

Toyota Supra A90 Front Steering Rack Conversion Kit To BMW E90 Steering Rack

This manual describes the modification process of the Toyota A90/BMW G29 aluminium front subframe to allow the use of the BMW E90 hydraulic or electric steering rack. We recommend reading this manual all the way through before making any modifications.

With this modification the new steering rack will be fitted in place of the OEM electric steering rack.

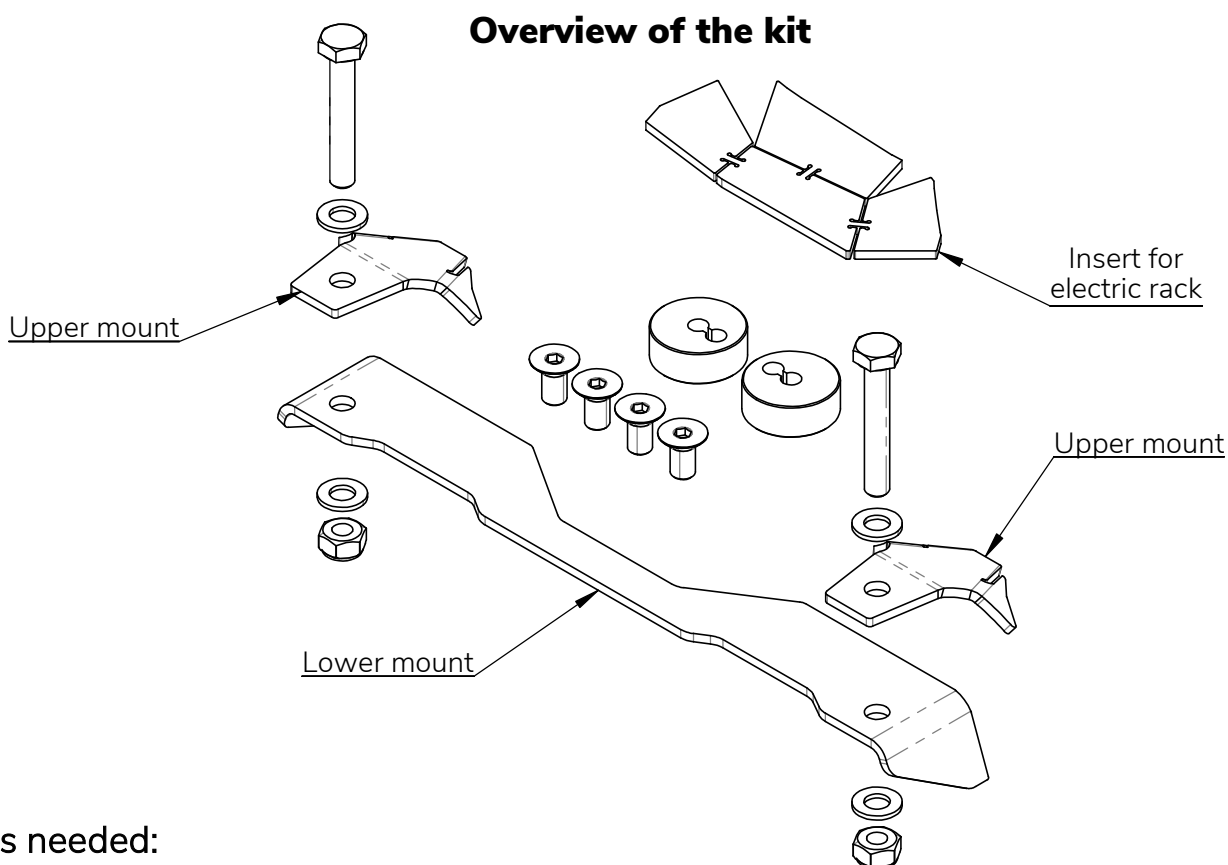
Given setup is meant to be used with **Toyota Supra A90 Front Drift Angle Lock Kit**.

Stock engine mounts could need modification or replacement to suit this kit.

Modifications are different for steering racks. **LHD Hydraulic** rack requires an extra modification to the subframe, which is described on [page 3](#). **LHD/RHD Electric** rack requires a portion of the subframe to be cut out and replaced with an insert that is supplied with the kit. Pictures used in this manual are for illustrative purposes.

