

2003-04 Mustang SVT Cobra AMP MegaSquirt Plug and Play ECU

Tools Required

- Ratchet
- 5.5mm Socket
- 7mm Socket
- 8mm Socket
- Trim Pin Removal Tool
- Zip Ties
- Laptop

Installation

1. Disconnect the negative battery cable
2. Factory ECU Location - Passenger Footwell
The stock ECU is located in the passenger-side footwell, just behind the kick panel that is located in front of the passenger door. *(Figure A)*
3. Remove the Door Sill
Begin by removing the passenger side door sill by lifting upward from the rocker at the front and working toward the back of the car. *(Figure B)*
4. Remove the Passenger Kick Panel
Using a Trim Removal Tool, remove the kick panel push-pin in the bottom-left corner of the panel. Optionally, remove the door sill to make easier removal of the kick panel. Then, gently pull on the kick panel that is held by two push-pins. *(Figures C & D)*
5. Disconnect the A & B Body Harness Connectors
There are **(3) body harness connectors** located in front of the main ECU harness. Disconnect Connectors A & B by pressing the retention clip and pulling upward on the top half of the connector. Pull on the connector body and not the wires. *(Figure E)*
6. Disconnect the C Body Harness Connector
Disconnect Connector C by using a pick and gently pulling away the retention clip on each side of the connector while pulling upward on the top half of the connector. Pull on the connector body and not the wires. These clips are fragile, so use extreme care. *(Figure F)*
7. Remove Ground Screw
Using an 8mm socket, remove the green ground screw under Connector C. *(Figure G)*



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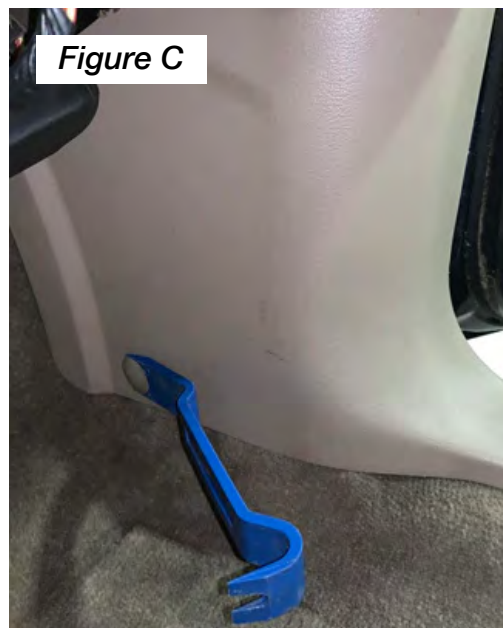


