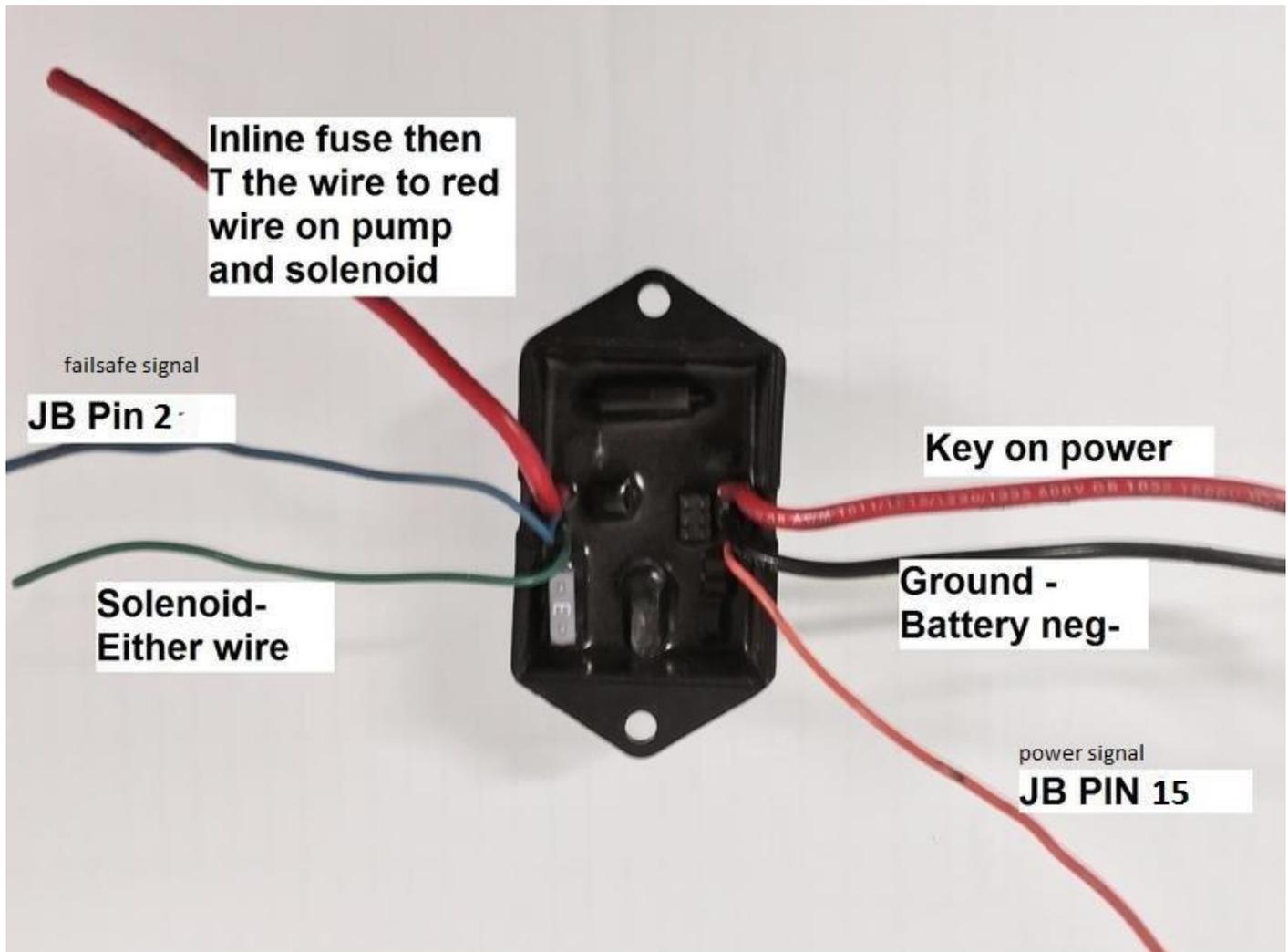


Remove the cowl covers for the model to expose the JB4 control box, and remove the negative battery terminal. The FSB serves as both the pump controller and the flow sensor.

