

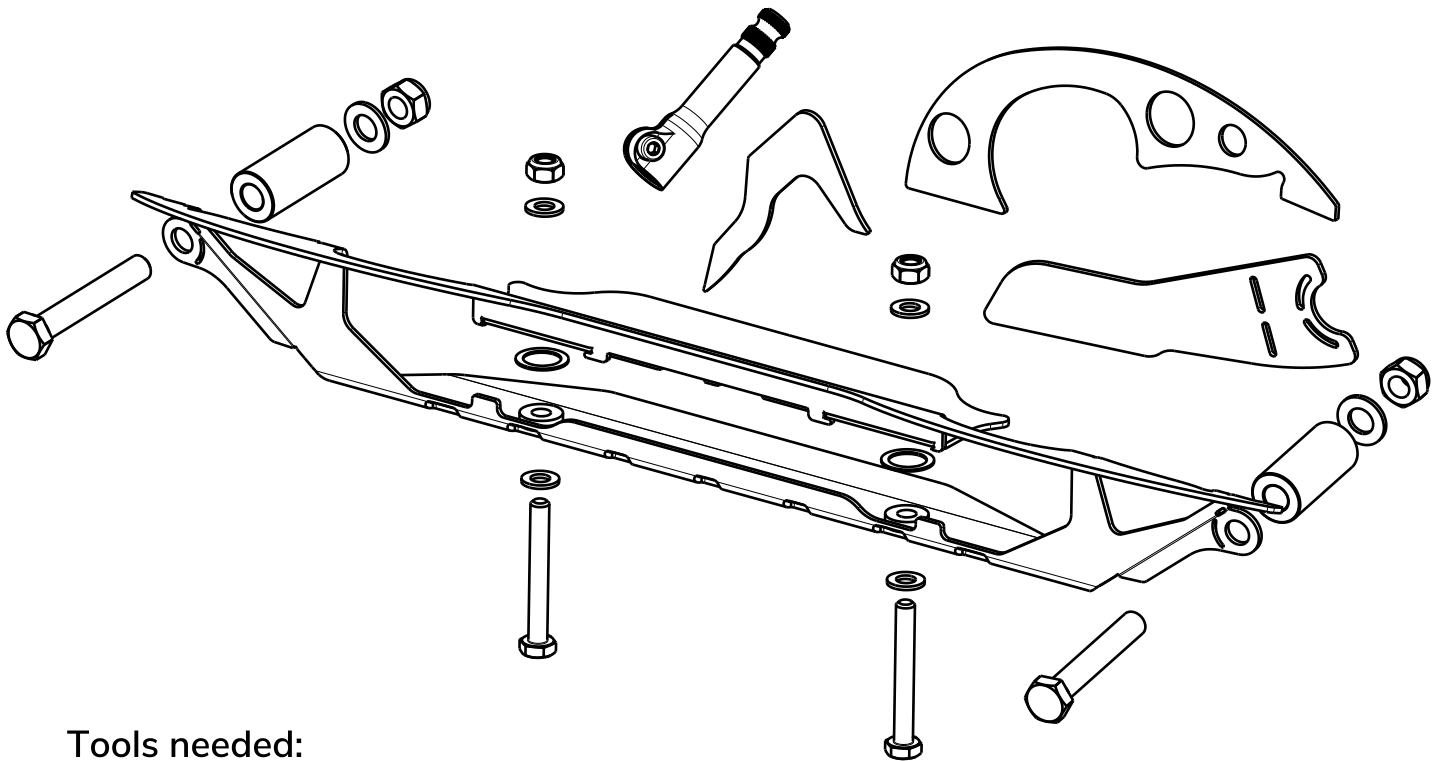
Nissan Front Steering Rack Conversion Kit

This manual describes the process of modifying the Nissan S13; S14 or S15 front subframe to allow the use of the BMW E36 or E46 front mounted hydraulic steering rack. With this modification new steering rack will be fitted in front of the subframe. This setup can only be used with WISEFAB S14 Front Rack lock kit. Stock engine mounts can be used with modified subframe but stock engine can not be used. Engine mountings and oil pan modifications may be needed but due to different engine setups this is not covered in this manual.

All actions described below are for left-hand drive rack. In case of using right-hand drive rack: positioning of the templates, cuts, brackets and rack itself should be mirrored. Parts in the pictures may appear different from the real ones.

Components needed: Steering rack: BMW E36 or E46 hydraulic steering rack LHD or RHD

Overview of the kit



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



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1. Remove the tie rods and rubber boots from the BMW E36/E46 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. Position the Template 1 as shown in the picture. Mark the cutting lines. Mark both left and right side.

