

# Mitsubishi Lancer Evolution, VIII Generation (2003-2005)

## N2MB WOT Box Installation Instructions

**NOTE:** If you have a CDI (capacitive discharge ignition system) please contact us at [support@n2mb.com](mailto:support@n2mb.com) for additional instructions. 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 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 future software upgrades
- Ground lug
- Zip ties
- Heat shrink tubing

You will need:

- Wire Strippers
- Soldering Iron or Station
- Metric Socket Set
- Sandpaper
- Heat Shrink (if more than is included in the kit is needed)
- Electrical tape
- Zip Ties (if more than is included in the kit is needed)
- Razor Blade or Sharp Knife
- Multimeter or Ohm Meter
- Screwdriver or other sharp object
- RTV or Hot Glue (optional)

WOT Box Wire Color	Vehicle Wire Color @ Device	Vehicle Wire Color @ Controller	Description	Pin @ Device	Controller	Pin @ Controller
Blue	Green	Green	Throttle Position Sensor	2	ECM	C115- 84
Yellow	Orange	Orange	Injector #1 Signal	1	ECM	C121- 1
Green	Grey	Grey	Cruise Control Clutch Switch (Clutch Deactivation Switch)	2	Auto Cruise Control ECU	13
Red / Black Pair	White/Red	n/a	Ignition Coil Power	1	n/a	n/a
Black, Single	n/a	n/a	Ground	n/a	ECU	C121- 13/26

**Figure I: Wiring Chart**

**Note: The White/Red Ignition Coil Power Wire is connected to each of the coils at pin 1, but must be connected to the RED/BLACK WOT Box Pair after these two wires are spliced into one. See the instructions for a convenient installation location.**

