Merlin Controls Speed Wizard
For Electronic Speedometer Correction

Merlin Controls Speed Wizard
Detailed Installation on 1999-2004 F250-F550 Trucks

Introduction:

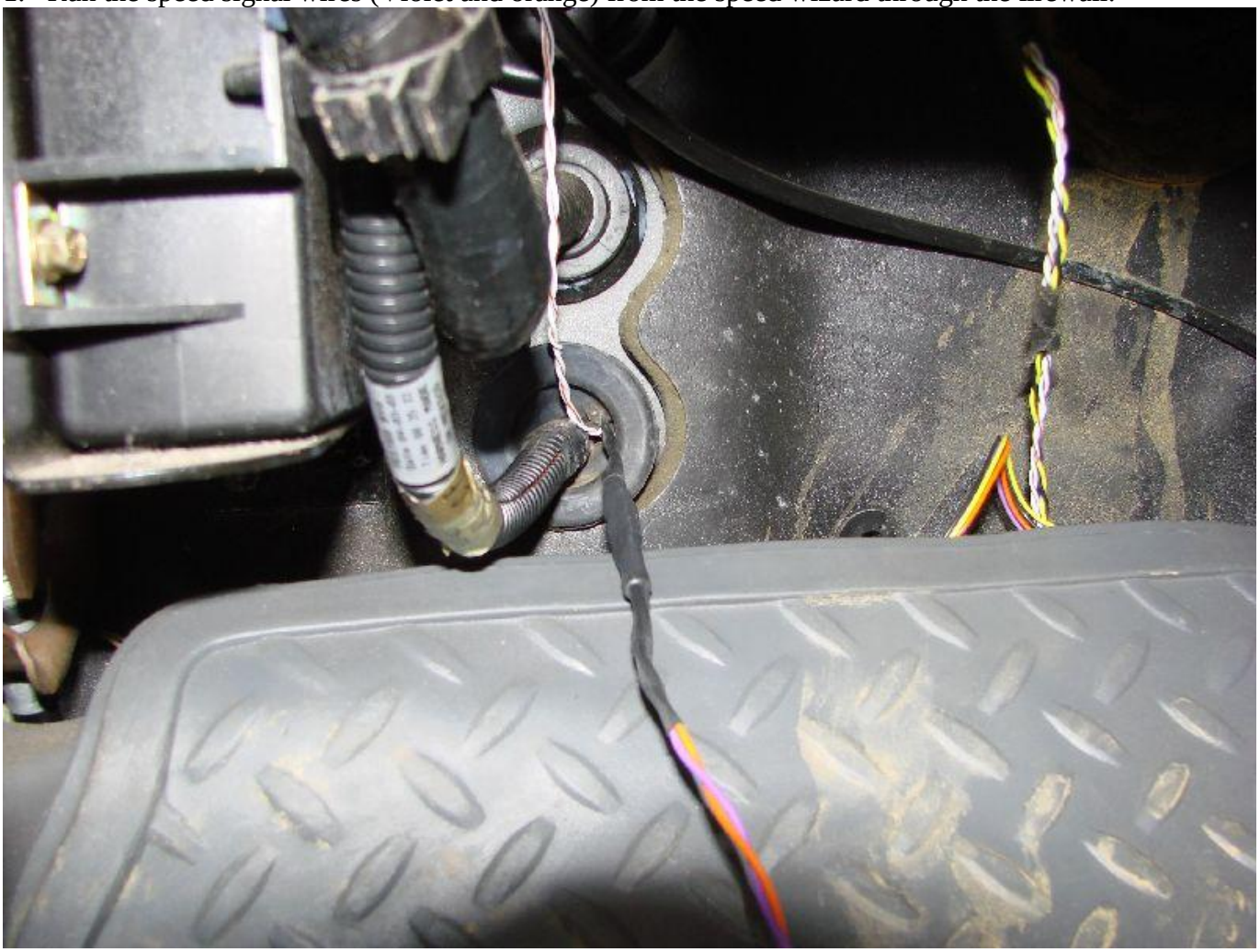
Ford makes a workhorse of a pickup truck. They use front solid axle setups in their super duty line and this is a very dependable and strong system. The super duty trucks are very easy to lift sky high and put larger wheels and tires on. The only problem now is the speedometer is not going to read correctly. There is a solution! The Speed Wizard by Merlin Controls is a great device, which is easy to use and faster to "correct" the speedometer then any of the others out there. The speed wizard is the only speedometer correction device that provides a user interface. The speed wizard is set up so that it shows the user what is going on via the speedometer, no other speedometer correction device will do this. www.merlincontrols.com

Please refer to Merlin Controls for the main install manual; this guide is only as an addition to the main manual and not to be used as a full install manual.

