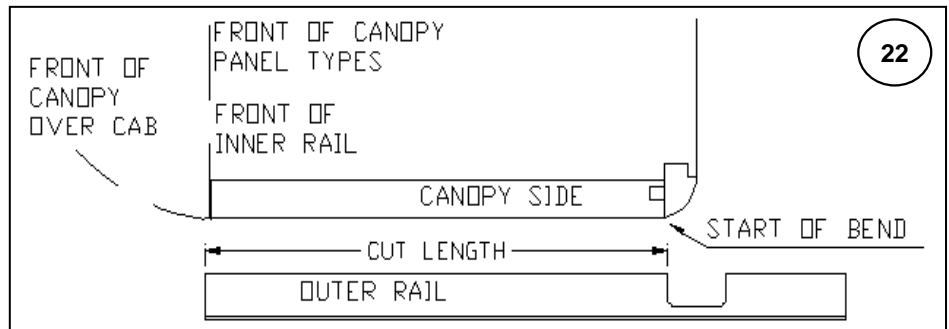


- 17 Repeat steps 11-16 for opposite side of canopy.

- 18 Slacken off the clamps from the inner rail. Then apply a 3 or 4mm bead of sealant into the angle of the outer rail below the adhesive tape. This ensures a good seal see **Photo 20**.



- 19 Take one outer rail and place it under the side of the canopy and inner rail and position it according to the model being built. See **Photo 21 & Diagram 22** for alignment.



- 20 With the packers now in the normal position clamp the rail / canopy assembly firmly together. See **Photo 23**.





- 21** Carefully bend the outer rail around the rear corner, clamp and rivet in place. See **Photo 24**. **Note:** There may be an enlarged gap between the rail upstand and canopy bottom around the corner; this can be reduced by driving it inwards using a wooden block struck with a hammer or directly using a soft faced mallet.



- 22** Rivet upwards through the gaps in the build rail using **RIVET200** rivets. See **Photo 25**. Be sure that the rear most rivet, before the corner, secures the spigot of the corner block.
- 23** Repeat steps **18-22** for opposite side of canopy.



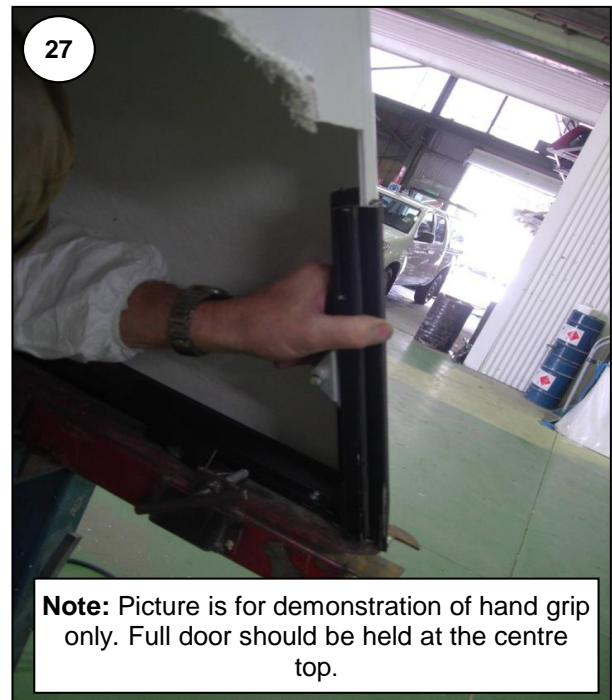
- 24** Carefully trim the outer base rail and any protruding parts of the corner blocks to match the edge of the door opening, clean up edges with a file. See **Photo 26**.



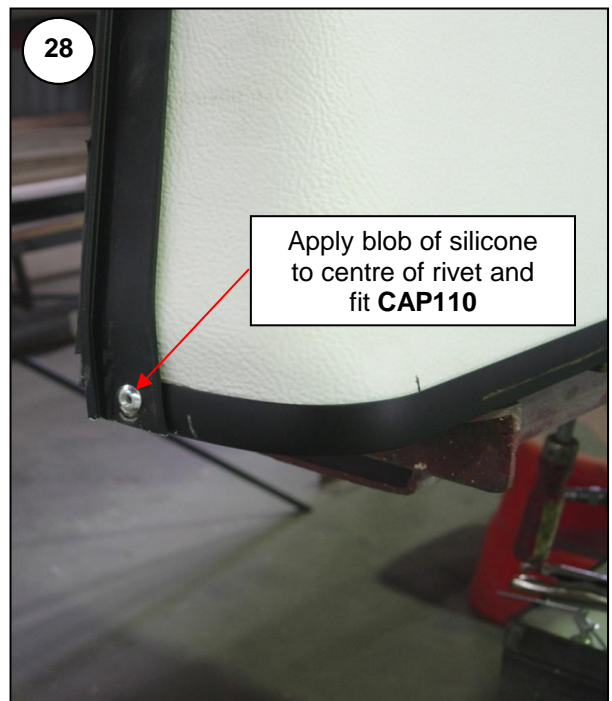
- 25** Lay the required rear door on a work bench with the bottom sash over hanging the edge and fit the door handles in place. The handles are right and left handed, be sure the left rotates clockwise and the right anticlockwise to open, veiwed from outside the door.
- 26** Attach the rear door clamp section to the inside of the door with 3 or 4 of **SCRHBTX1520** stitching

