

BMW F80/F87 Front Steering Rack Conversion Kit To BMW E90 Hydraulic Steering Rack

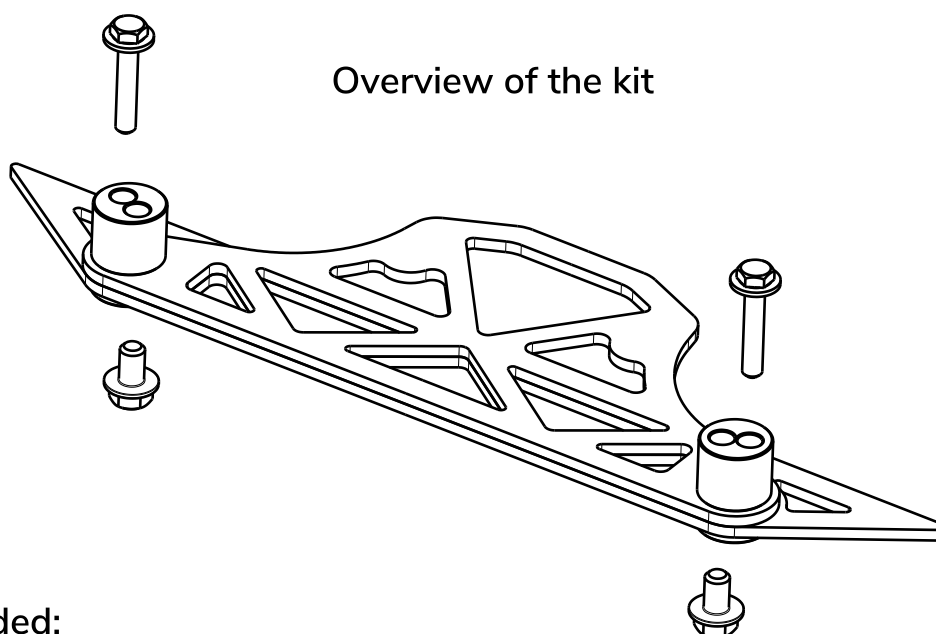
This manual describes the process of modifying the BMW F80/F80 front aluminium subframe to allow the use of the BMW E90 LHD or RHD hydraulic steering rack. With this modification new steering rack will be fitted in place of the OEM electric steering rack. This setup is meant be used with WISEFAB F22/F30 Front kit.

Stock engine mounts can be used with modified subframe.

All actions described below are for the right-hand drive steering rack but all the modification are exactly the same with the LHD steering rack. Pictures used in this manual are for illustrative purposes and parts may not be exactly like showed.

Components needed:

Steering rack: BMW E90 Hydraulic Steering Rack LHD or RHD (Active steering and Electric power steering rack can not be used or may need more modification then there are in this manual)



Tools needed:

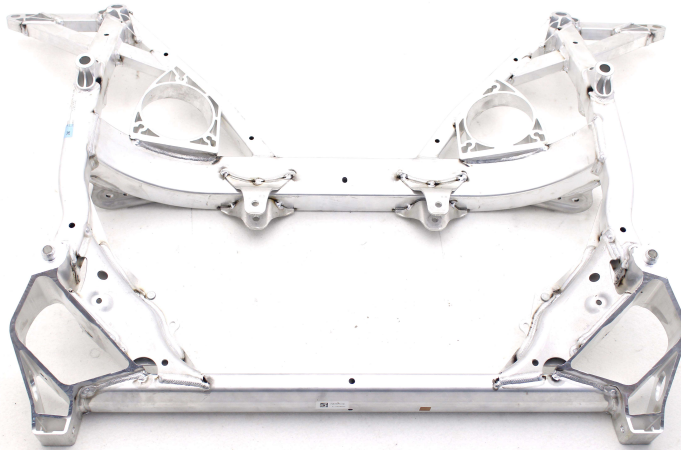
Make sure that You have the all required tools on hand. You will need:

- Safety equipment (welding mask, goggles, gloves)
- Marker, measuring tape, scissors
- Wrenches
- Angle grinder with cutting and sanding discs
- Welding equipment