Figure C

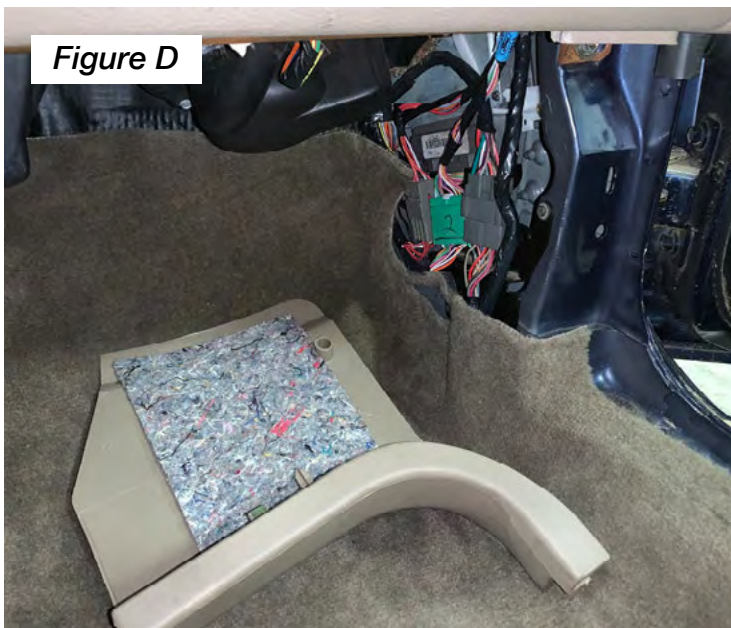


Figure D

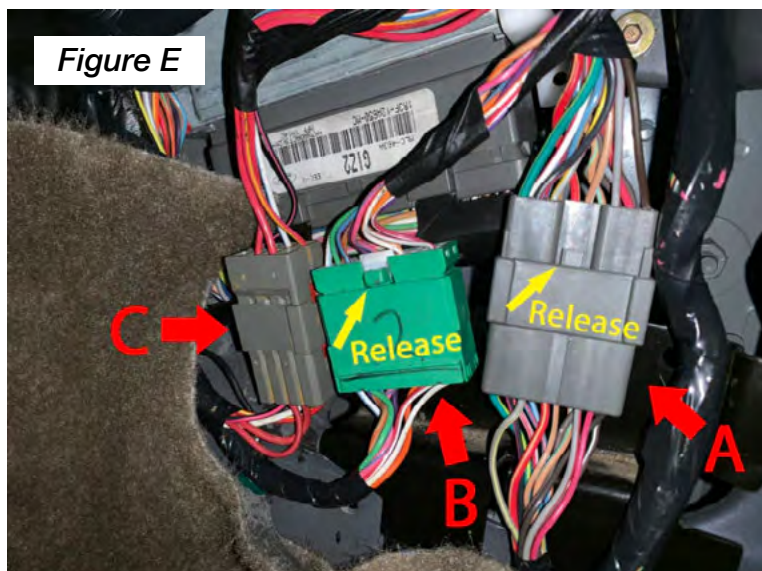


Figure E

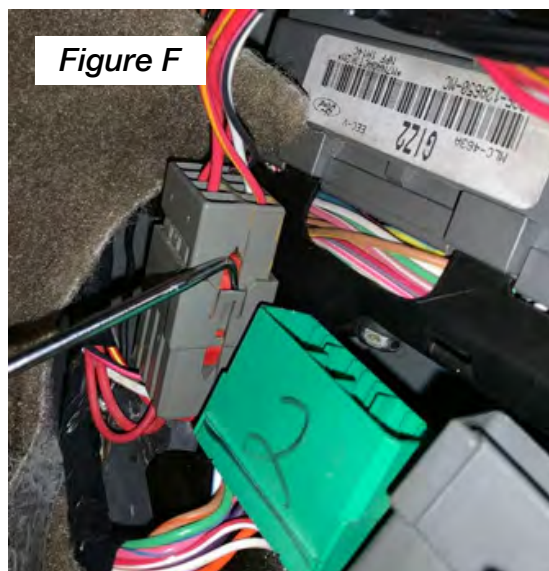


Figure F

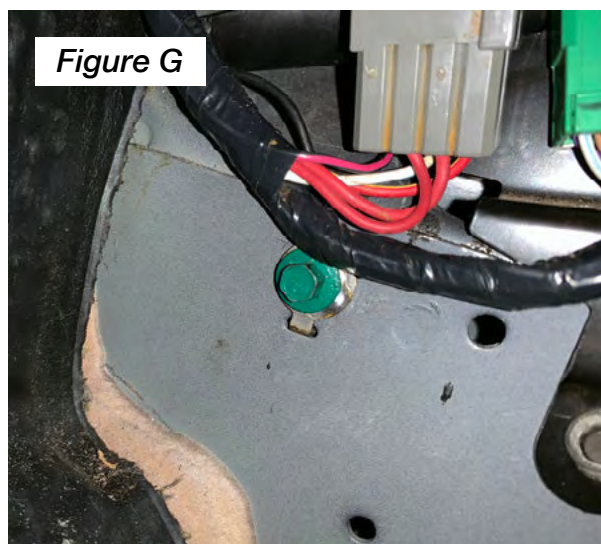


Figure G

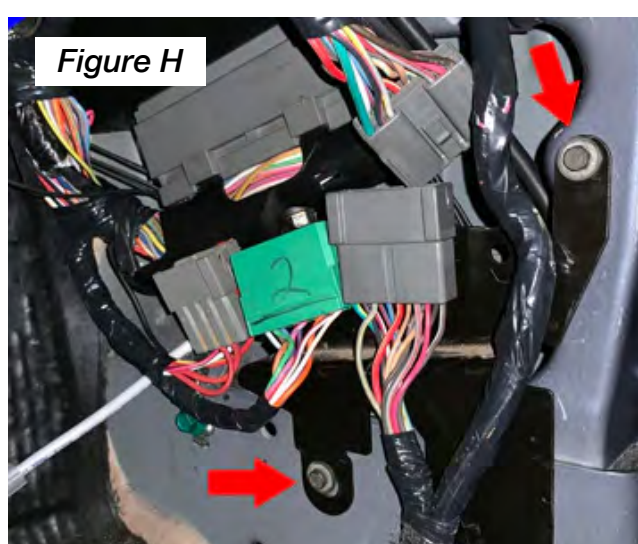


Figure H

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8. Remove Body Harness Connector Bracket

