

## Range Rover Classic Emuwing Installation Instructions



# 2 DOOR AND 4 DOOR

Range Rover Classic



## Installation Instructions



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### Parts List



**Emuwing Frame**

- One per side



**Support brackets**

- Two (2) per side



**Pinchweld (if applicable)**

- One (1) length per side



**M5 CSK bolts, Washer & Nyloc nut**

- Eight (8) per side attached to frame



**Handle**

Two (2) per side



**Emuwing Panel**

- One per side



**Hinge and Faceplate**

- Two (2) per side



**Gas Struts**

- Two (2) per side



**Panhead bolts**

- Four (4) per side



**Keys & Keyring**

- One (1) keyring with two (2) keys for each Emuwing



**Latch Plates**

Two (2) per side



**Polyurethane Glue & nozzle**

- One (1) per kit



**Adhesive Weatherstrip**

- One (1) length per side



**3M Primer**

- One (1) per side



**M4 Hex bolts, Washer & Nyloc nut**

- Eight (8) per side



**Chalk Pen**

One (1) per kit

#### Tools required:

- 4mm Allen Key
- Medium size Phillips's head screwdriver
- Eight to Twelve Clamps per side
- Spanners 7mm, 8mm and \*27mm
- Sockets 7mm and 10mm
- Caulking/Glue gun

#### Other things that you will need:

- Wax and Grease remover
- Clean rags or kitchen paper
- Masking tape
- Trim pry

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### 1: Remove the existing rear window and mark the interior trim for cutting.

#### - Remove interior trim, glass and rubber.

Remove the existing rear window by prying the rubber over the body seam from the inside and the glass should pull out from the outside, on occasion the rubber has hardened too much and needs to be cut.

After removing the rear window, wash off any dirt or residual glue from around the seam.

Apply the pinch weld supplied in the kit around the exposed seam ensuring that any interior trims and the roof lining are securely held in place. The lower rear corner may be a good place to make your join due to the tight turn required.

#### - Applying the pinch weld.

After successfully removing the rear window, carefully wash off any dirt or residual glue from around the seam. Use a mild detergent or adhesive remover with a soft cloth or sponge to avoid scratching the surface.

Inspect the exposed area for any signs of rust. If rust is present:

Address rust using an appropriate method (e.g., sanding, rust converter).

If rust is extensive, consider consulting a professional for proper treatment.

With the exposed seam cleaned and rust addressed, proceed to apply the pinch weld supplied in the kit. Follow these steps:

Start applying from the bottom edge of the exposed seam, e.g. Join at the bottom.

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Ensure even and secure attachment as you continue around the seam.

Pay special attention to securing interior trims and the roof lining in place during the application process.

After applying the pinch weld, carefully inspect the interior trims and roof lining to ensure they are securely held in place.

### 2: Installing the frame.

#### - Positioning the frame.

Before attempting to glue the frame into position, ensure a clear understanding of its positioning.

Position the frame centrally with an even gap all the way around.

Note that if perfection is not attained, adjustments can be made during the door panel installation.

Prior to applying any glue, follow these steps:

Place the frame in place, apply a clamp on each corner of the frame for stability.

Take your time to ensure the frame is securely positioned.

To facilitate clean-up in case of excess glue, apply masking tape around the frame's position. This step is important for maintaining a tidy finish:

Apply the tape carefully, ensuring it covers the area where glue may squeeze out.

#### - Gluing the frame into place.

Ensure that the surface of the pinch weld and frame are thoroughly clean, dry, and free from all traces of grease, oil, and dust.

Apply a bead of Sikaflex around the outside of the pinch weld, paying particular attention to the corners. Increase the bead enough to fill any higher spots between the body and the frame. Apply a continuous bead approximately 5mm thick, increasing to 6/7mm around the corners. Ensure there are no gaps, and the bead is applied evenly.

**Note:** We recommend after gluing the frame into place, follow up with a bead around the outside edge of the frame to fully seal it from water ingress. Due to panel gaps with this vehicle water can get behind the frame and find its way into the vehicle.

Have clamps ready for use as you place the frame into position.

Once the frame is in place, apply the clamps, paying special attention to the corners. Leave the assembly to dry for at least 24 hours. Use a torch to inspect for any light between the frame and the car body.

