

# **2011+ LML Allison line-pressure controller**

## **Installation instructions**

### **BT DieselWorks – MAY 2016**

### **\*NEW MAY 2016+ VERSION\***

**NOTE: These instructions will differ slightly on 2011-2014, 2015, and 2015.5+ trucks. Be sure to read instructions closely to follow the correct steps for your truck.**

**To tell the difference between a 2015 and 2015.5+, check your glovebox RPO code list sticker. If you see the code “AVF”, your truck is a 2015.5+**

1. Disconnect both batteries.
2. Disconnect the 80-pin TCM connector. It may be easier to remove the whole TCM first in order to get better access to the connector. **NOTE: on 2015.5+ trucks with “AVF” code, the TCM connector will be a smaller 66-pin connector, and look different than the traditional 2006-2015 style TCM and TCM connector**
3. Remove the plastic TCM connector cover and unwrap some of the harness electrical tape.
4. **For 2011-2014 trucks**, locate the DARK BLUE wire that goes to Pin 74 on the 80-pin TCM connector.
5. **For 2015 trucks without “AVF” code**, locate the LIGHT GREEN/WHITE-STRIPE wire that goes to pin 74 of the TCM connector.
6. **For 2015.5 trucks with “AVF” code**, locate the DARK BLUE wire that goes to pin 2 of the TCM connector.
7. Cut that above mentioned wire, but leave enough slack on either end to re-splice in the wires from the line-pressure controller.
8. Route the long gray wire from the line-pressure controller through the firewall and over to the TCM connector. Be sure to route the wire where it will not interfere with any moving parts or come within range of any hot surfaces.
9. Locate the BLACK wire coming from the line-pressure controller. Connect this BLACK wire to the “TRANSMISSION SIDE” of the wire that you cut in step #5. You can use the heat-shrink butt-splice connectors included with the kit or solder the connections. (SEE DIAGRAM FOR DETAILS)

10. Locate the WHITE wire coming from the line-pressure controller. Connect this WHITE wire to the "TCM SIDE" of the wire that you cut in step #5. You can use the heat-shrink butt-splice connectors included with the kit or solder the connections. (SEE DIAGRAM FOR DETAILS).
11. **For 2011-2014 trucks**, locate the PINK/WHITE-STRIPE +12v ignition power wire going to pin position 63 on the TCM connector.
12. **For 2015 trucks without "AVF" code**, locate the PURPLE/BLACK-STRIPE +12v ignition power wire going to pin position 63 on the TCM connector.
13. **For 2015.5+ trucks with "AVF" code**, locate the PURPLE/BLACK-STRIPE +12v ignition power wire going to pin position 35 on the TCM connector.
14. Splice the **ORANGE** +12v ignition power wire coming from the line pressure controller into the above mentioned wire for your year truck.
15. For 2011-2014 trucks and 2015 trucks without "AVF" code, locate the BLACK/WHITE-STRIPE ground wire going to pin position 69 of the TCM connector.
16. For 2015.5+ with "AVF" code, locate the BROWN/WHITE-STRIPE ground wire going to pin position 65 of the TCM connector.
17. Splice the GREEN ground wire coming from the line pressure controller into the above mentioned wire for your truck.
18. Be sure the connections and harness are both taped up securely and the wire is routed neatly away from the serpentine belt and cooling fan.
19. Replace the plastic cover on the TCM connector, mount the TCM back in place, and be sure the 80-pin (or 66-pin on 2015.5+ AVF trucks) TCM connector is firmly locked back into place.
20. Find a suitable mounting location under the dash for the line-pressure control box and mount it securely. **Be sure that none of the wires interfere/get tangled in the steering column, accelerator pedal, or brake pedal linkages. TAKE EXTRA CAUTION AROUND ANY YELLOW WIRES/CONNECTORS, AS THESE ARE AIRBAG SYSTEM RELATED PARTS.**
21. On 2011-2014 trucks, disconnect the accelerator pedal connector and locate the DARK BLUE wire going to the accelerator pedal connector Pin E. For 2015+ trucks, disconnect the accelerator pedal connector and locate the YELLOW/WHITE-STRIPE wire going to pin E.
22. Crimp the "T-tap" wire splice onto the wire in the accelerator pedal harness mentioned above. (SEE DIAGRAM FOR DETAILS)

23. Connect the DARK BLUE wire coming from the line-pressure controller to the wire-tap that you just spliced into the pedal connector. Reconnect the accelerator pedal connector and secure wiring so it does not interfere with pedal movement.

24. Find a suitable mounting location for the line-pressure controller push-button switch and LED status indicator light. You may have to remove the driver side plastic knee panel. Mount the LED and toggle switch securely. The LED fits into the LED holder mount with friction fit. Be sure to route/secure wiring so it does not interfere with pedal/steering components.