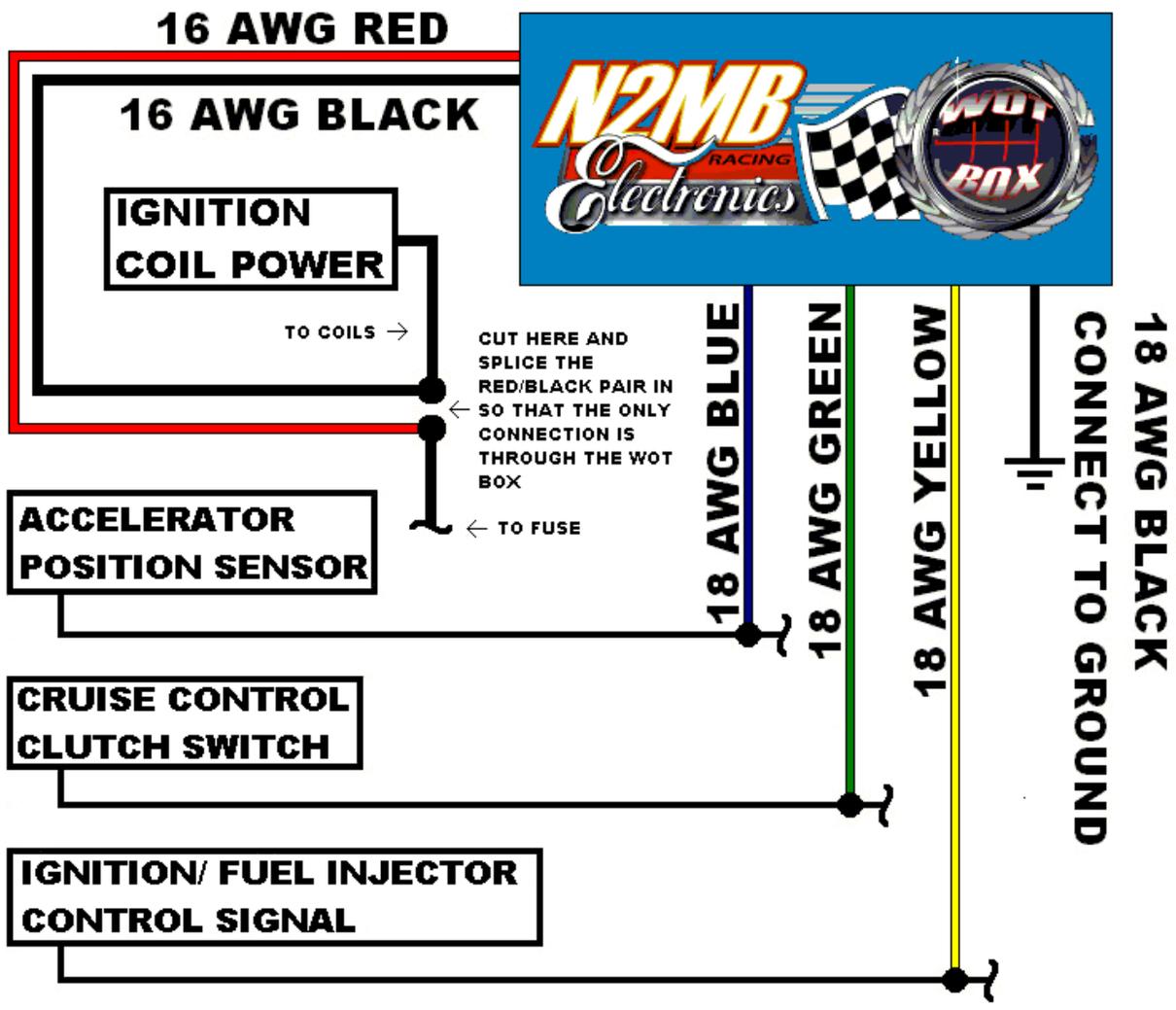


Figure II: Installation Diagram

1) Open the hood and disconnect the 12V battery.

2)

2) Find a good place to mount the WOT Box. The glove box works well for this purpose, but the WOT Box can be mounted anywhere in the passenger cabin. Tape the WOT Box connector down securely. Unplug the WOT Box.

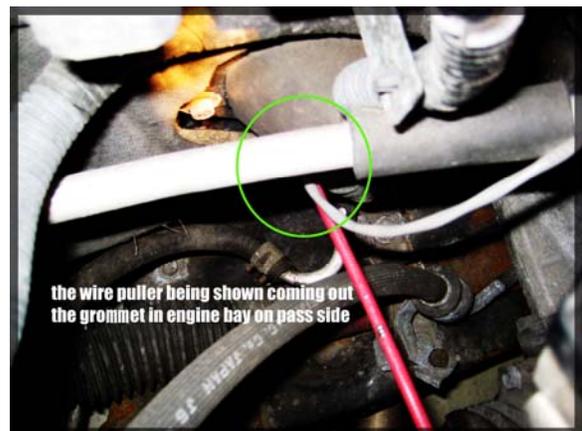


3)

3) Run the YELLOW WOT Box Wire and RED/BLACK WOT Box Pair to the grommet in the passenger side of the firewall. Using a coat hanger or similar object, poke a hole in the grommet and run these wires through it into the engine compartment.



poked a hole through the grommet where the factory harness runs through on the passenger's side firewall



the wire puller being shown coming out the grommet in engine bay on pass side

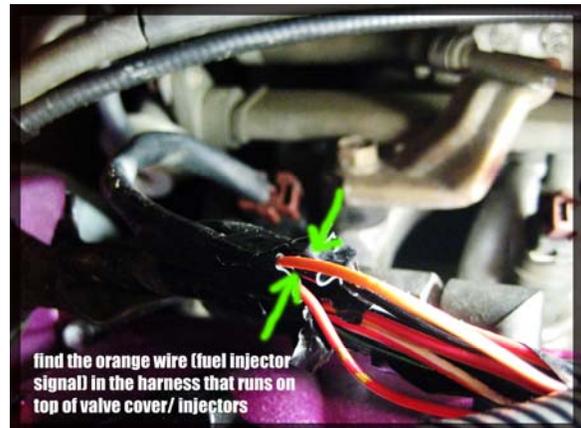
- 4) Remove the fasteners holding down the spark plug cover on the top of the engine. Remove the spark plug cover. Run the YELLOW WOT Box Wire and the RED/BLACK Pair to this location.