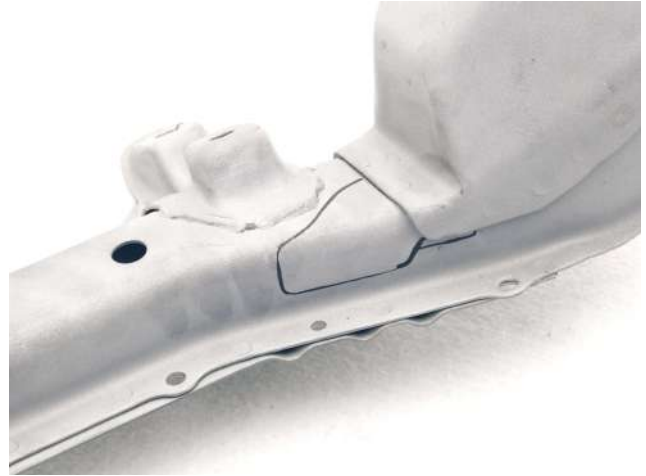
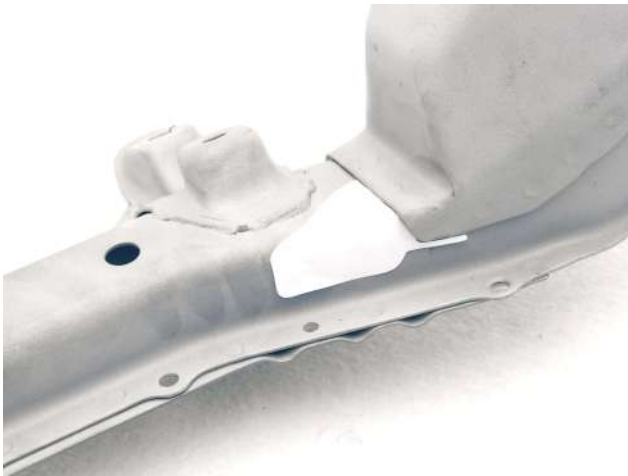


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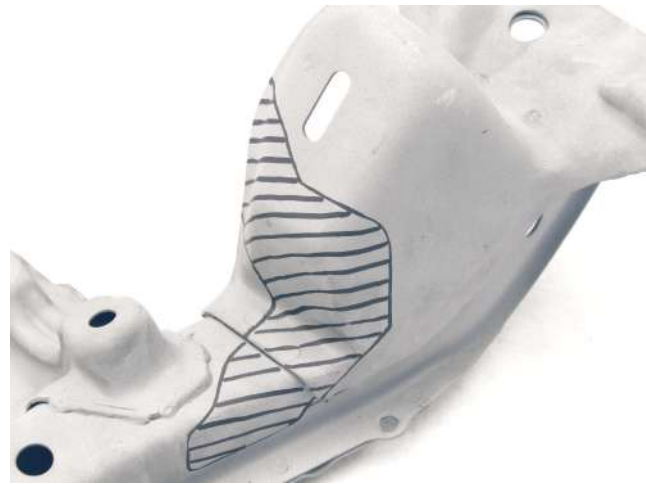


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5. Position the Template 2 as shown in the picture. Mark the cutting lines. Mark only the side were the steering shaft is. Right side for RHD and left side for LHD



6. Position the Template 3 as shown in the picture. Mark the cutting lines. Mark only the side were the steering shaft is. Right side for RHD and left side for LHD

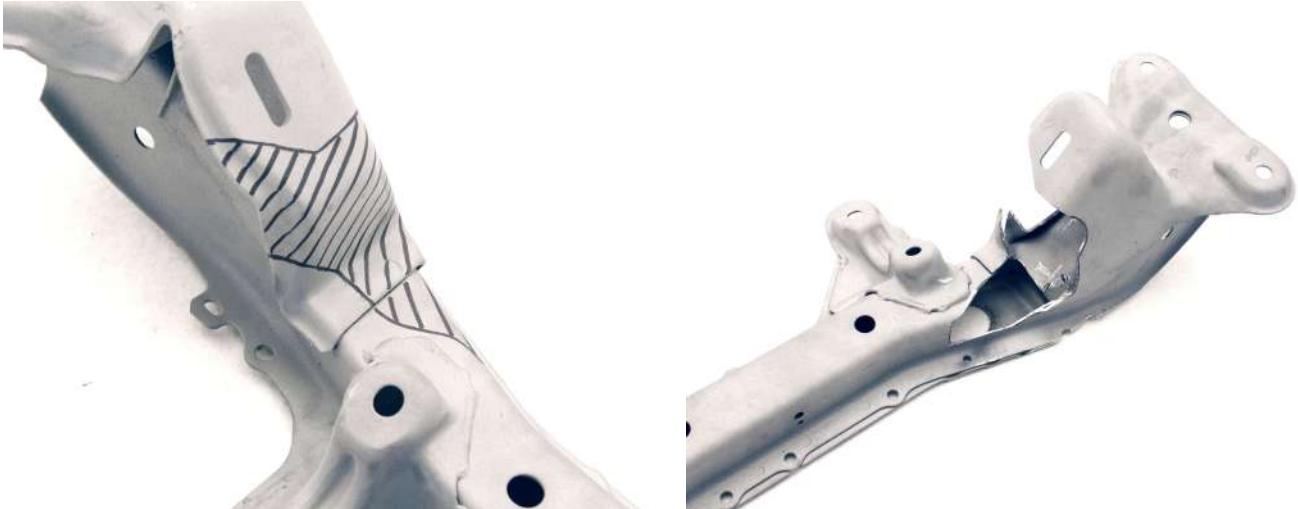


7. Position the Template 4 as shown in the picture. Mark the cutting lines. Mark only the side were the steering shaft is. Right side for RHD and left side for LHD

