

# Dorch Engineering HPFP Kit Installation Gen2 B58

DE-582-XXX

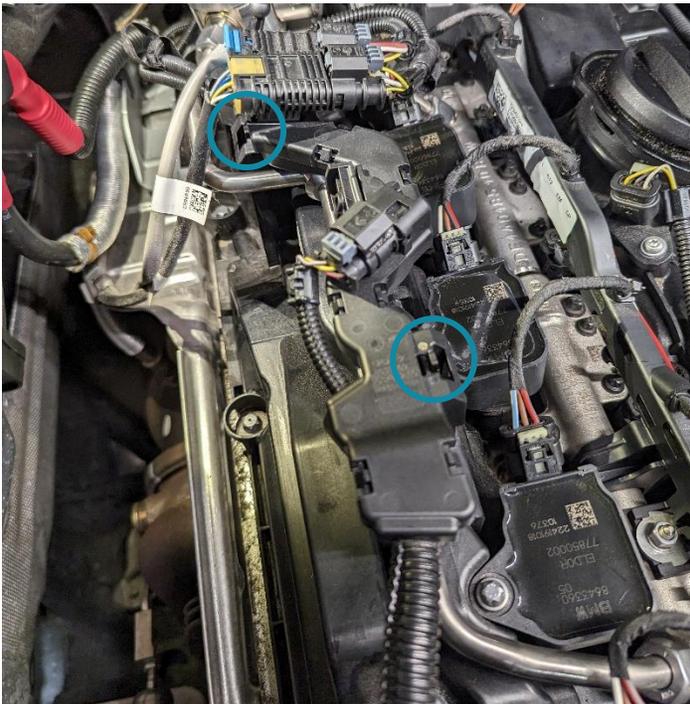


NOTE: These instructions are based on a G20. The cowl and hoses may differ slightly on other models.

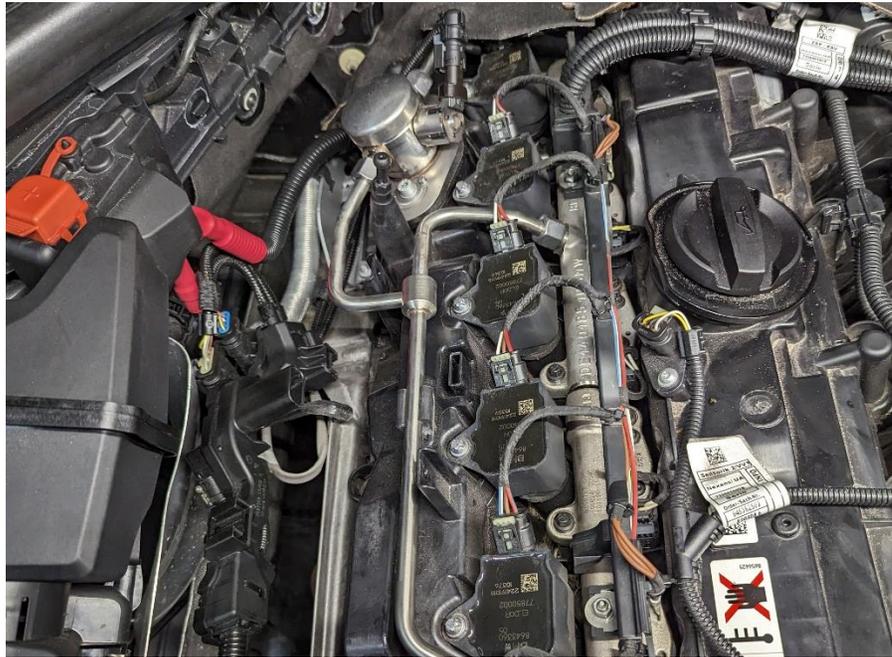
1. Start by disconnecting the battery's ground terminal (in the trunk) and remove the engine cover and DME cover:



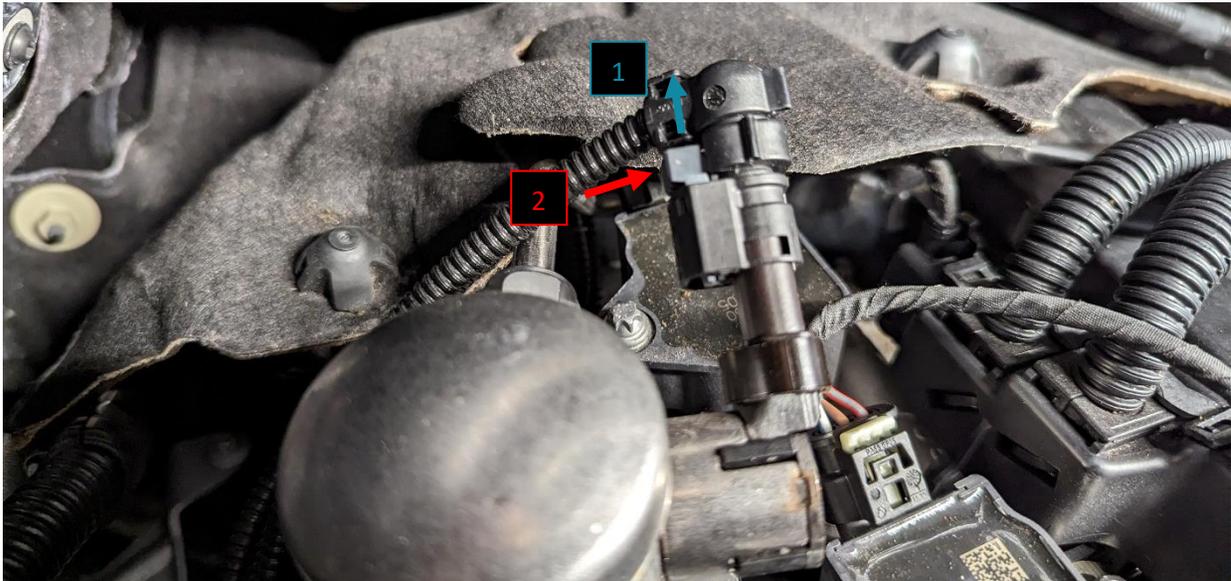
2. Next, remove the wiring harness bracket to gain access to the high pressure fuel line. This bracket has two tabs (circled below) that must be released by pushing outward:



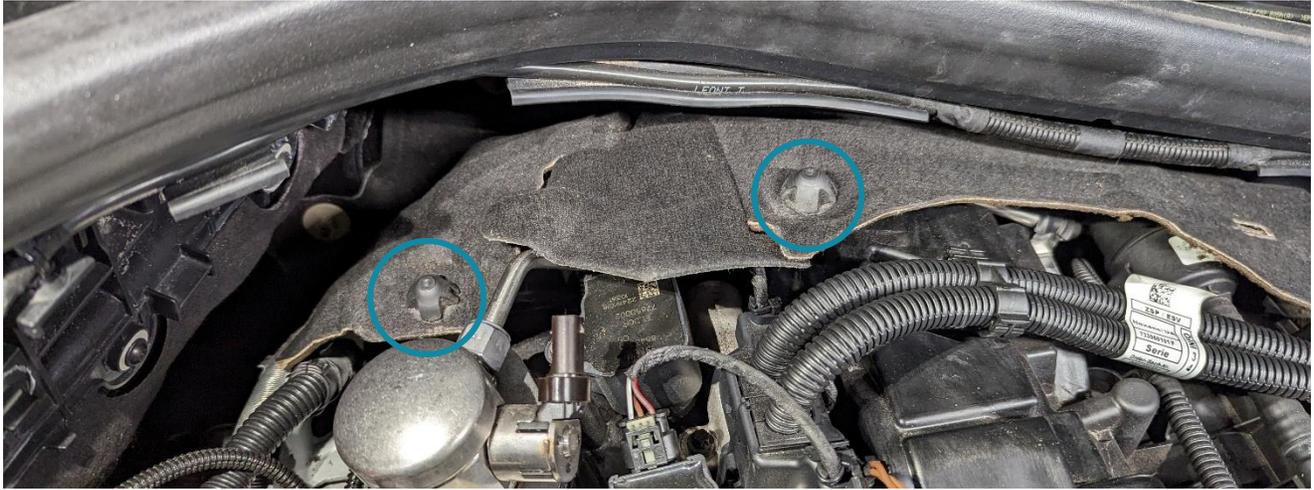
3. With the tabs released, the harness assembly will lift straight up and can be laid to the side out of the way:



4. Now remove the OEM HPFP electrical connector. First pull the gray tab out until it stops. Then push the gray tab in towards the connector body while simultaneously pulling the entire connector away from the pump:



5. Release the two rubber snaps (by carefully pulling upward) and then push the rear insulation covers back towards the firewall and out of the way:



6. Next, using an E6 socket, remove the fastener which is securing the low pressure line to the valve cover:



**Disclaimer:** The fuel pump is now accessible for removal, but take **CAUTION** as it is potentially under **EXTREME PRESSURE!** Safety glasses, a disconnected battery, and plenty of rags are highly recommended.

**WARNING:** Spilling fuel on the silicone boot of the coil pack can lead to coil pack failure. BMW advises to cover the coil packs when opening up the fuel system.

7. **READ THIS STEP THOROUGHLY** - For discharging a pressurized fuel system, we recommend placing Pigmat or an equally absorbent rag under the outlet port of the high pressure pump. Using a 17mm wrench, slowly crack the nut loose on the pump outlet. Leave this nut loose enough to drain, but not loose enough to spray fuel everywhere.

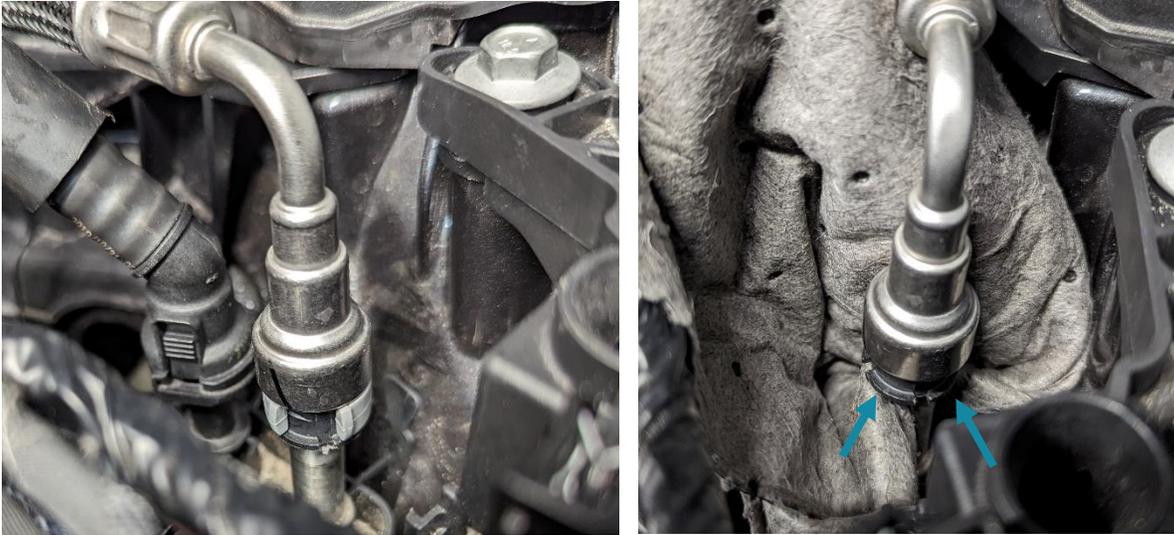
Let this drain for a minute or so before removing any nuts completely (even if you think it's already drained).



8. Once the high pressure line is drained, it can be removed and you can now move your rag to the low pressure port of the HPFP and crack the 17mm nut loose to ensure the low pressure is drained as well:

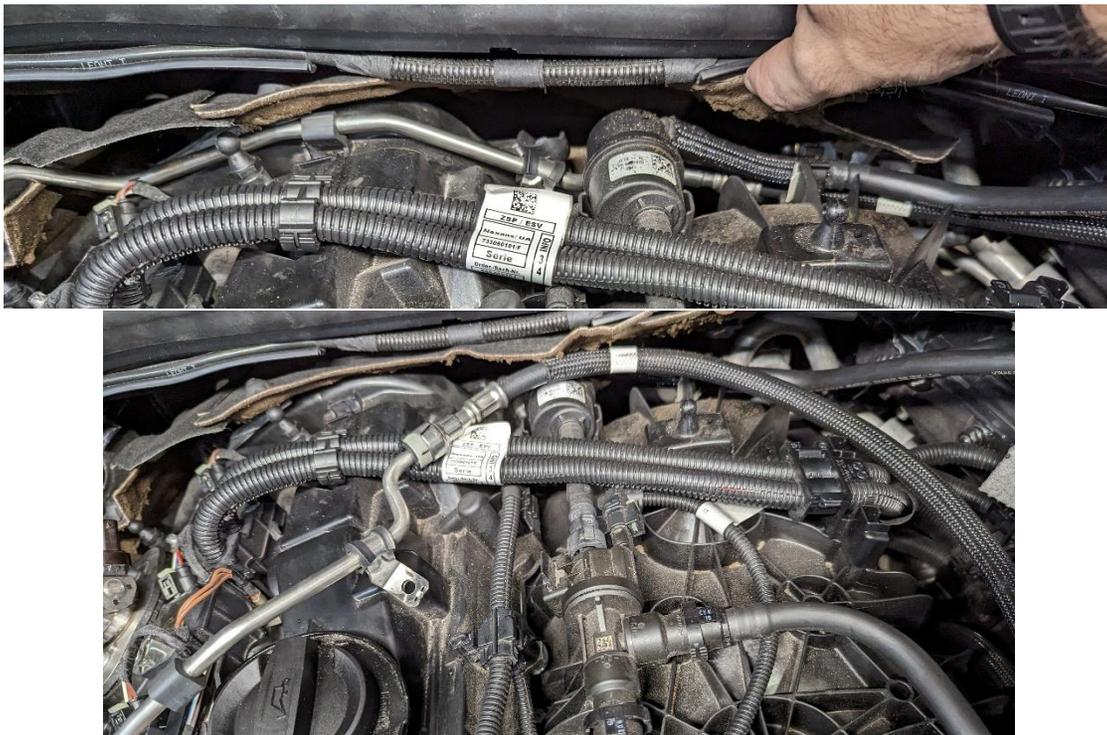


- The low pressure hose assembly will now be removed in one piece. First, go to the hose junction next to the DME and remove the gray locking clip. This clip simply slides off sideways (use two hands so it doesn't get dropped).



With the gray clip removed, simply push the black release collar into the fitting (upwards) while pulling up on the hose for removal. We recommend another rag here to catch any fuel spillage.

- The full low pressure hose assembly can now slide out of the car. Simply guide the line under the rear firewall covers and remove it from the car:



11. Lastly, remove the OEM high pressure pump using a T30 socket. Use **CAUTION** when removing the pump. The area must be VERY clean to avoid contaminating the pump and engine. You also must unthread each mounting bolt a little at a time to ensure the pump comes out STRAIGHT.

Inspect the gasket for any issues (they can nearly always be re-used multiple times without leaking).



12. Install the Dorch Engineering pump flange using the supplied Torx T30 bolts and the flange alignment tool. Press the alignment tool into the center of the flange and tighten the bolts.

**Flange Tightening Torque: 12nm - Blue Threadlocker Required**



13. Remove the alignment tool and insert the Dorch Engineering fuel pump. Use extreme **CAUTION** when installing the pump. The pump's 5mm Allen bolts **MUST BE TIGHTENED EVENLY**. Uneven loading of the spring can damage the pump. Also, be **EXTREMELY CLEAN** as all HPFPs are very sensitive to contaminants.

