Ford Mustang 2018 - Present

N2MB WOT Box Installation Instructions

NOTE: If you have an aftermarket CDI (capacitive discharge ignition system) please contact us at support@n2mb.com for additional instructions. If you have the stock ignition system, you do not have CDI. Damage to your WOT Box can occur if the installation is not completed correctly!

WARNING: Spark-based rev-limiters can damage catalytic converters. If you have catalytic converters on your car, N2MB accepts no responsibility for damage caused by the WOT Box. This being said, many successful installs have been made on Catalytic-Converter equipped vehicles. Damage usually is only caused by using the launch-control feature for more than a few seconds, but once again, USE AT YOUR OWN RISK IF YOU HAVE CATALYTIC CONVERTERS!

Please visit our website at http://www.n2mb.com for the latest version of the WOT Box software and installation instructions.

Solder all joints. The N2MB recommended soldering method is available at http://www.n2mb.com. Use a multimeter to verify all wires before they are cut or tapped into. The colors of wires from model year to model year may differ, and may be different on your car from those described in these instructions. Where discrepancies are known, they are described, but there may be more discrepancies than those listed. The best way to know that you have the right wire is to check the connectivity to the ECU and/or sensor at the pins described.

In these instructions, pictures may include other aftermarket alterations in addition to the WOT Box. N2MB is not affiliated with these devices. In addition, if you see something that isn't in your vehicle, don't worry.

Route wires in the manner that you want them to lie permanently before connecting them. Cut wires to length before soldering; avoid coiling wires of excessive length as they can cause noise in the circuit, altering the operation of the WOT Box. Spending some extra time here will enhance the aesthetics of the install. Zip ties are included to secure the wires away from heat, moving parts, sharp edges, or anything else that can damage the wires.

Included in the WOT BOX kit:

- WOT Box
- Wiring harness
- USB to Serial Converter for software upgrades
- Ground lug
- Zip ties
- Heat shrink tubing

You will need:

- Wire Strippers
- Soldering Iron or Station
- Metric Socket Set
- Sandpaper
- Electrical tape
- Razor Blade or Sharp Knife
- Multimeter or Ohm Meter
- Screwdriver or other sharp object
- RTV or Hot Glue (optional)