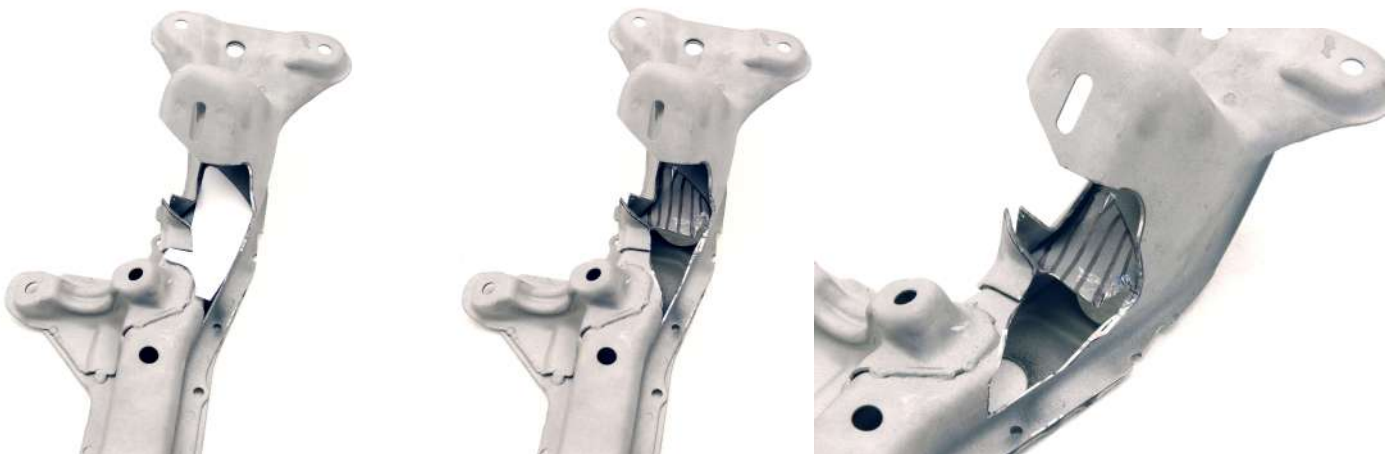


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8. Cut out the marked areas.

