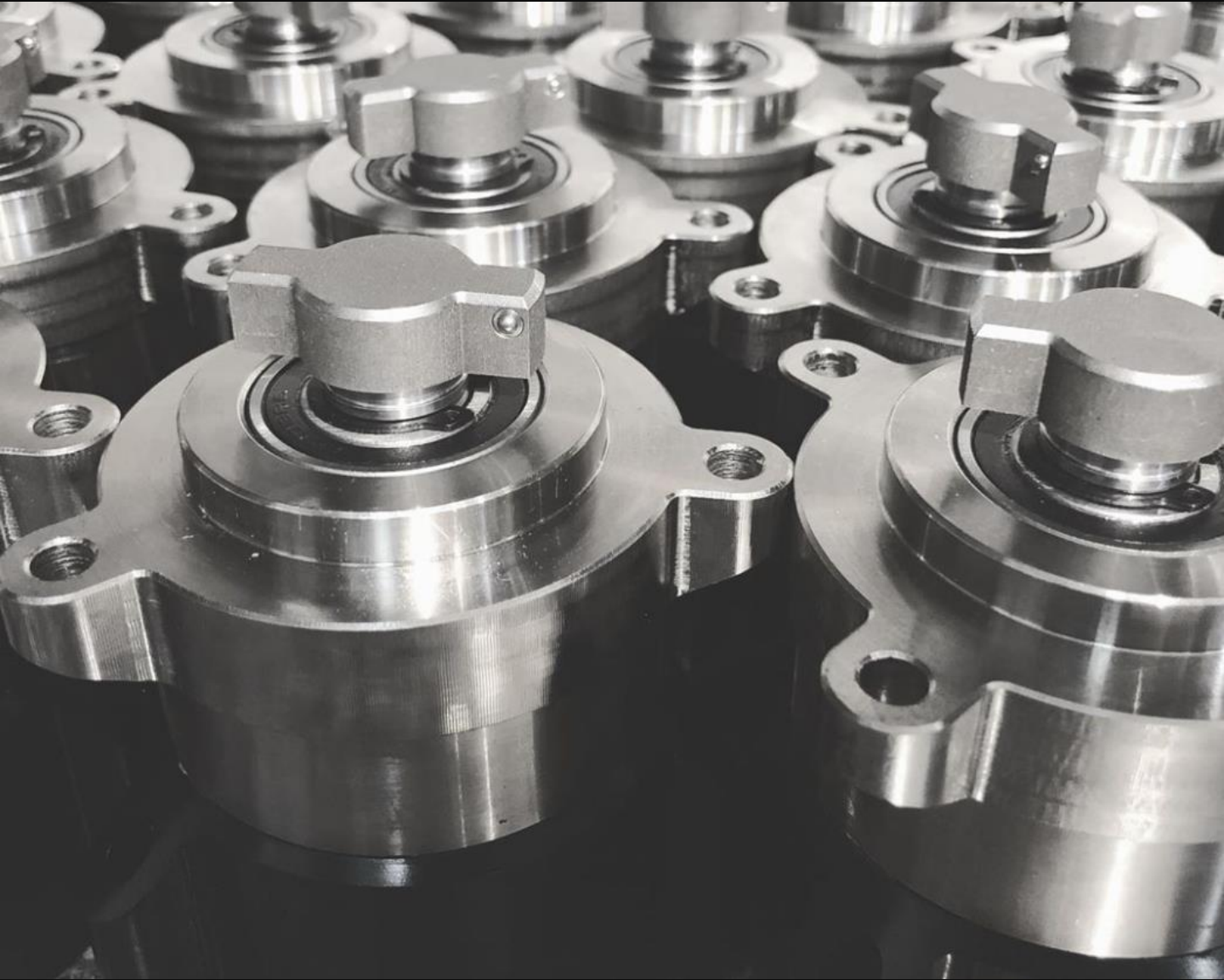


BMW N54/2011 N55

# Helix HPFP Overdrive Unit



Installation Guide

# Helix HPFP Overdrive Unit

Hi,

Congratulations on the purchase of your Spool Performance Helix Overdrive Unit. We at spool go to great lengths to make sure we provide you with the highest quality products than can meet the specifications that lets us warranty all our products for life. We would like to point out from the onset that we strive to provide the finest level of customer service and if you encounter any issues with our products, we are here for you. Please reach out to us at [customer\\_service@spoolperformance.us](mailto:customer_service@spoolperformance.us) and we will make sure we take care of you.

