

BMW F22/F30 Front Steering Rack Conversion Kit To BMW E90 Hydraulic Steering Rack

This manual describes the process of modifying the BMW F22/F30 front steel 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 to be used with WISEFAB F22/F30 Front kit.

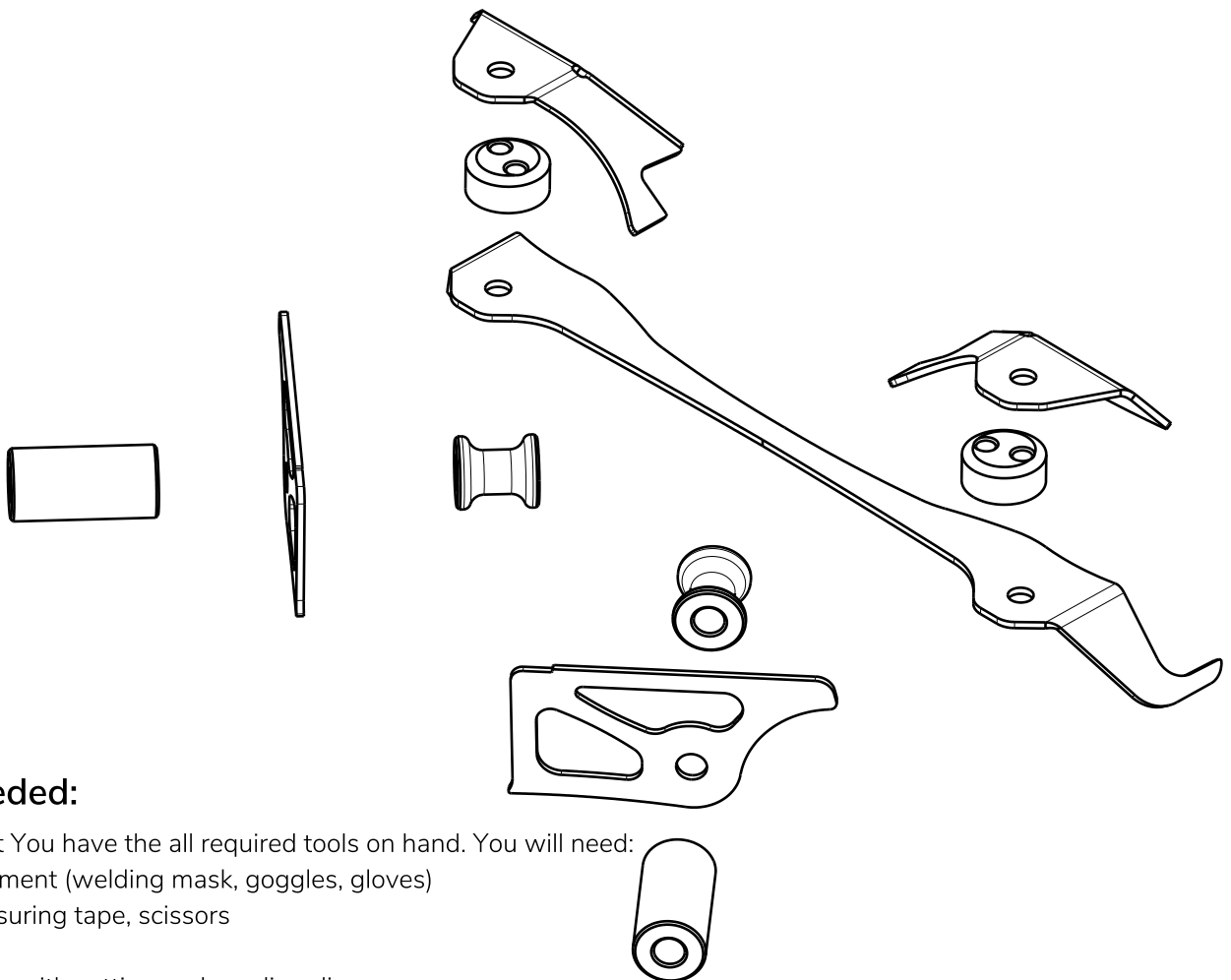
Stock engine mounts can be used with modified subframe.

All actions described below are for the right-hand drive steering rack but all the modifications are exactly the same with the LHD steering rack.

