

INCREASING THE AREA UNDER THE CURVE

TWISTED TUNING A90/A91 Supra and BMW Z4

CANBUS LPFP Upgrade Stage 1/2



We are proud to present our One-of-a-kind industry leading CANBUS LPFP fuel system upgrade for the 2020+ Toyota Supra/Z4 equipped with the B58. We strive to give you the best possible products on the market for these cars. No more Hobbs switches to fail and risk ruining your engine due to a lean condition.

Our Stage 1 (1000whp rated) pump offering will feature a single extra TI Automotive pump mounted externally to the bucket with the OEM bucketed pump still intact for normal and seamless vehicle operation. Our Stage 2 (1200+whp rated) system adds 2 external TI Automotive pumps in addition to keeping the OEM bucketed pump to reduce chances of fuel starvation.

Both our Stage 1 and Stage 2 kits offer provisions for a return line if the user sees fit. We also place the aux pump(s) on their own separate feed line to be able to move as much fuel as possible to the engine.

WHAT COMES IN THE KIT:

- TI Automotive AUTHENTIC 525 l/h fuel pump
 - Aeromotive 10micro High Flow Fuel Filter
 - Twisted Tuning Pump mounting bracket
 - Power/Activation Harness
 - CANBUS Harness
 - 6an PTFE Braided/Sleeved fuel feed hoses w/ Twisted Tuning -6an full flow hose ends
 - Fuel Tank electrical bulkhead fittings and harness
 - Kaizen Solid State Relay w/Custom programmed control module (Twisted Tuning Exclusive)
 - Twisted Tuning -6an port injection Tee fitting
- All Products Made in the USA.

TOOLS NEEDED:

- Oetiker Clamp plier or Pinch Clamp Plier equivalent
- Basic Hand tools (IE – wrenches and sockets)
- Drain pan
- Fuel Tank Top hat removal tool (OEM) or big flat tip screwdriver and hammer
- New Top Hat O-ring (recommended)
- Drill, Step Drill bit (with sizes big enough for 3/4" and 1/2", and 4mm drill bit
- Heat gun

TIME NEEDED FOR INSTALL:

- 2-4 hours

INSTALLATION INSTRUCTIONS:

1. Position Vehicle on Flat Surface or a lift.
2. Open Vehicle trunk and disconnect battery, place towel over trunk latch so it doesn't relock
3. Remove Vehicle exhaust and heat shield
4. Remove the black under trays along the bottom driverside of the vehicle exposing the OEM fuel feed line and fuel tank vent line.

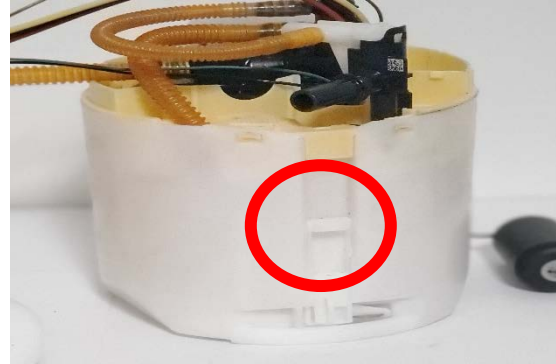
NOTE: we recommend no more than an 1/8 tank of fuel or less be in the tank for the installation of this upgrade. No one like Fuel baths

5. Place drain pain under the top hat area. Disconnect Fuel feed line from the fuel pump top hat, disconnect the electrical connector from the fuel pump top hat and move out of the way.

6. Turn top hat clamping ring counter-clockwise to remove and let the fuel drain until it slows to a drip.

7. Remove the fuel line from the pump assembly that comes from over the tank tunnel.

8. Unlock the Pump assembly by lifting up on the lock tab at the front of the pump (for orientation it would be the tab facing the rear of the car) Tab is circled in red here to the right.

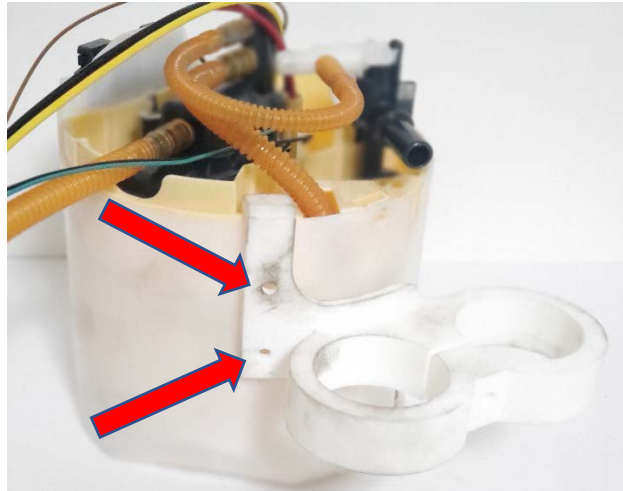


9. Tilt the pump assembly up and towards the front of the car. It will take a bit of force. Then lift up and out of its seat and remove the entire assembly from the tank

10. Install the Twisted Tuning pump pump bracket onto the OEM pump assembly using the bracket mount positioning slot of the OEM bucket indicated by the red arrow in the image below. Make sure its seated and level.