Install:

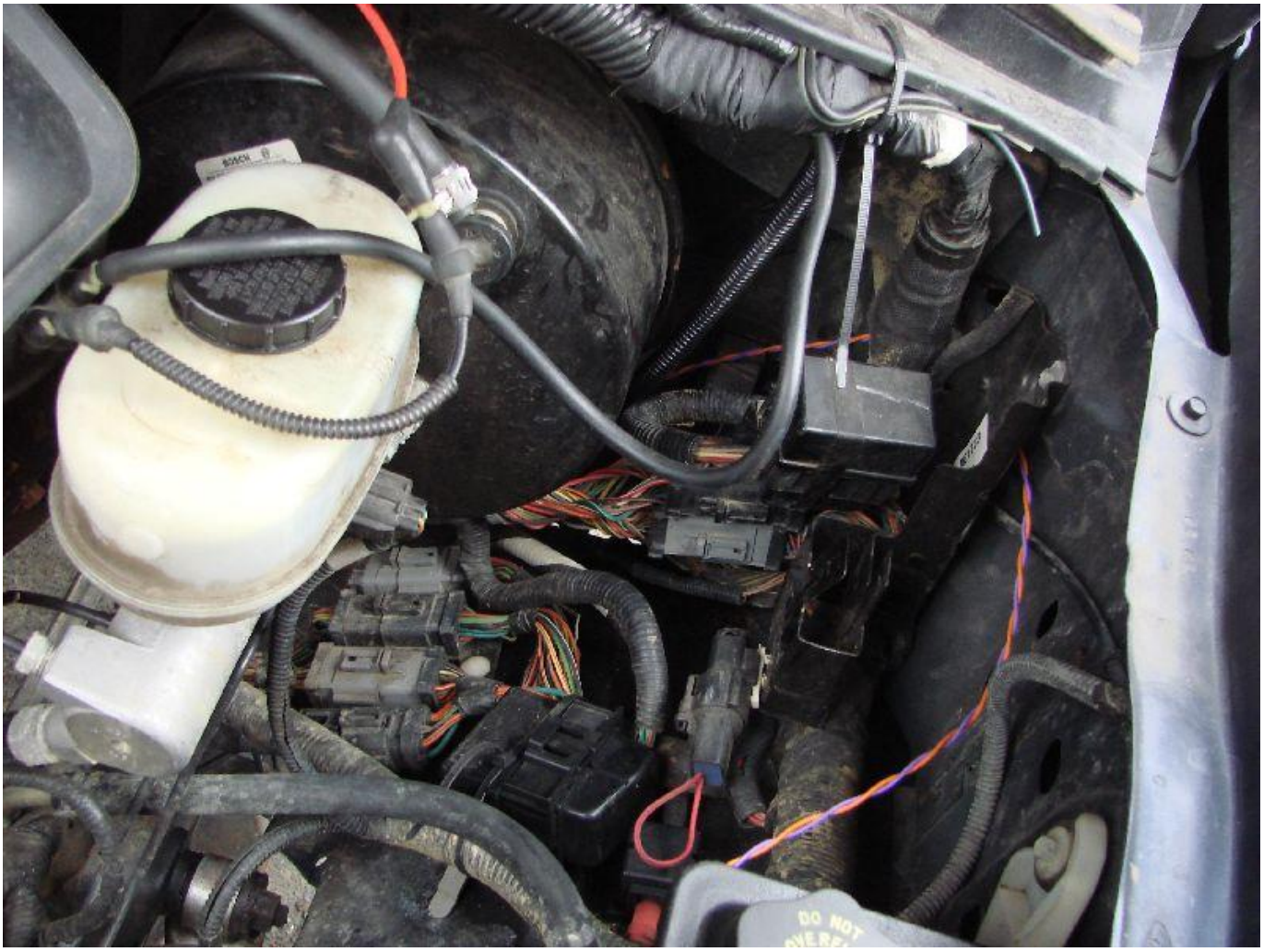
We chose to install the Speed Wizard on a 2003 F250 5.4L gas Super duty truck. This truck has a 6" lift with 37" tires. The first thing before installing anything electrical on a automobile is to remove the key from the ignition and disconnect the battery(s) to prevent shorting out during install.

