

# PANORAMIC WINDOWS

ILLUSTRATED FITTING MANUAL



You will need:

- General workshop tools
- Jig saw
- Cleaning cloth
- Sealant applicator tube
- Drill
- Files, knife and scissors
- Latex gloves

# Masai Panoramic Window Fitting Instructions

Thank you for purchasing our Masai Panoramic Windows for your Defender. Please read these instructions carefully. If you do not feel confident to fit these windows yourself, we also provide a fitting service - just call for a quote.

We recommend that you watch our online video, where you will also find more detailed instructions and photographs. [www.masai4x4.com](http://www.masai4x4.com)



## **1. Safety Precautions:**

As the fitting of these windows requires the use of potentially hazardous materials, chemicals and equipment - such as an electric jigsaw and drill, silicone adhesive and glass - we therefore recommend that you use protective clothing including safety goggles, ear and clothing protection. You will also need latex gloves when using the primer and adhesive provided in the kit. Seek professional help if you are not sure.



## **2. The tools and equipment required**

You will need to have ready in advance:

- 1 A table or a bench min 4 foot long to put the glass on whilst applying the primer and adhesive. You should always protect the glass against the rough surfaces to avoid unnecessary scratching. (Masai packaging is ideal for this.)
- 2 Cloths and mild cleaning agent to make sure all surfaces are clean and dry.
- 3 Latex gloves – the primer and adhesive is difficult to remove.
- 4 An electric drill with 8mm metal drill bit suitable for removing the rivets.
- 5 An applicator gun for use with standard sealant tubes
- 6 A file or sanding paper.
- 7 A jig saw with suitable blade for cutting aluminium. (If you have a Hard Top)
- 8 Blu-Tack or masking tape to hold template against your vehicle. (If you have a Hard Top)
- 9 A fine permanent marker pen to mark the cut-out area. (If you have a Hard Top)
- 10 Stylus knife
- 11 Scissors

12 Rubber mallet or similar

### **3. What's in the Masai Panoramic Windows kit**

Your Masai Panoramic Windows kit should include:

- Pair of side windows
- Pair of quarter lights - (if you have also purchased them)
- One bottle of primer,
- A few tubes of silicon adhesive,
- Swab for applying the primer,
- Templates (all in one sheet), and these instructions

### **4. Removing factory-fit windows**

If your vehicle is fitted with original aluminium frames, these will need to be removed.

*For riveted type:*

- Remove the outside rubber beading strip from your frame using your stylus knife or any screw driver. This should come off from the aluminium frame very easily.
- Drill off the rivet heads with an electric drill, the frame will become loose
- Take out the aluminium window frames from both sides of your vehicle.
- Clean the surfaces surrounding the aperture to remove any dirt or grease.

*For bonded type:*

- Use your stylus knife to cut the bonding between the frame and vehicle side panel. Eventually your frame will be loose and will come away from the vehicle body
- If in the process, the surfaces are dented or damaged, flatten them as best you can.
- Clean the surfaces surrounding the aperture to remove any dirt or grease.

### **5. Panel vans – cutting out the aperture**

If your vehicle is a panel van type i.e. not fitted with original windows from the factory, you will need to cut an aperture on the sides of your vehicle by using our template provided.

Using scissors cut out the window aperture from the template. Stick the template to the side of your vehicle using Blu-Tack or masking tape – making sure when doing

the driver's side that the template says *Right Hand Side* at the top; when doing the passenger side it must say *Left Hand Side* at the top. Please refer to our template.

Parallel align the top of the paper template so that it just touches the rim of the roof all along its length.

Using a fine permanent marker pen accurately draw the section to be cut out following the inside edge of the template.



You can then remove the template and attach it to the other side of your vehicle, by positioning as per the instructions on the template.

Using your drill take the heads off the rivets that hold the two struts inside the vehicle behind the template area, use a mallet to knock the struts sideways and remove them – they won't be needed any more.

Get a drill and make a pilot hole within the middle of the marked section. Draw a line and a couple of curves to practice cutting along with the jigsaw before you start cutting the actual rectangular aperture.



Once you are confident you can cut out the aperture accurately, drill a hole for the blade near the marked line, within the marked area in the chosen place you want to start cutting.

Make sure you are tall enough to reach the top part for cutting – if not get a sturdy box or chair to stand on.

When you start cutting, it is important to follow the line as best you can within 1 mm tolerance – do not cut inside the marked area or else you will have a lot of filing to do.