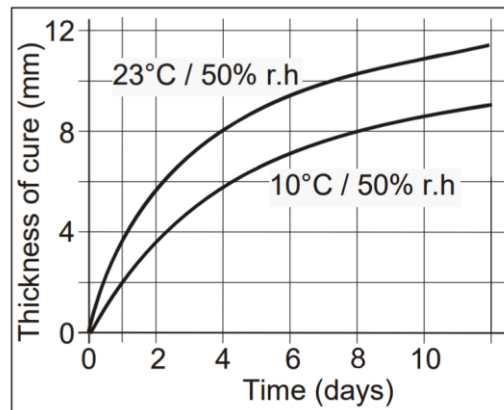
While the glue is still wet and the frame is clamped, carefully clean up any excess glue from around the frame. The masking tape applied earlier will assist in this process. Once cleaned, remove the masking tape.

After applying the glue and placing the frame, allow it to dry undisturbed for a minimum of 24 hours. This ensures a secure bond – see table below for exact curing times.

To clean up excess glue, use wax and grease remover while the glue is still wet. Do not allow the glue to dry, as it will be challenging to remove without risking damage to the paintwork.

You can also apply a bead around the inside edge of the frame where it meets the pinch weld, smoothing this out carefully to improve the finished product and improve the adhesive bond.

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**Do Not proceed with fitting any hardware to the frame until the glue has set and the frame is securely in place (at least 24 hours).**

### 3: Attaching the door panel.

Work carefully at this point as the glue may not be fully cured, see the chart above. Remove the nut and washer from the top of the frame, put the support bracket in place.

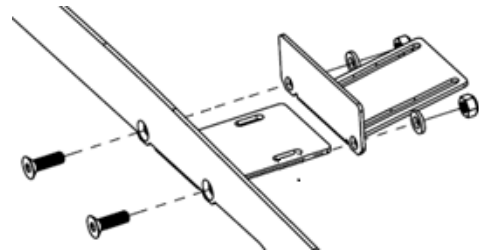
#### - Place and tighten the support brackets.

Assemble the support brackets on top of the frame, utilizing the M5 bolts.

Use the support brackets to clamp the frame to the pinch weld. When tightening, avoid over-tightening; instead, ensure to tighten them firmly to approximately 5 Newton-meters (5NM).

Ensure the two bolts are evenly tightened, aiming for consistent tension. This alignment is crucial to match the slots in the two brackets and secure a firm connection against the body.

Refer to Figure 5 for a visual representation of the assembly process.



#### - Attach the Latch plates and Spacers

Now we can attach the latch plates to the bottom edge of the frame, spacers are also supplied but may not be needed.

Use the latch plates to clamp the frame to the pinch weld, placing the latch plate from the inside and attach using two M5 bolts.

ensure to tighten them firmly to approximately 5 Newton-meters (5NM).

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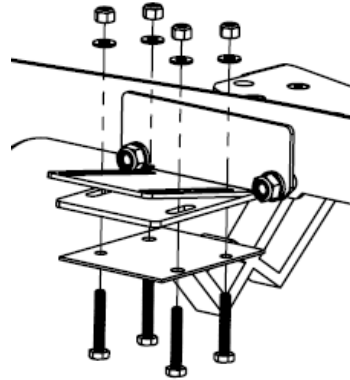
### - Attach the hinges.

Attach the hinges to the frame using the supplied 4mm nuts, bolts, and washers.

Ensure that the faceplate protrudes approximately 10 to 12mm from the frame.

The exact depth of the faceplate will be adjusted at a later stage in the process. Tighten to approximately 4 Newton-meters (4NM).

Refer to Figure 6 for a visual representation of the hinge attachment.