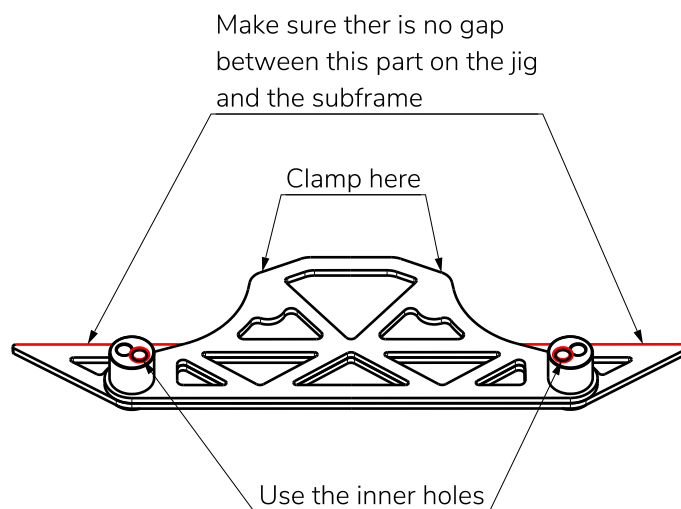


If you still have some trouble installing the kit, contact us at
sales@wisefab.com, or call us **+372 5562 5669**

1. Remove the tie rods and rubber boots from the steering rack and clean it.
2. Print and cut the paper templates out. Dotted line on template is for positioning, bold solid line is for marking the cutting line. In a case you printed out the manual yourself, then there is scale check line 127mm or 5" long. If actual measurement is not that, then check your printing settings and reprint it until actual measurement is 127mm.
3. Clean the subframe from dirt/oil.



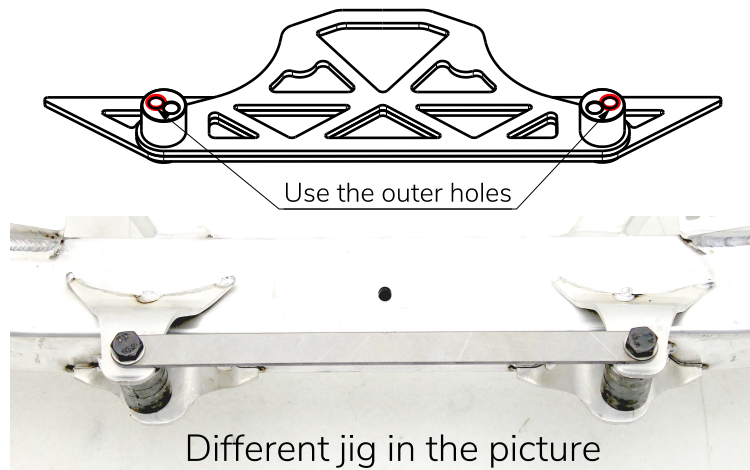
4. Install the jig to the subframe. Use the OEM steering rack bolts and nuts to fix it in place. Make sure the jig fits snug against the subframe and there is no gap between them. There is thread inside the jig. First tighten the bolts that goes in from the top and then the nut. Clamp the jig to the subframe with two clamps. Places are marked on the jig.



5. Take of the OEM steering rack bolts and use the supplied shorter bolt to fix the steering rack lower fixing to the jig. Upper fixing should now be detached from the jig. Cut off the upper steering rack fixings. Keep the jig on the subframe at all times. Picture is for reference only and the jig is removed there. Grind everything flat with the subframe surface.



6. Use the supplied longer bolts to fix the upper steering rack fixings that were cut off to the jig. Use the outer holes for that.