4)



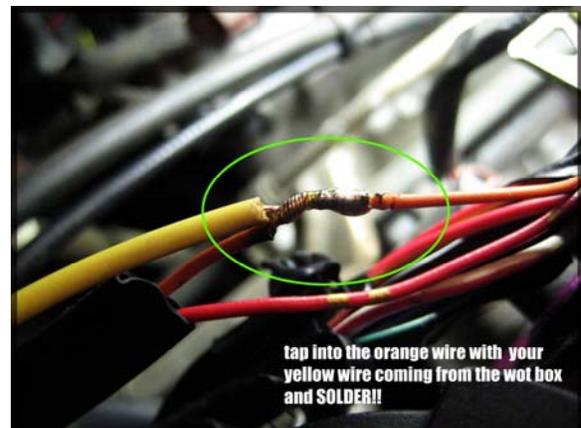
- 5) Carefully remove the loom from the wiring bundle that leads to injector number 1. Locate the ORANGE wire that connects to fuel injector number 1.

5)



- 6) Connect the YELLOW WOT Box wire to the Orange Injector #1 signal wire, ensuring that the original connectivity of the ORANGE wire is maintained. Use shrink tubing as outlined in the N2MB recommended soldering technique document.

6)



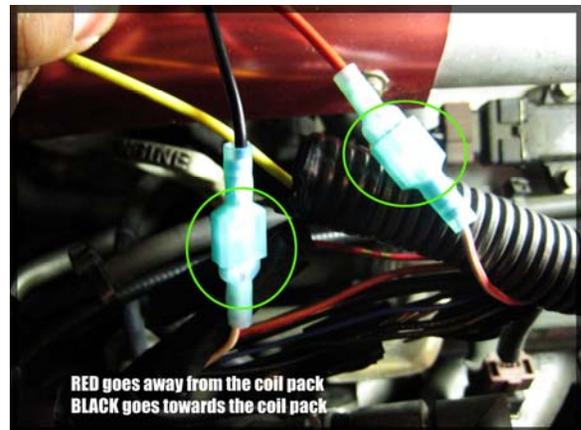
- 7) Near the ORANGE Fuel Injector #1 Signal Wire, there will be a WHITE/RED Coil Power Wire. Locate this wire. Follow this wire towards the coil packs, and ensure that this wire leads to BOTH Coil Packs. If not, undo the loom further in the direction away from the coil packs until you find the place where one WHITE/RED wire splits into two to power each of the coil packs.

7)



- 8) Cut the WHITE/RED wire on the single wire side of the splice. Connect the RED WOT Box Wire of the RED/BLACK Pair to the side going away from the coils, and the BLACK WOT Box Wire of the RED/BLACK Pair to the side going towards the coils. Once again, it is imperative that this is done in a manner so that these two splices affect BOTH coils. Here, crimp connections are used, but N2MB recommends soldering and shrink tubing the connections.

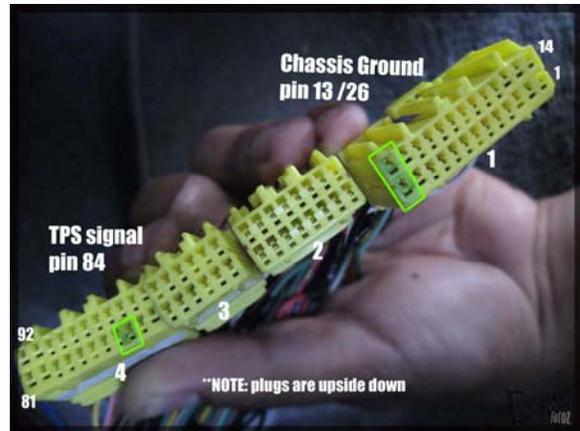
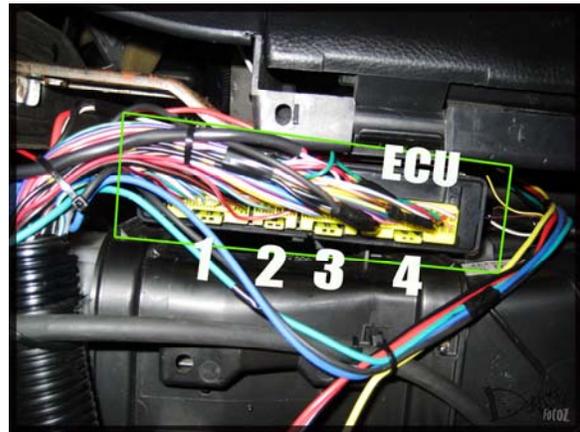
8)



- 9) Reinstall the loom and tape securely, then reinstall the spark plug cover and fasteners.