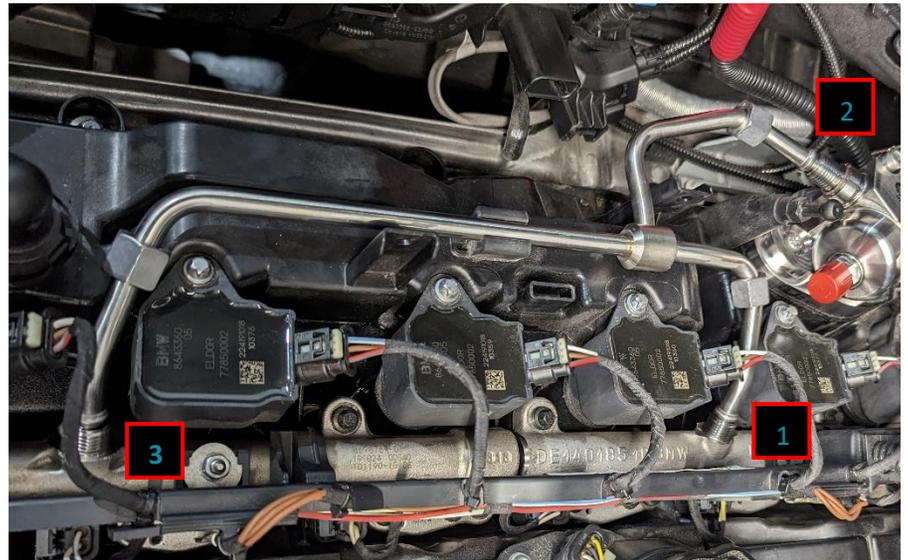
*Note: If the HPFP doesn't slide in nicely, the flange is mis-aligned and step 12 should be repeated.*

**Pump to Flange Tightening Torque: 12nm - Blue Threadlocker Required**



14. **READ THIS STEP THOROUGHLY.** Now install the supplied high pressure line. This line needs to be installed into the rear-most fuel rail port first, then rocked over into the fuel pump port, and lastly pulled down and back into the front-most fuel rail port. It will be a tight fit and the line **MUST BE AS STRAIGHT AS POSSIBLE**.

Every line is test fit before shipping. If it doesn't align perfectly, this can be adjusted by loosening the pump-to-flange bolts and rotating the pump either way in its bolt holes. Further adjustment can be had by doing the same with the flange-to-valve cover bolts. If you need to take these steps for proper alignment, be sure to **RE-TORQUE** any bolts that were loosened.



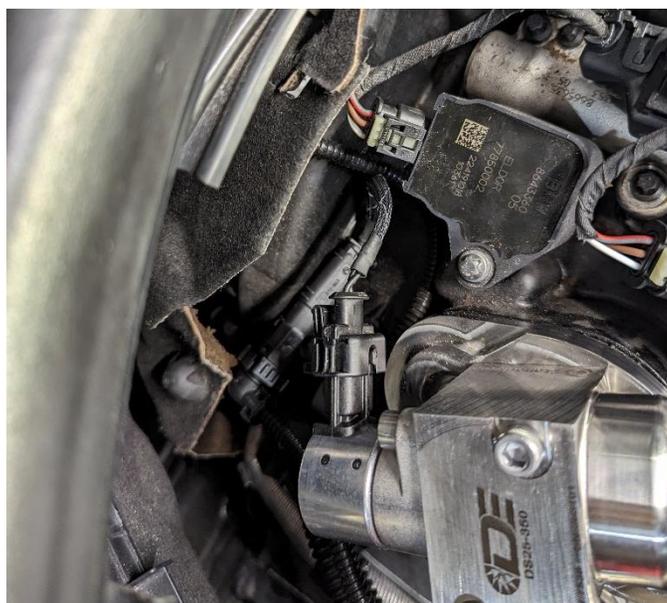
15. If the nuts thread on effortlessly and bottom out with all the fittings well aligned, the three nuts can now be torqued.

*Note: We don't expect everyone to have specialty sockets for proper torque spec. In this case, simply "snug" the nuts with a 17mm wrench. 31nm is NOT a lot of torque so be sure to not over tighten and damage the line.*

**High Pressure Line Nut Tightening Torque: 31nm**



16. Install the Dorch electrical harness adapter as pictured below. Once clicked into place, be sure to push down the gray locking tab on the engine harness (the reverse of step 4).



17. Next, install the Dorch low pressure hose. Start by removing the blue collar nut from our hose and then slide the hose down onto the car's low pressure line (below left). The blue collar nut will then need to be threaded into the fitting to secure the hose. For cheap insurance we recommend a small drop of blue Loctite on this collar nut (below right).