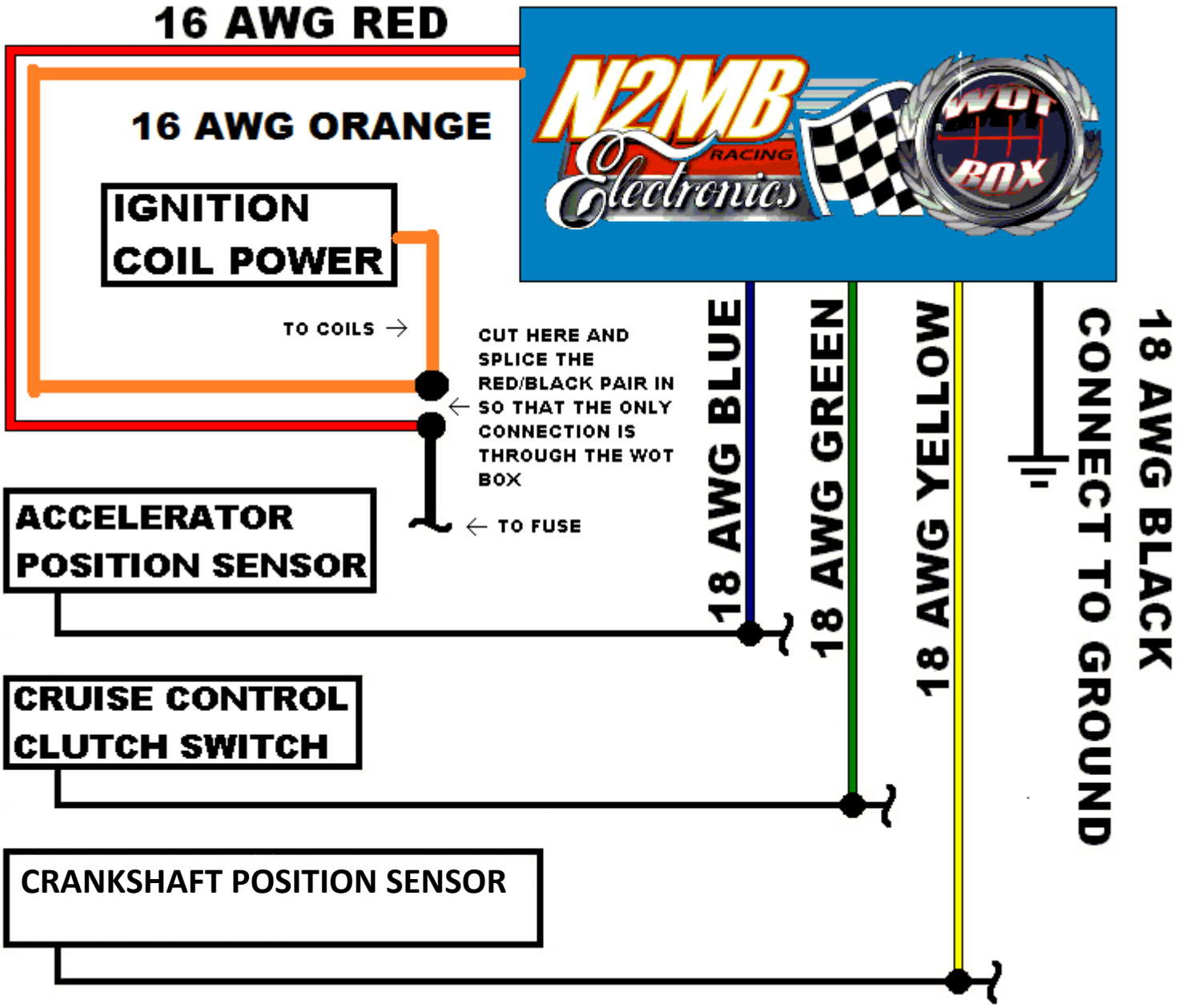


Figure I: Wiring Diagram

1. Disconnect the negative battery cable.

2. Locate the spot that you wish to mount the N2MB WOT Box in the passenger compartment *(the glove box area is usually recommended)*.

3. Raise vehicle and remove the passenger front wheel and inner fender liner.

4. Find the harness grommet located in the rear of the fender well. Next, locate the small accessory nipple on the grommet and cut off the tip of the nipple.

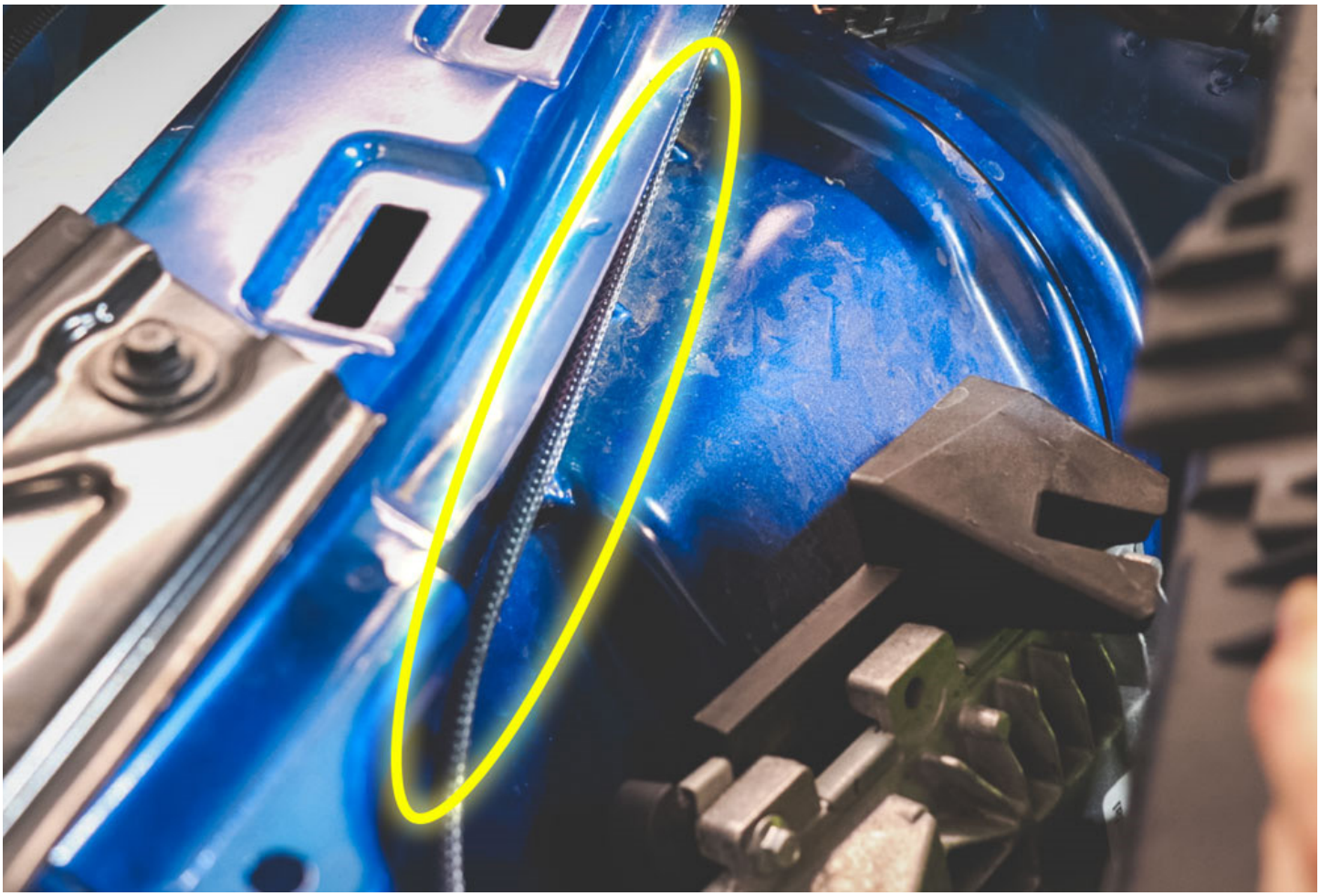
Cut the accessory tip off of the grommet to make room for the wiring to be pulled through.