1. Run the speed signal wires (Violet and orange) from the speed wizard through the firewall.



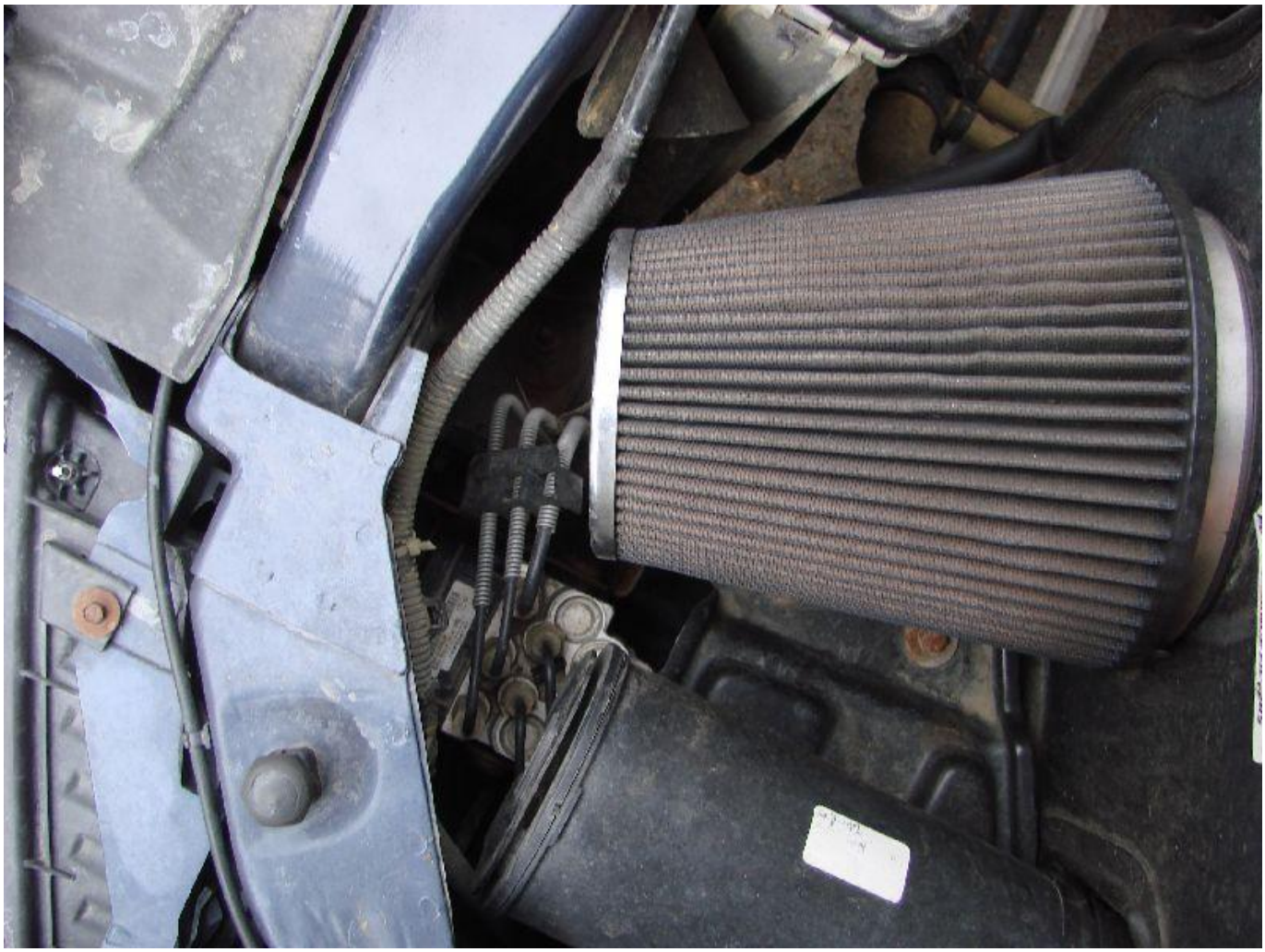
You will notice the Violet and orange wires go through the lowest firewall rubber grommet. This is where I had the most room on my truck, however the user can use their best discretion to choose where to push the speed wizard wires through.