## COMPETITION USE ONLY DISCLAIMER

Spool Performance products are explicitly meant for competition use at closed track race events. Purchaser acknowledges that installation of these parts may cause his (or her) vehicle be unable to be lawfully used on public highways, and assumes al risks and expenses thereof. All suggested modifications and recommendations are intended solely for use on vehicles participating in off-highway competition events. Purchaser acknowledges that the performance part may void manufacturer vehicle warranties. The purchaser accepts all responsibility for modifications to said vehicle(s) and all potential risks.

## Package Contents

- 1 \* Helix Overdrive unit
- 1 \* High Pressure Flexible Fuel Line
- 2 \* M6 x 120mm Socket Head Bolts
- 1 \* M6 x 110mm Socket Head Bolt
- 1 \* N54 Billet Vacuum Pump Mounting Plate
- 4 \* M6 x 20mm Socket Head Screws
- 1 \* N54 Helix Support Bracket
- 1 \* M8 x 30mm Low Head Socket Cap Screw

## Tools Needed

11mm socket

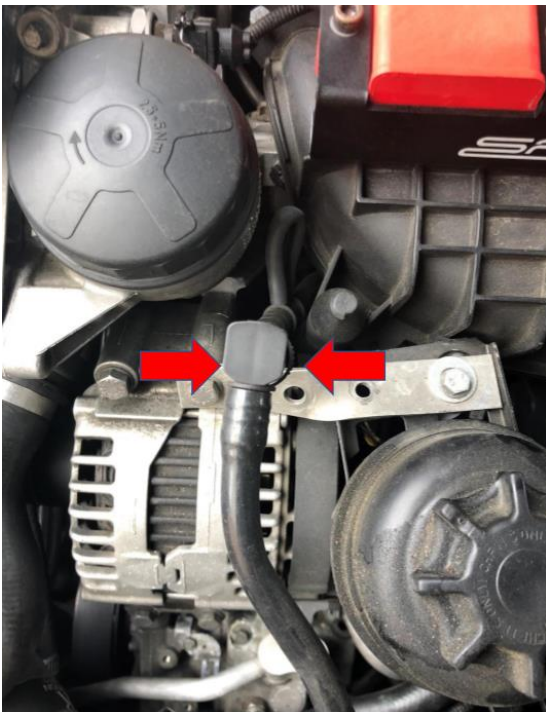
13mm socket

17mm Hex Key

Long 5mm Hex Key

## Helix HPFP Overdrive Unit

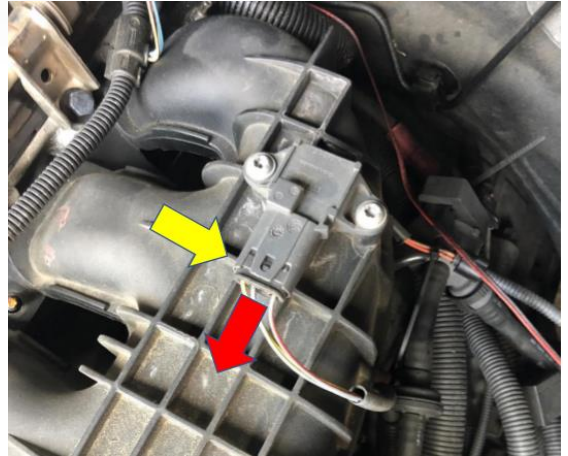
1. Disconnect battery from the trunk (**IMPORTANT** you'll be working with fuel around the starter cable and having the battery on poses a high risk of accidental sparking).
2. Remove Air Filter housing or DCI filters if installed
3. Remove the Charge pipe by disconnecting the TMAP sensor and vacuum line from the blow off valve. And the remove the charge pipe by removing the clip at the throttle body and loosening the clamp from the lower charge pipe



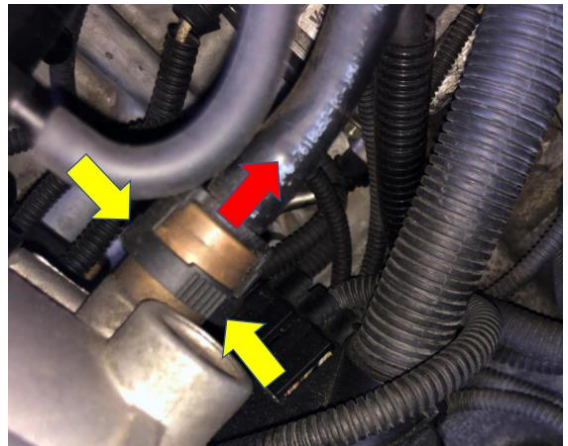
4. Remove the hard vacuum line by squeezing the tabs and pulling up.