25. Find a suitable location for the button. Mount the button (be sure wiring is secured and not in the way of pedal/steering components). Plug the 2-pin connector from the button into the mating 2-pin connector on the side of the line pressure box.

26. Double check all connections, wire routing, and replace any panels that were removed.

23. Reconnect batteries, turn ignition on, and check for proper operation, as described in the “**OPERATION INSTRUCTIONS**” below.

## **Operation instructions**

When the truck is running in factory mode, the LED will be off. Line pressure is factory controlled.

1. When the switch is pushed once, the LED will light up RED and the controller will go to “AUTOMATIC” mode. This will allow the controller to automatically control line pressure based on throttle position. At less than 90% throttle, transmission line pressure is factory controlled by the TCM. Once throttle position goes above 90%, the LED will turn GREEN, and line pressure controller will automatically immediately force the transmission to maximum line pressure to increase power holding capacity. When throttle position drops below 90%, line pressure will automatically drop back to factory settings/TCM controlled and the LED will turn back to RED. In other words, “RED light = automatic standby” “GREEN light = force max line pressure”.
2. If you press the button one more time, the line pressure controller will go to “full time max line pressure”, meaning the line pressure will be commanded to full at all times, regardless of throttle position. The LED will turn steady GREEN, indicating max line pressure is active.
3. To return to factory mode with TCM-controlled line pressure, press the button again. The LED will turn off, indicating that the line pressure controller is “off” and in standby.

## **THROTTLE POSITION THRESHOLD PROGRAMMING**

From the factory, the line pressure box is programmed to ramp up transmission line pressure when throttle position goes over ~90%. If you wish to reset this to a lower threshold (for example, if you are towing and want the transmission pressure higher when at less than wide-open-throttle), follow the instructions below:

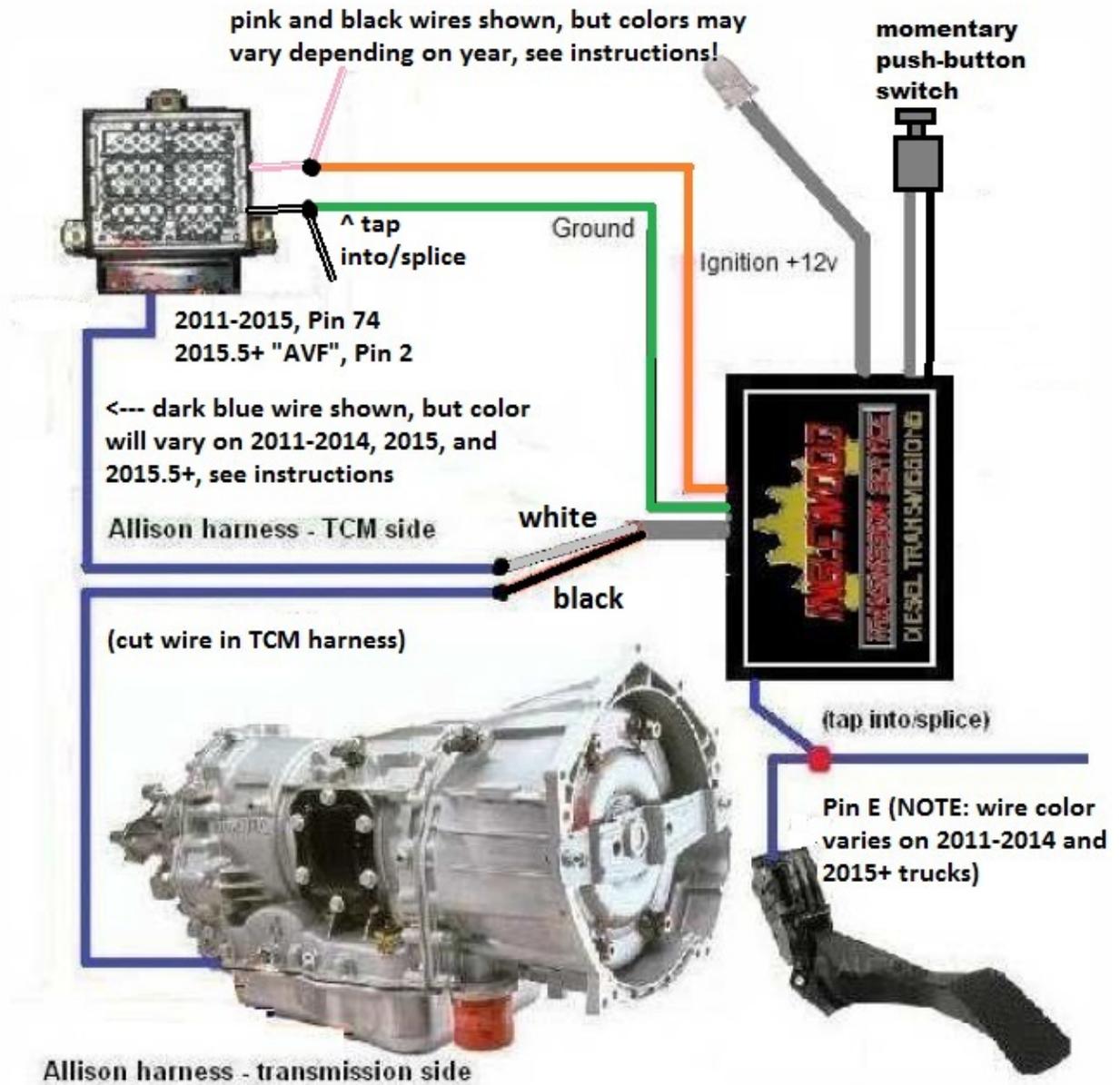
1. Start with the key ON, engine OFF
2. Press and HOLD the line pressure controller button
3. After ~2 seconds, the LED will start flashing red-green-red-green
4. While still holding the button, press the accelerator pedal down to the position that you want the max-pressure ramp up to start. NOTE: it will be easier to have a scan tool plugged in to monitor actual throttle position (xx %) to give a better idea of what the actual throttle setting is, rather than relying on your foot/"butt dyno" to guesstimate the position.
5. Hold the pedal steady at the desired position, and then release the line pressure controller button.
6. Keep holding the pedal until the LED stops flashing and turns off.
7. When the LED turns off, release the pedal. Turn the key off, wait a few seconds, and the setting is now saved permanently (or until you re-enter the programming steps listed above)
8. To test/verify the setting, turn the key on, engine OFF. Press the line pressure controller button once (don't hold it, just press it normally). The LED will light up RED.
9. Slowly press the pedal down, and then the light will change over to green and the box will click when the pedal reaches your new programmed threshold % point.  
Done!