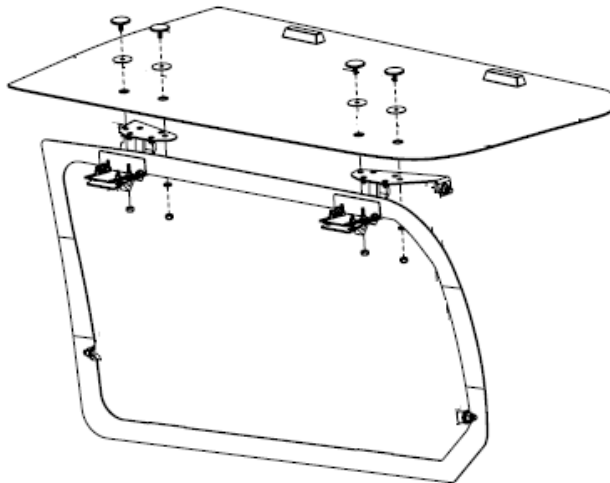


### - Placing the door panel.

With the hinges in the closed position, place the door panel centrally.

Consider using a spacer at the bottom of the door panel to lift it slightly, ensuring correct alignment.

Refer to Figure 7 for visual guidance.



Note that when the gas struts are attached, the door panel may be pushed up as the hinges compress. Account for this by positioning the panel 1 or 2 mm lower than its final placement.

Close the handles partially to allow the cam latches to secure the panel in place while fixing it into position.

### - Securing the door panel.

From the outside, place the pan head bolts.

On the inside, fit an M6 washer and nut to secure each bolt.

Once all four pan head bolts are in place, tighten each up to approximately 6NM, taking care not to strip the thread of the Aluminium pan head bolt. Align each of the pan head bolts visually from the outside, they should follow a straight line across the door panel.

Carefully perform a check to ensure that the door does not encounter any obstruction or fouling when opening and closing.

If there is any fouling detected, make necessary adjustments to the door before proceeding to attach the gas struts.

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### - Attach the gas struts.

Open the door and attach the struts, ensuring the wider end is positioned at the top.

Close the panel carefully, observing if it touches the car during closure.

Once closed, note any required adjustments needed for aligning the door panel with the car.

Understand that the depth of the door can be fine-tuned later. At this stage, focus on the panel's position in relation to the car.



Before loosening any nuts for any further adjustments, **detach the gas struts first** to prevent the hinges from twisting.

### **4: Adjusting the door panel.**

#### - Adjustments – left/right and up and down.

The door panel can be adjusted up/down and left/right by loosening the pan heads attaching the door to the hinge.

Before proceeding, make note of the required adjustments and mark the current position of the hinge plate on the inside of the door.

Remove the struts by unscrewing them from the mounting eyelets and loosen the pan heads after making necessary notes and markings.

Adjust the door panel to the desired position both vertically and horizontally.

Once satisfied with the adjustments, reinstall the gas struts.

With the door panel in its adjusted position and struts reinstalled, proceed to attach the weather seal to the inside.

#### - Marking the door panel

Close the door panel carefully and mark inside the door panel around the inside edge of the frame.

Note the distance between the line and the edge of your frame.

#### - Applying the Primer

Before attaching the weather strip, use the supplied 3M primer on the areas where the weather strip will be applied.

Apply the primer using long strokes, ensuring precise coverage exactly where the weather strip will be placed. Allow the primer to dry for ten to fifteen minutes before attaching the weather strip.

After marking and priming the door as specified.



#### - Applying the weather-strip.

Attach the weather seal to the door with the lip toward the outside edge of the door panel, following just outside of the marked lines and placing the weather seal 3M glue backing onto the previously applied primer.

Ensure the seal aligns correctly with the frame. Correct alignment is crucial to prevent moisture and dust from entering the back of the vehicle.

Apply pressure to the weather seal and ensure it has fully adhered all the way around the panel.



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Upon first closure after attaching the weather seal, carefully tuck the weather seal up using a plastic pry to prevent damage. Allow the door panel to close – do not close the handles. From the inside of the panel carefully tuck the weather seal into position by pushing it into the gap. This will prevent the seal from rolling and ensure excellent adhesion.

Close the door fully and close the handles to secure in place.

### - Adjustments – Depth.

Check the depth to ensure alignment with the car and proper compression of the rubber seal.

If depth adjustments are needed, remember to first detach the gas struts, then loosen the hinges from the top supports (the M4 bolts).

Apply pressure to each hinge from outside of the door, where the hinge meets the door until you observe the rubber compressing onto the frame.

Re-tighten the bolts after making the necessary adjustments.

**If additional help is required, please feel free to give us a call on +613 8592 1926 between the hours of 10am and 4pm AEST – Monday to Friday.**

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