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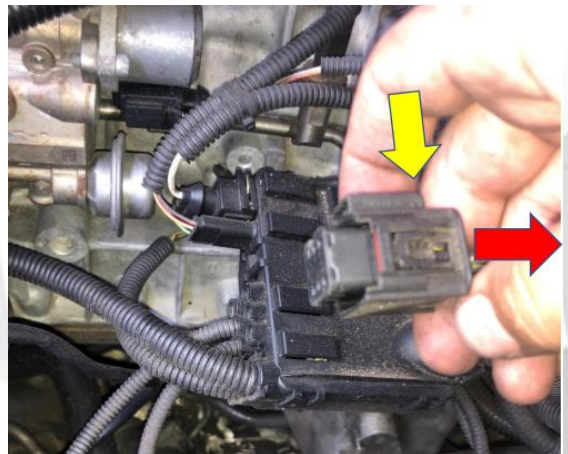
4. Remove the MAP Sensor located on top of the intake manifold by slightly lifting the tab be careful not to break it and pull the wire out. Using a small flat head might help but it can be done by hand



5. Remove the Vacuum line off the throttle body by pressing in the two tabs and pulling out.

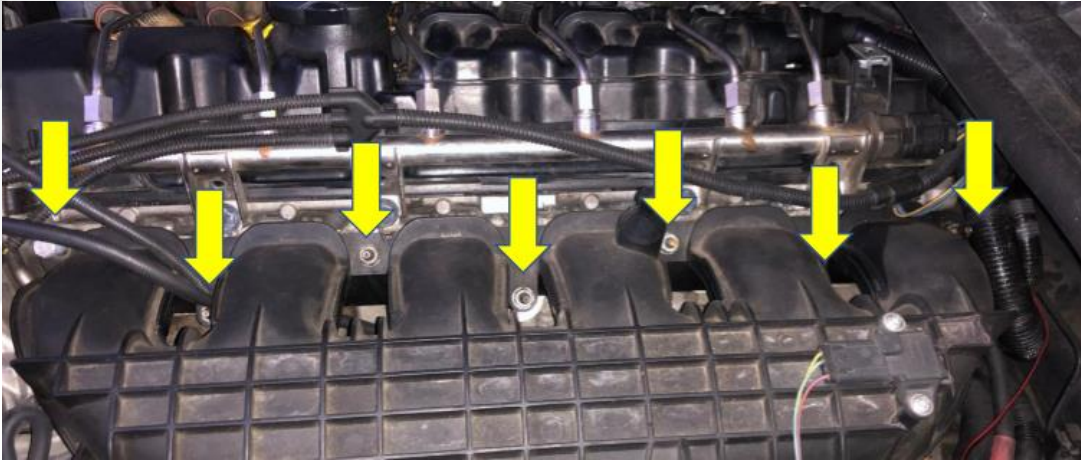


6. Remove the Connector from the bottom of the throttle body by pressing in on the tab and pulling out. (This part can be tricky since it's underneath the manifold.) Sometimes it's easier to do this once the manifold is loosened up just be careful not to tug on the wires