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 than there are in this manual)

Overview of the kit



Tools needed:

Make sure that you have all the 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

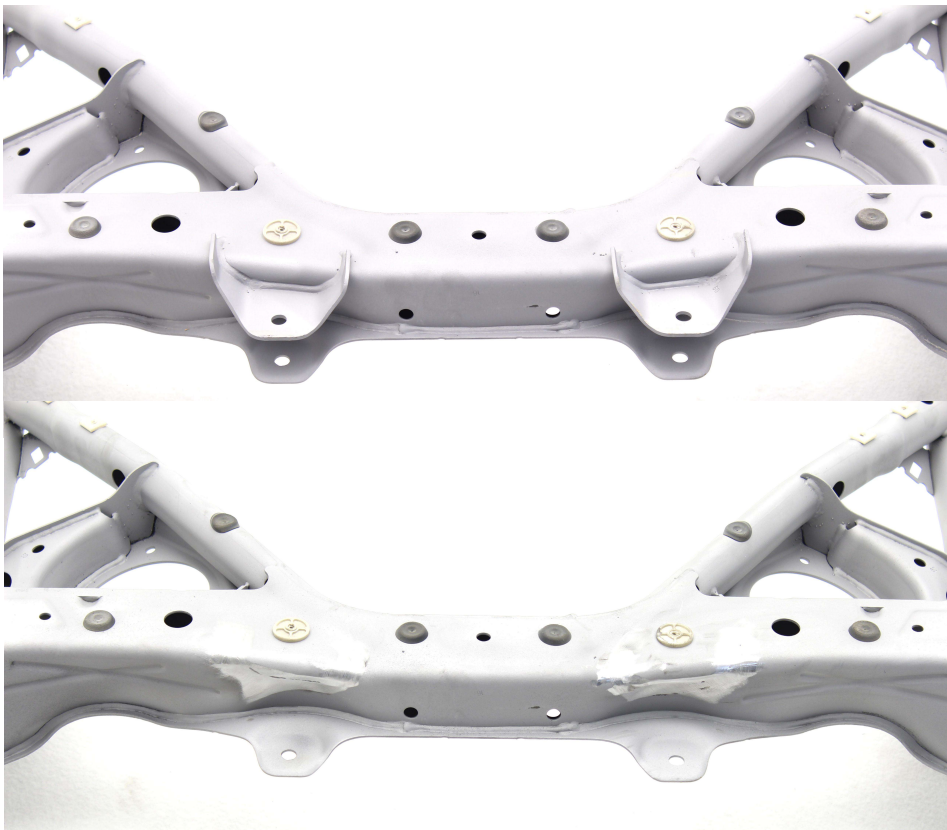


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1. Remove the tie rods and rubber boots from the steering rack and clean it.
2. Print and cut the paper templates out. Dotted line on template is for positioning, bold solid line is for marking the cutting line. In a case you printed out the manual 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. Sandblast the subframe if possible.



4. Cut away the lower OEM steering rack fixings and grind everything flat with the subframe surface.



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5. Bolt on the new lower steering rack mount with the supplied bushing. Use different holes in the bushing for the OEM and new mount. Make sure that the lower mount plate is fitted snug against the subframe. Tack weld in place.



6. Take off the two bushings

7. Mark the cut line for the upper OEM steering rack fixing with the template. Do this for both sides.



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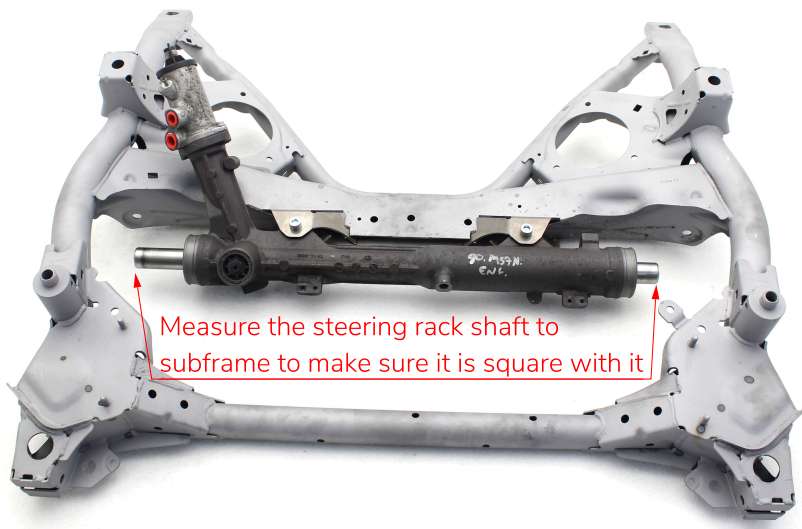