**CAUTION:** USE TWO HANDS WHEN THREADING THE BLUE COLLAR NUT. These can easily be dropped in the engine bay without using caution.

To tighten the collar nut, use a 19mm crow's foot while holding the fitting straight. This just needs to be "snug".



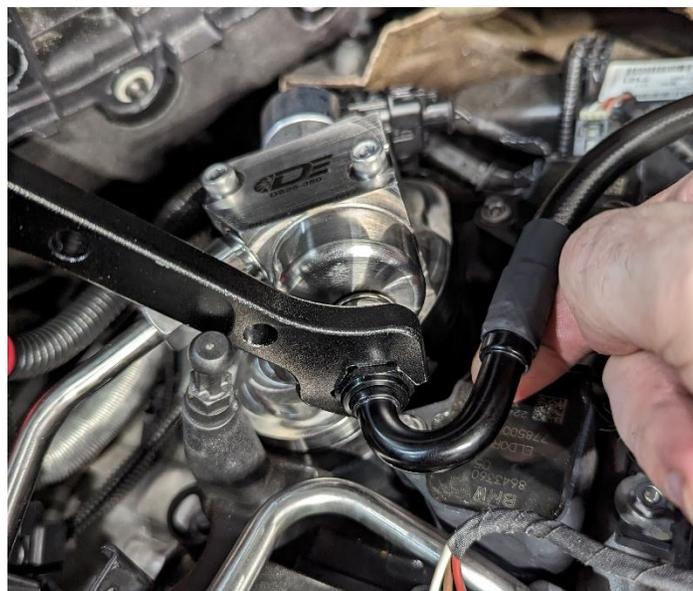
18. Route the hose behind the intake manifold just like the OEM hose and install it onto the HPFP **finger tight**. Using a 13mm socket, remove the rear cover hold down barb and reinstall it with the Dorch low pressure hose hold-down bracket:



19. With the hose nicely tucked into the OEM groove location, you can now tighten the AN inlet fitting on the HPFP.

Rather than a **torque** spec, we recommend tightening these using the “flats method”. Both the hose AN fitting and our HPFP AN fitting is hex shaped, meaning they have 6 sides, or “flats”. For this size AN fitting, the tightening spec is finger tight, followed by tightening an additional **1.0-1.5 flats**.

So, when you tighten the fitting finger-tight, let’s say the flats on the fitting align perfectly with the flats on the HPFP. Simply use a wrench and tighten the fitting further until the very next set of “flats” aligns perfectly.



**Tip:** Use aluminum AN wrenches to prevent damage to AN fittings. Hold the fitting at the desired angle while tightening (as pictured above).

At this point, double-check all of your fuel connections, fastener torques, etc. and then reconnect the battery's ground terminal. Make sure the proper tune file is flashed (**THE CAR WILL NOT RUN WITHOUT OUR FILE LOADED**). Before putting everything back together, you can now attempt to start the engine.

## **IMPORTANT: DO NOT SKIP!**

**There are ZERO faulty HPFPs out of the box. Everything is thoroughly tested and serialized before shipment. If you are getting a NO START condition, it's one of two things:**

1. **Problem:** Dorch HPFP software is not flashed on the vehicle

**Solution:** Fully reflash your vehicle with Dorch Software. If tech support or tuning files are needed, contact: [info@dorchengineering.com](mailto:info@dorchengineering.com)

2. **Problem:** The high pressure line is not self-bleeding

**Solution:** It's very common (even with OEM HPFP replacements) on these engines to encounter endless cranking due to air in the high pressure line. This requires manual bleeding of the line (and in some cases 2 or 3 times) before the car will fire up. All that's required here is to simply crack the nut loose first at the HPFP outlet fitting, and second just slightly at the front fuel rail fitting. Use rags to catch the drips. You will hear a lot of air and fueling bubbling out quite loudly as it bleeds. Tighten the nuts back up and try starting the engine again. Repeat 2-3 times if needed until the engine fires up.



Once the engine fires up, check for leaks at each fuel connection point and double-check that the pump is torqued down. You can now re-clip the rear firewall covers, the harness bracket, the engine cover, and the DME cover. It's now time to make some power!