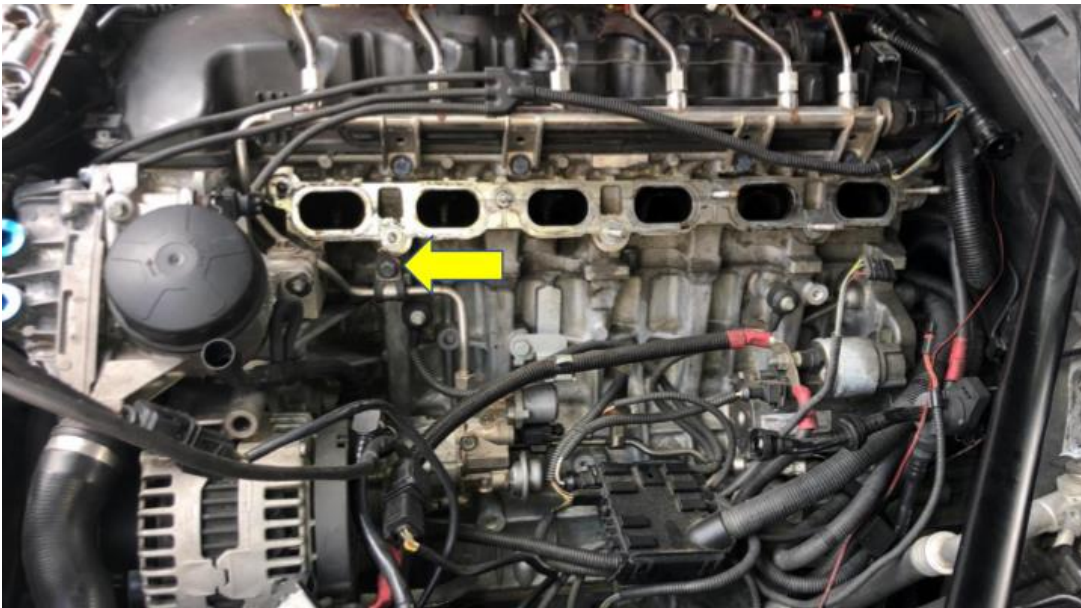


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7. Use an 11 mm socket with the help of a small extension to remove the nuts and one bolt (closest to the alternator) on the intake manifold.

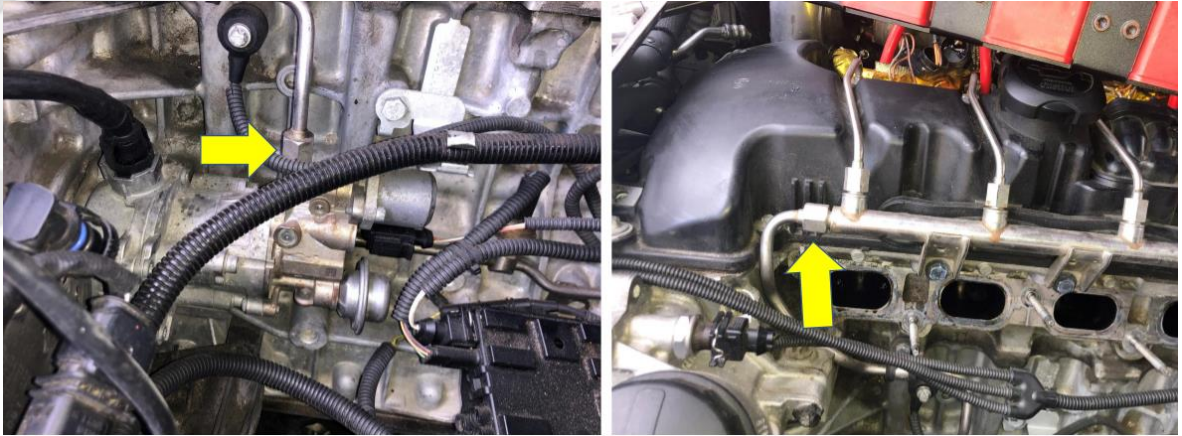


8. Carefully pull out the intake manifold making sure it doesn't get stuck on any wires. Using a 13 mm socket remove the bracket holding the stainless steel fuel line in place