Here is a view from the other direction:



The wires go right through the firewall on the driver's side. Make sure the wires do not scrape against anything that will cut through the insulation. The user may decide to install wire loom around the wire, this is a great idea to protect the wire even more.

2. The speed signal wires will be spliced in right after the ABS module on models 99-04. The abs module on these trucks is the module with all the hard brake lines going to and coming from it. You can see the abs module in the next picture below the aftermarket air intake and the fuel canister. On diesel trucks the second battery may need to be removed.

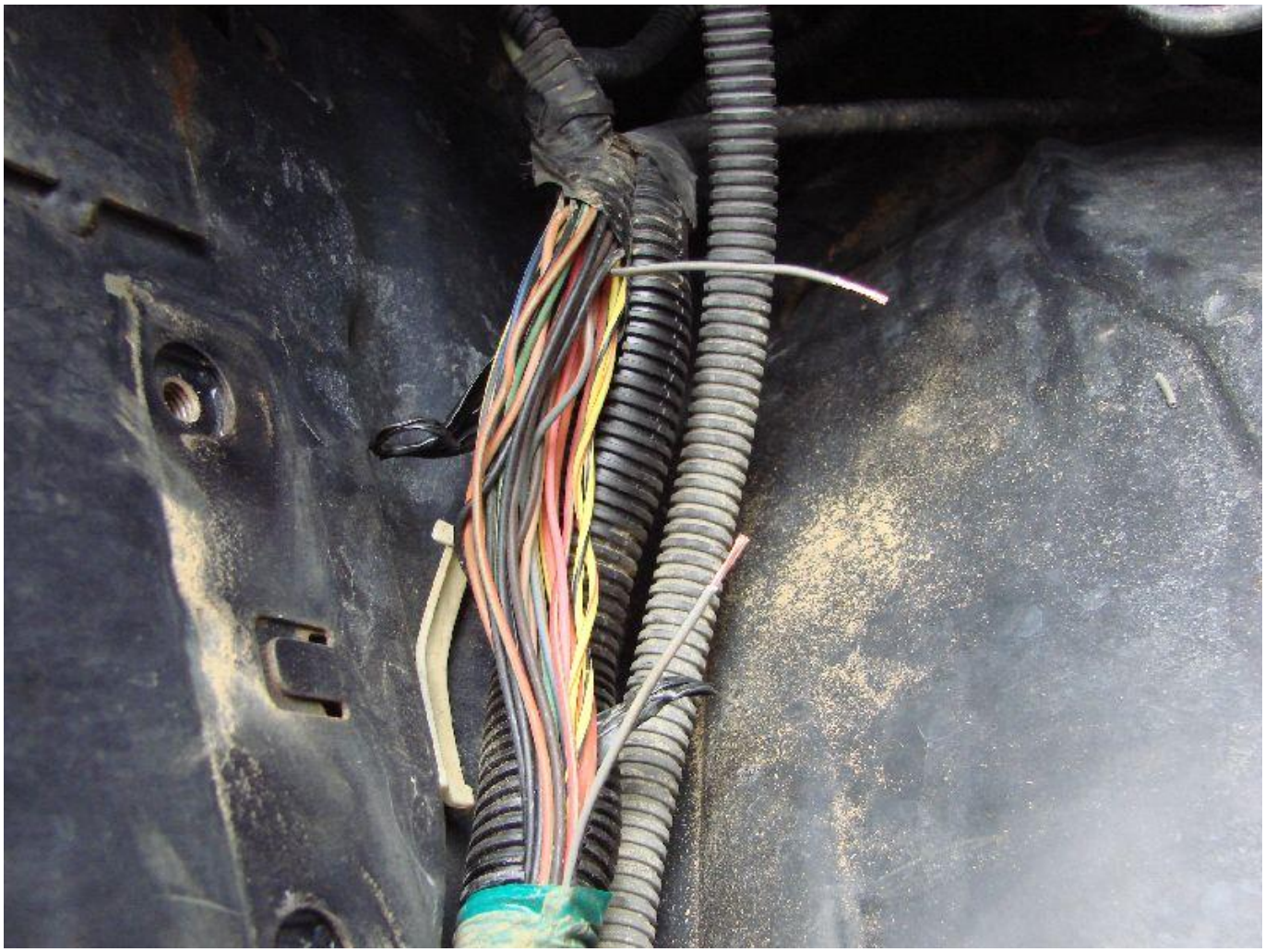


3. Remove the air box and fuel vapor canister mounting hardware and move to the side.
    a. The Wire bundle with the Green tape around it in this picture contains the speed signal wire that goes out to the “PCM” and other onboard systems such as cruise control, speed controlled radio volume, intermittent wipers and speedometer.

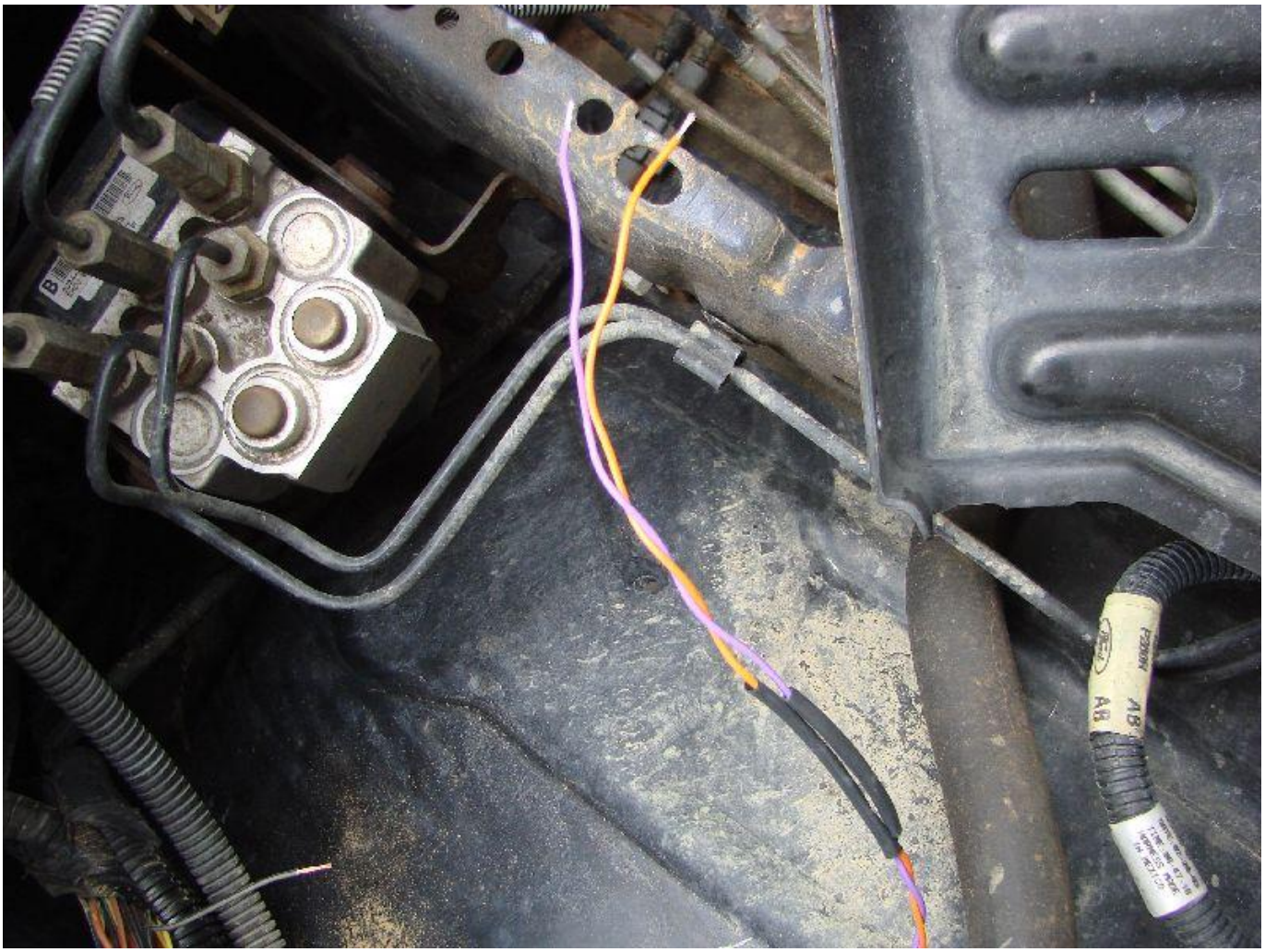
4. Instead of trying to make the necessary connection right at the abs module, it is much easier to make the splice where this wire harness is. Remove the tape (in this case green tape) surrounding the wire harness.

