

SUBJECT

**OPTIONAL - ECM By-Pass
Mechanical Wiring**

PART NUMBER

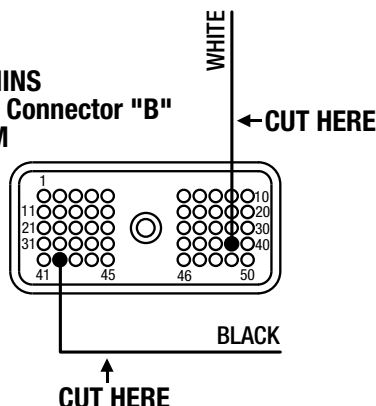
C14037

APPLICATION

**2003-2004 Dodge Trucks
(Built before Jan 1st, 2004)
Manual Transmission**



**CUMMINS
50 Pin Connector "B"
at ECM**



The engines ECM has a built in delay for exhaust brake application. This mechanical kit was developed to reduce the delay and speed up the application time of the exhaust brake. Pacbrake also offers an optional air tank kit (C11941) to speed up the application of the exhaust brake as early production kits did not include an air tank.

INSTALATION PROCEDURE

NOTE: When this mechanical wiring system is installed on manual transmission vehicles a cruise by-pass relay must be installed (supplied in kit). This is to prevent the cruise control from being activated when the exhaust brake switch is in the ON position.

Throttle Switch Installation:

1. When mounting the throttle switch, use the switch as a template. Hold the microswitch on the accelerator bracket as shown in the photo. Position the switch so the accelerator pedal applies enough pressure to activate, (switch just clicks).
2. Using a drill and a 9/64" drill bit, insert the drill bit into the upper hole and drill enough to make a reference, remove the switch, at the reference mark drill through the bracket.
3. Install the micro switch using the screw, washer and nut on the upper hole, do not tighten fully at this time. Align the micro switch again as in step 1, insert the 9/64 drill bit into the lower hole and drill enough to make a reference. Rotate the switch to drill the lower hole at the reference mark and drill through.
4. Align the switch with the hole and install the lower screw, washer and nut. Adjust the switch, it should click within the first 1/4" of accelerator pedal travel. Tighten the two screws.

Electrical Installation:

1. Locate the BLACK and WHITE wires of the Pacbrake harness with special pins that connect into the engine ECM. If the exhaust brake was previously installed, cut these two wires 6" from the ECM (located on the drivers side of the block), apply electrical tape to the wire ends connected to the ECM. (Continued Next Page...)

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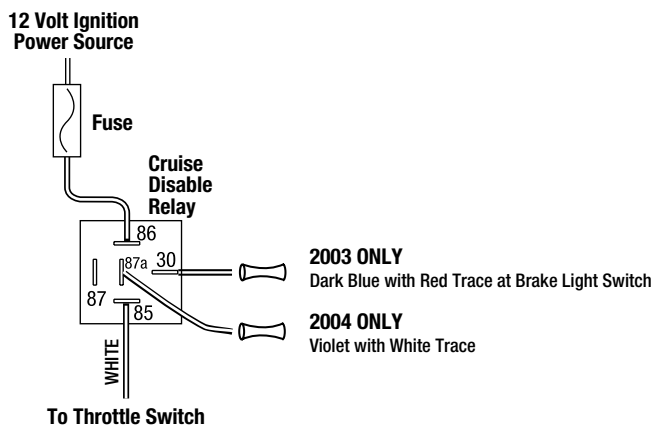
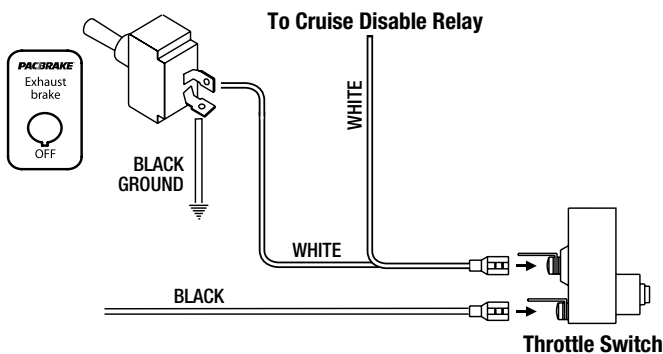
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APPLICATION

2003-2004 Dodge Trucks (Built before Jan 1st, 2004) Manual Transmission

The BLACK wire needs to be routed into the cab, as this wire needs to be connected to the throttle switch in step 2. The WHITE wire originates at the Pacbrake dash switch, route this wire to the throttle switch as it needs to be connected to the throttle switch in step 3.

2. At the throttle switch, connect the BLACK wire to either of the two terminals using the push on connector provided.
3. At the throttle switch, cut the WHITE wire to length, the dash switch end is to be connected to the "common" terminal at the throttle switch WITH the piece of WHITE wire cut off as a jumper, crimp the two ends of WHITE wires into the terminal provided, then connect to the unused terminal of the throttle switch.
4. Cruise disable relay installation, this is required to prevent the exhaust brake from being applied when the cruise control is accelerating the vehicle.
 - a) At the brake lamp switch, locate the factory 6 pin connector. 2003 vehicles pin 3 will be a dark blue with red tracer, 2004 and newer vehicles pin 3 the wire will be a violet with white tracer.
 - b) Cut this wire in a convenient location and attach the two blue extension wires supplied with heat shrinkable butt connectors.
 - c) Route the two blue extension wires to the relay provided and connect either one of the two blue wires to terminals #30 and #87a.
 - d) Cut the white jumper wire from the throttle switch to length and connect it to terminal #85 of the relay.
 - e) Connect the fuse harness provided to terminal #86 of the relay. 2003 vehicles have a 14 pin connector on the passengers side firewall, pin #13 will be a dark blue wire which should be an ignition 12 volts positive power supply. 2004 vehicles have two 24 pin connectors on the drivers side of the firewall. In the black connector, locate pin B4, it will be a pink wire with gray trace. Check the power source with a voltmeter to ensure it is 12 volts positive and an ignition power source prior to attaching the blue "T" tap provided. Do not separate the connector as it will log a fault code with the engine ECM.