Components needed:

Steering Rack: BMW E90 **Hydraulic** or **Electric** Steering Rack (Active Steering rack can **not** be used)



Tools needed:

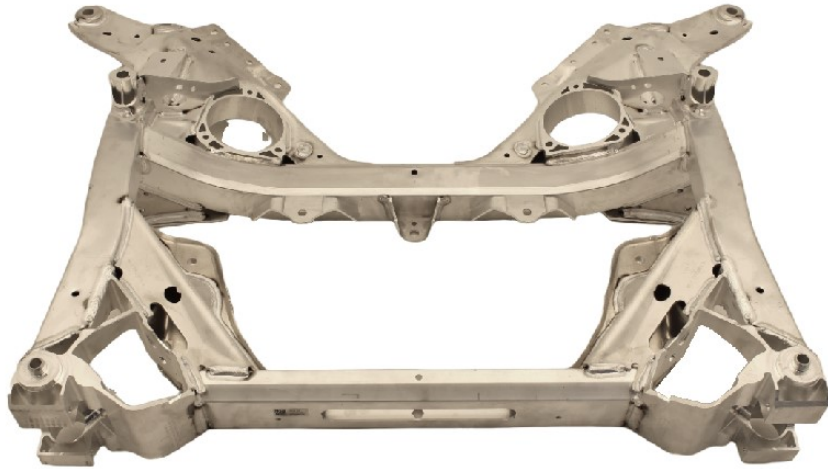
Make sure that You have all the required tools on hand. You will need:

- Safety equipment (welding mask, goggles, gloves)
- Fine tip permanent marker, measuring tape, scissors
- Wrenches
- Angle grinder with cutting and sanding discs
- Welding equipment for welding aluminium

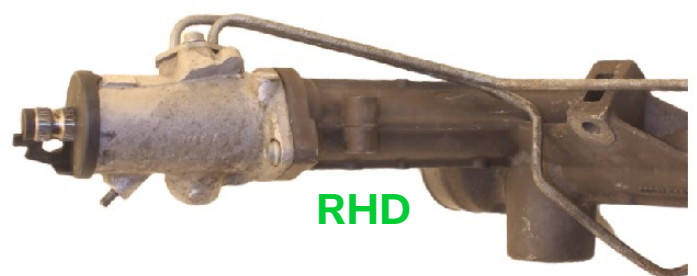
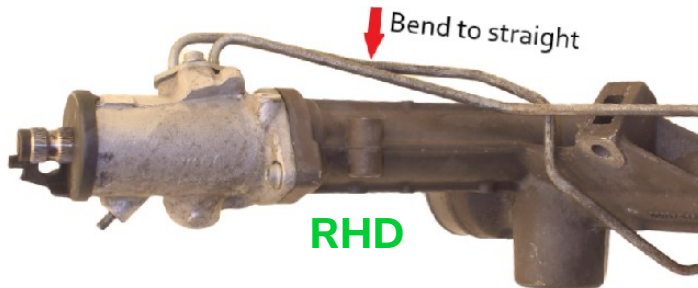


If you still have some trouble installing the kit, contact us at
sales@wisefab.com, or call us **+372 5562 5669**

