

2001-2005 DURAMAX DIGITAL SWITCH

Installation Guide

Read the complete guide before beginning. Keep removed hardware organized, follow all safety precautions, and verify all connections before operating the vehicle.



04.5-05 LLY Duramax

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This instruction manual covers installation of the gauge pod mount DSP/SOTF switch for 2004.5-2005 LLY "classic/GMT-800" trucks only.

, LLC will not be held responsible for any personal, property, truck, vehicle, engine/powertrain, or transmission damage/injury that may result with the use of this module. This is an aftermarket part; just like any other aftermarket performance truck parts, install/use it at your own risk. Be sure to use caution when working around yellow connectors or wiring as these can be related to the SIR (airbag) system.

STEP 1

Disconnect batteries.

STEP 2

Decide where to mount the gauge pod switch and route wiring harness carefully so it does not rub on any sharp edges or interfere with steering column/brake pedal/accelerator pedal linkage. Only the GRAY, BLACK, PINK, and PURPLE wires are going to be routed out to the engine bay.

STEP 3

Route the gray, black, pink, purple wires through the firewall to the ECM. Be sure to wrap and carefully secure the wire so it does not rub on any sharp surfaces, hot surfaces, or moving parts! Failure to do so may result in chaffed wiring and permanent gauge pod switch damage.

STEP 4

Remove the ECM "C3" connector, the GRAY connector.



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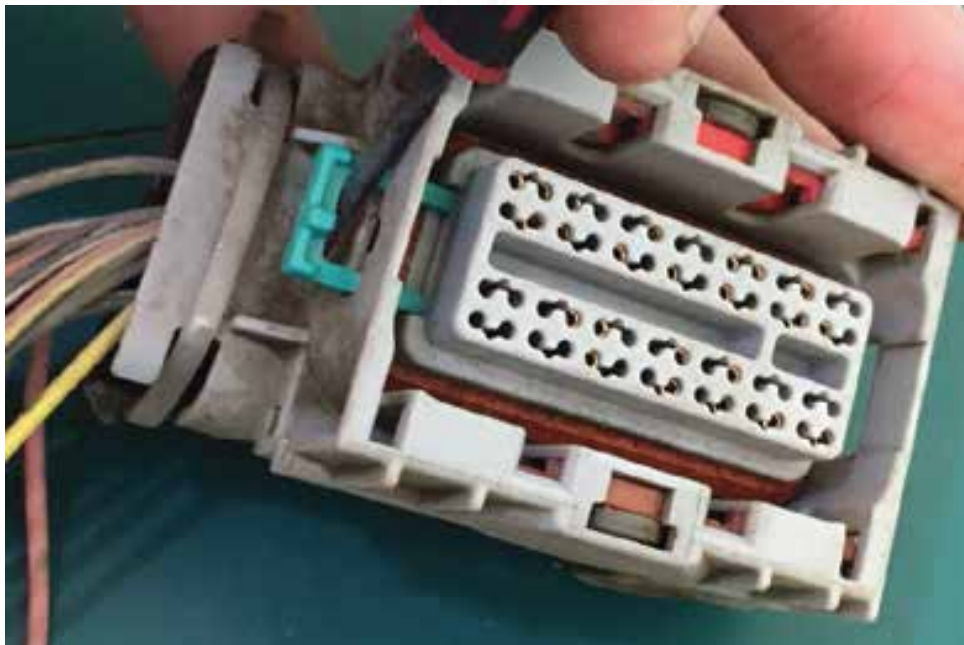
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STEP 5