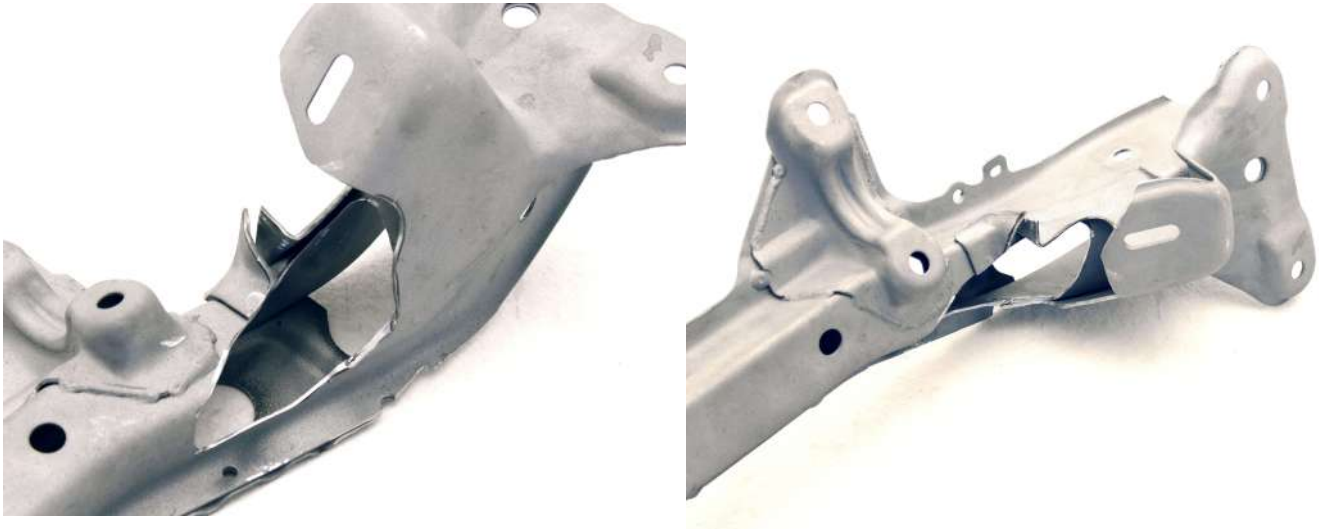


9. Position the Template 5 as shown in the picture. Mark the cutting lines. Mark only the side where the cut was made.

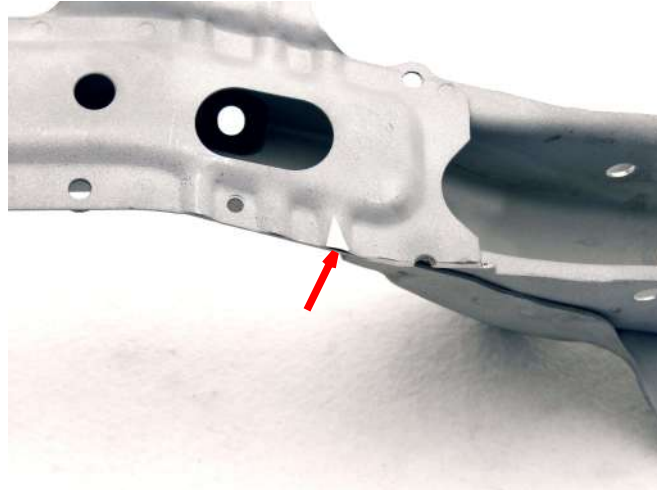


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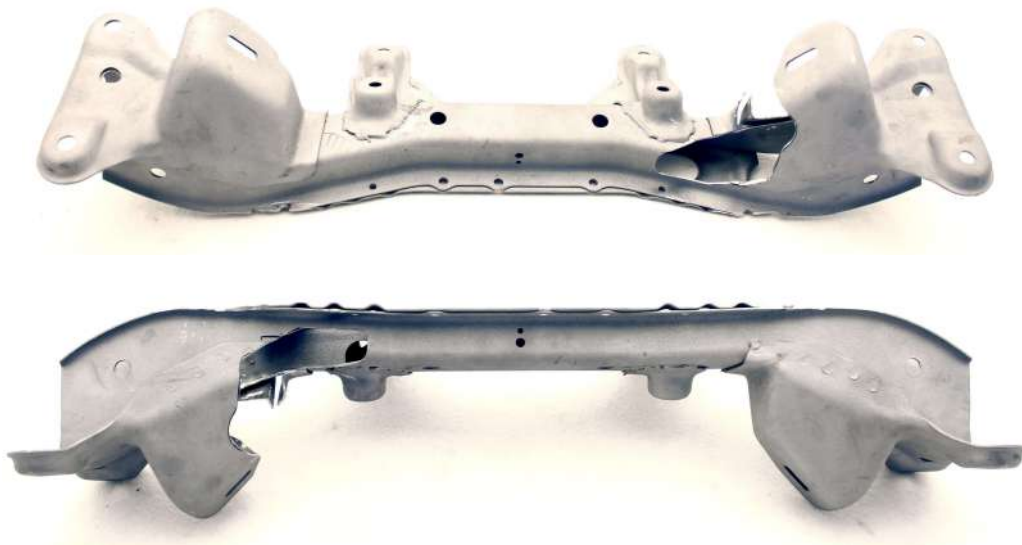
10. Cut out the marked areas.



11. Grind down small part of the subframe from both left and right side shown in the picture.

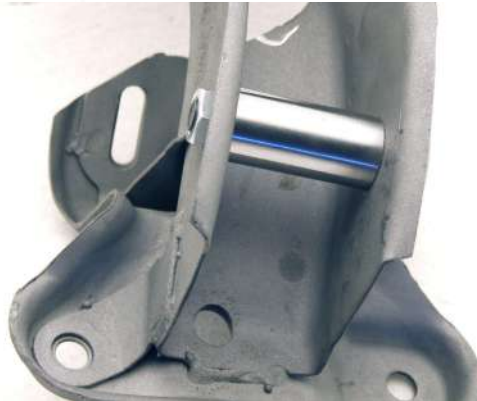
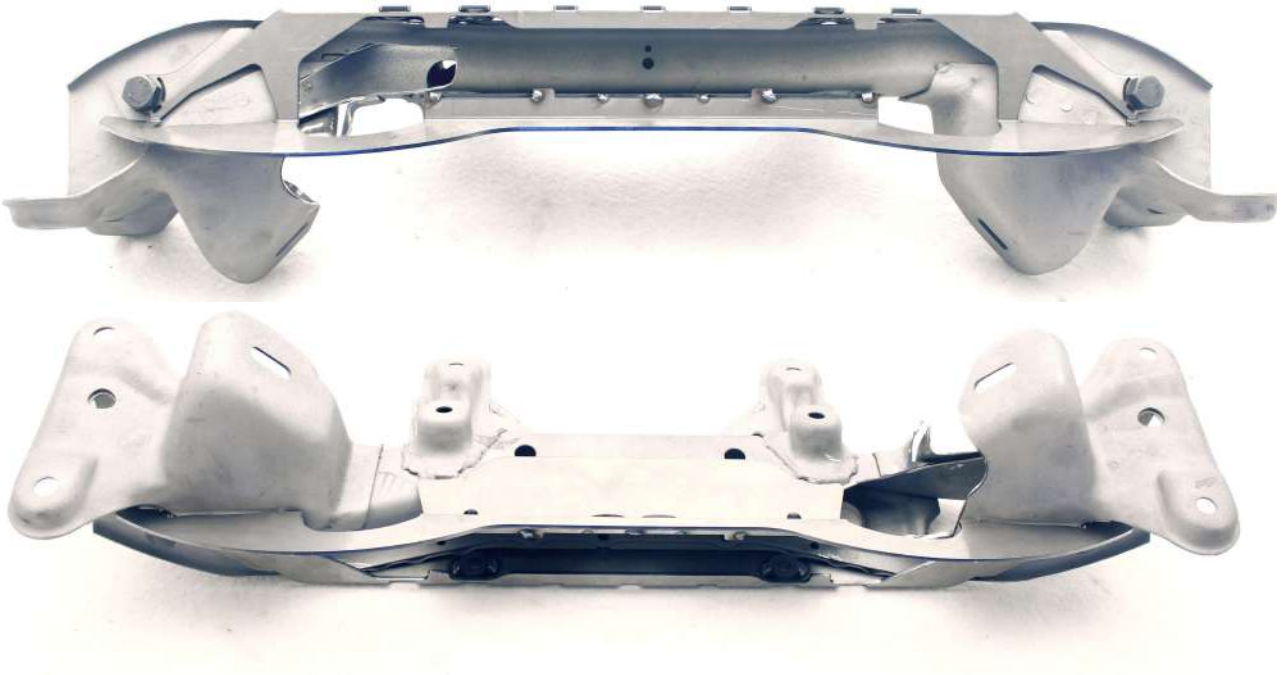


12. Now the subframe should look like this. OEM steering rack mounts can be cut off to make more room for the oil pan. This modification is not discussed in this manual.