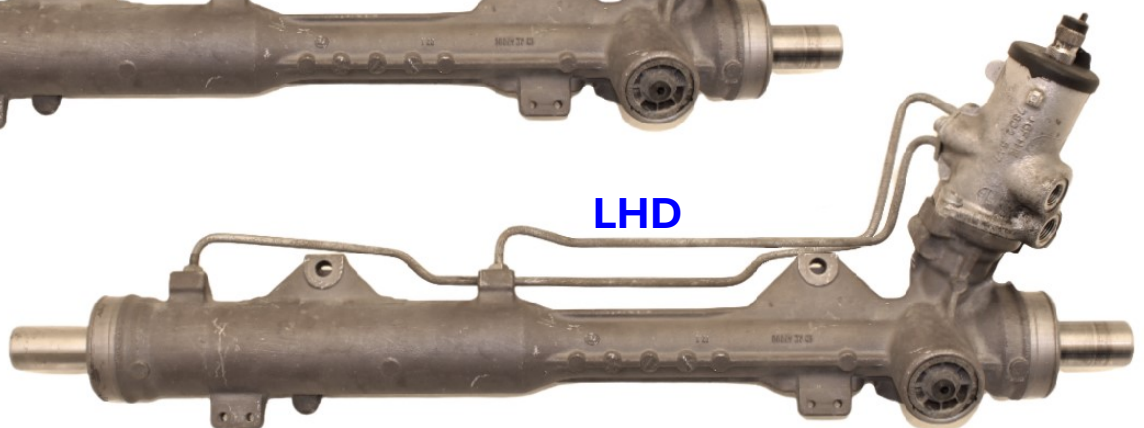
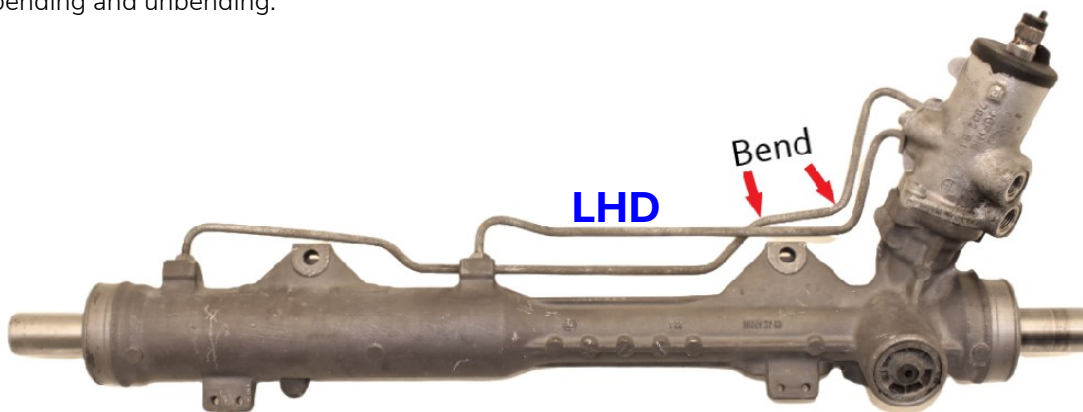
1. Remove tie rods and rubber boots from the steering rack and clean the rack.
2. Clean the subframe from dirt/oil. This is vital to ensure a good quality weld and proper penetration.



3. Before installation, the E90 hydraulic steering rack lines need modification. On the **RHD** rack, the right-hand line needs to be bent to straight as shown in the pictures.



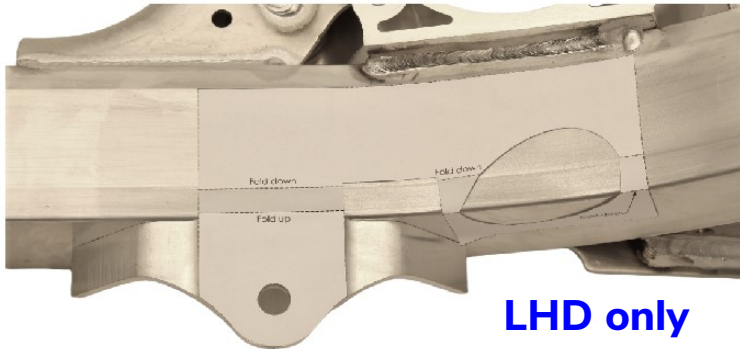
4. On the **LHD** rack, one line needs slightly re-routing as shown in the pictures. Make sure not to kink the line while bending and unbending.



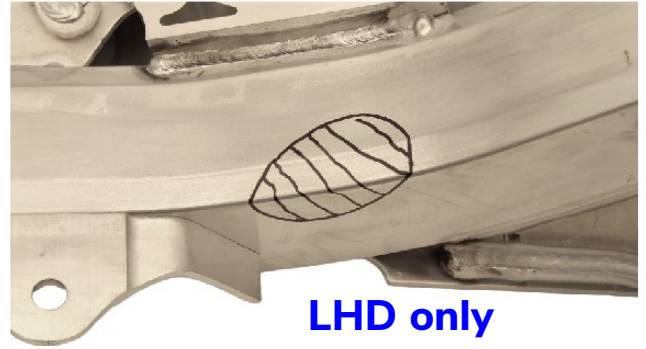
Note! To use LHD hydraulic or LHD/RHD electric rack, the subframe requires extra clearance. This is **not necessary on RHD** cars using hydraulic rack.