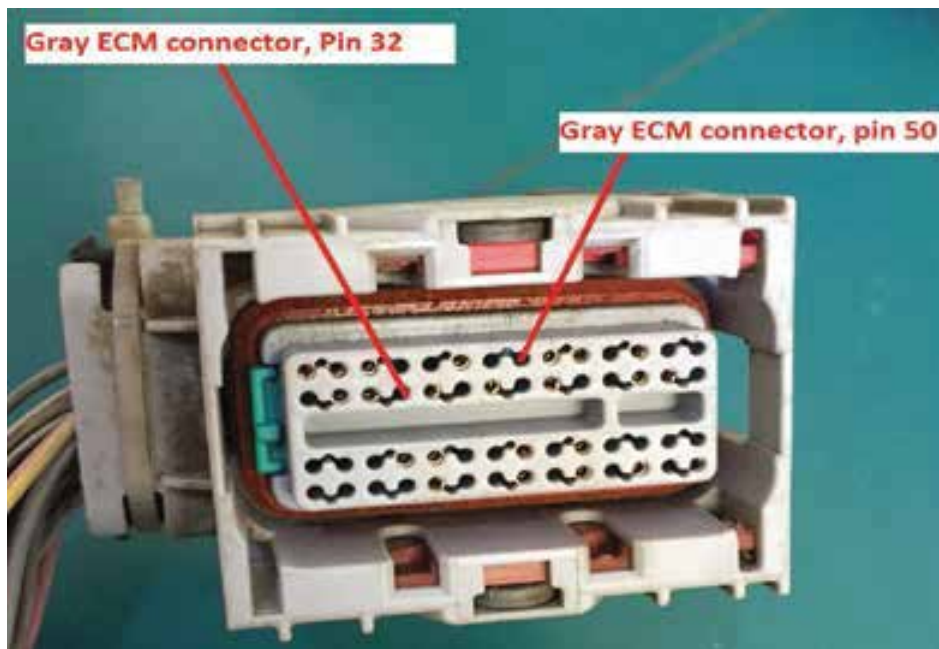
Using a small screwdriver or pick, carefully pry off the wire dress cover and remove the green pin retainer clip as shown.



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STEP 6

Insert the PURPLE wire from the DSP switch into pin position 32 on the C3 (gray) ECM connector. Be sure to double check pin position and refer to ECM connector picture below. Inserting the pin into the wrong position may damage the ECM or gauge pod switch.



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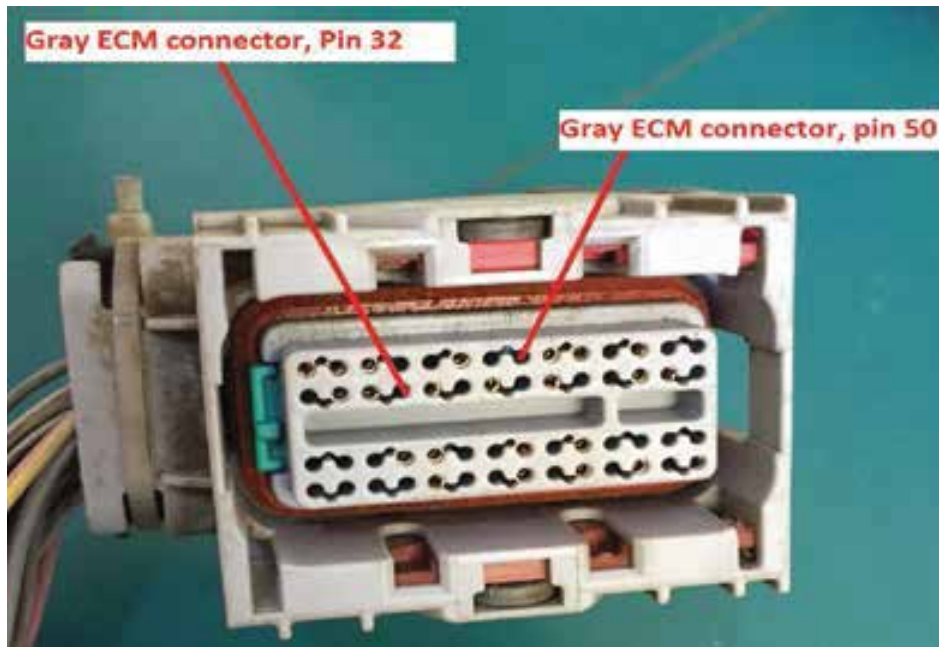
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STEP 7

Insert the BLACK wire from the DSP switch into pin position 50 on the C3 (gray) ECM connector. Be sure to double check pin position and refer to ECM connector picture below. Inserting the pin into the wrong position may damage the ECM or gauge pod switch.