Using a 7mm socket, remove the two screws that secure the connector bracket. *(Figure H)*

9. Disconnect the Main ECU Connector & Remove Factory ECU

The ECU harness is held in the ECU by the large bolt in the center of the connector. Using a 10mm Socket & Ratchet loosen the bolt in the center of the harness until the harness comes out of the ECU. The bolt will remain in the ECU connector and will not come out completely. Finally, Remove the mounting screw securing the factory plastic ECU bracket. Then slide the ECU free from the bracket. *(Figures I & J)*

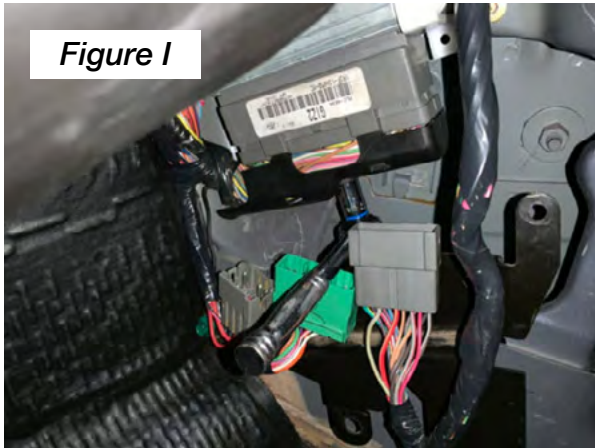


Figure I



Figure J

10. Install Supplied Vacuum Line Tee

Locate the black vacuum hose with the factory coupling. This hose provides the vacuum/boost reference for the OEM boost gauge in the instrument cluster. If the OEM boost gauge is not functioning before installing the AMP Plug-N-Play ECU, inspect this hose and gauge for leaks or damage before proceeding. A leaking hose or damaged gauge can prevent the ECU from accurately measuring manifold pressure. *(Figure K)*

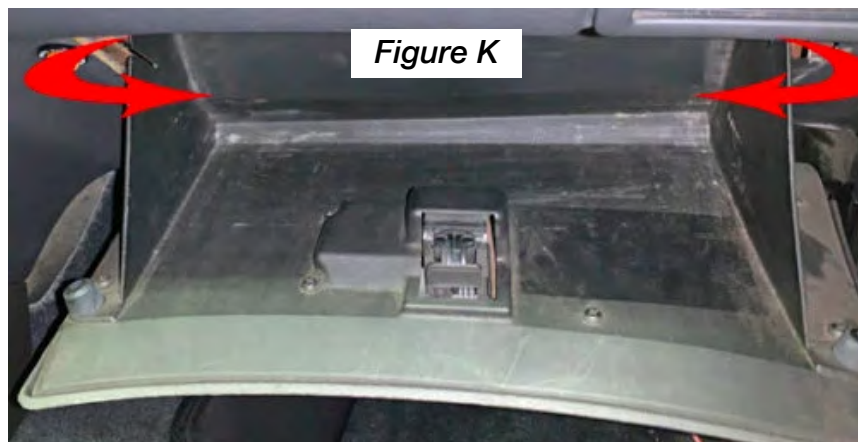


Figure K

Separate the two vacuum lines at the factory junction and remove the original coupling tube. Install the supplied vacuum tee in its place as shown. Then connect the supplied vacuum hose to the remaining port on the tee and route the hose to the ECU location in the passenger-side footwell. *(Figure L & M)*