5. Print and cut out the paper template which is at the end of this guide. Dotted line on template is for positioning, bold solid line is for marking the cutting line. In case you printed out the manual yourself, then there is a scale check line 127mm or 5" long. If the template is not in scale, then check your printer settings and reprint it until actual measurement is 127 mm. Double-sided tape or masking tape is useful for placement.

6. Place the template on the subframe as seen in the picture and mark the cutting line. Modifications for LHD Hydraulic rack pictured here. For electric rack, the template is slightly different but modifications are the same.



LHD only

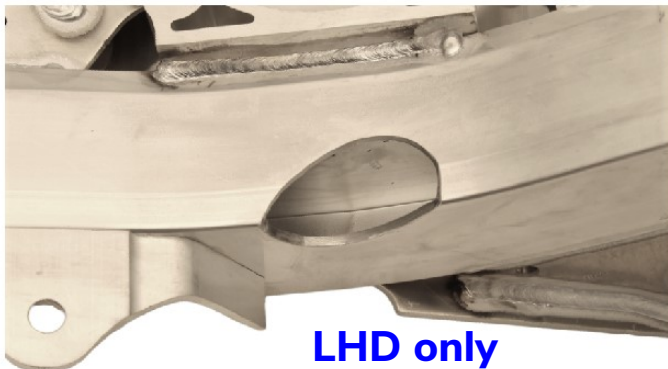


LHD only

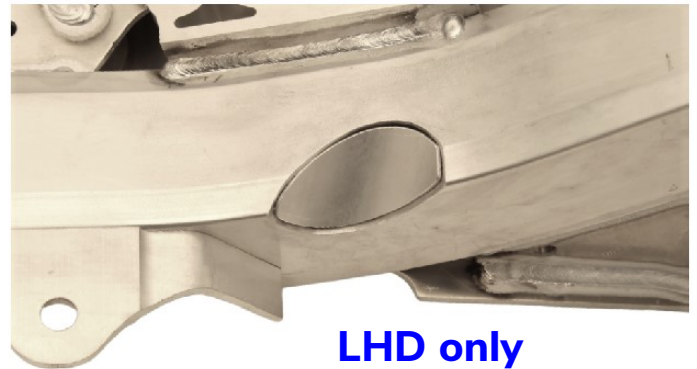
7. Cut off the marked section. The area could also be carefully hammered in.

If you wish to close the cutout, a piece of 2.5"/63mm aluminium tube could be used.

When using electric rack, fill the cutout with the supplied 4mm aluminium insert. The insert needs to be bent depending on if LHD or RHD rack is used.



LHD only

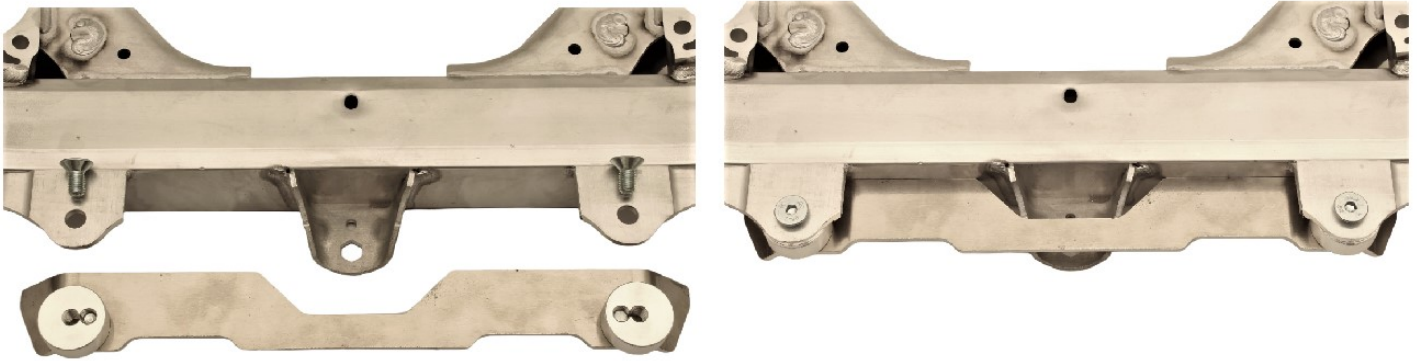


LHD only

8. Cut off the marked section from the original steering rack mounts as seen in the picture. Grind the surface flat. Also grind/sand clean any surfaces which are about to be welded.