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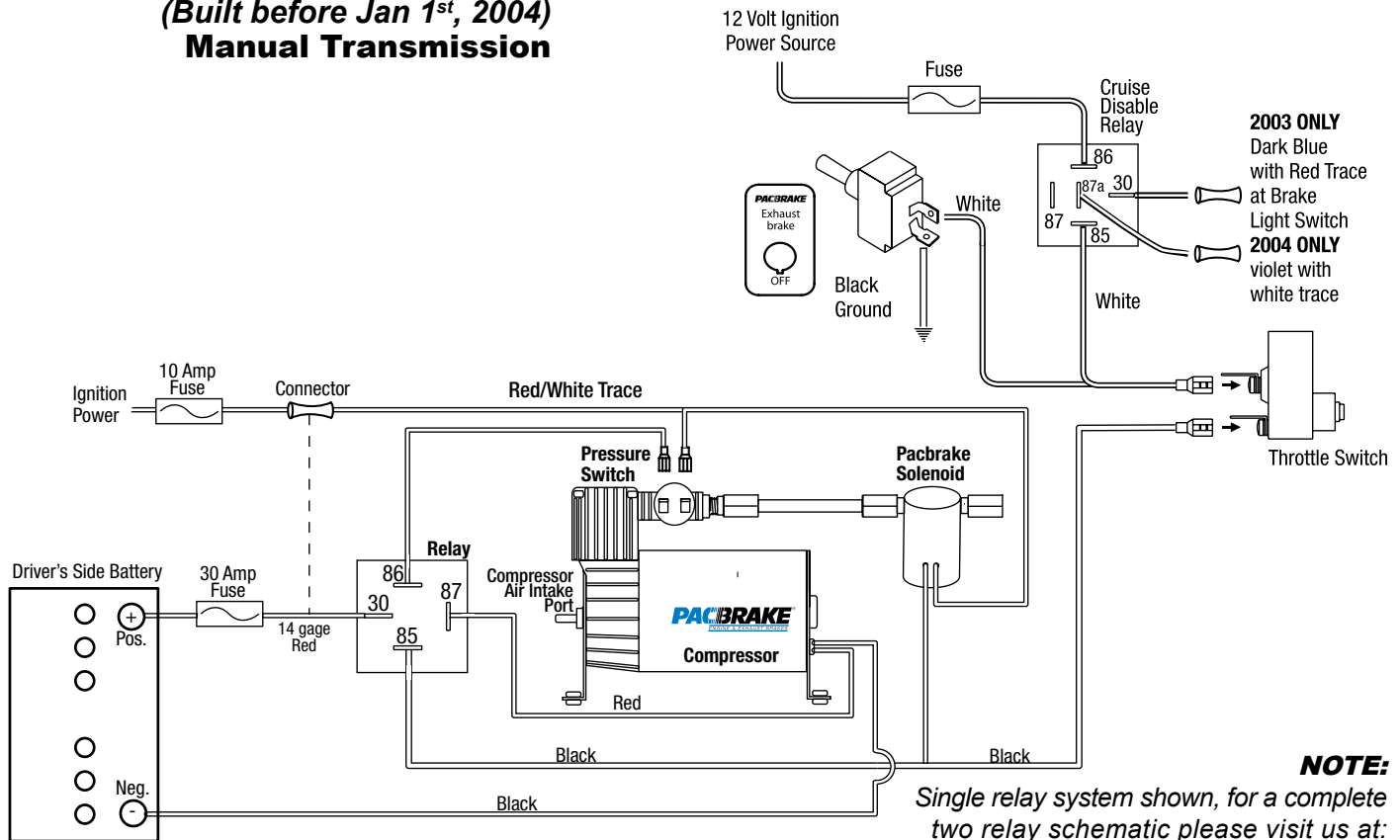
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APPLICATION

2003-2004 Dodge Trucks (Built before Jan 1st, 2004) Manual Transmission

Pacbrake harnesses built prior to March 2006 will have ONE relay, these applications require a modification at the air compressor relay. Pacbrake harnesses with TWO relays DO NOT require this modification, omit step 5.

- At the air compressor relay locate the 16 gage RED wire to terminal #86. Cut this wire in a convenient location to separate it from the RED 14 gage wire to terminal #30. Do not cut the RED 14 gage wire. Apply electrical tape to the cut end of the 14 gage wire to protect it. Extend the RED 16 gage wire and connect to the ignition power source.



Testing The System

Start the vehicle and allow to idle. Turn the switch to on, you should hear the compressor start to pump, the exhaust brake should activate. (cylinder rod extend). Lightly depress the accelerator and the exhaust brake should release. Road test the vehicle and with the exhaust brake switch in the off position set the cruise control. Turn the exhaust brake switch to on, the exhaust brake should apply and cruise control should automatically go into coast mode. Turn the exhaust brake switch to off and press cruise resume and the cruise should resume to the previous speed. Congratulations you have completed the installation.