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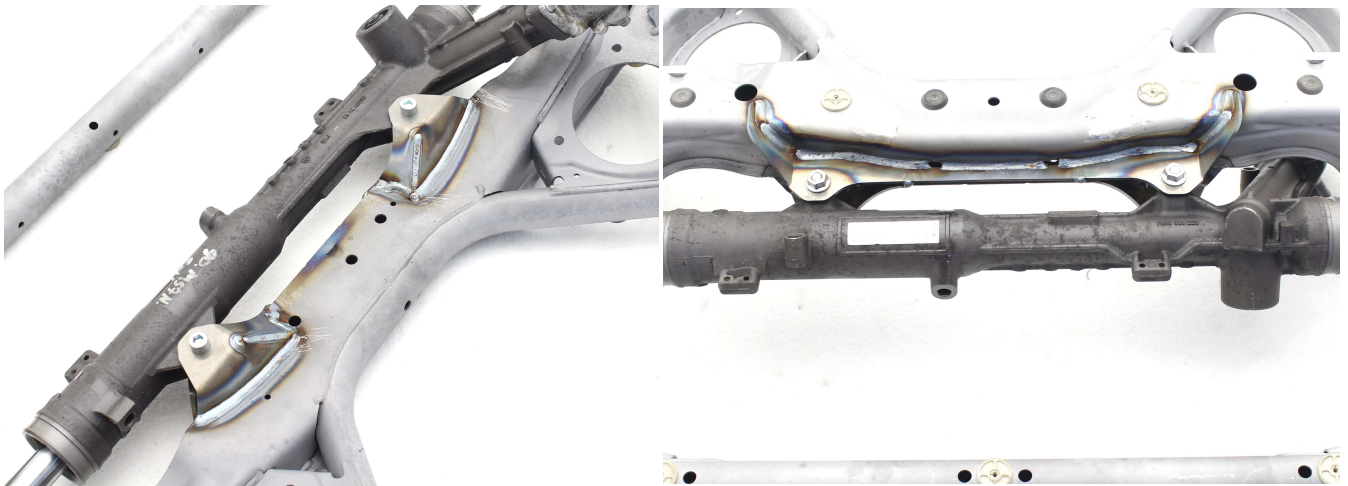
8. Cut away the upper OEM steering rack fixings.



9. Install the E90 steering rack with the new upper fixings to the subframe. Make sure that the subframe is square with the steering rack shaft. Then tack weld the fixings in place and measure again to make sure everything is still square.



10. Weld the both lower and upper mount.

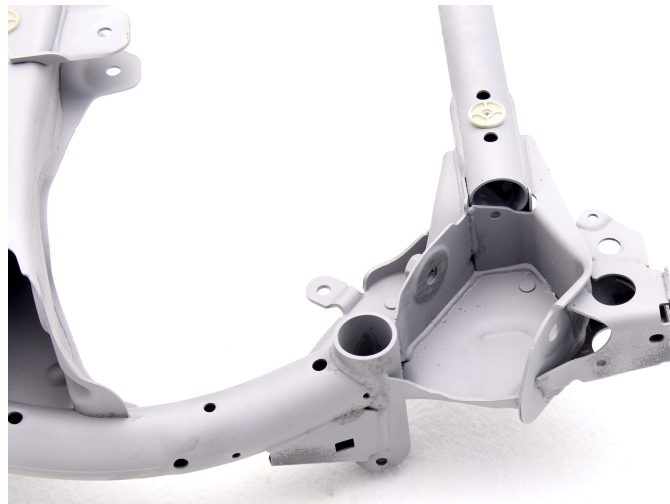


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11. Remove the steering rack

