

Lotus Elise S2 (Toyota engine), Exige S2 & Vauxhall VX220 (E022, E030 & O066) Fitting Instructions

Unwrap the roll cage and unpack the individual fitting kits. At this point it is recommended that all the main components are checked against the assembly drawing provided on page 6 of these instructions. Should any parts or fixings be missing at this stage, or during installation, please contact your stockist.

Throughout the assembly a variety of different fasteners will be used; the torque setting for each different size is listed below:

M8 - 25Nm M10 - 45Nm M12 - 70Nm M14 - 95Nm 7/16th - 55Nm

During the installation, it will be necessary to cut and drill the vehicle. It is important to primer and paint the exposed areas to prevent rust and corrosion.

During the installation, it will be beneficial and in some cases essential to have the following tools/consumables:

- A comprehensive socket set with star drives, hex heads and extension bars
- A comprehensive set of ring and open spanners
- A selection of screwdrivers and trim removal tools
- A drill with a variety of drill bit sizes, hole saws and a step drill
- An air saw or equivalent as well as an angle grinder
- Taps make to be a useful tool on tight fitting threads
- Masking tape, a tape measure, marking implements and scissors
- Sealant, copper grease, primer and paint to suit the vehicle
- Safety equipment- goggles, gloves, ear defenders and steel toe capped boots.
- All bolts should have a nyloc nut. If there is a captive nut, use lock tight or a spring washer.

Fitting Kit

Bag Number	Description	Quantity
RBE022 5SXS-FK	Rear Fitting Kit	1
RBE022 3SSS/SXS-FK	Front Fitting Kit	1

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Important Note

To install this roll cage, it is necessary to modify various parts of the composite components including changing the rear window for a Lexan version (excluding E030) if the user does not feel confident in trimming the original window. This is not supplied but 3-5mm Lexan is recommended. User discretion will be required regarding removal of various trim components.

Section 1 – Stripping the Vehicle

1.1 Remove the following:

- a) Fuel filler plate (seen removed in Figure 2) and rear clam.
- b) Rear window (excluding E030).
- c) Rear hoop fibreglass trim (Figure 1).
- d) Interior trim panel covering existing roll bar.
- e) Front seats, seat belts and pillar trim to enable rear cage removal.
- f) Trim and parts surrounding rear backstay mounting position.

1.2 Cut rear hoop fibreglass trim (Figure 1) as shown in red. Pull back the rubber door seal and cut the fibreglass panel (Figure 2).



Figure 1. Rear hoop fibreglass trim



Figure 2. Door fibreglass trim

- 1.3 Remove bolts securing door striker pin. There are a multitude of washers used on this part - take care not to drop any parts when removing the striker pin.**
- 1.4 Remove existing roll bar:**
 - a) Unbolt and remove backstays.
 - b) Remove bolts from hoop and cut bonding agent to separate bulkhead from hoop.
 - c) Remove 'B' hoop and clean up old sealant.

- 1.5 Clean/remove any seam sealer inside shell that remains around the B hoop position.

Section 2 – Cage Installation

- 2.1 Trim bulkhead panel as shown in Figure 4 to allow rear cage to drop into place.



Figure 3. Original bulkhead cutout



Figure 4. Trimmed bulkhead panel

- 2.2 Trim outer skin (Figure 6) and separate bulkhead panel from outer skin (Figure 7) to allow more clearance for cage install.



Figure 5. Untrimmed outerskin



Figure 6. Trimmed outerskin



Figure 7. Outer skin separated from bulkhead panel

- 2.3 Trim the front sill fibreglass trim as shown in Figure 8. Place sill plates in approximate position but do not mark or drill.



Figure 8. Trimmed sill trim with holes drilled

- 2.4 With an assistant, place the rear cage inside the car so that it sits inside the vehicle on its four feet. At this time, check the fit of the Lexan rear window, and fettle as necessary to give the backstays clearance (excluding E030). Do not glue in place at this stage.
- 2.5 If a front cage is to be fitted, this must be done before proceeding further. Run an M10 tap through the lap joint to ensure threads are clear, before lubricating with copper grease. Assemble the front cage to the main hoop, **fully tightening** the lap joint to 45Nm. The rear

cage may need tilting slightly to allow this. Due to production tolerances on body shells, it is essential to ensure that the rear cage is correctly positioned.

- 2.6 Bolt rear cage loosely in position using original hoop bolt holes and position front sill plates as required. Secure sill plate to front leg foot plate with the outside two holes. Mark hole positions (circled in red in Figure 8). These holes have weld nuts on the underside of the plate that must sit flush into the sill before the remaining holes can be marked.
- 2.7 Remove cage and drill marked holes using a 20mm+ hole saw (Figure 8) to allow the weld nuts to sit into the sill. Reinstall cage with sill plate, ensuring plate is sitting flush. Mark remaining holes (circled in blue in Figure 8) before again removing cage and drilling.
- 2.8 Bolt sill plate into position using the spacer plates supplied and fully fasten all reinforcing plates to the vehicle. Any cleaning up and painting can now be done.
- 2.9 Loosely assemble the cage in the car, **fully tightening** the lap joint to 45Nm before proceeding to secure the foot plates. Do not overtighten.
- 2.10 Replace all components previously removed and modify any trim as required. Reseal fibreglass sections using Sikaflex glue or similar.

Section 3 – Roll Cage Maintenance

The roll cage should be kept clean and the fasteners checked regularly - if this is not carried out then you may find it difficult to remove the roll cage from the vehicle if required at some point. The roll cage should also be inspected for damage if in regular use.

Industrial coatings are no different to the paint on your car – they need cleaning and maintaining. Accumulated dirt may affect the design life of the system, and any mechanical damage almost certainly will. Therefore, regular inspections should take place and minor damage must be touched up. The roll cage is powder coated with zinc primer followed by a topcoat so does provide a hardwearing surface. Should you damage the surface and expose bare metal this needs to be repaired to prevent rust spreading under the powder coat.

Damaged areas must be clean and free of grease or rust. Dry sand the area with 600-grade paper until the metal is exposed. The area must be completely free of dust and cleaned with a non-aggressive solvent before proceeding. Spray zinc based primer onto the area and allow it to dry fully. An acrylic or polyurethane topcoat of matching colour (RAL9005 Black Satin) should then be applied and allowed to dry.

Section 4 – Assembly Drawing