5. Pull the wiring through the grommet and follow the factory harness to route wires under the hood. Secure the wires to prevent contact with sharp or hot objects.

Pull wires through the grommet. Make sure they are safe and secure from heat & moving objects.

Route wires up into engine bay along passenger side.

6. Unlatch the fuse box to route the wires up and around to the ECU.



Route wires behind fuse box to the ECU.

7. Disconnect both ECU connectors.

8. Starting with the bottom connector (C175B), pull back the factory loom and wire guard from the connector.

For manual transmission cars:

PIN #53 will be a **green wire with a violet stripe** for the cruise control clutch switch. Strip a short section of this wire ***(DO NOT CUT)*** and connect it to the **GREEN WOT Box wire**. Securely solder this connection and protect it with electrical tape/liquid electrical tape.

For automatic transmission cars:

PIN #8 should be a **violet wire with a white stripe** for the Brake Position Sensor. Strip a short section of this wire ***(DO NOT CUT)*** and connect it to the **GREEN WOT Box wire**. Securely solder this connection and protect it with electrical tape.

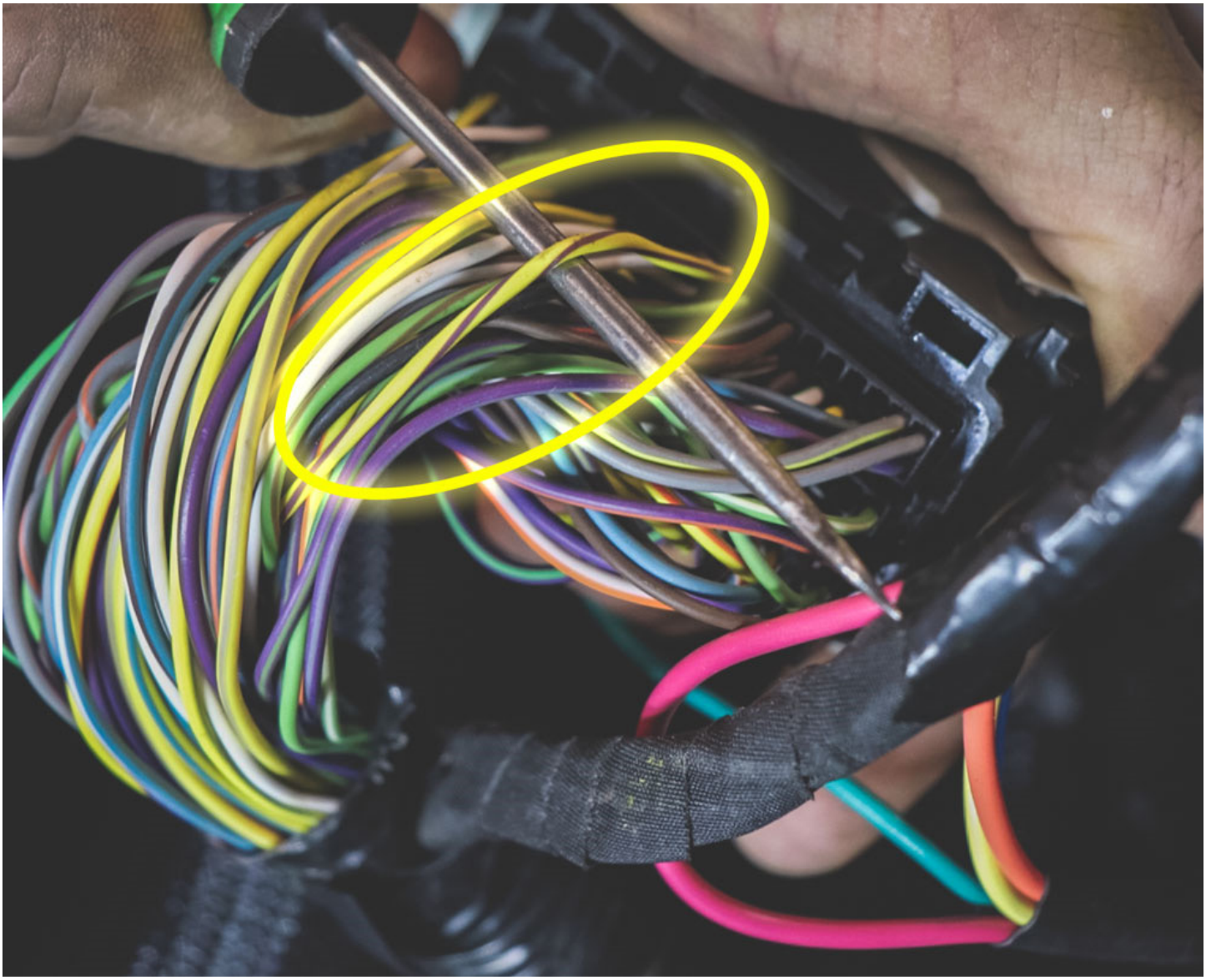
For all cars:

PIN #68 should be a **blue wire with a white stripe**. Strip a short section of this wire and connect it to the **BLUE WOT Box wire**. Securely solder this connection and protect with electrical tape.