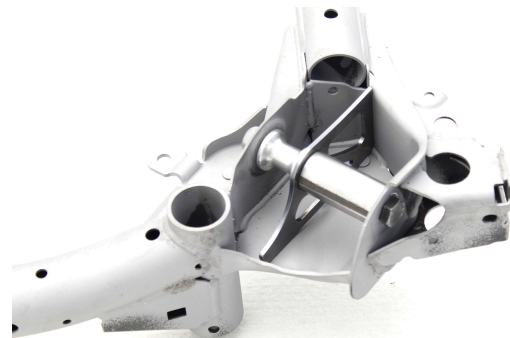
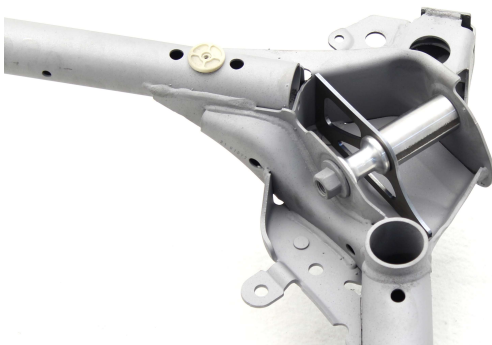


Subframe lower control arm front mount modification



The lower control arm front fixing point on the subframe has to be modified to fit Wisefab F22/F30 front kit. If it is not an option to weld the front subframe and OEM steering rack is used then this modification can be done without welding also, but we do not recommend it.

1. Install the plate and two bushings. Make sure that the plate is on the right side of the lower control arm fixing. If the modification is done without welding then just bolt it together replacing the long bushing with the lower control arm.

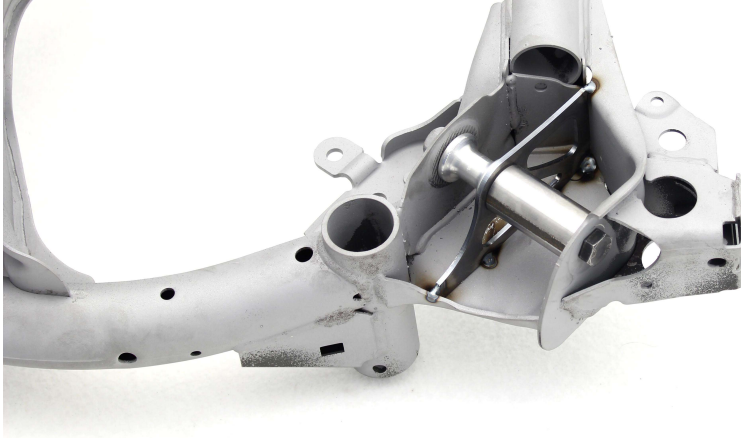


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2. Tack weld the plate to the subframe.



3. Weld the plate and then remove the bushings. Test fit by mounting the lower arm together with the shorter bushing to make sure everything fits.



If everything is fine then apply the appropriate coating (Black powder coating in the picture)



