

Roll Cage / Roll Over Protection System (ROPS) - General Fitting Guidelines

Please read these instructions, along with the specific instructions for your product, before you begin the installation. Should you have any queries, please don't hesitate to get in touch.

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. Should any parts or fixings be missing at this stage, or during installation, please contact your stockist.

Throughout the assembly you shall use a variety of different fasteners, for which we have provided a chart of torque values specific to our products, please ensure you reference the chart carefully to ensure that the correct value is used for the fastener and location you are working on:

Type	Mild Steel - Zinc Passivate				Stainless Steel				Joint Specific	
	Hex Head		Button Head	Cap Head	Hex Head	Cap Head	Button Head	Countersunk	*SB	*LJ
Grade	8.8	10.9	8.8	8.8	A2/A4				8.8	8.8
M6	8							8		
M8	20				20	20	20	20		
M10	40	55	25	40	25	25	25		30	
M12	70									
M14				95						
7/16th	55			55						

***SB Saddle Bracket (see specific instructions below)**

***LJ Lap Joint (see specific instructions below)**

There are several points worth noting before you proceed with the installation:

-It may be necessary to cut and drill the vehicle during the installation. It is important to prime and paint the exposed areas to prevent rust and corrosion.

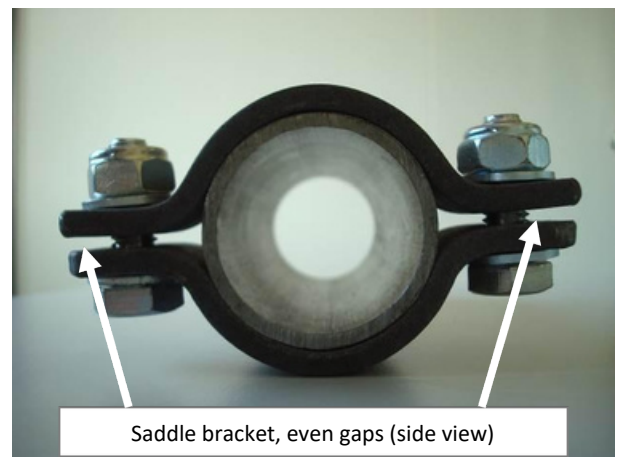
-If using a plain nut or if threading a bolt into a captive nut plate there should be a flat washer as well as a spring washer.

- When using a nyloc nut, at least 2 full threads should be protruding out the other side of the nyloc. Nylocs are single use, do not be tempted to remove and reuse elsewhere.
- Washers have a “sharp” side and a “smooth” side due to the way they are manufactured. The “sharp” side must always face outwards to prevent damage to powder coated surfaces.
- If a bolt is not going into a captive thread correctly, stop and consider running a tapered tap through the thread to clear any debris.
- During the installation, you will find it beneficial and, in some cases, essential to have the following tools/consumables:
 - A comprehensive socket set with star drives, allen heads, 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
 - A welder and plasma cutter with a fire blanket/cardboard to protect the vehicle
 - 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.

Specific Joint Instructions

Saddle Bracket

If the roll cage has saddle brackets, when tightening the saddle bracket joints, it is critical that each side of the saddle bracket is tightened equally to ensure that the gaps on each side are kept even. When fully tightened, the tabs should not be in contact with each other (see picture below).



**Under no circumstances should air powered or electric powered nut guns be used.
Use only hand tools to torque the bolts up to 30Nm**

Lap Joint

Both parts must be fully aligned before bolted (as per photos below). To bolt together, insert and start/tighten both bolts part of the way in to their threads. Start all of the lap joints (there will be 4, 6 or more, depending on the cage) by inserting all the bolts and starting/tightening loosely before any joints are tightened fully. Copper grease can be applied to the shoulder (not thread) to aid installation. Thread lock should be applied to threads.

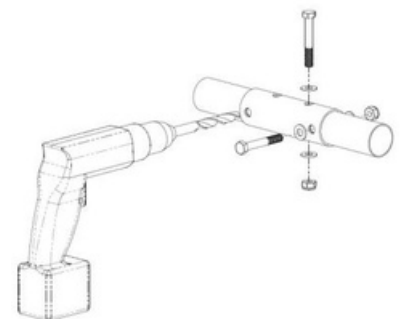
WARNING: The threads are fragile - carefully align both halves of the lap joint before carefully inserting the bolts. Please don't use a pry bar to align the joints - it will damage the threads and the whole section of cage may need to be replaced.



**Under no circumstances should air powered or electric powered nut guns be used.
Use only hand tools to torque the bolts up to 30Nm**

Slipper Tube

These will be found loose in your fitting kit, already cross-drilled. When the cage is being fitted in the vehicle, the slipper tubes should be slid into position ensuring that they are equally spaced between the 2 tubes they are joining. They should only be drilled once all other brackets have been tightened up fully. The orientation of the slipper tube should be consistent side to side and sensitive to where the joint is within the cage, ensuring that access is possible to tighten fully.



**Under no circumstances should air powered or electric powered nut guns be used.
Use only hand tools to torque the bolts up to 40Nm**

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.