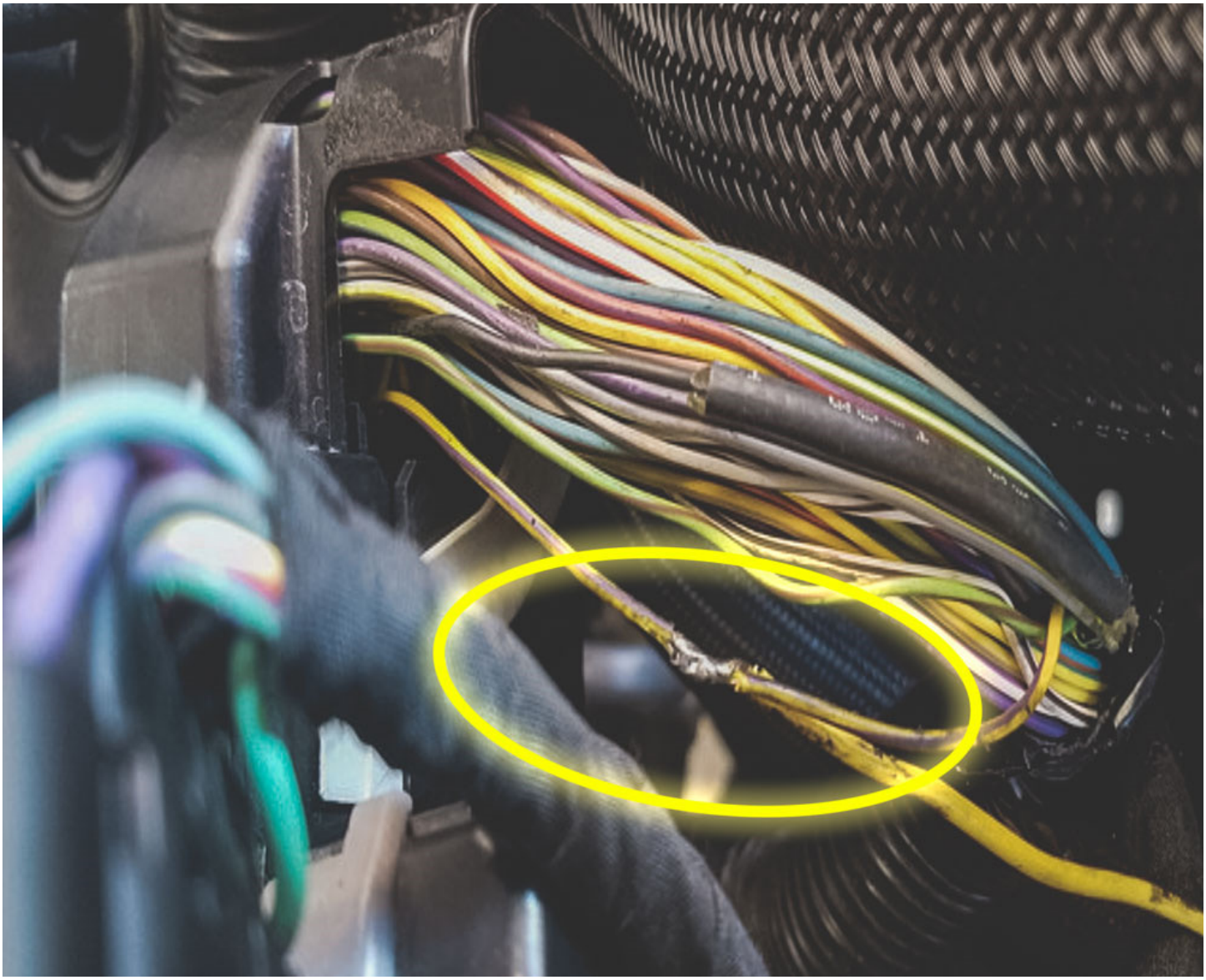
c) Reinstall the factory loom and wire guard.

WOT Box BLUE and GREEN wires connected.

9. On the **middle** ECU connection (C175E) locate PIN # 78. **PIN # 78** should have a **yellow wire with a violet stripe.** Strip a small section of this wire. ***(DO NOT CUT)*** Connect the **YELLOW WOT Box wire** to it. Securely solder this connection and protect with electrical tape.



The yellow wire with purple stripe.