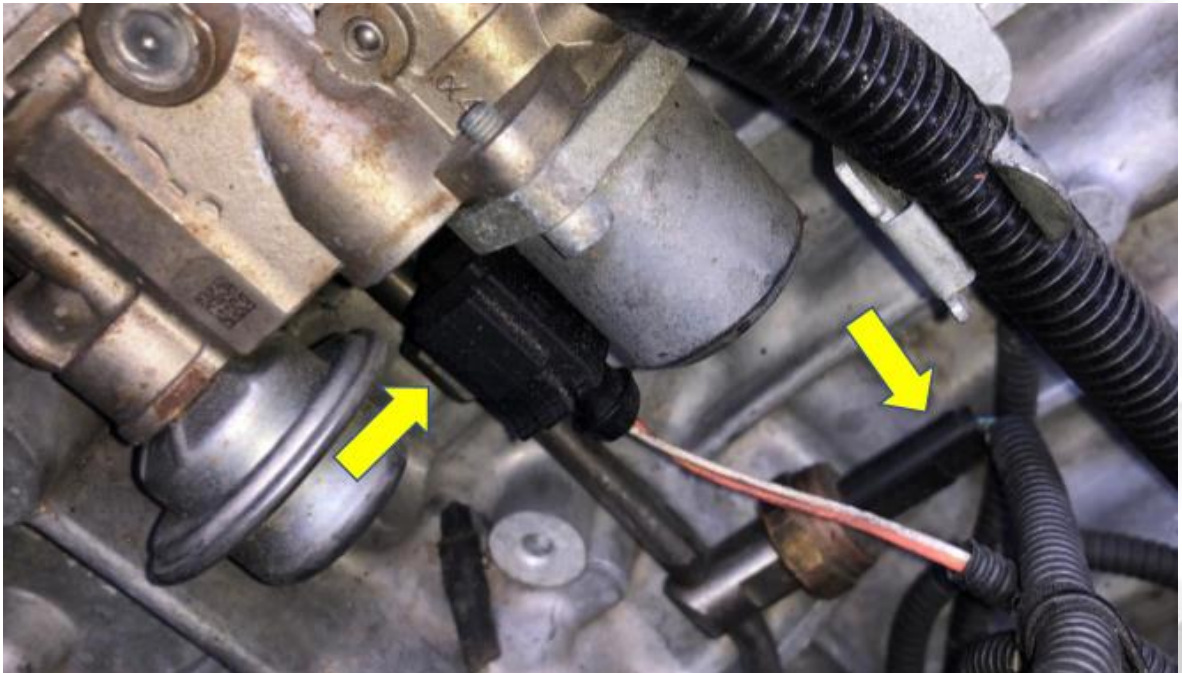


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- Using a 17 mm wrench remove the stainless steel fuel line from the top of the HPFP and from where it connects to the fuel rail on top of the engine. Take caution there might still be fuel pressure so it could spray put a towel around the line when unscrewing removing the first side.



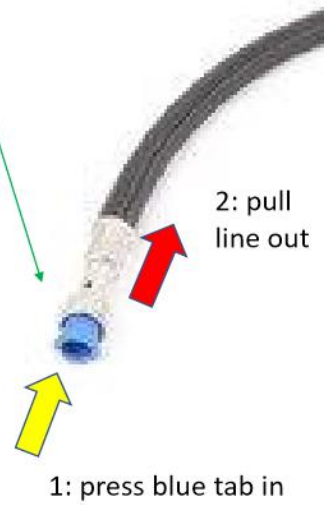
- Carefully remove the connectors connecting to the HPFP and the low pressure fuel sensor



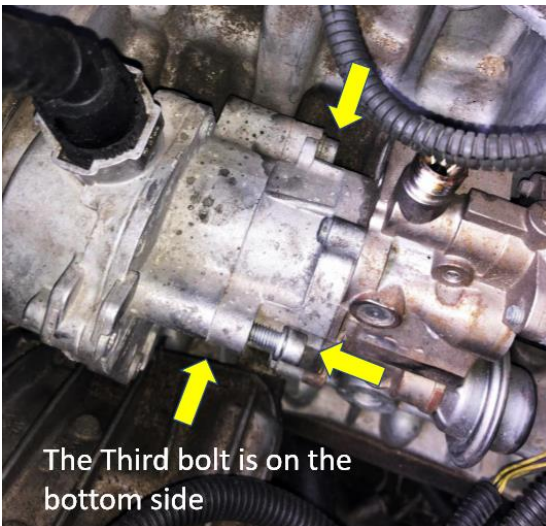


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11. Use a 17 mm ratchet to unscrew the low pressure stainless steel fuel line. Then remove the soft fuel line from the other end by pressing in the tab and pulling

