

MD Racing

Lean Protection Module 1996 – 2004 Ford Mustang, Cobra

Contents:

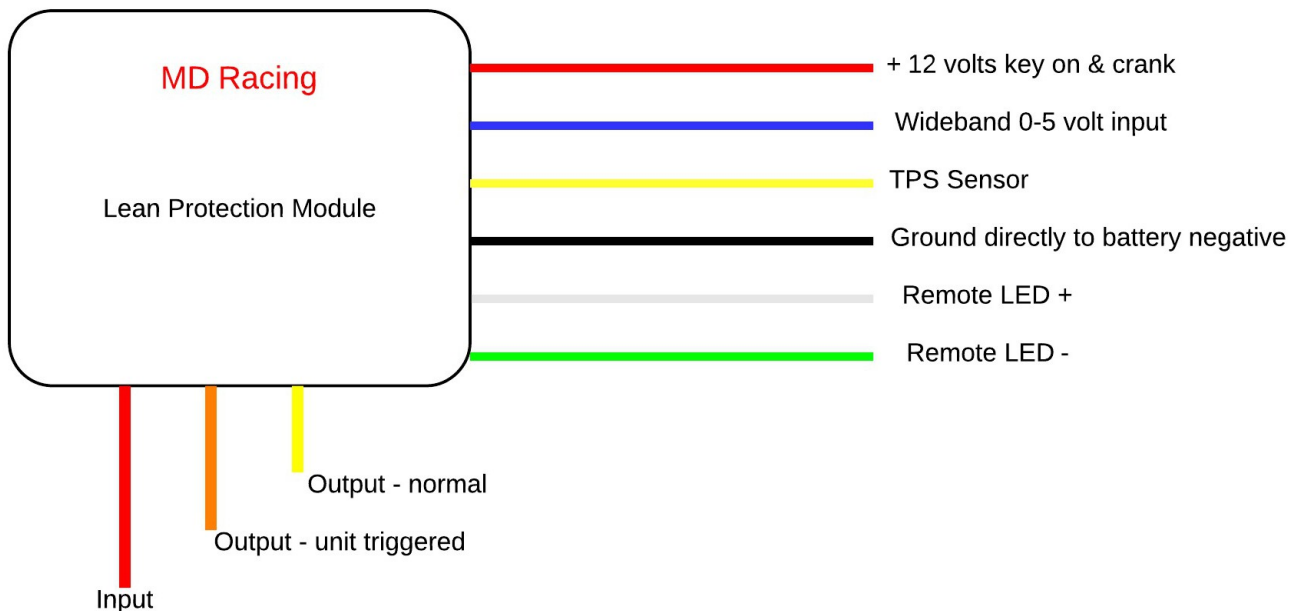
- Lean Protection Module
- Installation Harness
- USB Cable
- Remote LED
- Dummy Plug

Installation Considerations:

The module is not weather proof and should not be installed in the engine bay of the car. Install inside the cabin of the car. Glove box, under the dash or under the passenger's seat are some ideas.

All joints and connections should be soldered. Do not skip over the importance of soldering a good connection. Twisting wires together is not good enough. Please see the Soldering and tapping a connection PDF on the website for technic and details.

The remote LED is optional but recommended as a good way to monitor the unit's activation. **DO NOT** install your own LED or lamp in place of the supplied LED. Drawing to much current or shorting out those wires will damage the unit.



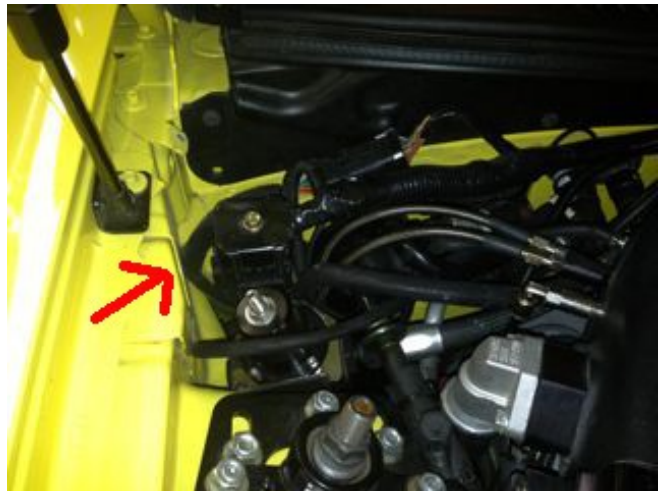
Installation:

1) First disconnect the battery negative cable.