#### TROUBLESHOOTING:

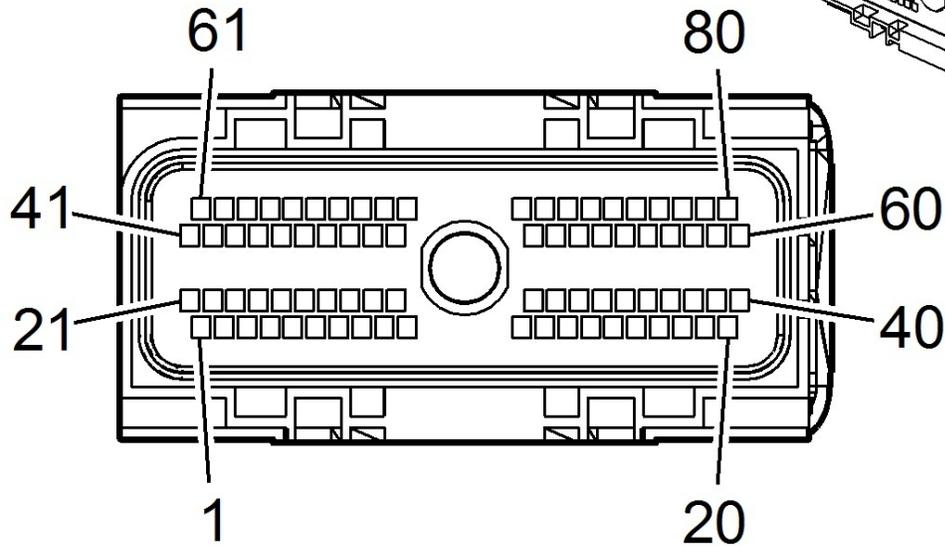
**If the TCM throws a P0960, P0961, P0962, or P0963 code, double check the connections at the TCM, and double check that you do not have the BLACK and WHITE wires of the line pressure controller harness mixed up/incorrectly swapped where they are spliced into the cut wire at the TCM.**

**If the truck goes into REDUCED ENGINE POWER mode or has no throttle pedal, double check the power (orange wire on the line pressure controller harness), ground (green wire on line pressure controller harness) and also double check the wire tap at the accelerator pedal. If either of these connections are poor or loose, it can cause a dead-throttle-pedal and/or REDUCED ENGINE POWER message in the instrument cluster.**

**Any other issues, feel free to contact us. NOTE: Due to high phone call volume, email is generally the fastest/easiest way to contact us! [btdieselworks@gmail.com](mailto:btdieselworks@gmail.com)**



2011-2015 WITHOUT  
"AVF", A50 TCM



2015.5 WITH "AVF" CODE, ALL  
2016, T87 TCM

