



## 4L80-E TransConversion Kit Installation Instructions

### **READ ALL INSTRUCTIONS BEFORE INSTALLING!**

The JET TransConversion Kit is a stand-alone controller and harness which will operate the GM 4L80-E transmission in non-computer applications. This system has been assembled using quality OEM components for superior service and reliability. To ensure proper operation, do not use crimp connectors during installation since they act as resistors. Solder and tape all connections unless otherwise specified. Be sure to keep all wiring away from extreme heat sources and moving parts. Use grommets around wires passing through metal! Read all instructions carefully before beginning installation. For technical support, do not contact the distributor you purchased the system from. Contact JET Performance at (714) 848-5515 M-F, 8:00-5:00 PST, or e-mail to [customerservice@powerbyjet.com](mailto:customerservice@powerbyjet.com).

1. Disconnect negative battery cable before beginning!
2. The TCM (Transmission Control Module) needs to be mounted inside the vehicle, preferably under the dash. To allow the wiring to be installed, cut a 2 1/8" hole in firewall or floor for the harness to pass through. Be sure to carefully inspect for wiring, hoses, heater core, etc, before cutting hole! Pass interior end of harness with TCM connectors and ALDL (diagnostic connector with LED) through hole into vehicle. Make sure all wires on interior end of grommet go through hole. Seat the large rubber grommet on harness securely on firewall.
3. Route the 3 transmission connectors down to transmission. Locate the largest of the three connectors and plug it carefully into the large plug on the driver side of the transmission making sure it snaps securely into place.
4. Output speed: Locate the connector on the harness marked output speed and plug it into the small connector towards the rear of the transmission.
5. Input speed: Locate the connector on the harness marked input speed and plug it into the small connector towards the front of the transmission.
6. Ground: Locate ground lug on harness. Bolt securely to a suitable engine ground (cylinder head or intake manifold).
7. Engine speed:
  - A. Analog distributors; (Pre-88 HEI, MSD, most carburetor applications). Remove both the distributor cap and rotor. Note the color of the wires connecting the reluctor coil to the HEI module. They are typically green and white. Carefully strip back a section of insulation from both wires. Drill a small hole in the bottom of the distributor to pass through the green and white wires on the harness marked engine speed. Solder and tape the green and white connections. (Note: If vehicle fails to start after installation of the harness,

reverse the connections as we have no control of the coil's polarity. Trying to start the vehicle with the connections reversed will have no adverse effects on the vehicle or the controller).

**B. Digital: (Most fuel injected applications):** Locate the wires on the harness marked engine speed (violet and black wires). Unplug the 4 pin connector on distributor. Strip back a portion of insulation on the violet wire with white tracer. Splice together with the violet wire from our harness. Strip back black wire with red tracer, and splice together with black wire from our harness. Solder and tape all connections.

**C. ABITS distributor (LT-1 applications):** Locate the 4 pin connector at the ABITS distributor. Locate the pink and black wire at the 4 pin connector. Solder and tape to the black wire on our harness marked "engine speed". Locate the red and black wire at the 4 pin connector. Solder and tape to the violet wire on our harness marked "engine speed".

**D. Diesel:** Follow the instructions on the Isspro R8906 Sensor Kit. Note that our system requires a 4 pulse signal, which is why we send the additional R8911 magnet kit. Mount all 4 magnets in 90 degree increments, and allow the adhesive to dry overnight before starting vehicle. After mounting sensor and magnets, connect the two wires from sensor to the green and white wires on harness marked engine speed. The wires can be attached either way since the polarity is not important.

#### **8. TPS (Throttle Position Sensor):**

**A. Carbureted applications:** Follow the instructions provided with the stand alone TPS.

**B. Fuel injected applications:** Locate the TPS connector on your particular injection unit. It is usually a 3 pin connector with blue, black, and gray wires. Unplug connector from injection unit. Strip back insulation on black and blue wires and splice with like colored wires on harness marked TPS. Solder and tape all connections. \*Note- only two wires from 3 pin connector are used. If your fuel injection system has different colored wires, consult your wiring diagram to locate the ground and return wires. Attach ground wire from your system to our black wire, and return wire from your system to our blue wire.

**C. Diesel:** Follow the instructions provided with the stand alone TPS.

#### **9. Ignition Power:**

**A. Early HEI:** Locate pink wire that goes to distributor cap (sometimes marked battery or 12-volt). Splice together with pink wire from our harness marked ignition.

**B. Digital:** Locate connector on top of ignition coil (pink and white wires). Remove the connector from the coil and strip back insulation on the pink wire. Splice together with the pink wire from harness marked ignition. Solder and tape connection.

**C. Diesel:** Locate pink wire from harness and connect to a 12 volt switched ignition source that remains on during engine startup.

#### **10. 12 Volt Battery:** Connect to a 12 volt battery source (+) with power on all the time.

11. Locate the fuse holders on harness and secure them to firewall where they can be accessed easily.
12. Mount ALDL connector (diagnostic link) inside the vehicle under the dash in an easily accessible location. This port can be used to diagnose the system using scan tools.
13. Attach the two large TCM connectors to the TCM (computer). The TCM can be mounted using velcro strips or zip ties to keep it secure. Mount the TCM in a location that is dry at all times and away from direct heat sources. The software can be changed in the TCM to alter shift points, shift firmness and lockup converter clutch tables, so mount it where it can be easily removed.
14. This completes installation. Reconnect battery cable.
15. Initial check out procedure: Turn ignition key to on position, but do not start engine. The LED indicator on the ALDL connector should light up and remain lit. Using a paper clip or piece of wire, short the two top right terminals of ALDL connector together. The light should go out briefly, then start flashing codes. A code "12" (1 flash followed by 2 flashes) should repeat itself 3 times, pause, then flash the code "12" 3 more times. This code indicates normal operation. If you get any other codes, refer to Chevy/GMC truck shop manual. Remove short and turn off key. The initial check out can also be checked out with use of a scan tool. When using scan tools to diagnose the system, you will need to enter the vehicle data into the tool. Since this is a conversion, use the following settings to access the diagnostic system:  
Vehicle: 1993 Chevrolet 6.5 liter diesel truck with automatic overdrive transmission.  
If the tool requests VIN # digits, enter as follows;  
10th digit P, 3rd digit C, 8th digit J.



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