5. The wire color in this harness that we are looking for is Gry/Blk that is a gray wire with a thin black tracer. Remove the electrical tape inside the harness to make it easier to spread the wires. Find the correct wire color. In the following picture you can see the Gry/Blk wire is separated from the rest of the wire bundle.

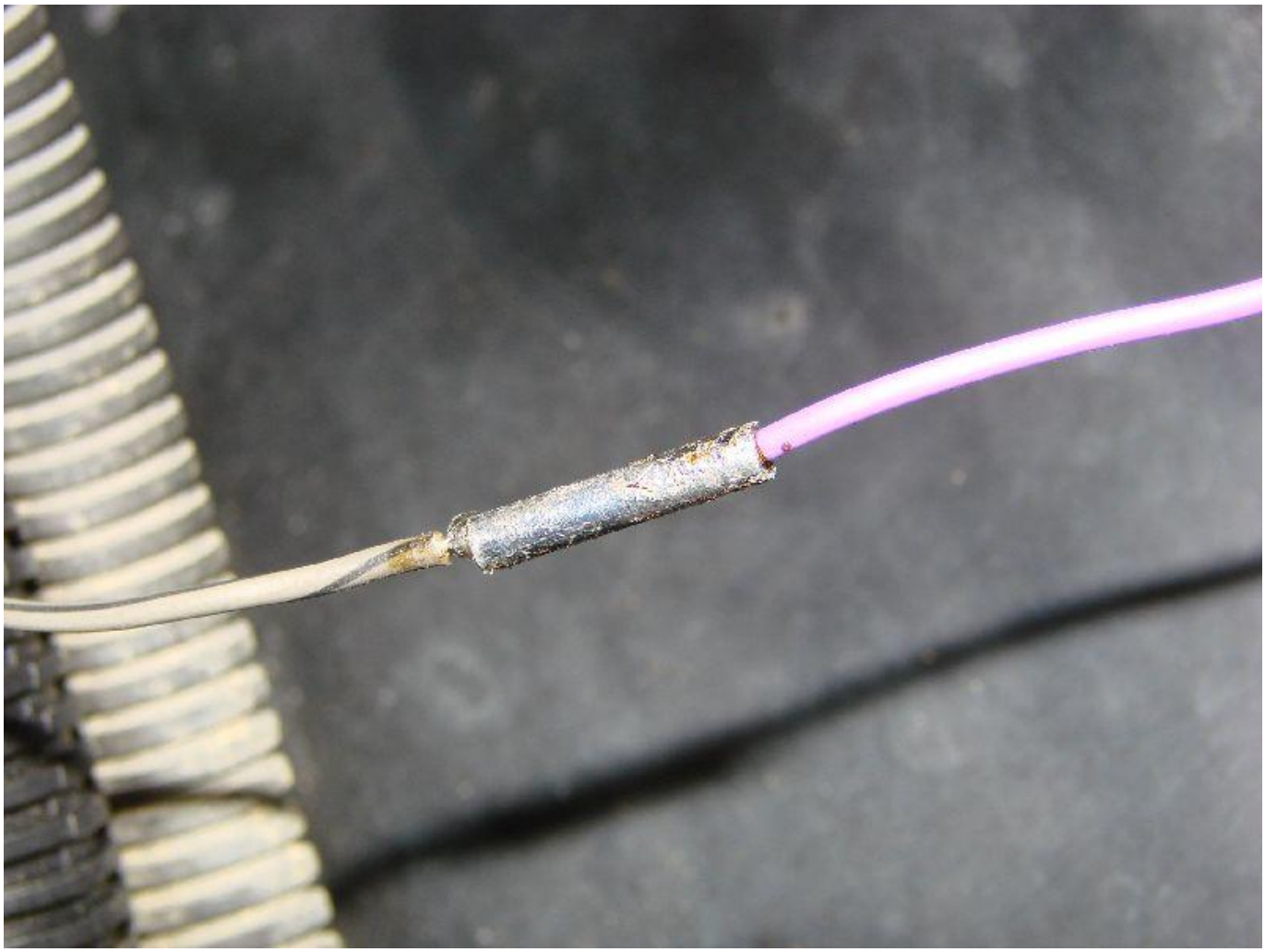
6. Cut the Gry/Blk wire and strip the ends of both sides. This will prep the wire to be connected to the speed wizard wires.