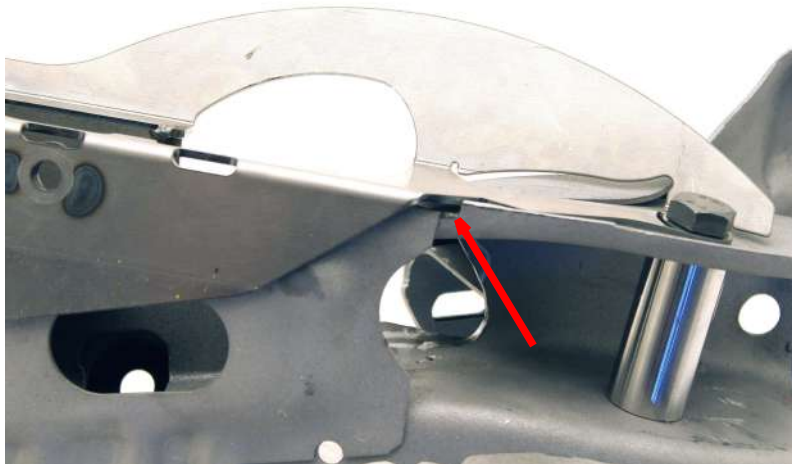


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13. Bolt on the steering rack relocation to the subframe using the supplied bushings in the lower arm mount. If supplied M14 lower arm bolts are used then redrill the lower control arm mounting hole in the subframe to 14 or 14.5 mm.



14. Make sure everything lines up. Be sure there is no interference between the rack relocation and the subframe in the spot shown in the picture.

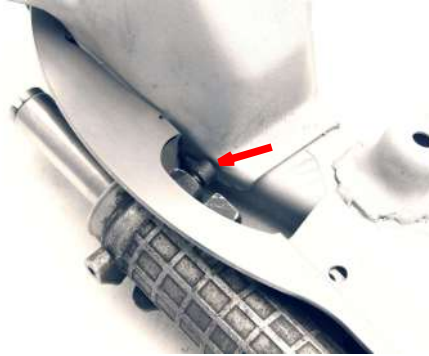
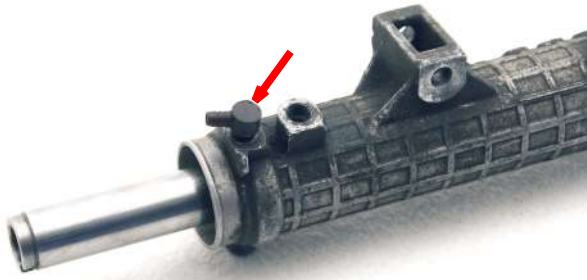


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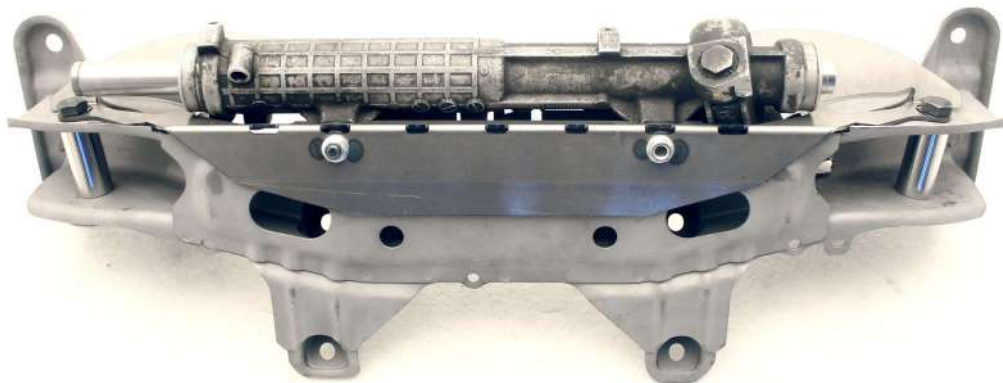
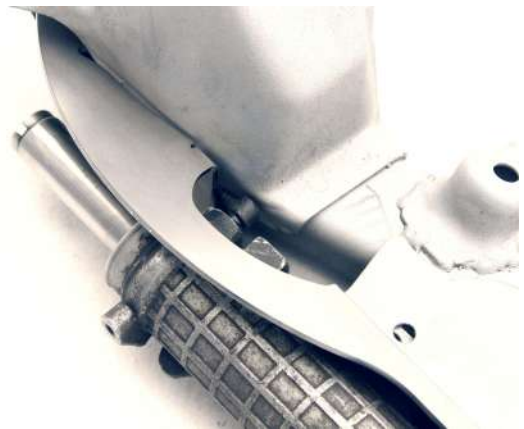
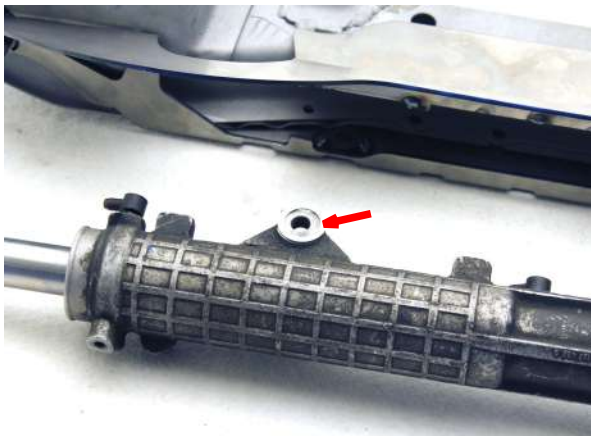


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15. Remove the steering rack breather connection. This will hit the subframe. If you want to use it a small hole has to be cut in the subframe. This modification is not discussed in this manual.