#### FSB Wiring:



1) Orange/Blue wires:

N54:

Remove the JB4 control box from the AMP connector and remove the two screws holding the AMP connector together. Upon removing the case you'll insert the FSB orange wire in to position #2 and the blue wire in to position #15. These will be the only open slots in the connector. They are numbered on both the front and back so check before pushing the pin in.

If you lock the pin in the wrong spot by mistake you will need to go to Radio Shack or an electronics store to get an inexpensive tool called a "DSUB pin removal tool" to extract the pin and place it in the right slot. If you manage to damage a pin you can replace it with any male DSUB pin.

All other engines:

N20, N55, N63, S55, S63, B48, B58 and VW tuners will instead use spots #3 for the orange wire.

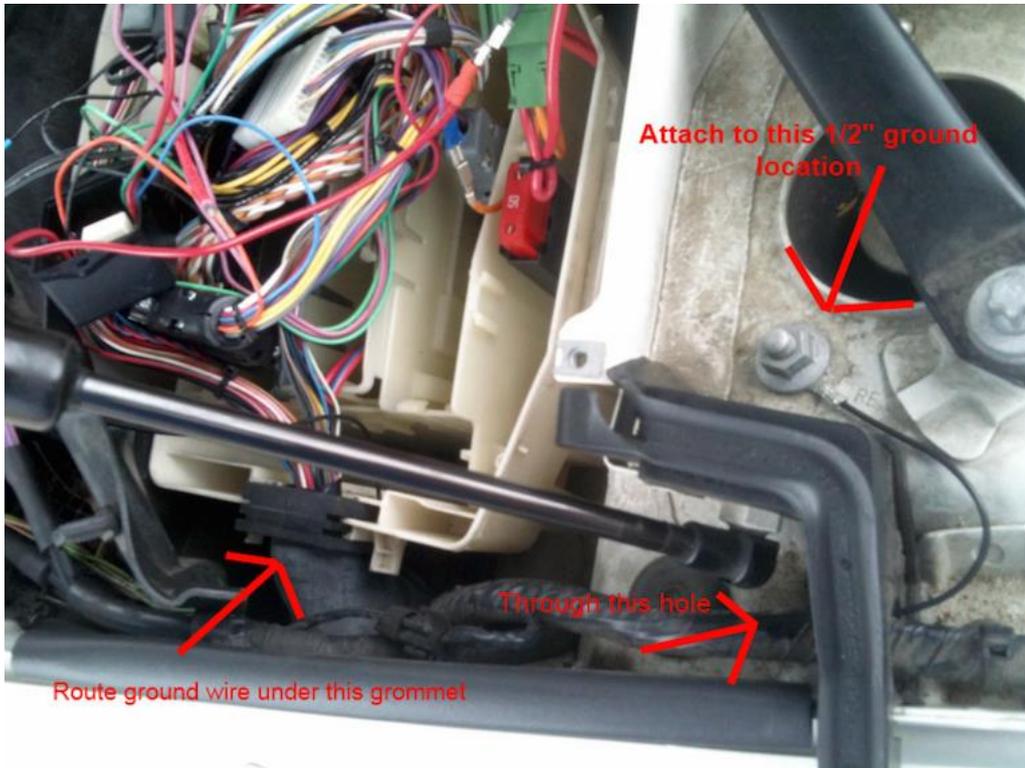
The blue wire goes in to:

#16 for pneumatic wastegate board vehicles (generally E series N55 and 2013 F series N20/N55)

#14 for N63, S55, S63TU and VW and #14 for other electronic wastegate board applications including the 2014+ F series N20/N55 EWG, B48 & B58 etc. If the blue wire is placed in the wrong spot the pump will still turn on but the JB4 will not properly read flow data.

2) Ground: Route the black ground out of the DME box to the shock tower or any suitable grounding point.

N54 Ground Reference:



3) FSB Red Wire +12v:

N54:

For N54 installs the FSB power wire with the connector attached to it (the one on the same side as the black ground wire) piggybacks with the JB4 red power wire. The one that is attached to the green connector in the DME box. Unplug the OEM orange wire from the JB4 power wire, connect the FSB female pin to it, and connect the FSB male pin to the JB4 power wire completing the loop. Now, both the JB4 and the FSB control box will have switched 12v power. For the N54 the fuse will go between the FSB red wire to the pump and the pump.