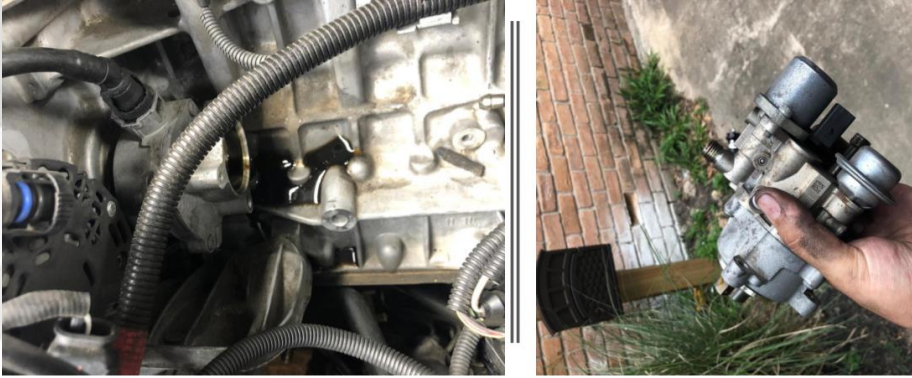


12. Remove the 3 - 5mm hex screws holding the HPFP in. There is a very tight space so using a long 5 mm hex key will help make this a lot easier

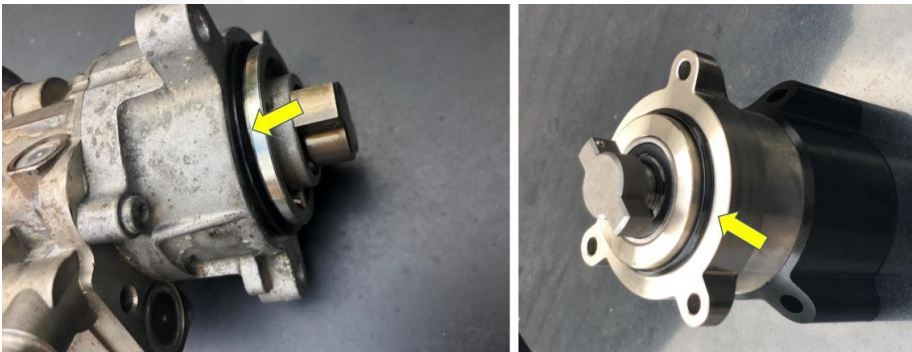


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13. Once the bolts are removed wiggle the HPFP out. Some fuel and oil may spill out. Clean up the area with a shop towel.



14. Remove the O-Ring around the HPFP and Install in on the helix



15. Optional: Remove small restrictive filter on the HPFP Inlet to be able to get full flow potential. Note: We do not recommend removing this small filter without an alternative replacement to avoid impurities from getting to injectors potentially causing leaking. We recommend our Spool 10 micron inline fuel filter kit.



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16. Bend the low pressure fuel line slightly being careful not to kink or cramp the line. Just a little bit is needed to clear the starter as seen in later steps. As you notice in the picture it's a very minor difference.

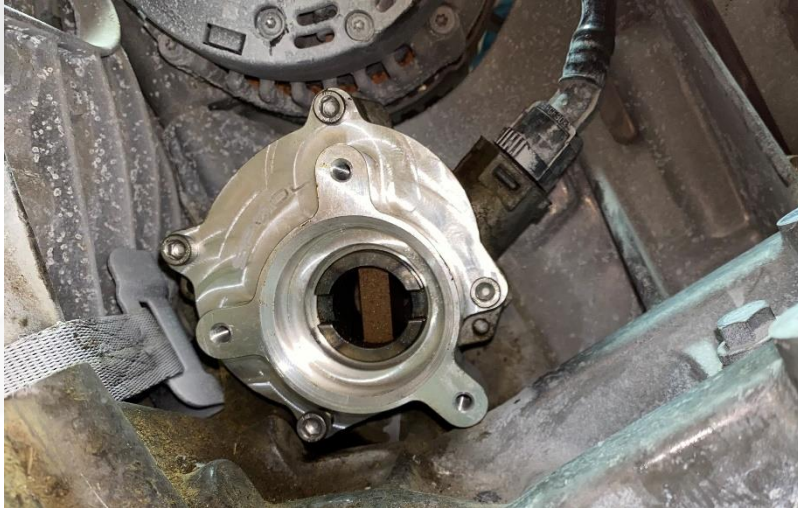


17. Remove stock vacuum pump cover mounting plate by removing the 4 small bolts securing it.



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18. Install Spool N54 billet vacuum pump cover mounting plate onto the vacuum pump and secure using the 4 – M6 x 20mm socket head screws provided.