2) Find a spot inside the car where you'd like to mount the LPM. You'll need to slide the three wire harness through the firewall to the engine bay. Only the red and yellow wires are needed on this harness to wire. The extra circuit is included for those wanting to do custom installs. A good place to pass the wire through is by the ECU in the passenger's kick panel.



3) Locate the C133 connector under the hood. It's in the passenger's back corner of the engine bay. The large square block connector with a 10 mm bolt on top. Shown by the red arrow.



4) The C133 connector has a cap that you can pop off by unclipping the four corners. You do not need to remove the 10 mm bolt unless you'd like to pull the connector and harness up for better access.



5) With the connector snapped off it exposes the wires. You'll want to peel back some of the wire loom covering to expose the wires more. We are looking for wire pin # 34. The pins are labeled on top of the connector for easy identification. From the orientation of this picture pin 34 is in the top right corner.



6) Arrow shows the red wire from pin #34. This is the ignition power wire we are going to interrupt when the vehicle goes lean. A couple inches away from the connector giving yourself enough space to work cut this wire in half and strip the ends for a connection.



7) Connect the red wire from the three wire harness to the stub of wire coming out of the C133 connector. Connect the yellow wire from the same three wire harness to the other wire going off in the wire loom towards the engine.

Note pin 34 coming out of the C133 connector is also a hot in run and crank power source you can use to power the module. Connector the red wire from the 6 wire harness here too unless you prefer some other location under the dash.

Now on to the interior part of the installation

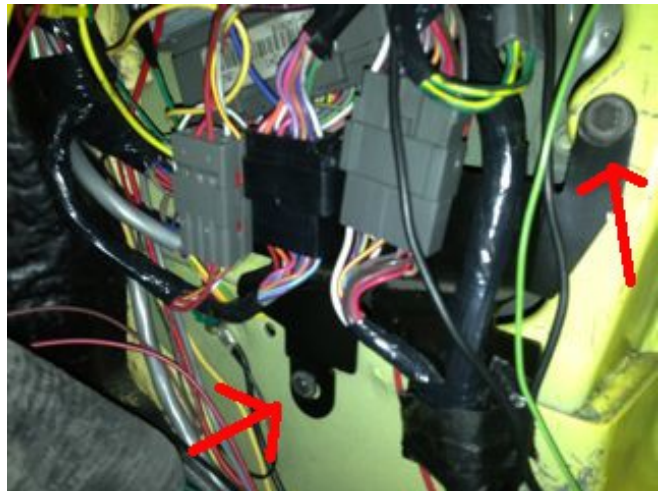
8) Pull up the passenger's rocker cover allowing you to remove the kick panel in front of it.



9) Remove the plastic grommet and pull back on the passenger's kick panel.

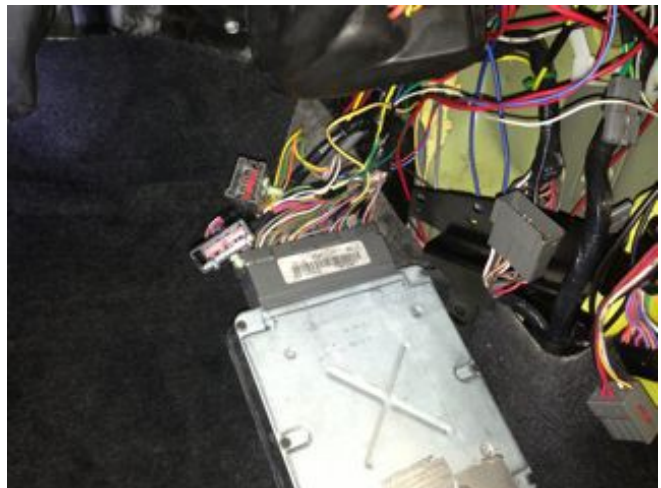


10) You now have the wiring harnesses exposed. Remove the two bolts shown by the red arrows and remove the black bracket and unclip the harnesses. This will expose access to the ECU behind them. Unbolt the ECU and pull out to the passenger's floor area.