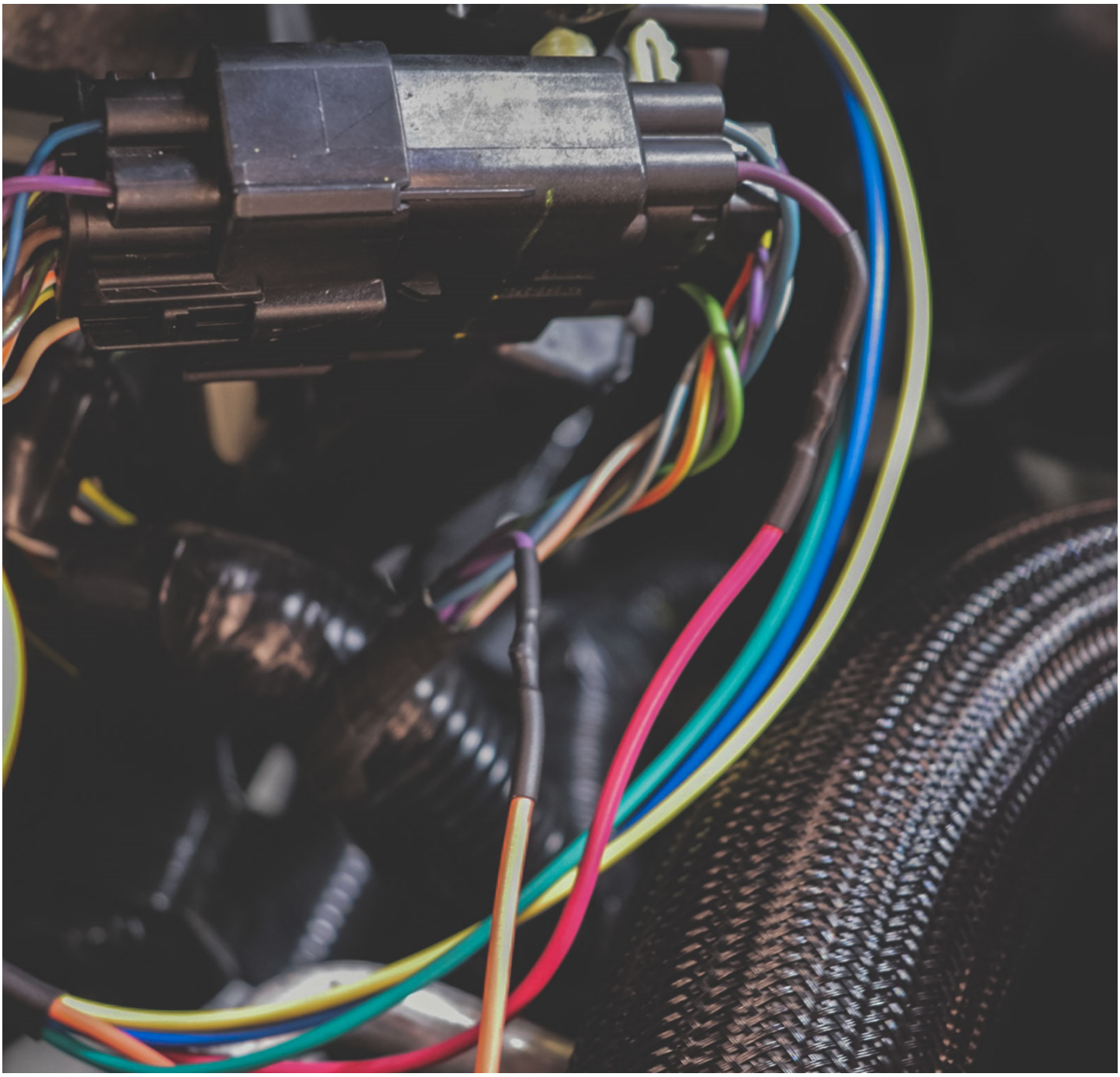


YELLOW WOT Box wire connection.

10. Locate the coil control *(plug located above ECU next to fuse box)*. Pull back some of the factory loom on the end board/engine side of plug to access the wires.

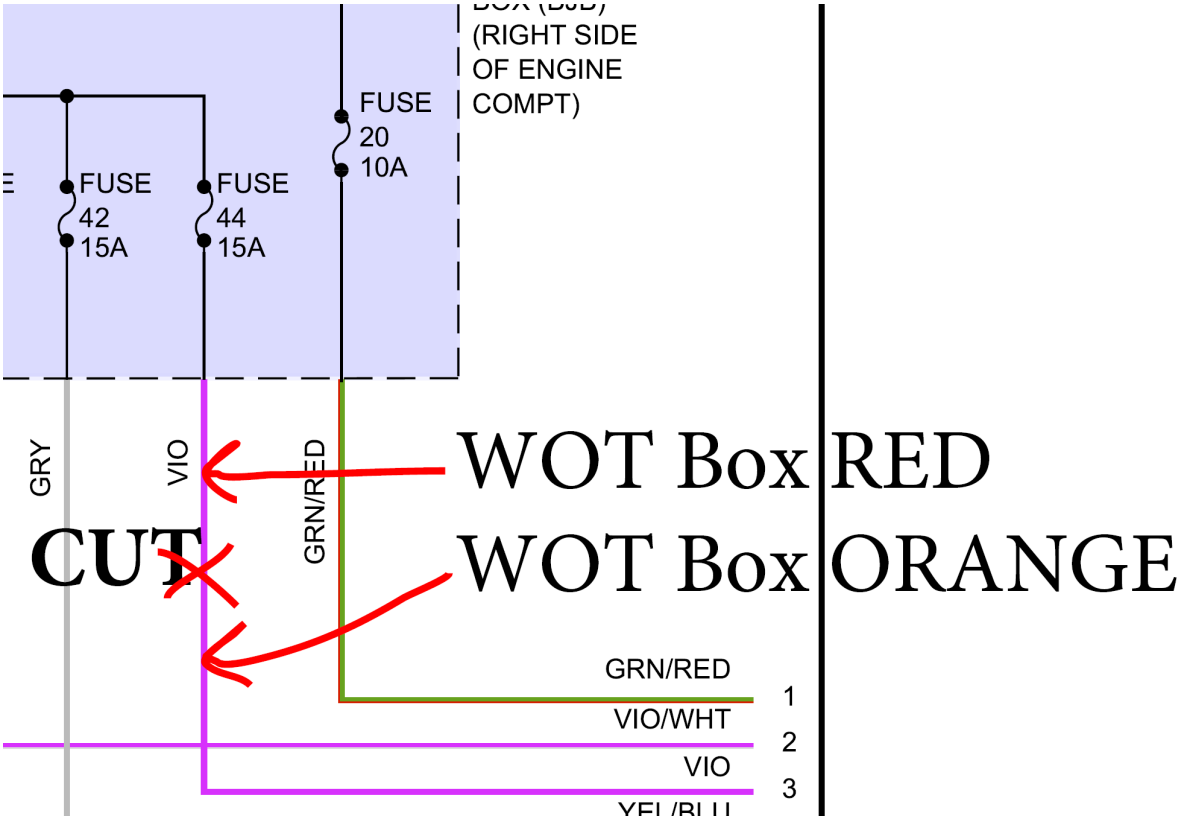
a) Locate the solid violet wire and cut roughly two inches from the plug. Connect and securely solder the violet wire from the plug to the RED wire from the WOT Box *(heat shrink is recommended to protect connection)*.