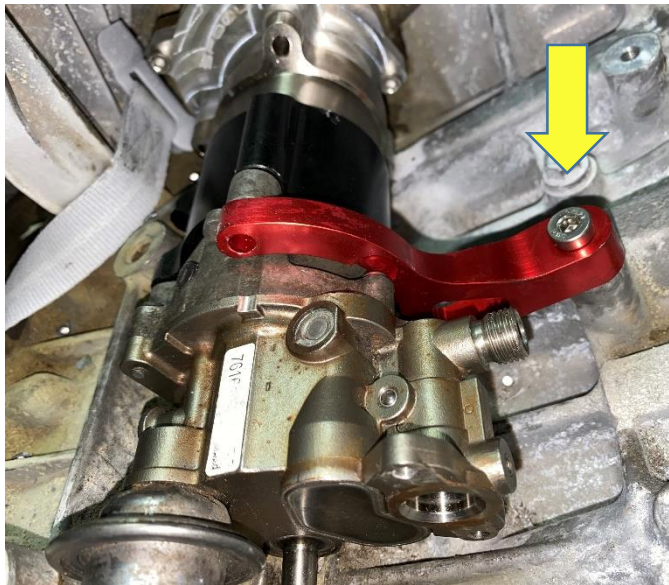
19. Install the Helix onto the new billet vacuum pump cover mounting plate. You may need to spin the Helix to help align the internal shafts.



20. Install hpfp onto the Helix unit.

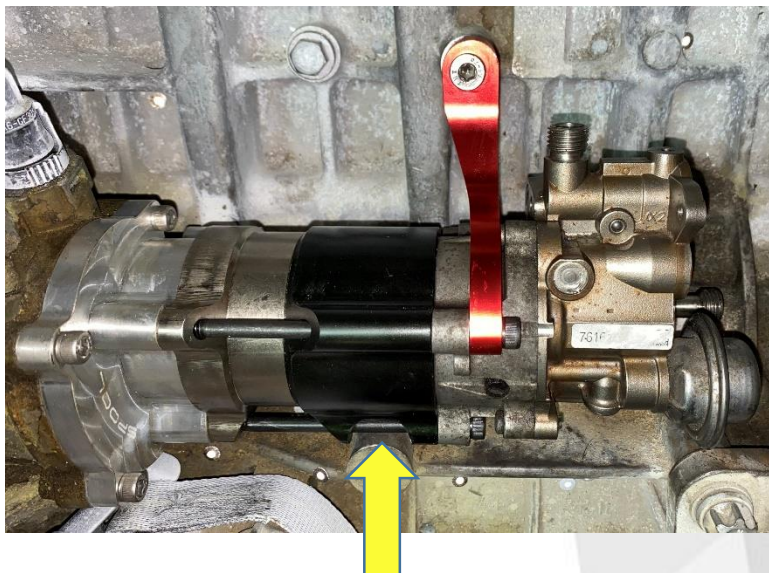
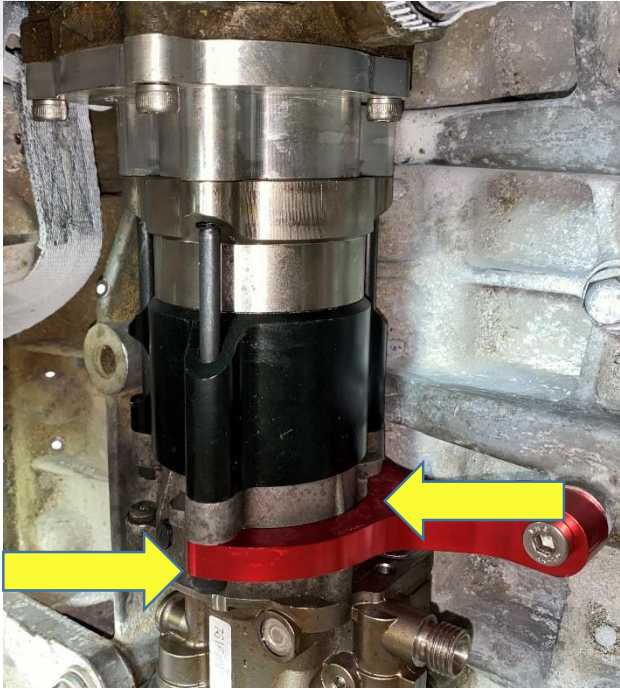


21. Secure the Spool Helix support bracket in place using the M8 x 30mm Low Head Socket Cap screw to bolt onto the block



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22. Use the 2- M6 x 120mm to secure the bracket to the entire Helix/hpfp assembly like in first photo. The M6 x 110mm bolt is the one shown in the second picture and does not secure the support bracket . **[Important]** Tighten the long bolts to 25Nm. Make sure bolts are properly tightened as a loose bolt here can cause imbalance and possible failure.