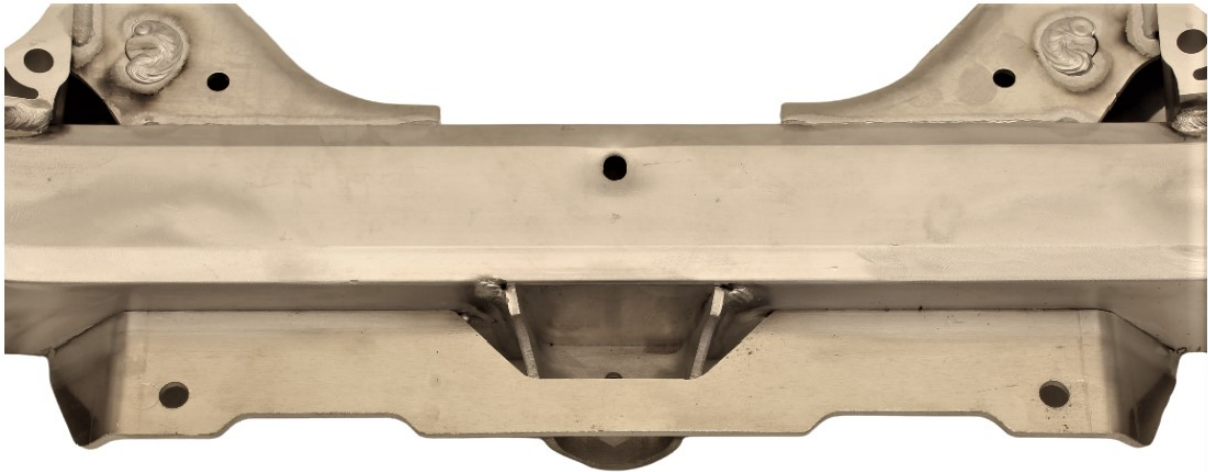


9. Place the supplied threaded bushings and new lower rack mount under the original rack mount as seen in the picture. Make sure the new mount sits snug against the subframe. Use the supplied M10 conical bolts to fix the parts in place. Do not overtighten the bolts!