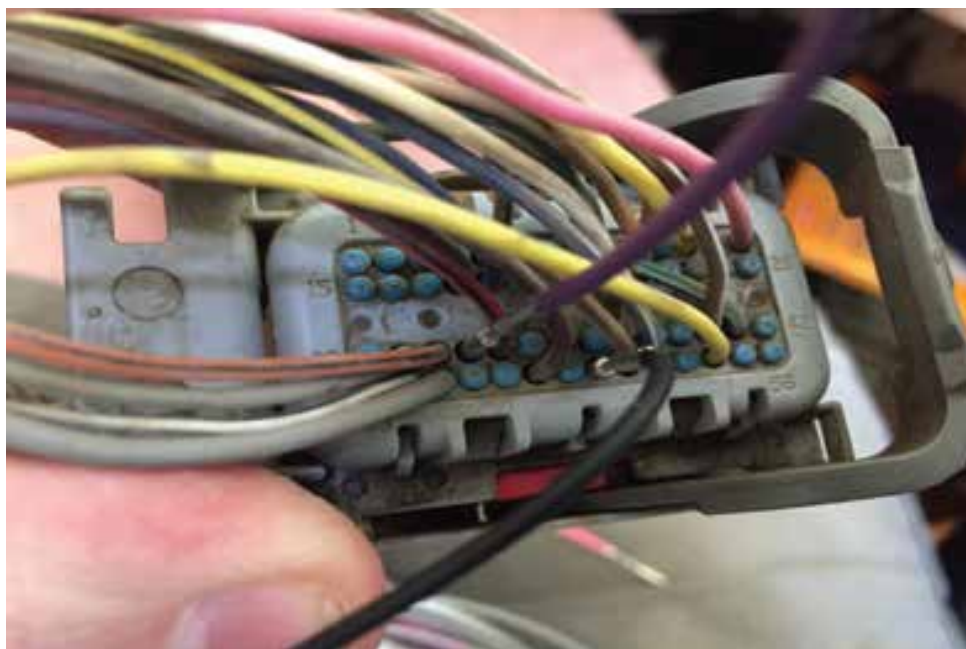
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STEP 8

Insert the GRAY wire from the DSP switch into pin position 6 on the C3 (gray) ECM connector. Be sure to double check pin position and refer to ECM connector picture below. Inserting the pin into the wrong position may damage the ECM or gauge pod switch. NOTE: this gray wire is for manual high-idle control, if you do not wish to install manual high idle feature, you can ignore this wire and pin.

STEP 9

Once the pins are all inserted, replace the green pin retainer clip. Give the wires a VERY GENTILE tug to be sure they are fully seated and locked in place



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STEP 10

Replace the connector wire dress cover, and reconnect the ECM connector. Be sure to double check DSP/SOTF wire routing again that it is not contacting any sharp/hot/moving parts!

STEP 11

Remove the ECM "C2" connector, the large BLACK connector.



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STEP 12

Using a small screwdriver or pick, carefully pry off the wire dress cover and remove the green pin retainer clip

STEP 13

Insert the PINK wire from the DSP switch into pin position 12 on the C2 (black) ECM connector. Be sure to double check pin position and refer to ECM connector picture below. Inserting the pin into the wrong position may damage the ECM or gauge pod switch.

STEP 14

Once the pins are all inserted, replace the green pin retainer clip. Give the wires a VERY GENTILE tug to be sure they are fully seated and locked in place.

STEP 15

Replace the connector wire dress cover, and reconnect the ECM connector. Be sure to double check DSP/SOTF wire routing again that it is not contacting any sharp/hot/moving parts!

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STEP 16

Double check all ECM connectors are fully reinstalled and secured.

STEP 17

Route the BLUE wire on the gauge pod switch harness to the back of the headlight switch. This is the signal wire for night time gauge backlight dimming, so the display of the DSP/SOTF switch dims automatically with the factory dash lighting dimmer control on the headlight switch.

STEP 18

Splice ("T") the BLUE wire of the gauge pod switch into the BROWN/WHITE-STRIPED wire on the headlight switch connector. Be sure to tape and secure all connections and splices correctly.

STEP 19

Reconnect batteries.