b) Connect and securely solder the ORANGE WOT Box wire to the other half of the violet wire leading to the coils *(heat shrink is recommended to protect connection)*.

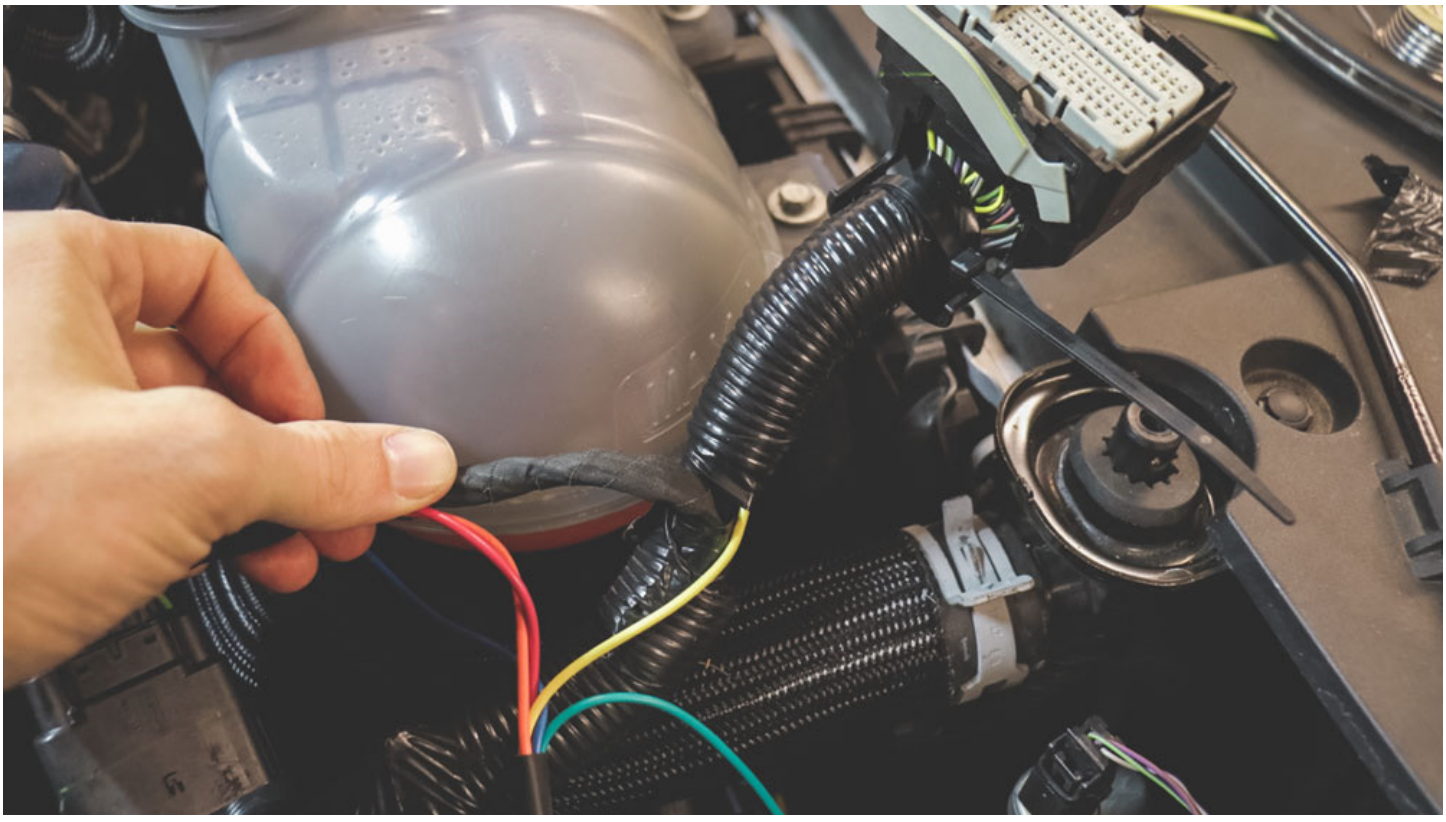


The violet wire is connected to the ORANGE and RED wires from the WOT Box.