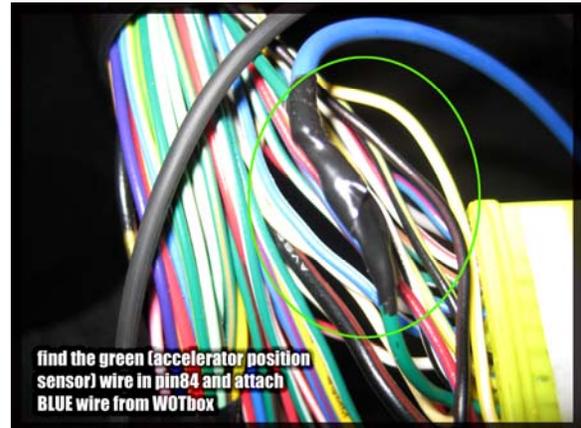
10)

10) Back in the passenger compartment, locate the ECU underneath the glove box. Take note of the numbered connectors. Disconnect the 4 ECU connectors. The wires that you'll be tapping into are outlined in the pictures.



11)

11) Run the SINGLE BLACK and BLUE WOT Box Wires to the ECU. Splice the BLUE WOT Box Wire into the GREEN TPS Signal Wire on pin 84 of connector #4, ensuring that the original connectivity of the wire is maintained.



12)

12) Splice the SINGLE BLACK WOT Box Wire into the black wire on either pin 13 or 26 of connector #1, ensuring that the original connectivity of the wire is maintained. Replace the 4 ECU Connectors.



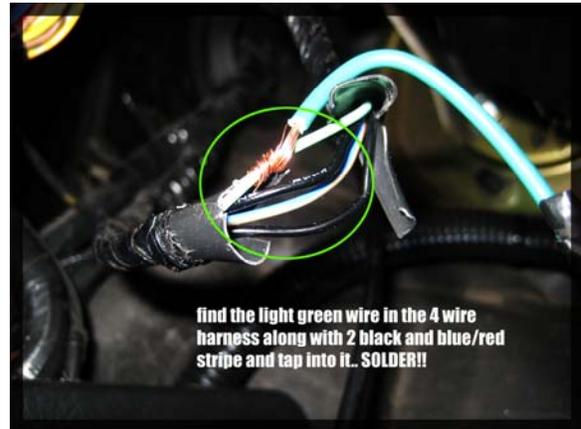
13)

13) On the clutch pedal mounting bracket, locate the Cruise Control Clutch Switch, and unplug its connector.



14) Remove enough of the loom covering the wires that lead to this connector, and locate the GREY wire. Tap the GREEN WOT Box wire into the GREY Wire, ensuring that the original connectivity of the GREY Wire is maintained. Use shrink tubing as outlined in the N2MB Recommended Soldering Technique Document. Reinstall the loom, tape, and reconnect the connector to the Cruise Control Clutch Switch.

14)



15) Make sure that all vehicle connections that were unplugged during the installation are re-installed. Make sure that anything that was removed during installation is reinstalled.

16) Insert the WOT Box harness into the WOT Box and mount the WOT Box.

17) Reinstall the 12V battery and battery connectors.

18) Test and program the WOT Box as described below.

## Troubleshooting - Testing the WOT Box

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/BLACK** paired wire. Verify that the **RED and BLACK 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**.
5. The WOT Box Graphical User Interface has some inherent troubleshooting capability. If you have access to a laptop, it may be useful for you to download the GUI at [www.n2mb.com/wotboxsoftware](http://www.n2mb.com/wotboxsoftware) and follow the instructions there.

## 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

If your WOT Box was shipped directly from N2MB Racing, it will come set up for your vehicle. If you order a WOT Box from a distributor, it may need to be set to your vehicle before it can be used by using the WOT Box User Interface available at [www.n2mb.com/wotboxsoftware](http://www.n2mb.com/wotboxsoftware).

Perform troubleshooting as outlined above first, and if the WOT Box doesn't work, use the WOT Box Software to check to make sure that the settings are correct for your vehicle. Instructions regarding how to do this are on the same website as the software. The user interface may also be used to set WOT Shift kill time and 2-step RPM.

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. The User Interface may be used to change this to a preset kill time that doesn't auto-adjust.

The WOT Box comes preset for a 2-step RPM of 4000. The User Interface may be used to change this RPM setpoint.

## **CONGRATULATIONS!**

**You have successfully installed the N2MB WOT BOX!**

## **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.