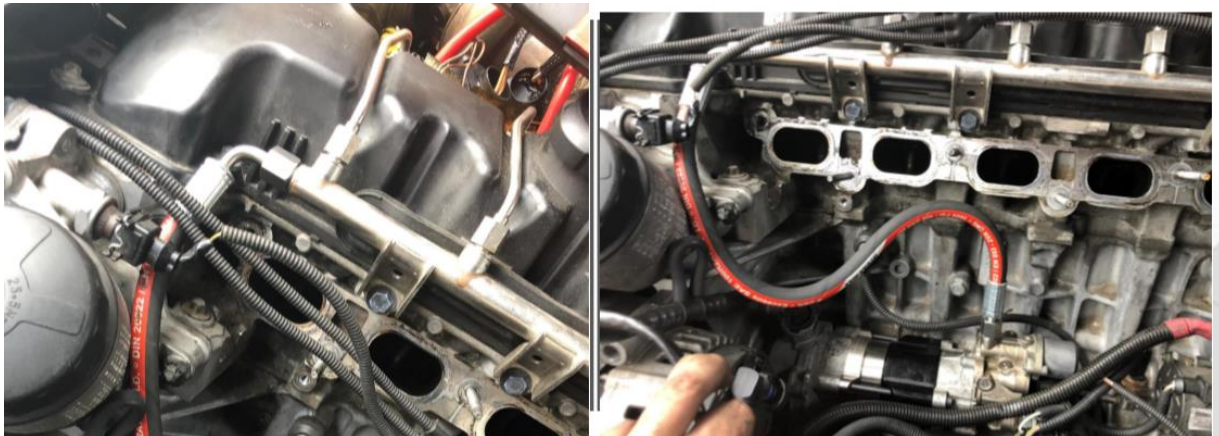


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23. Install the low pressure stainless steel fuel line in and slide the hose back on. Notice how the little bend let's the line clear the starter.



24. Install the provided High pressure fuel line onto the fuel rail and the pump and tighten with a 17 mm ratchet.



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25. Install everything Back and make sure to connect all the connectors, hoses, and sensors that were unplugged. Connect the power and turn on ignition and make sure there aren't any fuel leaks. Let your tuner adjust parameters to accommodate for this upgrade.



## Helix HPFP Overdrive Unit

### Limited Lifetime Warranty

Spool Performance warrants to the original consumer purchaser for as long as they own their automobile that Spool Performance Products will be free from defects in material and workmanship under normal use. This warranty is only applicable to the original purchaser and is not transferable to subsequent owners.

Should defects in material or workmanship exist during the applicable warranty period in any Spool Performance product, the company will elect at its discretion to either repair or replace the defective material. This warranty covers only parts and materials of the Products supplied by Spool Performance. Not covered under this warranty is labor, to remove and reinstall the product and/or related components.

This warranty shall become void if the products are in any way modified, improperly installed or damaged prior to or during the installation. Furthermore, this warranty will not apply to damages caused by misuse, neglect, abuse, acts of God, exposure to extreme temperatures, normal incidental deterioration such as nicks, scratches, abrasions and natural aging whether resulting from the effects of normal wear and tear or abnormal use. Spool Performance reserves the right to alter design, specifications and material without obligation to make similar changes to Products previously manufactured.

The repair(s) or replacement(s) are contingent upon the current Product offerings within the Spool Performance Products at the time of the warranty claim. If a warranty claim is filed after a Spool Performance Product becomes obsolete, Spool Performance reserves the right to honor the warranty by replacing the affected component with a new component of the same function.

This warranty sets forth your sole and exclusive remedy as a warranty holder for the Product. In no case will Spool Performance be liable to you or to any other person for any consequential, special, or indirect losses or damages of any kind. THIS LIMITED WARRANTY IS IN LIEU OF AND SPOOL PERFORMANCE DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTIES MAY NONETHELESS EXIST BY OPERATION OF LAW, SUCH WARRANTIES ARE LIMITED TO THE DURATION PROVIDED BY LAW.

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