7. Tack weld the upper steering rack fixings in place.



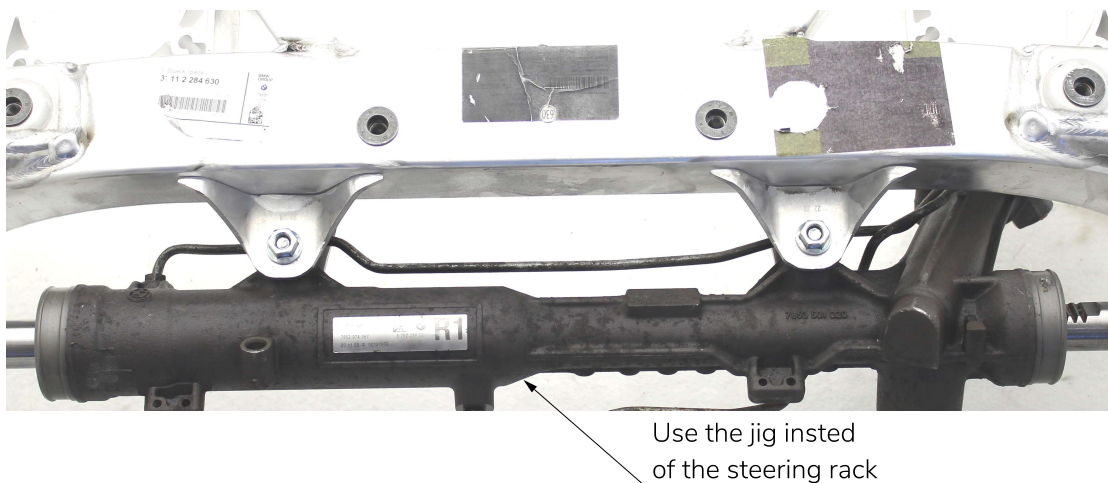
8. Remove the lower steering rack fixing bolts so that they are detached from the jig. Jig must stay fixed to the subframe. Do not remove the jig. Cut off the lower steering rack fixings. Make sure that the cut is made as close to the subframe as possible. Grind flat with the subframe surface.



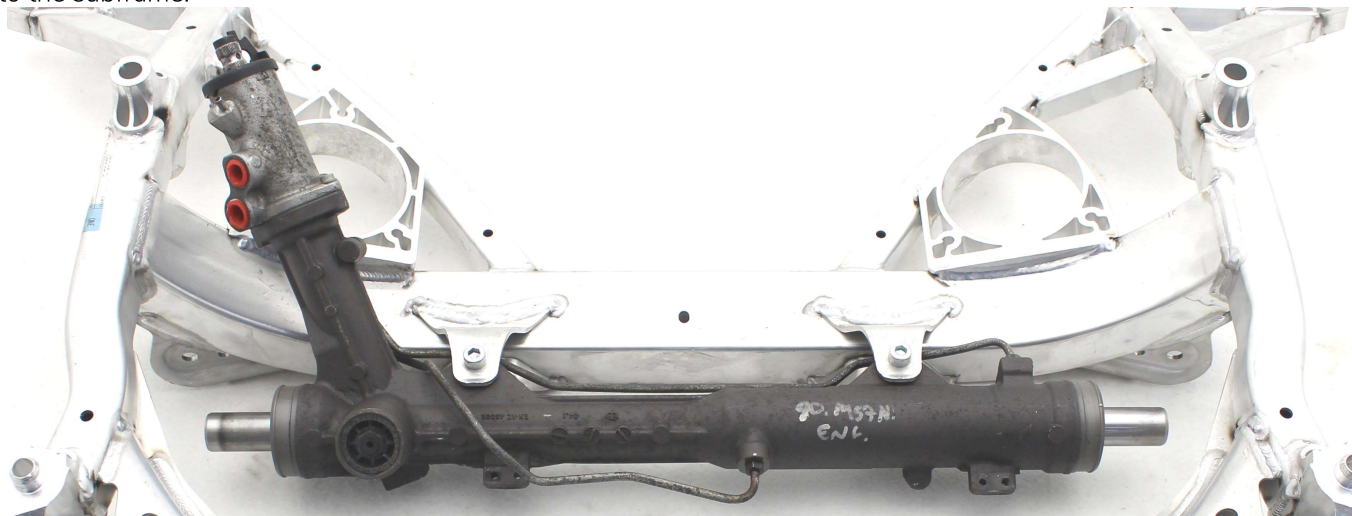
9. Cut off approximately 4 mm from the edge of the cut off fixings. 4 mm is measured from the subframe surface and does not account how far from the subframe surface it was cut off. If possible leave a small tab uncut that was against the subframe (showed in the picture) and measure from there. Best is to cut away in small amounts and test fit it to the jig. There should be a gap less than 1 mm between the fixing and the subframe. If there is no gap grind off a little more. If the gap is bigger then that the fixing might distort while welding and the steering rack will be out of position.