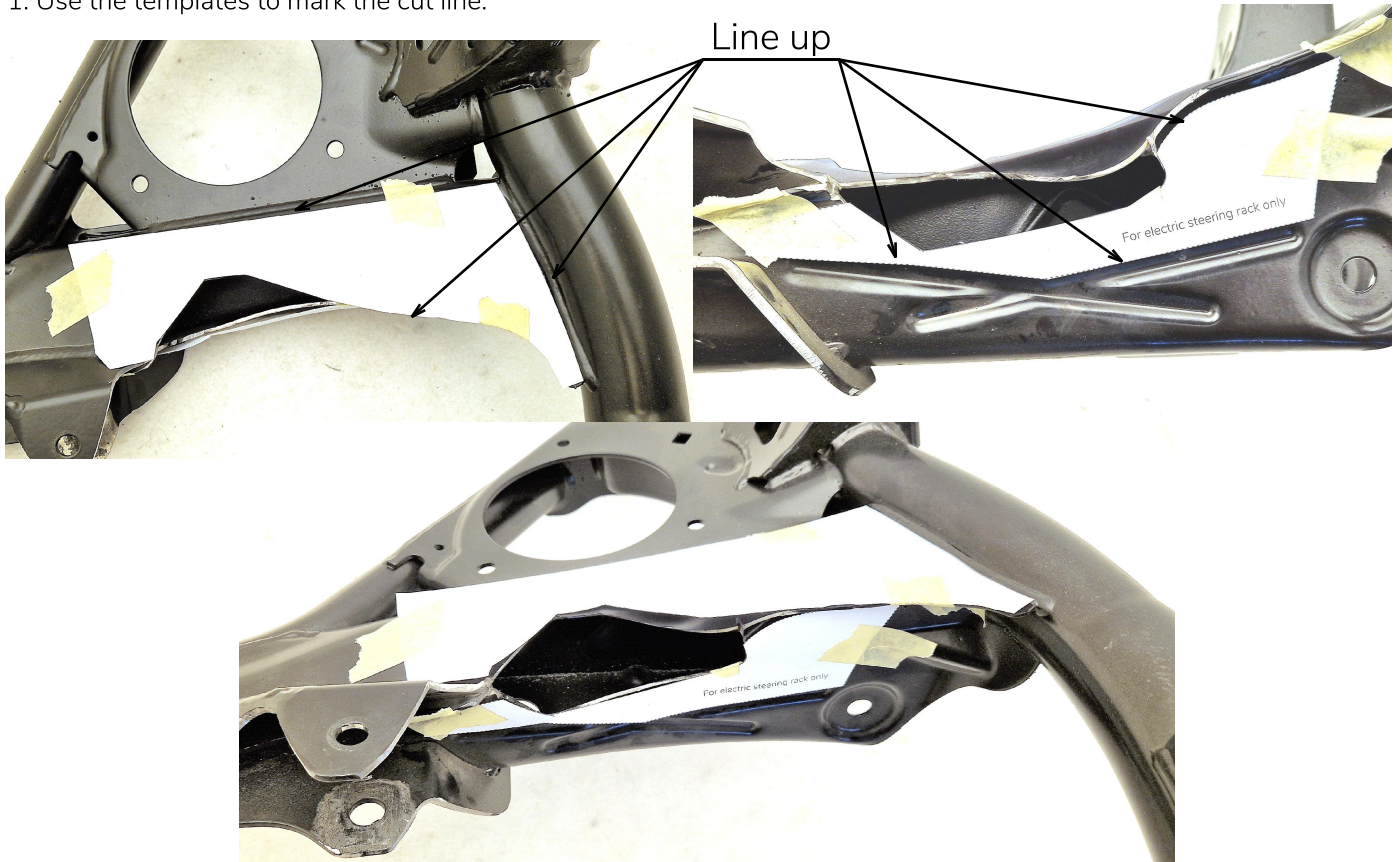
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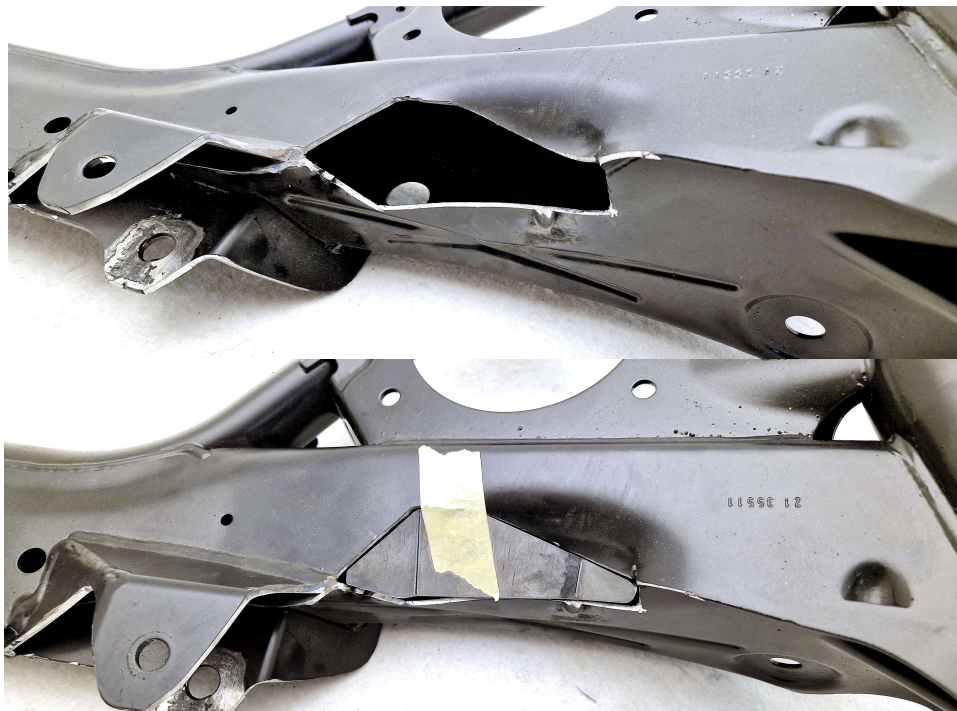
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For installing the BMW E90 Electric Steering rack an extra cut out is needed. Pictures are for LHD. For RHD cut out from the other side for steering rack clearance. Both sides are not needed.