11) Connect the yellow wire from the six wire harness to pin # 89 of the ECU. This is for the throttle position sensor.

12) The blue wire will go to the 0-5 volt output from your wideband.



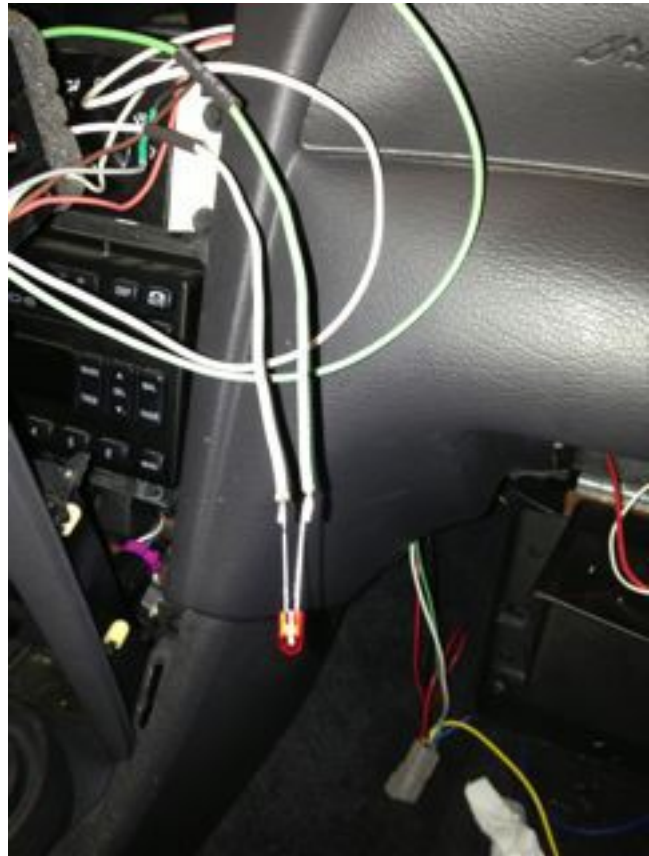
13) I highly recommended you connect the black wire to the battery negative cable directly with a ring terminal as shown. Grounding it under the dash to the chassis or anywhere else creates the potential for inaccuracies. Your wideband should also receive the same attention to grounding.



14) A popular location for the remote LED is inside the driver's side A/C vent for the clean appearances but you can place where ever the driver has view. To gain access remove the shift knob, pull up the bezel around the shifter and then the bezel with the vents pulls straight out from the dash like you see in the picture. Route the green and white wires from the six wire harness up to the LED location of your choice.



15) Solder the LED to the white and green wires. The white wire is positive and the green is negative. How can you tell on the LED? The positive lead is longer than the negative. Also the negative lead has a flat spot in the LED housing. Connecting the LED the wrong way around will not hurt anything. It simply won't light. However shorting out those wires and then powering up the unit will damage it. So be sure and put some heat shrink tubing or electrical tape over the LED leads so they won't touch and short out.



The LED lighting up the dash vent.



The dummy plug was provided as a bypass to the module. If the module were to ever fail for whatever reason I would not want you to be stranded with an undrivable car. Simply unplug the three wire harness and plug in the dummy plug you keep in the glove box and the car will start and run as normal. **HOWEVER** – you would not be protected from a lean condition at this point. Use only for troubleshooting purposes.

Installation is now complete. Please refer to the setup PDF for configuration of the Lean Protection Module.