screws, then remove the screws and the clamp section to the build bench.

- 27 Ensure the canopy is clamped sufficiently far forward on the build bench to allow the ends of the door frame to rest on top of the bench.
- 28 With the door open, lift it into the opening and rest it on the bench, support the door with one hand at the top centre while fitting the clamp ring into place, hold in place with the thumb of the supporting hand. See **Photo 27**.
- 29 Secure the door and clamp section onto the canopy using the pre-screwed holes done earlier. Ensure the bottom ends of the door frame are pushed firmly out onto the cut edge of the door opening and fully secure through the remaining screw holes with **SCRHBTX1520** screws.

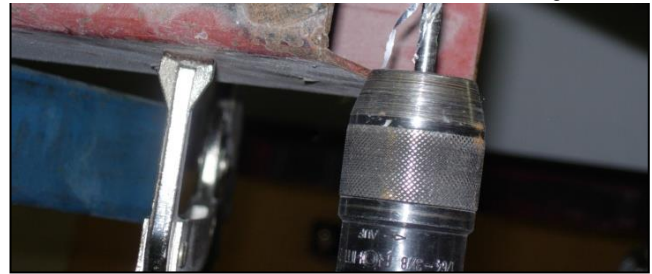


- 30 Using a 5mm drill bit, drill through the flange of the door frame, the end of the outer rail, the canopy shell and, if it extends far enough, the corner block. Fix with one each side **RIVET220** rivet. See **Photo 28**.
- 31 Un-clamp the canopy from the bench rails and slide it forward until the front overhangs the bench rails enough to get to the underside of the "P" tube, clamp to the bench rails again.



- 32 From underneath the rails drill 3 of 4.9mm holes as shown in **Photo 29**. Fix with 3 of **RIVET200** and repeat on the other side of the canopy.
- 33 Trim excess outer rail flush with the front edge of the canopy and file off any sharp edges.





**34** Refer to **Diagram 30** to fit 7 of **RIVET200** Rivets to the bottom edge of the front panel. Be sure to keep them as low as is reasonably possible so that the rivet heads can have silicone sealant applied to them at the same time as the bottom edge of the panel and the "P" tube.

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

**36** Apply clear silicone around front edge of the shell and panel. See **Photo 31**.  
**Note:** Do not use excessive silicone as this will squeeze out into shell and has to be removed with turps or equivalent.

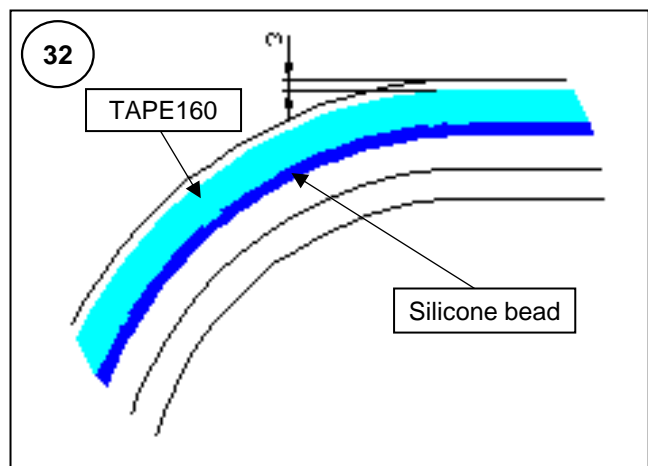
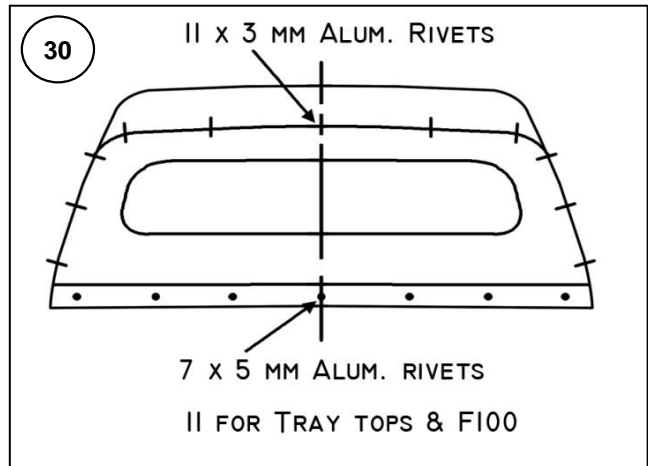
**37** Remove Steel Clip from pinchweld end, (to prevent rust showing) knock on evenly with rubber hammer and cut to length achieving a neat joint at the base rail. Do not stretch pinchweld.