11. Drill two 4mm holes in the OEM assembly using the locator holes on the pump bracket indicated by the two red arrows. Clean out leftover debris in the bucket if any.

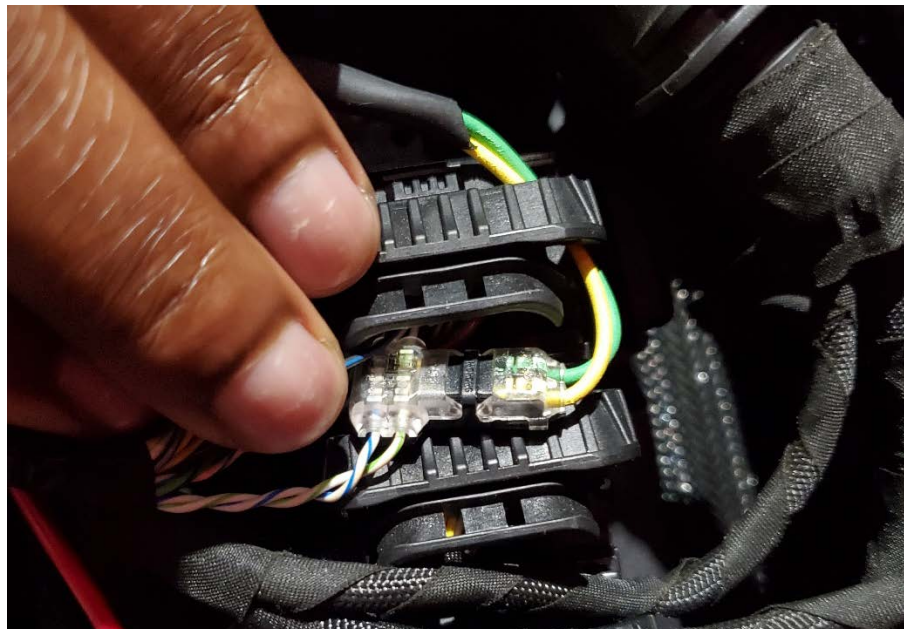
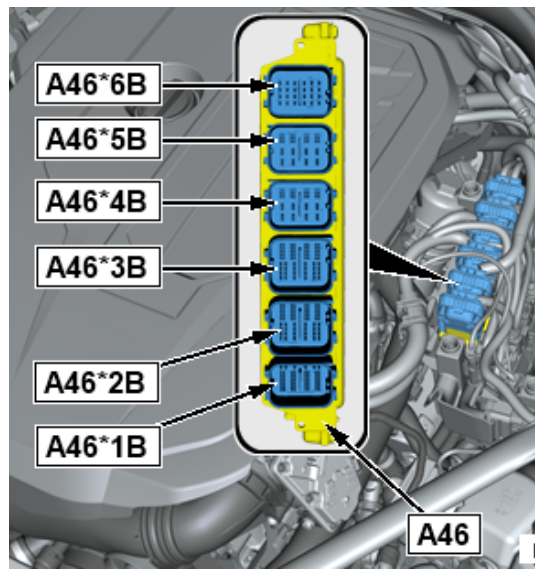


12. Remove the TT pump bracket from the OEM assembly and mount the TI automotive pump into the TT bracket. Left or right mount hole doesn't matter. Stage 1 is single pump, stage 2 is dual pump.
13. Drill holes for the fuel feed, fuel return and electrical harness. (Check often that you aren't making the holes too big. (They should be just large enough to slide in the fittings.) Use image below for hole reference location.



14. Install fittings and tighten down. Mark the fittings for feed and return
15. Install OEM pump assembly back into tank and lock the tab back down. Reinstall the fuel line that was connected to the pump.
16. Install the TT pump bracket and TI pump as one onto the OEM pump assembly. Use the two provided black pushlock pins to secure the TT pump to the OEM assembly.
17. Slide the supplied fuel hose clamp over the TT fuel pump outlet hose.
18. Using the heat gun, heat the end of the hose until it starts to get warm, then slide over the feed nipple. Clamp the hose onto the nipple.
19. Follow the OEM pump electrical harness up over the diff into the trunk. There you will find a rubber boot. This is where the Twisted tuning harness will get routed through into the trunk. Puncture a slit/hole in the boot and slide the harness through.
20. Mount the K-Relay and Controller in the battery area. Route the CANBUS harness back through the same boot and follow the OEM fuel line up to the engine bay and to the ECU cover.
21. Route the long TT Fuel Feed line from the top hat outlet (90deg fitting on the tank side) up over the driveshaft and follow the OEM fuel line routing to the engine bay
22. Connect the fuel filter and mount it. Then connect the short fuel line to the other end of the filter and route the line up to the Port injection quick connect.
23. Remove port injection hose, place tee in its place then reconnect the PI hose and TT hose back to the quick connect fitting.

24. Connect the CANBUS connection as follows:



25. Go back to the truck, connect the pump harness via the plug connector to the Relay. And connect the main power and ground leads of the relay to the battery.

26. Connect the Controller to the Relay, Now test the power of the relay by pressing the button on top. With everything connected you should hear the pump prime.

27. At this time you have installed the LPFP upgrade and you can put everything back together.

HAPPY FUELING!!!!