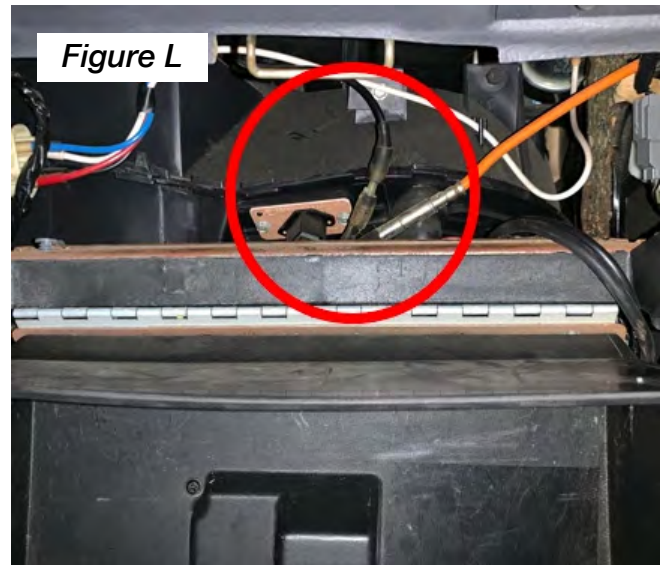
11. Wiring the Rear Options Connector

This is the time to wire in your wideband along with completing any optional wiring you plan to use through the Rear Options Connector. This is the best time to wire additional sensors, inputs, outputs, speed inputs, or ignition upgrades, since the connector is easier to access before the ECU is mounted in the vehicle. *(Figure N)*

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Internal Wideband ECU Models

If you selected the Internal Wideband ECU model, connect the provided wideband sensor cable to the rear options connector as instructed in the pinout section. This allows the wideband sensor to plug directly into the ECU without using a separate external wideband controller.

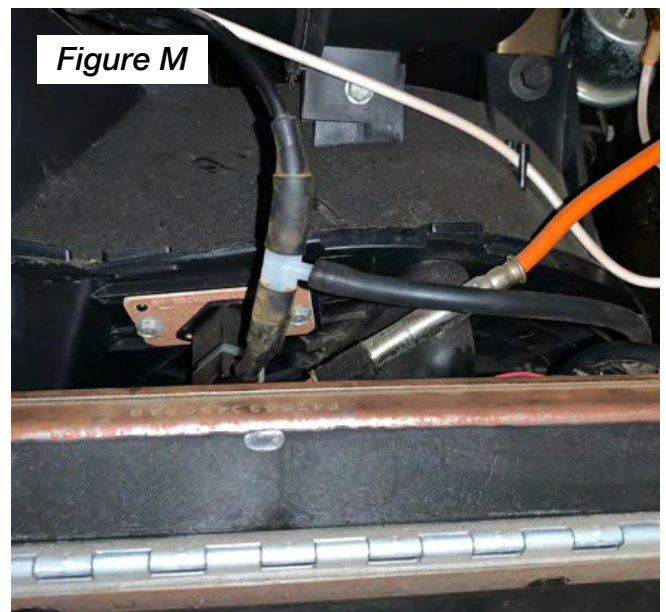


No Wideband ECU Models / External Wideband Setups

If you selected the No Wideband ECU model, or if you are using an external wideband controller, wire the external wideband controller signal to the appropriate rear options connector input.

Additional Inputs and Outputs

We also recommend wiring any other planned sensors or accessories at this time, including additional analog inputs, digital inputs, speed inputs, or outputs. This helps avoid removing or accessing the ECU later as your setup expands. Once your wiring is complete, plug the rear options connector into the ECU until it clicks into place and neatly secure the wiring.



12. Connect the supplied Tuning Cable

Attach the provided tuning cable to the ECU and tighten the collar clockwise until snug with your fingers. Be sure the pins are aligned properly before tightening. (Figure O)

13. Install the AMP Play-N-Play ECU

Installation is the reverse of removal. Slide the ECU in the factory location and secure it using the original plastic ECU bracket and screw. Please note that the bracket fitment will be slightly tighter due to the vacuum nipple next to the connector. (Figure P)

14. Connect the Vacuum Line to the ECU

After the ECU is mounted, connect the vacuum line the was done on Steps 5/6 to the vacuum port on the ECU. The vacuum port nipple is located on the right-side of the ECU. (Figure Q)