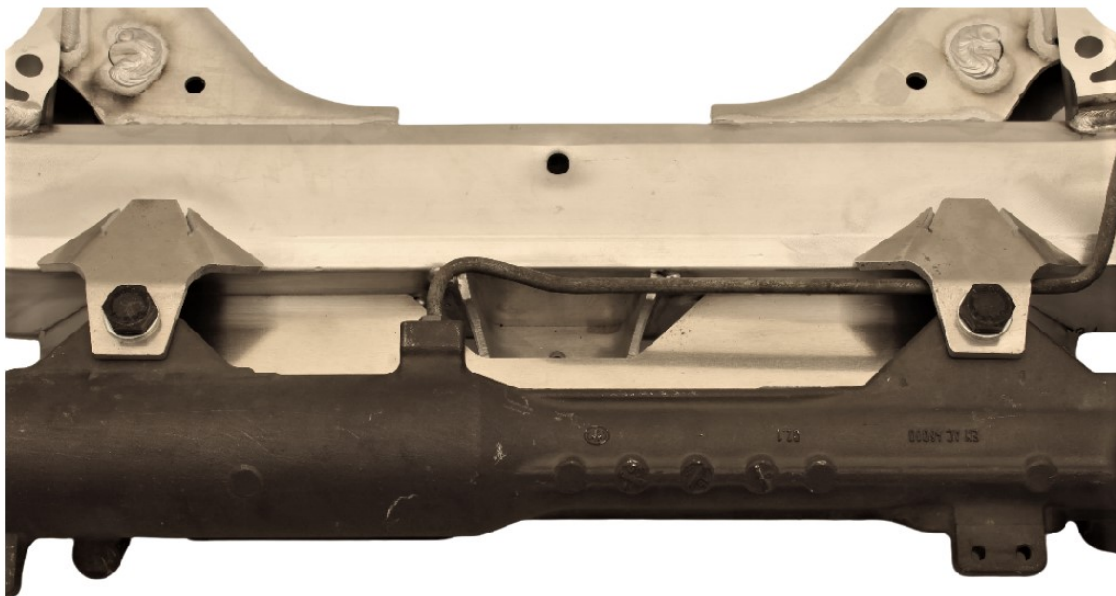


10. Weld the new mount to the subframe. Weld from the underside of the mount.

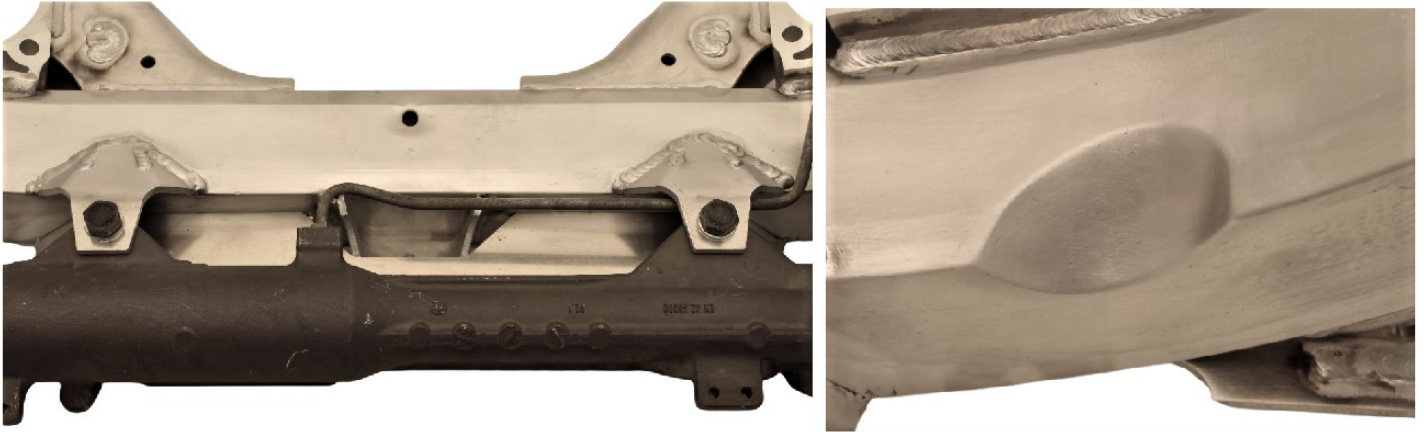
11. Take off the two bushings and cut off the original mounts. The center mount for the front axle support plate can be left intact if necessary.



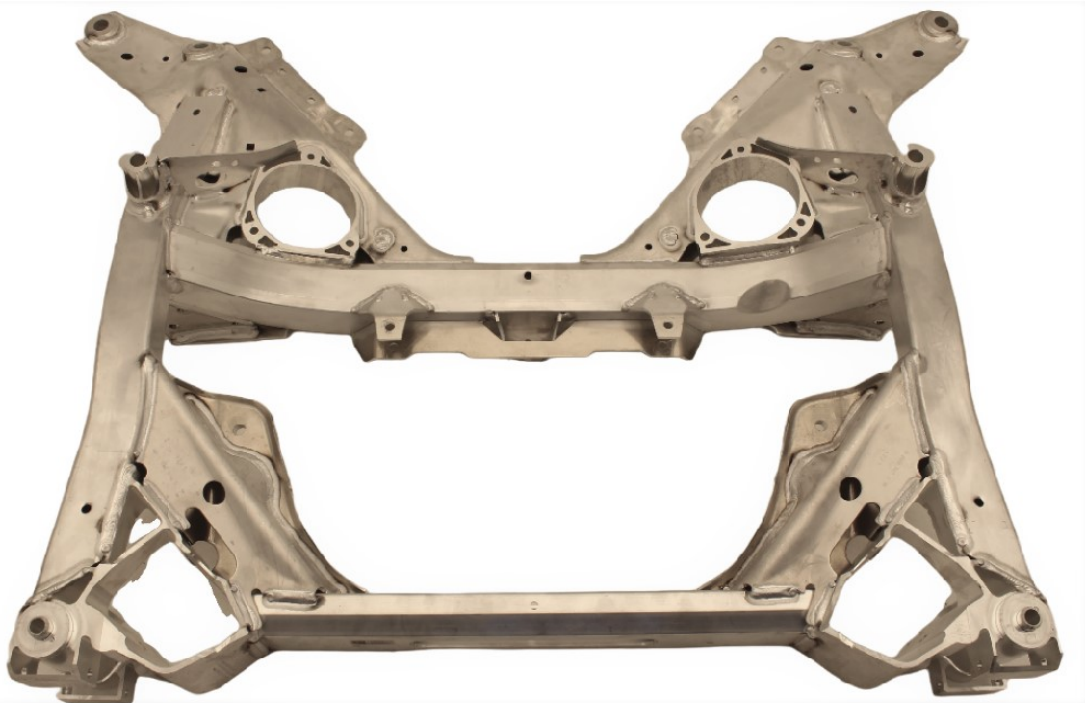
12. Use the E90 steering rack to locate the new upper rack mounts. Make sure the steering rack is level with the subframe. Tack weld the new mounts.