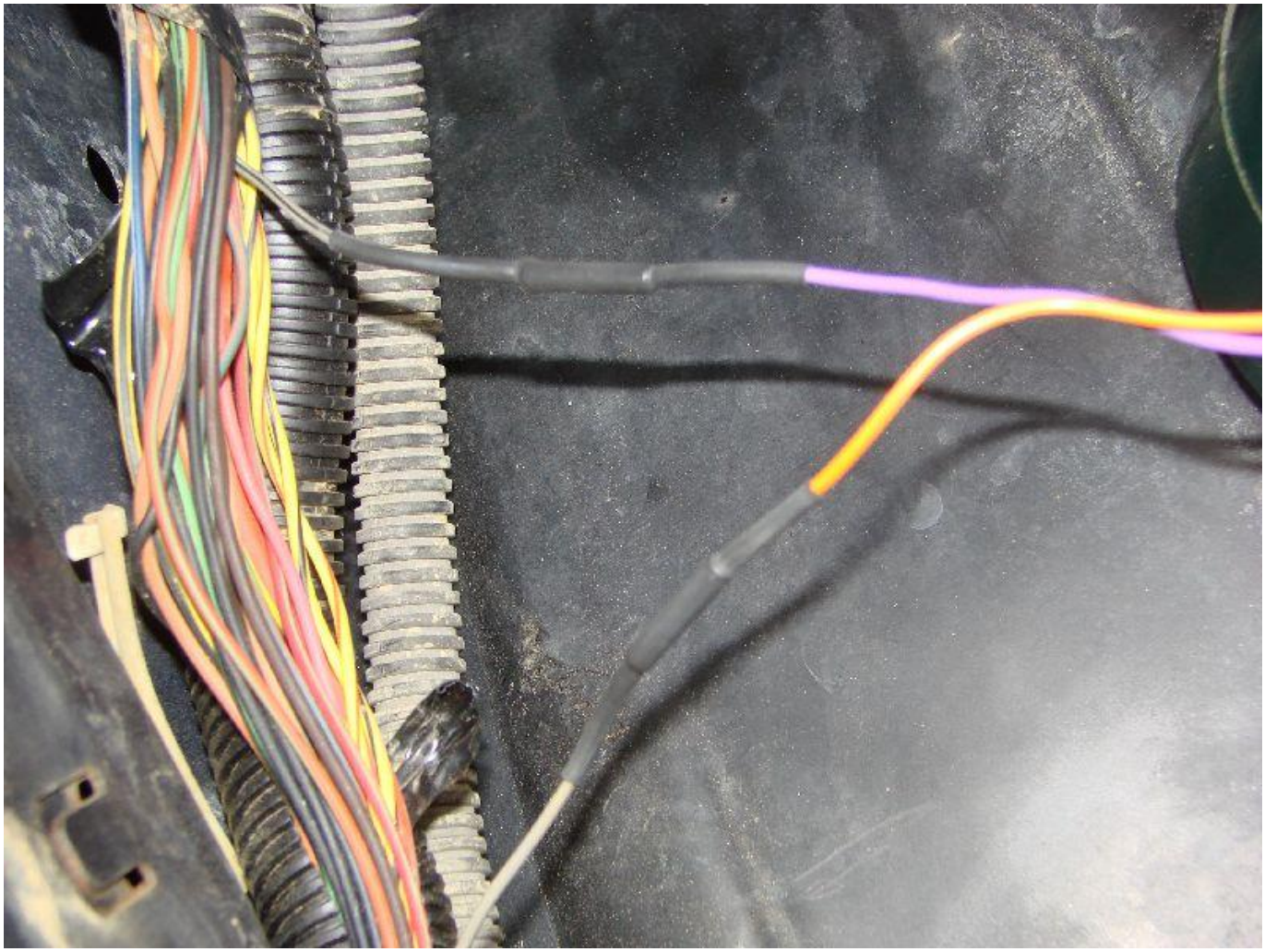
7. Bring the orange and violet wires near the gry/blk wires and make the orange violet ones neat behind the power steering reservoir. Strip the orange and violet wires the same amount as the gry/blk wires. The supplied shrink-wrap should be pushed down each wire, the orange and the violet. This is to cover the but-splice once the solder connection is made.