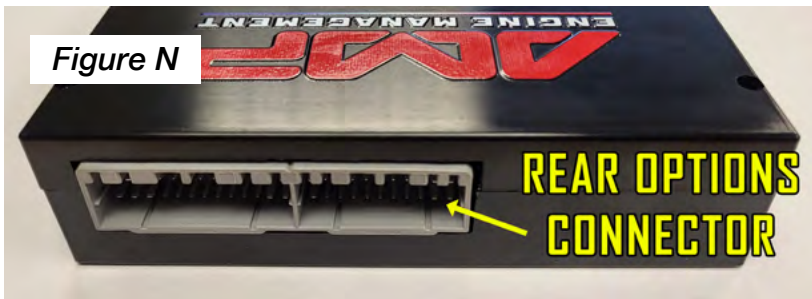
15. Reconnect the Main Harness

Reconnect the main harness to the ECU using the 10mm socket. Tighten until the connector is fully seated into the ECU. (Figure R)

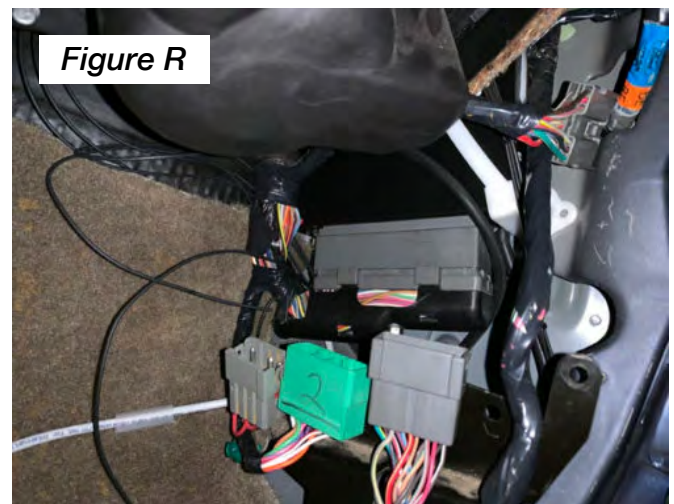
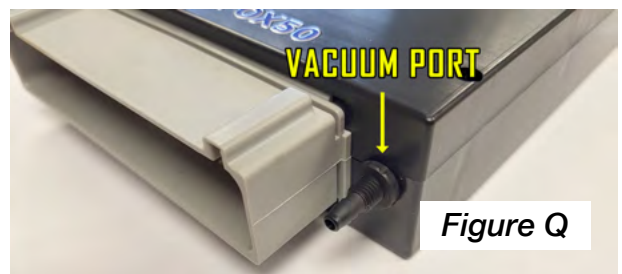
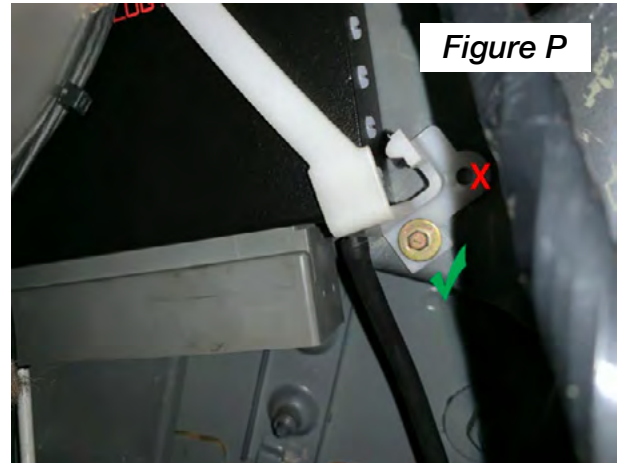
16. Reinstall the Ground Screw

Reinstall the ground wire and ground screw. It is advised to remove any rust or corrosion that may have developed on the contacting surfaces of the ground area before assembling. While tightening with an 8mm socket, ensure the ring terminal's locking tap is properly engaged with the slot just below the screw hole in the car. (Figure S)

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17. Remove Body Harness Connector Bracket
Reinstall the connector bracket and secure with the two screws previously removed. Tighten both screws with a 7mm socket. (Figure T)
18. Reconnect the Body Harness Connectors
Push the floor carpet back into place. Reconnect the three wiring connectors ensuring that each securely clicks into place. (Figure U)
19. Reinstall the Kick Panel and Door Sill
Reinstall the foot well kick panel and secure into place with the previously removed retention pin. Reinstall the door sill trim. Light tapping with a rubber mallet may be necessary to properly seat it. Reconnect the Negative Battery Cable.
20. Mass Air Flow Meter Removal
The preloaded base tune on your AMP Plug-N-Play ECU is configured for Speed Density, which is how most customers choose to tune these applications. Because of this, the factory mass air flow meter is no longer required and can be removed from the vehicle. If you are not removing the MAF Sensor you must **UNPLUG** the sensor.