N55 E Series:

Attach the power wire to the large 50amp fuse location that the JB4 takes its power from. The fuse goes between this connection and the FSB.

All F Series:

Attach the power wire to an unused location in the fuse box located on the passenger side of the vehicle as shown below. The fuse goes between this connection and the FSB.

4) PUMP POWER: The big red wire on the same side of the FSB as the green wire is extended out to connect to the PUMP Red wire and one of the solenoid wires. Note the solenoid wires are interchangeable.

5) The green wire extends out to the other solenoid black wire. This configuration allows independent FSB control of both the pump and solenoid.

6) Pump ground: The pump black wire will be connected to a chassis ground in the trunk. You can use the battery directly or one of the many exposed grounds under the trunk liner.

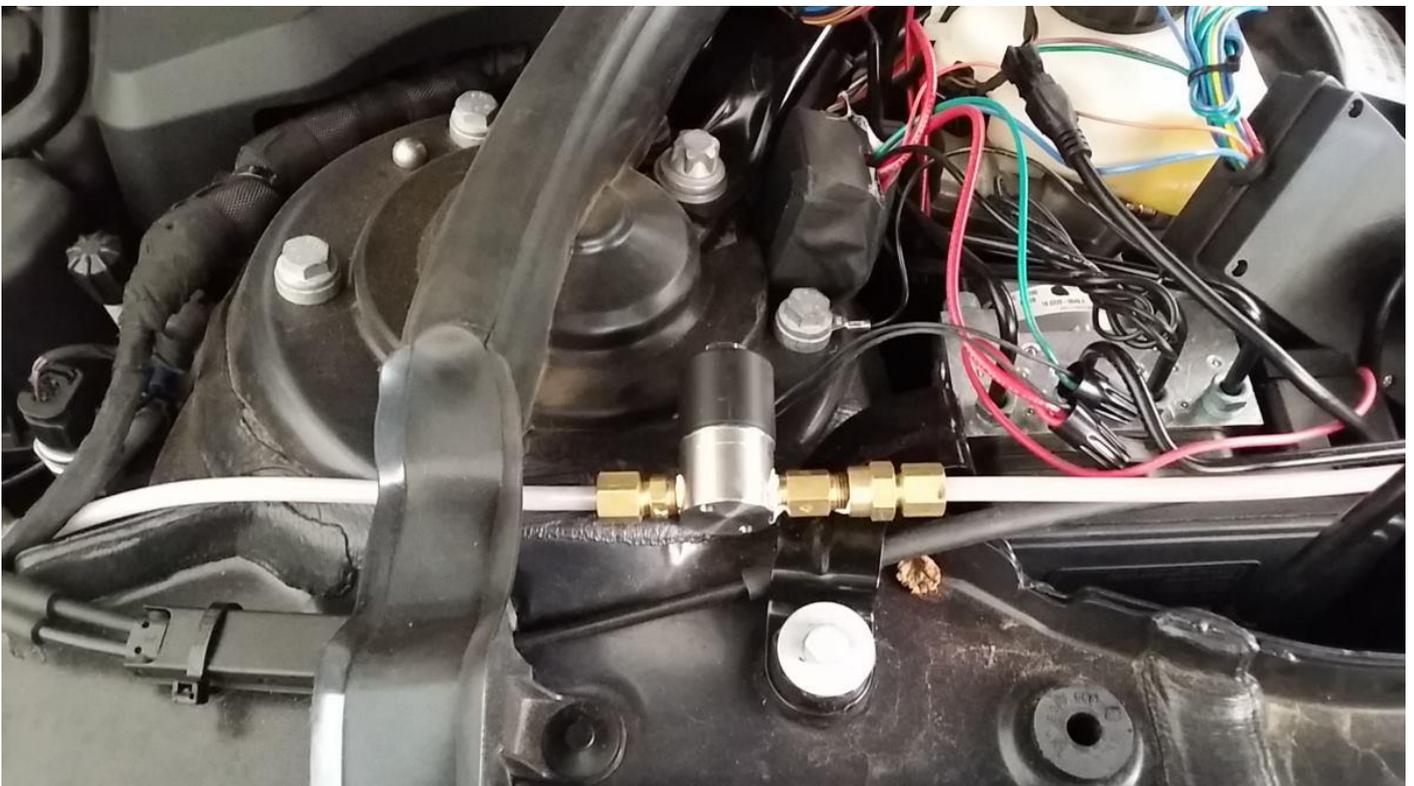
#### **Fittings:**

The solenoid will go together as shown below. Note the direction of flow on the solenoid. Line will run from the PUMP, to the filter, to the solenoid, and finally out the solenoid to the nozzles (or nozzle tee if a twin nozzle kit).

#### **Routing lines:**

Remove the plastic panel under the steering wheel for easy access through the firewall in to the engine bay.

Run the WMI line and red power wire from the tank in the trunk working backwards towards the engine bay. It will tuck behind the rear seat and along the driver site interior panels up around the hood-latch mechanism towards the firewall. There is a rubber grommet you can poke a hole in to extend meth line and power wire in to the engine bay by the brake booster.



#### **JB4 setup:**

Using your BMS DATA cable or JB4 Connect Kit you'll have to enter a few settings to enable the meth integration.

Under the meth tab set Signal Scaling to 60. Then set Boost Additive to 40. The Boost Additive determines how aggressive the JB4 will be with boost when WMI is at full flow. We suggest the 40 setting for pump gas as a starting point. If you happen to run higher octane fuel such as race gas or E85 then this value can be increased. The maximum suggested setting for factory turbos is 75. Note the WMI maps are application specific so refer to the JB4 thread for your application for additional information.

For the N54/N55/N20 the WMI map is map3 while with the S55/S63/B58 the WMI map is map8. WMI can be used on other maps with reduced safety function so refer to the application specific JB4 thread for additional settings.

WMI flow:

Note when the system is operating normally you will see a WMI flow reading of 60% to 100%. It's normal for the flow reading to vary between 60-100% based on weather, fluid injected, nozzle size, etc. Readings below 60% indicate a flow issue. If you run out of meth the reading will drop to 10% or less. If you have a wiring or electrical issue the reading will drop to 0%. Priming system:

The first time you install and any time you run the system dry you will need to prime the pump to get all of the air out of the pump and lines. If you see air bubbles in the line feeding the pump you will need to resolve that issue first and then prime to remove air from the pump after. Any time air is detected in the pump or lines leading in to the pump the JB4 will give a lower meth reading. Note it is normal to see air pockets in the short line between the solenoid and the nozzle when the system is off. It is also normal to see an occasional air bubble in the line feeding the pump. But many bubbles combined with a consistent low flow reading indicate air is leaking in to the system.

N54 Purge Directions: Disconnect the line from the nozzle and place it in a water bottle or bucket to catch the fluid. Turn the ignition on and enter JB4 command mode. Go to option 7/5 (meth on oil temp) and while in command mode press the gas pedal to the floor to activate the pump and push the air out of the system. This generally takes 5-10 seconds and you can visually confirm the inlet and outlet lines are free of air bubbles. If you see air bubbles appearing in the line going towards the pump double check all fittings and lines to ensure they are tight.

All others: Select the WMI map for the application. With ignition on and JB4 software connected press the small "purge" button in the upper right hand corner repeatedly to activate/test the pump. Each press will activate the pump for around a second and it should take 6-8 seconds to push all the air from the pump and get it properly primed.

If you are unable to get fluid to come out using the methods above you have a wiring or installation issue and will need to further troubleshoot. Assuming fluid comes out everything should be working properly.

### **Troubleshooting:**

Pump isn't turning on using 7/5 option + gas pedal push in dash:

1) Above technique works for N54 only 2) Orange and blue wires in JB4 might be crossed 3) Inline fuse installed may be missing or blown

### **FSB Mounting in F Series:**

Although the FSB will be placed under a plastic engine cover it is still susceptible to water damage if left floating. We suggest either mounting the FSB face down against the chassis and/or covering the open face with a piece of cloth or duct tape to improve its water resistance.