STEP 20

Turn the ignition ON (do not start the engine). The switch should light up and turn on. NOTE: if the switch shows "-" on the display, simply press the "up" arrow button once to initialize the switch. Once initialized, the switch should show a number, 1-5, indicating which tune is currently selected.

Programming/setup Procedure

NOTE: The switch is set to a default mode from the factory and must be configured/setup for your particular truck.

The "UP" arrow is for configuring the year/engine of truck.

The "DOWN" arrow is for configuring the switch wake-up/sleep source

Truck year/engine configuration

STEP 1

Press and hold the UP arrow of the switch. While holding the UP arrow button turn ignition to the run position. The switch will power on and show P (program). Once it shows P, you can release the UP arrow.

STEP 2

The switch display will then show either "H", "1", or "2" for a few seconds, go blank for a second, then return to regular operation. "H" is 2001-2005 LB7/LLY Duramax, "1" is 2006-2010 LBZ/LMM Duramax, "2" is 2011-2016 LML Duramax and Ford Superduty 11-17

STEP 3

Each time programming mode is manually entered (following steps 1-3), the setting will step up one level (H, 1, 2), and then loop back around to "H". Once you have followed steps 1-3 the appropriate amount of times to get the "P" setting to H (LB7/LLY), you can turn the ignition OFF, wait a few seconds, and the year setting will be saved. You can re-enter programming mode (or example, if you are removing and installing the switch on a different truck) at any time by following steps 1-3.

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Switch wake-up/sleep source

This programming mode is to setup the switch for automatic on/off based on CAN bus activity. When CAN traffic is detected by the switch (ie, when the ignition is turned on), the switch wakes up and turns on. When CAN traffic stops (ie, truck is shut off), the switch will wait an extra ~10 seconds, and then put itself to sleep so as not to drain the trucks battery.

The two settings on the switch are "C" for CAN bus wake up/sleep, and "D" for DISCRETE wakeup/sleep source. The "D" discrete power setting is only for 2001-2005 Duramax that does not have CAN pins wired into the OBD port and thus cannot be switched on/off automatically. "D" discrete setting for 2001-2005 Duramax simply turns the switch on/off with the ignition key.

STEP 1

Press and hold the DOWN arrow of the switch. While holding the DOWN arrow button turn ignition to the run position.

STEP 2

The switch will power on and show the current switch wake/sleep source. "D" (discrete, 01-05 Duramax only) or "C" (CAN, 2006+ Duramax and Ford). The switch display will then go blank for a second, then return to regular operation.

STEP 3

If the switch shows D, and returns to normal operation, the switch is configured properly.

STEP 4

To select the correct setting for switch wake-up. REPEAT steps 1-3

STEP 5

Double check on/off operation of the switch, with the key ON, the switch should be on, and the switch should then turn off as soon as the key is turned OFF.

Setup Complete Double check all connections, secure/tape any extra wire, reinstall trim panels, and enjoy gauge pod digital DSP/SOTF switch!

HIGH IDLE MODE

The gauge pod digital DSP/SOTF switch also has a manual high idle mode for faster winter warm up, jump starting other vehicles, etc. To activate the high idle mode, the truck must be in PARK and your foot must be OFF the brake pedal. The cruise control switch must be ON. Press the "DOWN" arrow several times until the switch display shows "1". When the display shows "1", press and hold the "DOWN" arrow for ~3 seconds, and the display will change to "H" (High idle).

Once the display changes to "H", press the cruise control "SET" button twice, and the engine should idle up to ~1200rpm. To increase high idle speed to 1800rpm, press the cruise "RESUME" button.

To exit high idle mode, press the "UP" arrow, or press the brake pedal.

NOTE: do not attempt to drive the truck with the switch in "H" high idle mode, otherwise the truck will have a 2200rpm rev limit and feel like its in limp mode.

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WIRE CHART



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PURPLE: DSP 5

RED: NOT CONNECTED

GREEN: NOT CONNECTED

Yellow: NOT CONNECTED

BLUE: ILLUMINATION

WHITE: NOT CONNECTED

BROWN: NOT CONNECTED

GRAY: HIGH IDLE

BLACK: DSP 5

PINK: +12 volt ignition