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Figure S

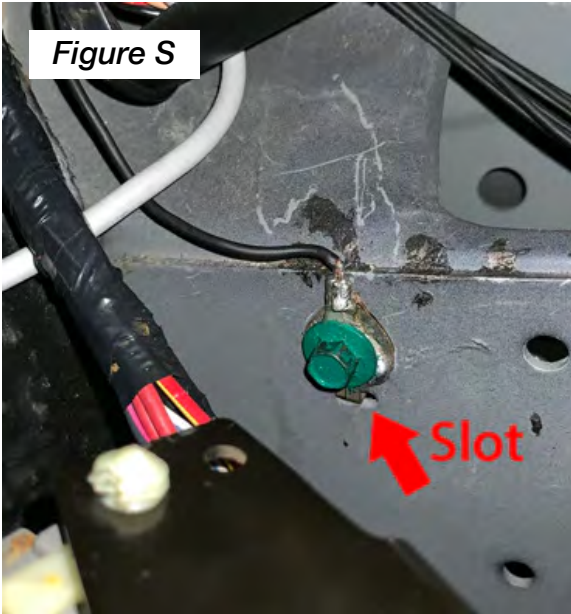


Figure T

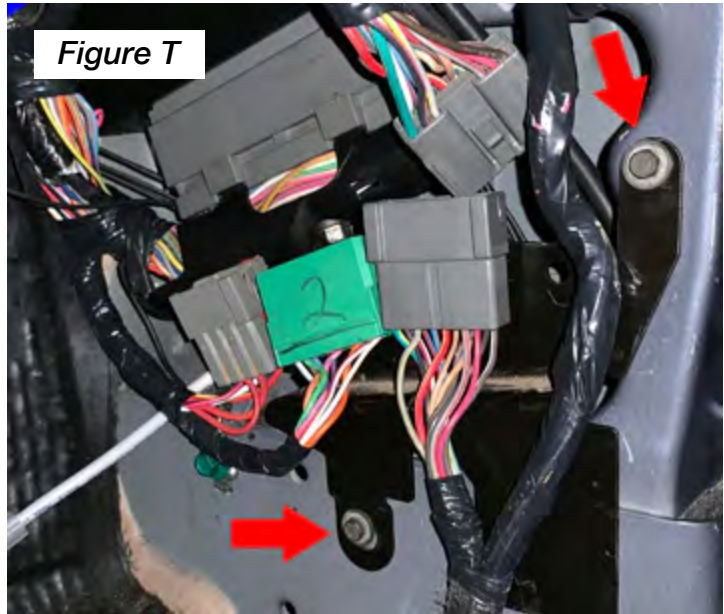
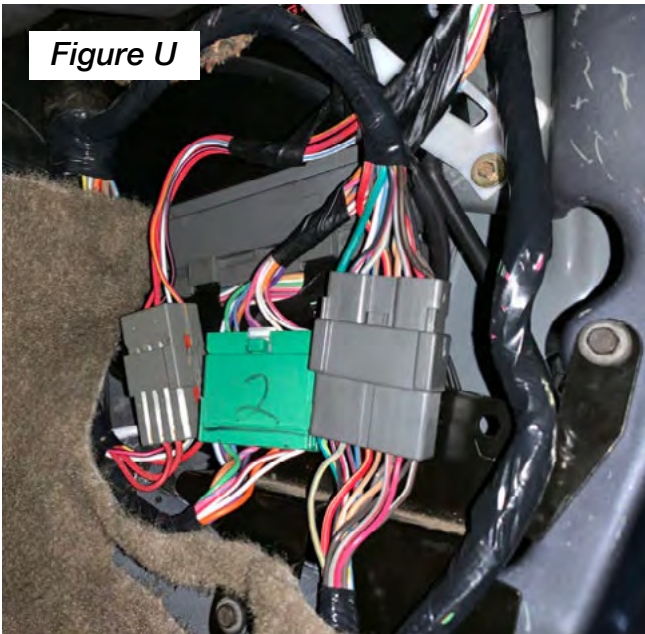


Figure U



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