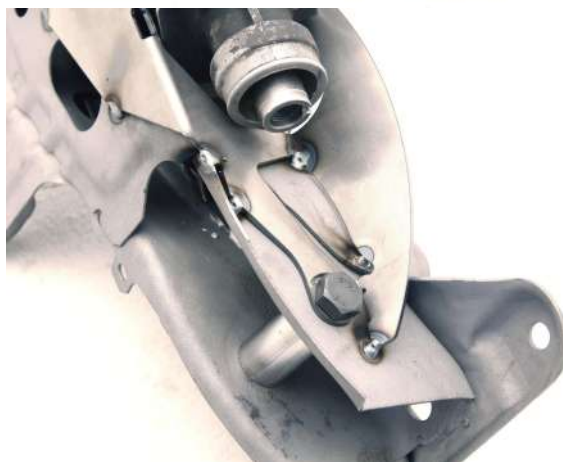
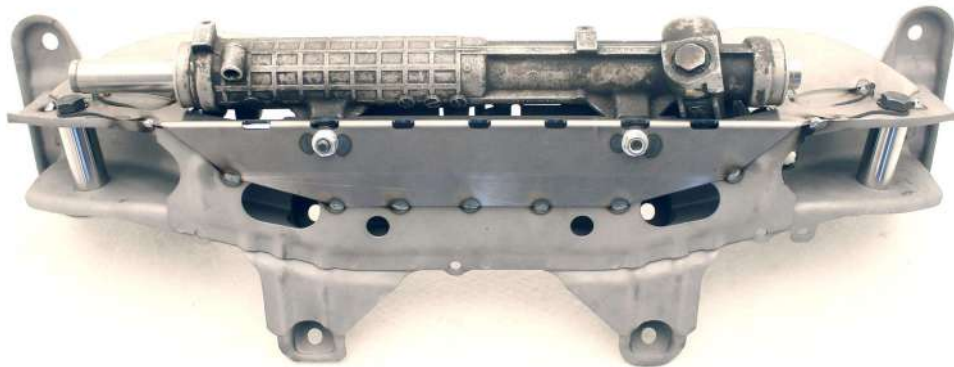
16. Mount the steering rack to the rack relocation using the supplied 1 mm washers between the steering rack and rack relocation.



17. Make sure all the lines, steering rack and steering shaft will clear the subframe. If not cut out a bit more to make room.



18. Tack weld the steering rack relocation to the subframe. Protect the steering rack from weld spatter.

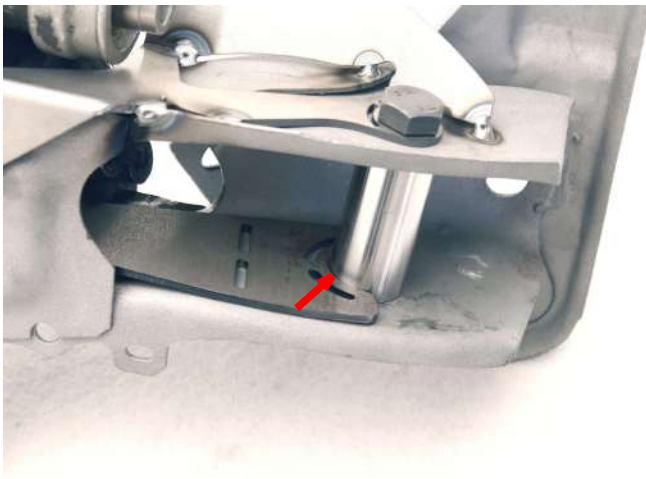
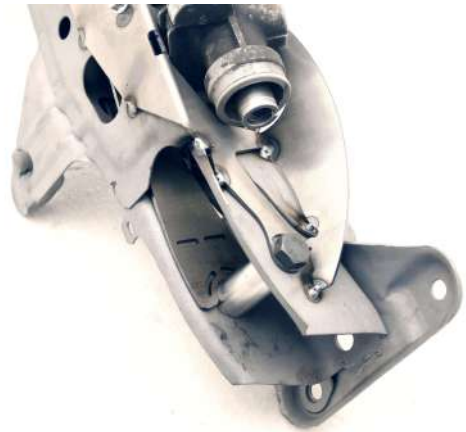
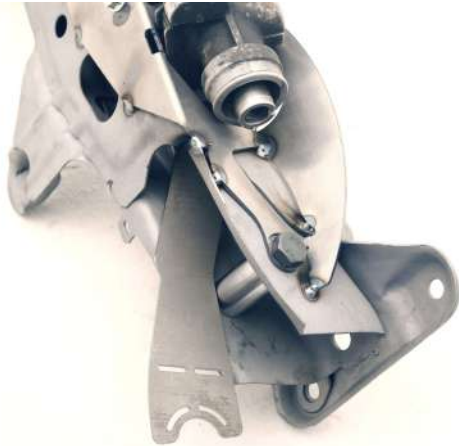