Alternately, you can splice the WOT Box RED / ORANGE wires at the fuse box, to the violet wire at fuse 44:



11. Securely reinstall all plugs, wire looms, and any other factory harness protection. Ensure that all of the connections are secure.

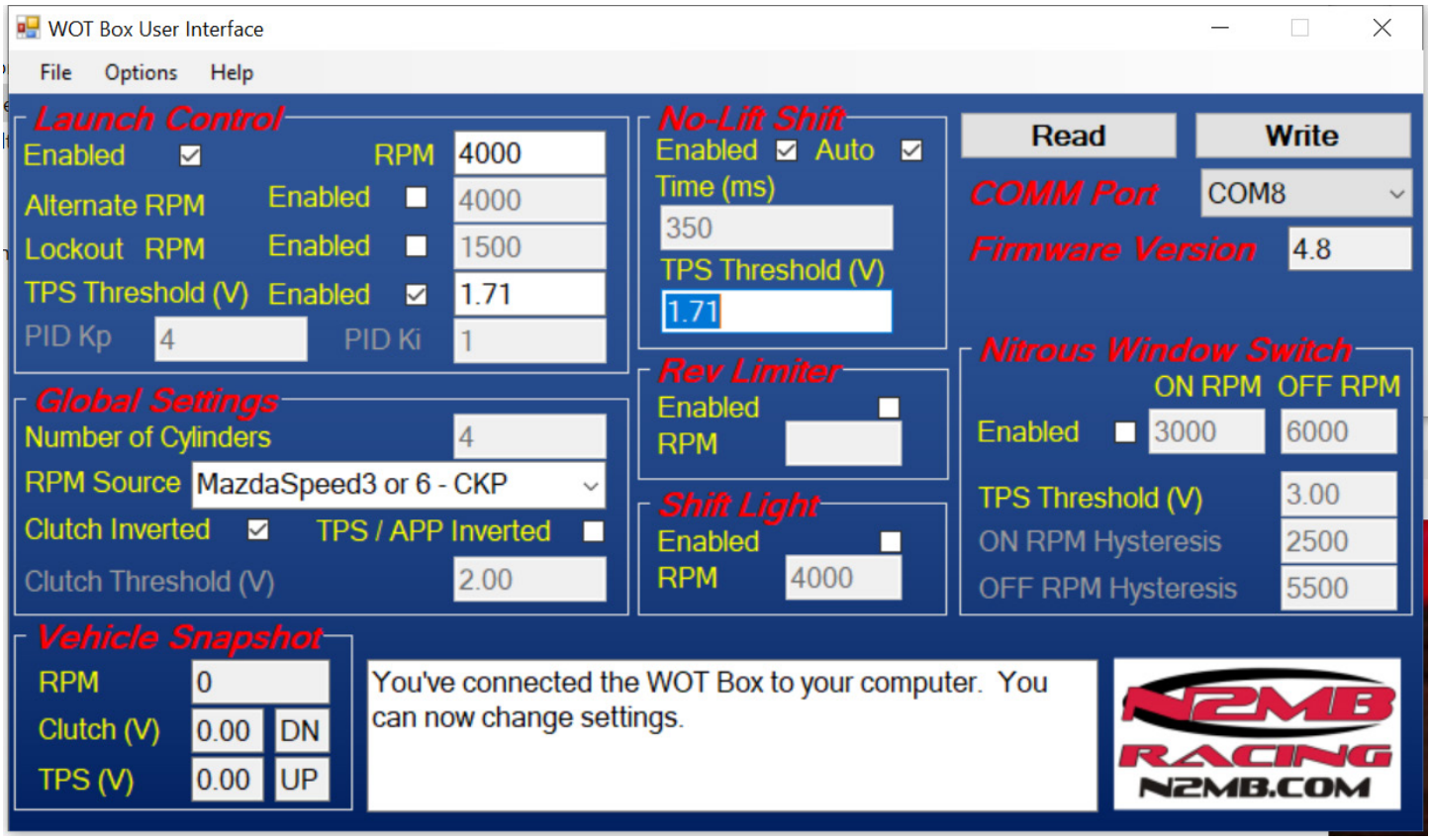


Wires covered again with loom and other harness protections.

12. Reconnect the negative battery cable.

13. Download the WOTBOX software from the N2MB website: http://www.n2mb.com/wotbox/software

Follow all instructions provided with the WOT Box software. Connect your laptop to the WOTBOX with the provided cable. Set up the software as shown below. **NOTE: You must select MAZDASPEED3 as the RPM Source. Ignore the number of cylinders. It is correct.**



Screenshot of the WOT Box Software

Thanks to **#teamlethal** for these instructions. Additional shout out to Mustang6G members dev1360, killjoy47, and fifteen5oh for the images.

CONGRATULATIONS!

You have successfully installed the N2MB WOT BOX!