We recommend that you get an assistant to hold the other end of the cut-out section steady whilst you finish the final cutting.

Lightly file the edges to remove burrs.

You may need someone to also help you offer up the windows to make sure it fits in the aperture and aligns parallel and tightly with the roof edge, if it doesn't you simply file the relevant edges of the aperture so that the window fits neatly in.

Repeat this process on the other side of your vehicle.

## **6. Preparing the surfaces and applying the adhesive**

The tubes of silicon adhesive should be slightly above the room temperature otherwise it will be hard to push the silicon adhesive from the tube. If they are cold you can put them in a bucket of hot water (not boiling – ideal is 30 degrees C, 86 F).

Clean the outside surfaces of the side of your vehicle surrounding the aperture and the glass surface that will be bonded to the side of your vehicle.

Decide which side you are doing first – you can tell which window goes on which side as the Masai logo should be the right way up.

Lay the first window on a table – so that the inside is facing up. Protect both table and the glass using the Masai cardboard box.

Wearing latex gloves shake the primer and CAREFULLY remove the lid. TAKE NOTE – You are going to be applying the special primer in a continuous line WITHOUT over-painting what you have done – one stroke only – as it dries very quickly.

Don't use too much or too little primer – use an even amount so there are no really wet parts nor patchy parts (not enough primer on the swab). Wipe the special swab against the inside edge of the primer bottle when with-drawing to ensure there is not too much primer on the swab that it drips – drips are bad – it sticks very well to all surfaces – so be very careful indeed. Screw the lid back on the bottle as soon as you are finished.

Using the swab apply the primer in neat straight lines along the outer edges of the glass – about 5 mm from the edge, with two extra lines on the larger side and one extra line on the smaller side. Join the lines – no gaps. See photo and video.

Immediately go to the vehicle and apply the primer in the same way – paint the same pattern of lines that you made on the glass around the aperture you are doing first – you are completing one window at a time. Again – join the lines – no gaps.



Immediately get one of the silicon adhesive tubes from the bucket, dry it, insert into gun and remove lid, test on a piece of newspaper to see that the gun is prepared and the adhesive extrudes from the nozzle right shape and thickness.

Without delay start to apply the adhesive (see photos) on top of all the lines you have made with the primer on the glass (not the vehicle).



The triangular cut-out in the nozzle needs to face upwards. Make a continuous pyramid shape line along and on top of all of the primer lines. Make sure there are no gaps – particularly the top edge – to ensure no leaks.

Please be aware that these windows are reversible, therefore the drain channels on the bottom must not be blocked by any silicon adhesive. The drain channels on the top must, however, be fully sealed. The opening sliding glass must be located on the rear of the vehicle as the picture of our Zeppelin windows below demonstrates.



## 7. Fitting the Windows



You may require an assistant to help you to carry the glass to your vehicle and bond it. The primer and adhesive application process should be done within 10 – 15 minutes and immediately after carefully carry the window to the vehicle and press it firmly into position.

First priority is to make sure the top edge is parallel to the rim of the roof and the rear side is parallel to the vertical side of the vehicle.

The adhesive sticks straight away to the primer on the vehicle but will take 24 hours to really cure - depending on the outside temperature and humidity.

Keep continuous pressure on all parts of the glass for at least 10 minutes to ensure it is properly bonded evenly all around.

You may need to adjust some of the internal trim if necessary to fit around the window.

Repeat the whole process for the other side of the vehicle.



## 8. **Fitting the rear quarter lights**

Fitting Masai tinted rear quarter light windows is a lot simpler.

Hold the new glass up to the vehicle to check they fit.

Using an implement such as a large screwdriver, take out the window beading strip seal from the inside and remove the seal and glass from both sides of your vehicle.

Clean the surfaces around the outside of the window apertures and the inside of the Masai glass. Put masking tape on the door hinge as it is very close to the action and if not careful you may get primer on it.

Apply the primer in same way as described above - to Masai glass (to the side that will face inside your vehicle) and also apply around the window apertures. See photos.

Wait 5 minutes – then apply the adhesive to the glass on top of the primer lines and immediately stick the glass over the vehicle apertures. Immediately adjust up, down or rotate a few degrees so that the vertical outside edge of the glass is parallel to the edge of the vehicle.

Apply continuous firm pressure evenly top and bottom for 10 minutes.

That's it, all done.

We do not recommend that you wash your vehicle or leave out in the rain for 24 hours.