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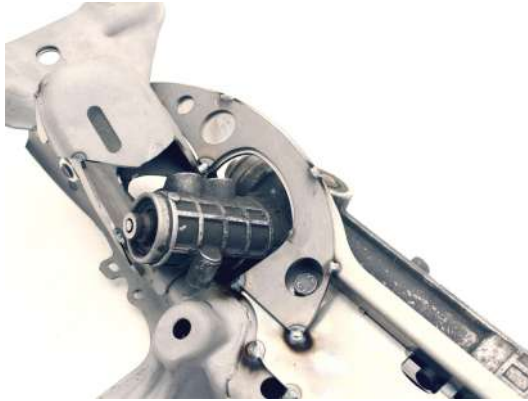
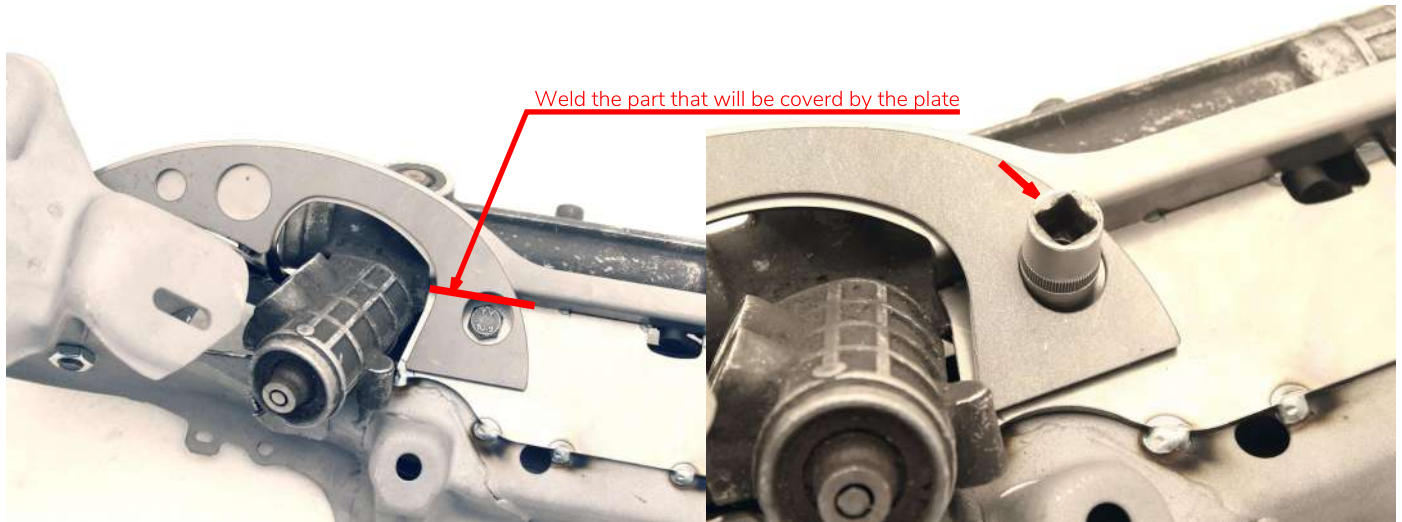
19. Install the strengthening plate. Make sure it fits snug against the bushing. Tack weld in place.



20. Install the engine mount support plate. Tack weld in place.



21. Before installing the steering shaft support plate make sure you have welded the part shown in the picture. After that tack weld the plate in place. Use a socket to position the plate in place.



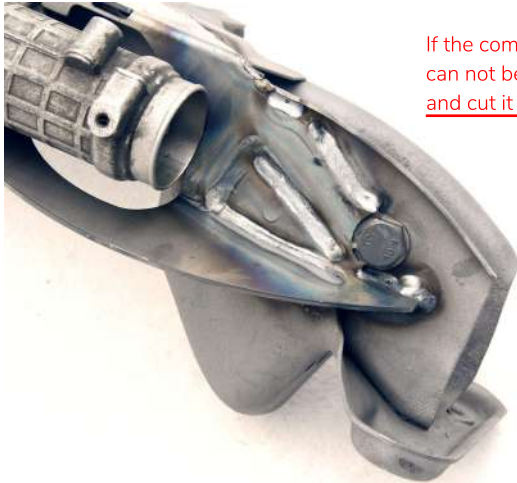
22. Check once more that everything fits. Then weld everything to the subframe. DO NOT REMOVE THE STEERING RACK OR THE BUSHINGS WHILE WELDING. Avoid overheating the parts to minimize distortions.