Troubleshooting - Testing the WOT Box

You will need to program the WOT Box using our software before testing. Download the software and follow the instructions here: http://www.n2mb.com/wotbox/software

Once programmed, test the WOT Box as described below:

1. Key on the car but do not start the engine. Press the gas pedal to the floor. You should see the LED on the WOT Box start to rapidly blink. If it does not, check your **APP sensor signal connection (WOT Box BLUE wire)**.
2. Next, with the gas pedal still depressed, press the clutch pedal to the floor. You should see the LED on the WOT Box briefly go out, and then come back on solid for one second and then finally resume blinking rapidly. If you do not see this, check your **Clutch Pedal Position Switch signal connection (WOT Box GREEN wire)**.
3. Next, start the engine. Quickly press the gas pedal to the floor and immediately step on the clutch. You should hear the engine start to rev up, stumble for a short period while the ignition is cut, then return back on and continue revving. Remove your foot from the gas before you hit the rev limiter. The 2-step will not engage if the gas is depressed before the clutch. This is normal. If the engine does not stumble or pause when the LED turns out, then check the **RED and ORANGE** wires. Verify that the **RED and ORANGE 16 AWG** wires are wired facing the proper way. If they are reversed, the ignition cut will not work.
4. Lastly, test the 2-Step. Press the clutch pedal down and then quickly press the gas pedal all the way down. The gas pedal must be floored for the 2-step to engage. The engine should rev up to the desired RPM and hold. If it does not, be sure to remove your foot from the gas before you hit the rev limiter. If the 2-step does not work, check the **WOT Box YELLOW wire**.

Usage

To use the WOT Shift feature, keep your foot fully on the gas and shift quickly using the clutch. Keep the gas fully depressed through the shift. The WOT Box will detect the clutch switch signal and briefly cut the ignition to enable an effortless shift.

To use the 2-Step feature, fully depress the clutch. Next, fully depress the gas pedal to the floor. The engine will rev up and hold the RPM that you have set. Quickly release the clutch while leaving the gas fully depressed to launch the car.

Programming

The WOT Box comes preset for an automatic WOT Shift kill time. This means that the WOT Box will automatically adjust the kill time to your shift time, up to a maximum of 350 ms. If you would like manual control over the WOT Shift kill time, start the car and hold down the button on the module and wait for the LED to begin to blink. Using the chart below, find the number of blinks that corresponds to the desired kill time. Setting 0 blinks will disable the WOT Shift feature and setting 1 blink will set the automatic kill time mode. When you have reached the number of blinks that match your desired setting, simply let go of the button. To confirm, the WOT Box will blink back out the setting you entered.

The WOT Box comes preset for a 2-step RPM of 4000. To set the 2-Step RPM, repeat the same procedure described above, but keep the clutch down during the entire operation. This will signify to the WOT Box that you want to set the 2-step RPM and not the WOT Shift kill time. Use the second chart provided below to match up the desired RPM with the number of blinks. Setting 0 blinks will disable the 2-Step feature.

Ignition Cut Time Chart - Set with the clutch UP

Blinks	Ignition Cut (ms)	Blinks	Ignition Cut (ms)	Blinks	Ignition Cut (ms)	Blinks	Ignition Cut (ms)
0	Disabled	6	125	12	275	18	425
1	Auto (default)	7	150	13	300	19	450
2	25	8	175	14	325	20	475
3	50	9	200	15	350	21	500
4	75	10	225	16	375	22	525
5	100	11	250	17	400	23	550

2-Step RPM Chart - Set with the clutch DOWN

Blinks	RPM	Blinks	RPM	Blinks	RPM	Blinks	RPM	Blinks	RPM
0	Disabled	12	4200	24	6600	36	9000	48	11400
1	2000	13	4400	25	6800	37	9200	49	11600
2	2200	14	4600	26	7000	38	9400	50	11800
3	2400	15	4800	27	7200	39	9600	51	12000
4	2600	16	5000	28	7400	40	9800	52	12200
5	2800	17	5200	29	7600	41	10000	53	12400
6	3000	18	5400	30	7800	42	10200	54	12600
7	3200	19	5600	31	8000	43	10400	55	12800
8	3400	20	5800	32	8200	44	10600	56	13000
9	3600	21	6000	33	8400	45	10800	57	13200
10	3800	22	6200	34	8600	46	11000	58	13400
11	4000	23	6400	35	8800	47	11200	59	13600

N2MB Racing Limited Warranty

N2MB Racing warrants that all of its products are free from defects in material and workmanship for a period of 1 year from the date of purchase. If an N2MB product is found to be defective within this period, N2MB Racing will repair or replace the product. The choice between these two methods of remedy is made at the sole discretion of N2MB Racing. This shall constitute the sole remedy of the purchaser and the sole liability of N2MB Racing to the extent permitted by law. This warranty is exclusive and in lieu of all other warranties or representations whether expressed or implied. This warranty is limited to the repair or replacement of the N2MB Racing product, and shall never exceed the purchase price of the N2MB Racing product. N2MB shall not be responsible for special or consequential damage or costs incurred as a result of the failure or use of the N2MB Racing Product except as required by law. Unauthorized alteration or repair of N2MB Racing products will void this warranty if the alteration or repair is found to have caused the N2MB Racing product to fail. In the event that a product is warranted, the purchaser shall be responsible for any and all shipping costs.

N2MB Racing reserves the right to improve its products at any time and is at no time responsible for exchange or upgrade of products that were manufactured previously.