8. The orange wire is the OUTPUT towards speedometer / PCM. The violet wire is the VEHICLE speed input. Orange = O for OUT Violet = V for Vehicle in. The following picture shows how the butt splice works. The violet wire connects to the cut Gry/Blk wire that comes from the ABS module. The orange wire connects to the cut Gry/Blk wire that goes out towards the cab of the truck.



9. Now push the supplied heat shrink tube over the solder connection so that no metal is showing (center it over the but splice). Using a lighter or a heat gun, heat up the shrink tube, but do not damage the factory wires. The factory wires have insulation that will melt easer then the supplied wires on the speed wizard. Be careful not to melt the insulation on any wires.



10. I used a quick torch to make the heat shrink activate, it was a very windy day, so a lighter was tough but something like this is a little too much. I found it very easy to burn my hands using a large torch like this. We suggest using a lighter or a heat gun, however you should be very careful not to melt anything on the truck. Merlin Controls / FMDK will not be held responsible for damaging anything on the truck while heat shrinking wires.

11. Once the connections are made and the speed wizard is connected to ignition+ power and ground inside the cab, the speed wizard should be checked for proper operation before closing up the wire harness. This will test to make sure everything is installed correctly. To make sure the speed wizard is working properly, reconnect the battery of the truck and ignition on the vehicle. Do not start the truck at this time. Once ignition on is selected, push and hold both buttons on the speed wizard. Within 8 seconds the speedometer should read approx 45 – 50 MPH. If this happens then the speed wizard is hooked up properly, ignition can be turned off and the wires can be cleaned up.

12. Remove the keys from the ignition. Reinstall the vapor canister, air intake, and second battery if applicable.

13. Clean up the wires by inserting the bundle back into the split loom. Also insert part of the orange and violet wires into the split loom, at least covering the butt splices. We suggest using 3M automotive tapes instead of common vinyl electrical tape. I had to use common electrical tape, as it was all I had around. However the 3M automotive “friction” tape seems to be stronger and last longer in poor environments. For a really good connection use 3m Rubber Splicing tape 2155. And wrap that tape with friction tape 3M 1755. This will provide a good seal (rubberized tape) and provide immunity to abrasion (friction tape).

14. In the cab of the automobile, after making the required ignition on+ connections and ground connections, locate a suitable spot to mount the speed wizard. There is Velcro provided so finding a mount location should be easy. Follow the manual on how to adjust the speed wizard, also check our website for a quick "how to" adjust video.

Contact:

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