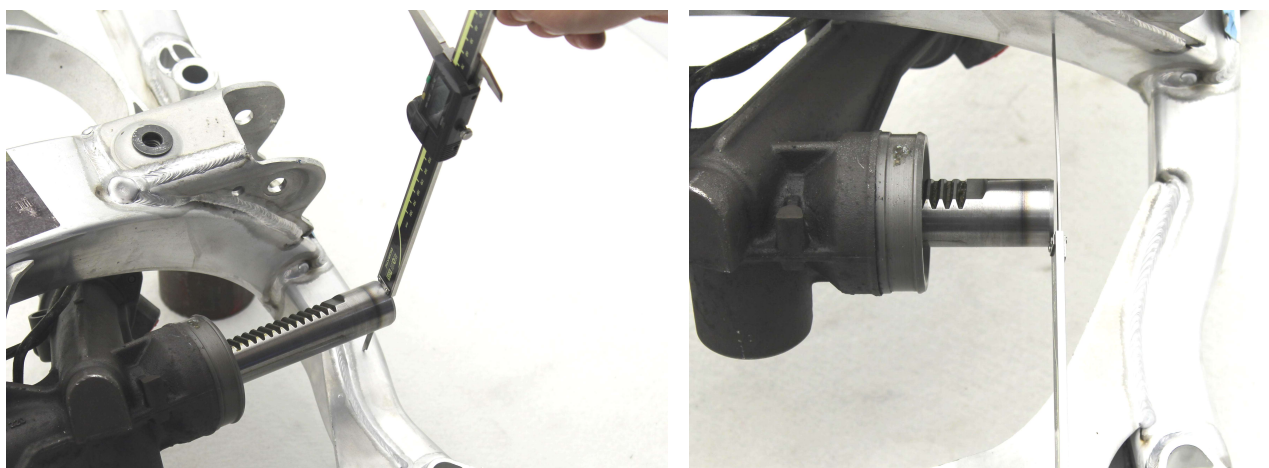
10. Install the steering rack lower mounts to the jig. Use the outer holes. Tack weld in place.



11. Weld the fixings to the subframe with the jig still attached. After welding remove the jig and install the steering rack to the subframe.



12. Measure from the steering rack shaft to the subframe to make sure it is square.



Subframe lower control arm front mount modification

To fit the Wisefab front lower control arm to the subframe a small piece of the front mount has to be grinded off.