**38** Select correct front and side windows (customer order form) and check for any damage.

**39** If rejected, attach hold sticker place in quarantine area and notify D.H.

**40** Pre tek-screw locking corners and centre, then remove to build bench. Apply 12 mm foam seal tape **TAPE160** around flange 3 mm in from outside edge with a neat joint at bottom.

**41** 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. See **Diagram 32**.



**42** Fit windows to shell using 12 mm tek-screws **SCRHBTX1512** in pre screwed positions.

**43** Adjust window so that they are parallel and even each side (within say 2 mm). Fully tek windows once in correct position.  
**Note:** Screws must **NOT PENETRATE** water drainage channel.

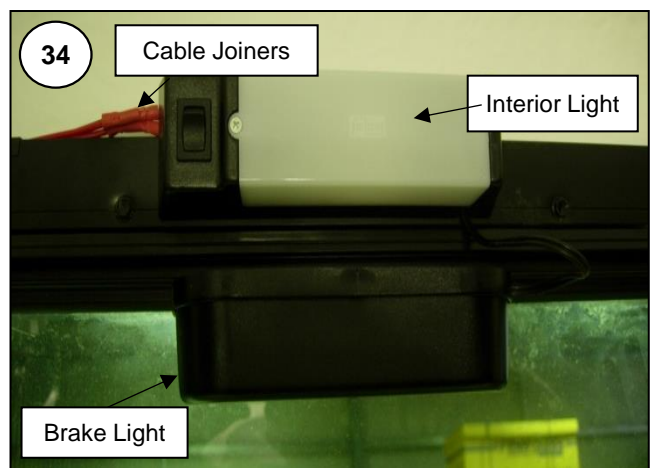
**44** Check sliding glass operates smoothly and locks.



- 45 Remove any excess silicone from pinchweld edge and widow frames and wash all smears from gelcoat with turps (caution to be taken on painted canopies).
- 46 If not done so already apply clear silicone around total inside corner of front panel. Smooth in with a dampened finger. Black silicone all joints of front tube and base rail including bottom front of front panel.
- 47 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 33**.



- 48 Each State has it's own prefix eg NSW - S, QLD - B, WA - P, SA - A, Vic - M and NZ - N
- 49 Using parallel jig ensure door gap is even on both sides adjust door where necessary.
- 50 On cab hi and older model canopies the brake light is attached by rivets to the outer door frame underneath the top, so it is visible through the glass. See **Photo 34**.  
See **Instruction 1-1J ISS B2 for Srs 2 Hi Profile canopy dust deflector attachment.**



- 51 The interior light is tek screwed to the outer door frame clamp section at the top. See **Photo 34**.
- 52 The wiring for the interior light uses two male and female joiners to join the twin strand sheathed wires to the lamp wires. All wires are then run along the back of the flange and secured with the plastic clips **CLIP1010**.
- 53 Check canopy for any defects and fix, use a paint pen or small paint brush to blacken exposed aluminium edges, corners and rivets and non rejected scratches.

- 54 Clean canopy inside and out, remove window stickers, clean glass door and windows with window cleaner.

- 55 Position the Flexiglass decal **BADGE160** centrally on the door sash as shown, degrease the area with an IPA wipe to ensure good adhesion. At the same time apply the Product badge **BADGE100** after degreasing. See **Photo 35**.



- 56 The badges **BADGE120** on the side are shown in the recommended position. See **Photo 36**. For some window combinations the position may need to change. The alternative position is at the top rear.



- 57 Canopy must be checked and approved by Supervisor and / or Quality Control before being

LAST UPDATE 3/07/2014  
moved to storage or fitting area.

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