13. Fully weld the new mounts. DO NOT overheat the steering rack. Now also weld the cutout for LHD hydraulic rack clearance or the 4mm insert for electric rack clearance. Install rack and check clearance before final welding.

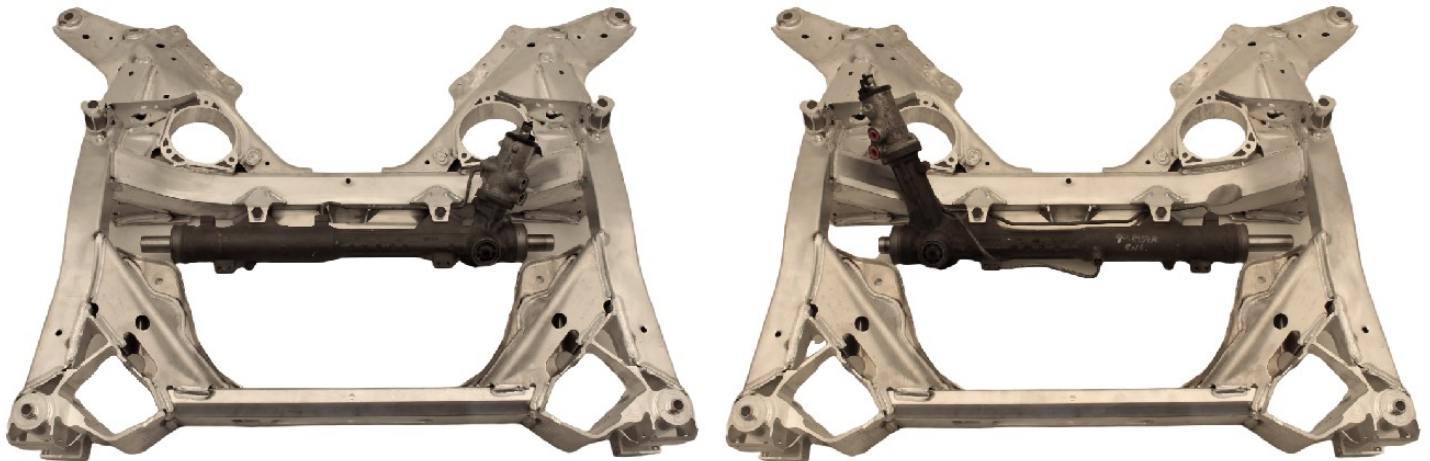


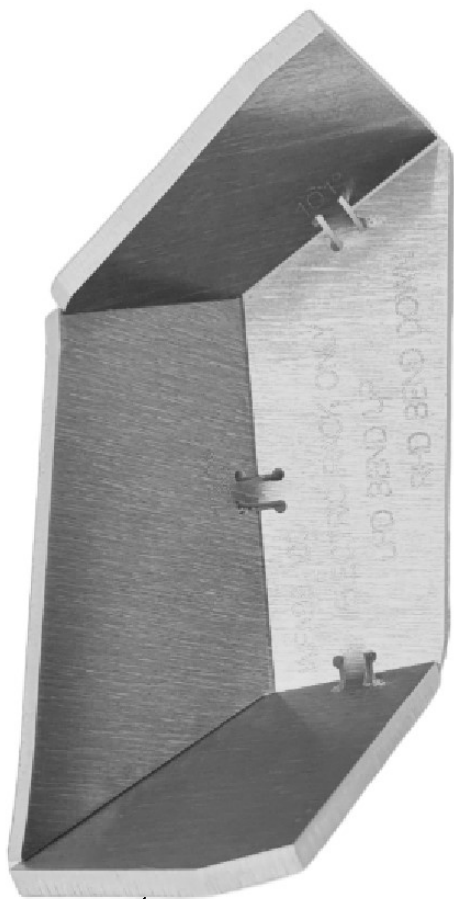
14. Overview of the modified subframe.