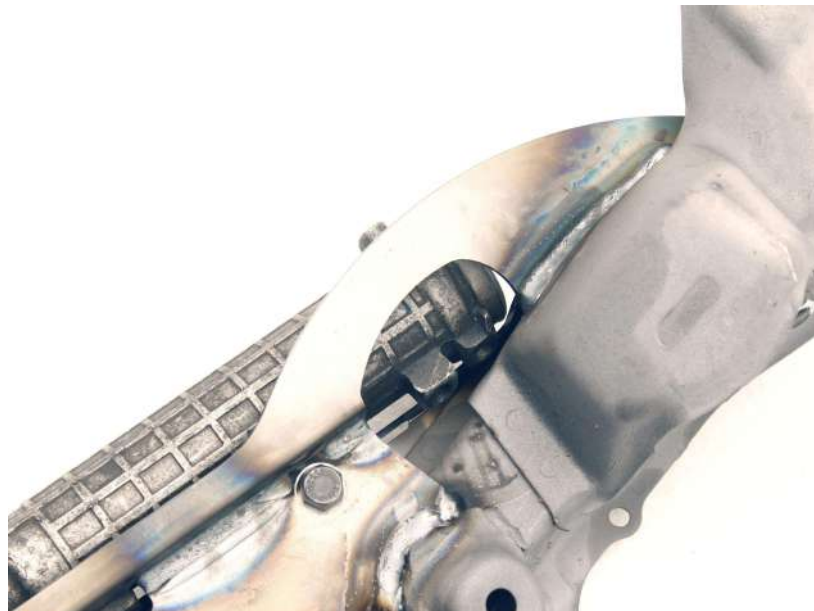
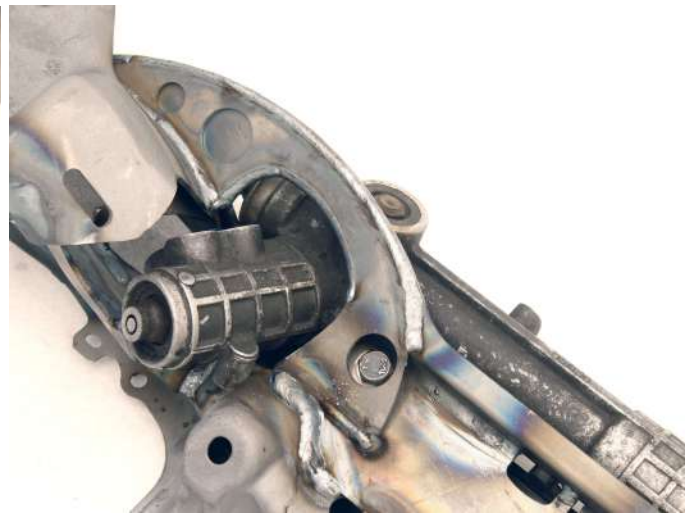
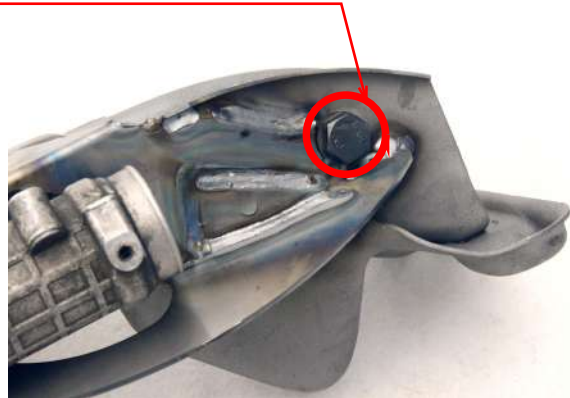
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If the competition rules state that the lower control arm mount can not be reinforced then do not weld the part behind the bolt and cut it after everything is welded.



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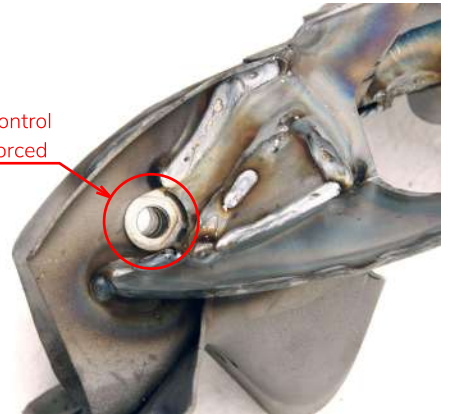
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23. Remove the steering rack and weld all the places that were not accessible due to the steering rack. Remove the spatter and sharp edges after welding.

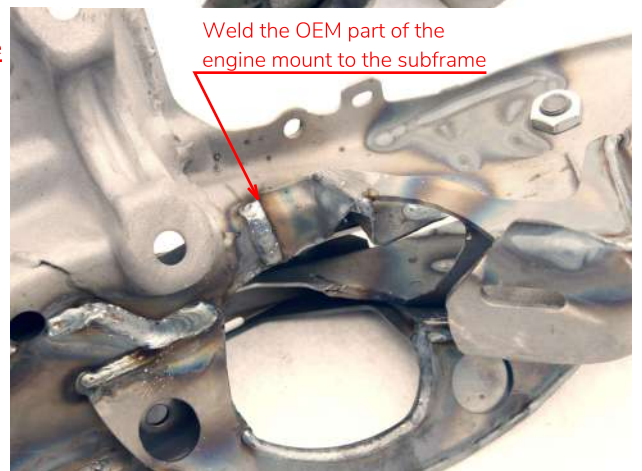


No need to weld from the rack side

Cut off if the lower control arm can not be reinforced



Make sure that the strengthening plate (From step 19.) is welded from the inside



Weld the OEM part of the engine mount to the subframe



24. Test fit the steering rack to the subframe. If everything is fine then apply the appropriate coating (Black powder coating in the picture)



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