1. Use the templates to mark the cut line.



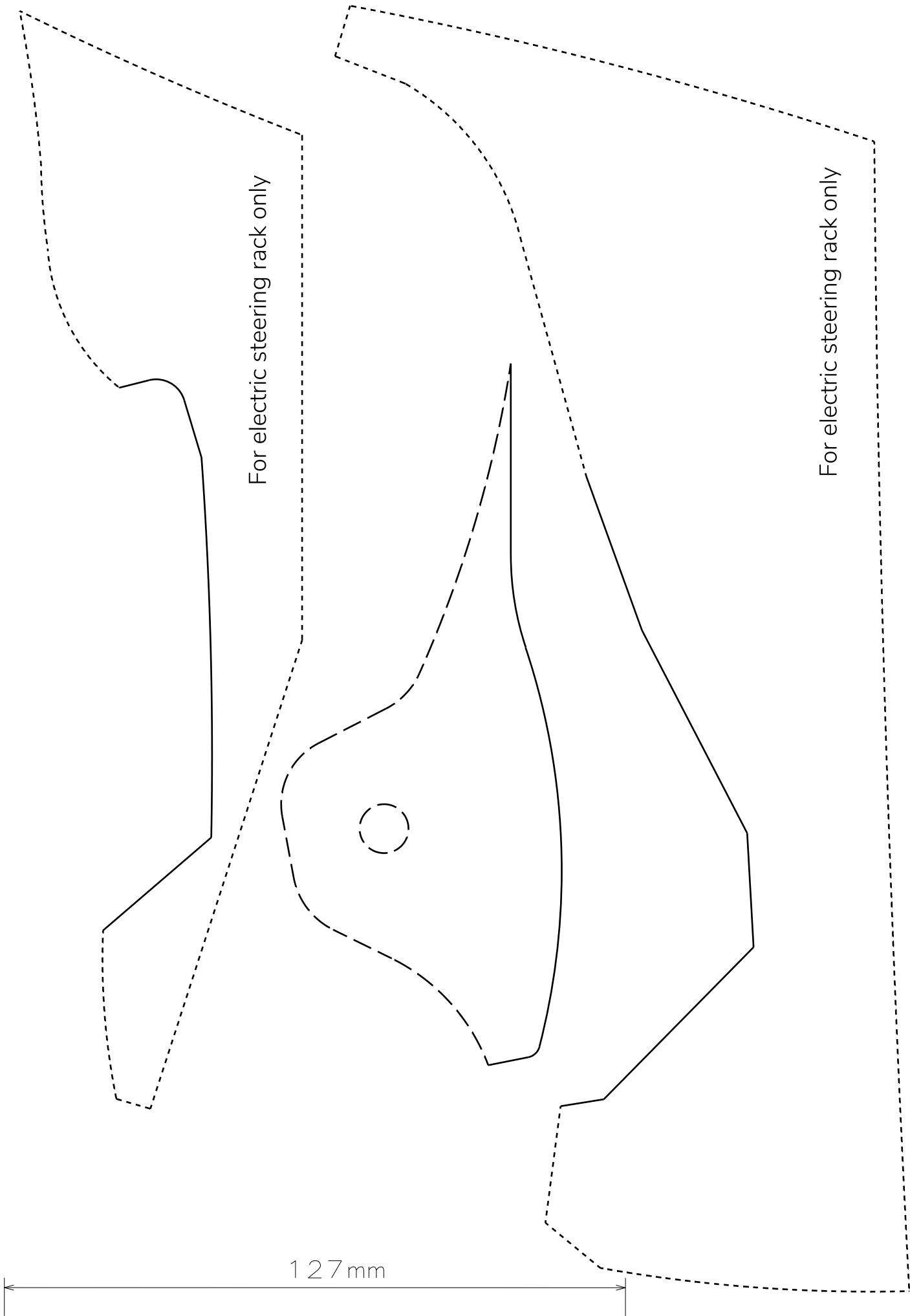
2. Cut out the marked area. Fit the supplied plate flat with the subframe. Weld it.



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For electric steering rack only

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127 mm