15. Subframe with LHD rack.

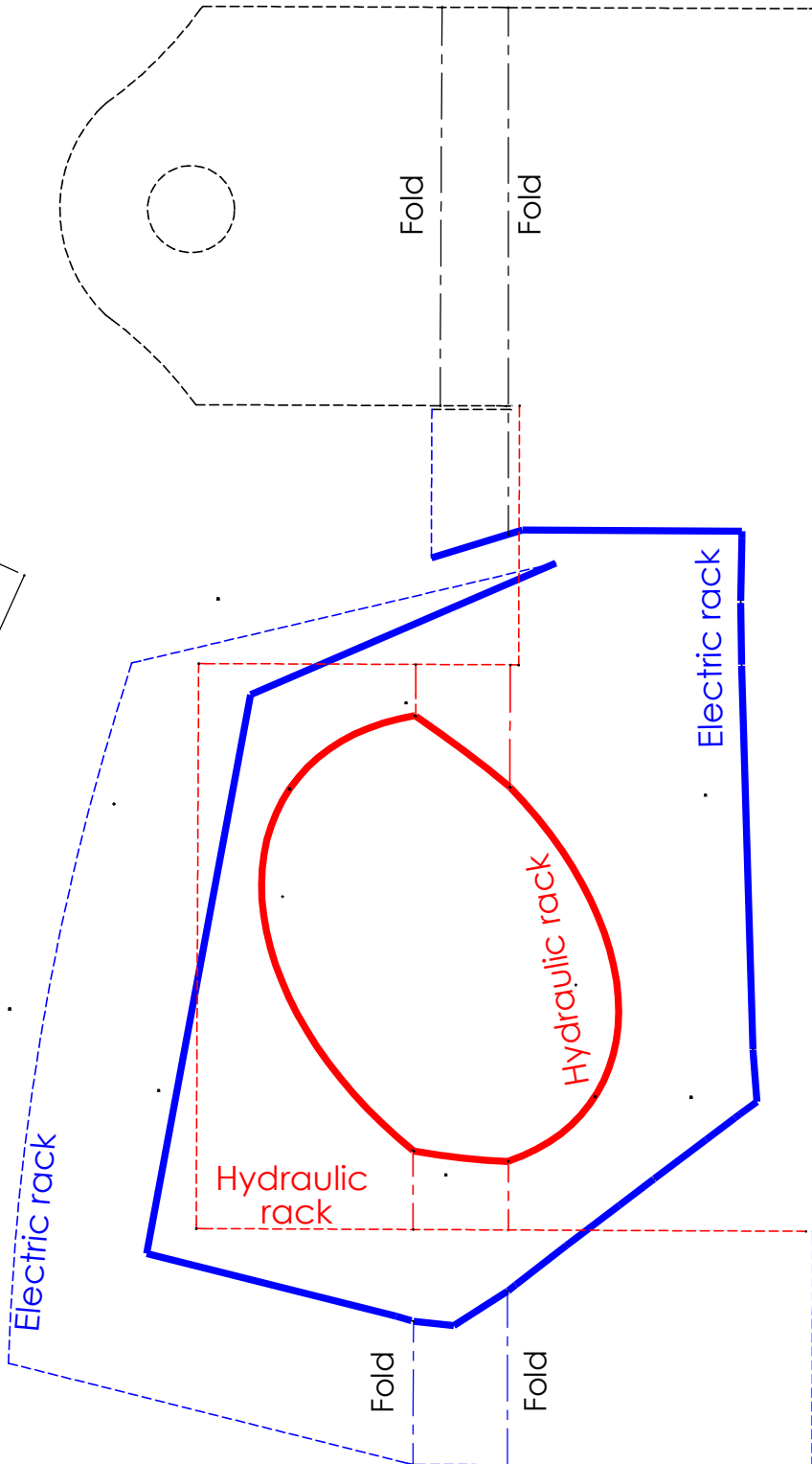
Subframe with RHD rack.





Insert for electric rack

127mm / 5"
Scale Check



General template and
cut line marked in black

Hydraulic rack template
and cut line marked in
red

Electric rack template
and cut line marked in
blue