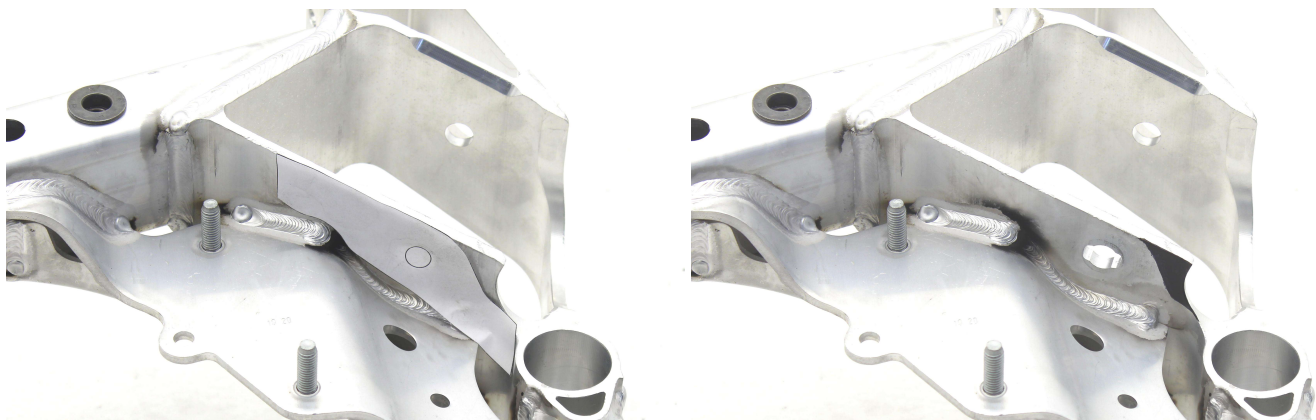


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USE ONLY**

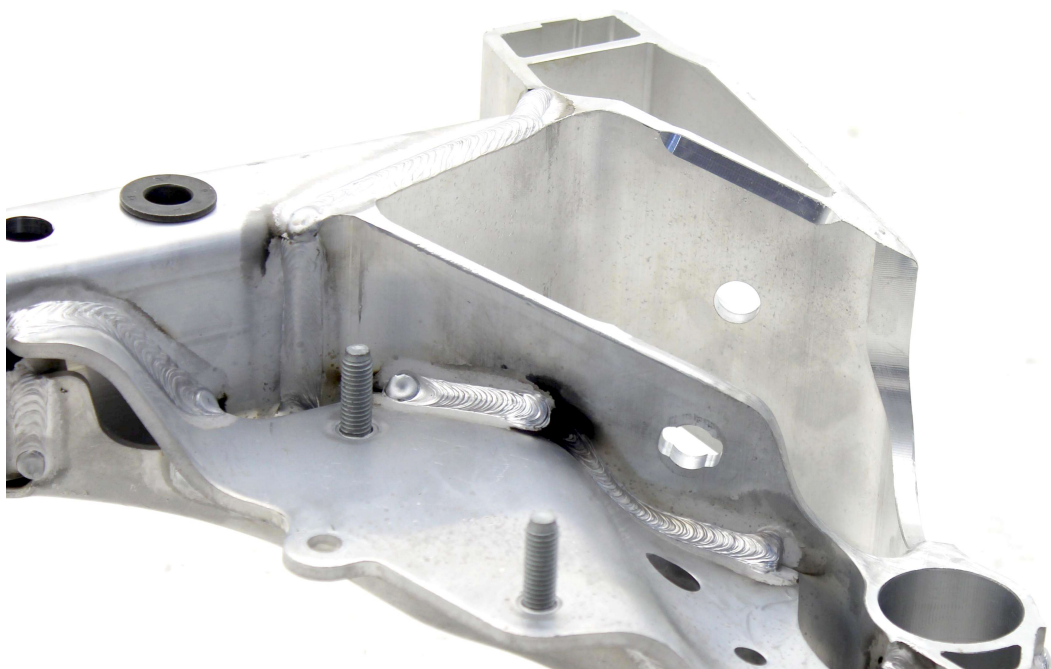


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1. Mark the part of the subframe that has to be grinded off with template.



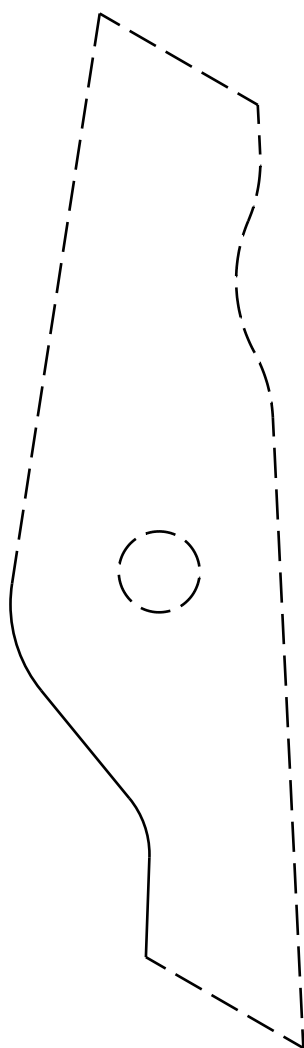
2. Grind the subframe from both sides



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1 27 mm