

Mid-December 2016, Volume 18, No. 24

Low Cab Forward Medium-Duty Trucks



The all-new Low Cab Forward medium-duty trucks are the latest in a long line of Chevrolet models in the commercial market. The seven new Low Cab Forward models, offered in regular cab or crew cab body styles, are the 3500, 3500HD, 4500, 4500HD, 4500XD, 5500HD and 5500XD. The trucks area available with a variety of upfit equipment and bodies provided by independent suppliers.

Depending on the model, the trucks are equipped with either a GM 6.0L V8 gasoline engine, a GM 6.0L V8 LPG/CNG-capable engine, or an Isuzu 3.0L or 5.2L I4 turbo-charged diesel engine.

MODEL CONFIGURATIONS

3500 and 4500 Configurations

Available in regular cab and crew cab configurations, the 3500 and 4500 models are equipped with a Vortec 6.0L V8 engine (RPOs L96, LC8) and mated to a Hydra–Matic 6L90 6-speed automatic transmission (RPO MYD).

3500HD Configuration

The 3500HD truck is equipped with an Isuzu 3.0L I4 turbocharged engine (RPO IZ3) and an Aisin A460 6-speed automatic transmission (RPO IX0). It's available in a regular cab configuration.

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4500HD and 4500XD Configurations

The 4500HD and 4500XD models are equipped with an Isuzu 5.2L I4 turbocharged engine (RPO I1B) with an Aisin A465 6-speed automatic transmission (RPO IR7). These models are available in regular cab and crew cab configurations.

5500HD and 5500XD Configurations

The 5500HD is available in regular cab and crew cab configurations while the 5500XD is available as a regular cab model. These trucks are equipped with an Isuzu 5.2L I4 turbocharged engine (RPO I1B) and an Aisin A465 6-speed automatic transmission (RPO IR7).

ENGINE OIL LEVELS

Regular cab models equipped with 6.0L V8 gasoline or LPG/CNG engines – The engine oil dipstick can be found on the left side of the engine after tilting the cab.

Crew cab models equipped with 6.0L V8 gasoline or LPG/CNG engines – The engine oil dipstick is under the engine inspection sub-cover underneath the passenger seat. Use the strap on the front of the seat to raise the seat cushion. Release the subcover catch hooks to raise the cover for access to the oil dipstick.

Regular and crew cab models equipped with 3.0L l4 or 5.2L l4 diesel engines – The engine oil level can be checked using the oil level switch on the left side of the instrument panel. When checking the oil level, be sure the vehicle is on level ground and the engine is cool. Press the engine oil level check switch on the instrument panel. If the oil level is low, the red oil pressure warning light will turn on. If the engine oil level is acceptable, the green oil level indicator will turn on. The oil level also can be checked using the oil level dipstick.:

DIESEL ENGINE FEATURES

Diesel Engine Coolant

The diesel engines use a long-life coolant that is green in color. The addition of conventional green propylene glycol coolant will damage the engine. The factory-



Oil level switch

installed long-life green engine coolant is not available from GM Customer Care and Aftersales. Use only yellow long-life coolant (GM P/N 12378560; ACDelco P/N 10-5034) in the Low Cab Forward diesel engines. It is the only product that has been certified as compatible with the original long-life green diesel engine coolant.

A fuel system cooler has been added to models equipped with the 5.2L I4 diesel engine. The fuel system cooler compensates for increased fuel pressure and increased cylinder pressure due to changes in the camshaft timing, which results in higher fuel temperatures. The cooler reduces the fuel temperature prior to the fuel returning to the fuel tank. The cooler is mounted in front of the rear axle.

Diesel Emission Systems

The 3.0L and 5.2L diesel engines use a Diesel Particulate Filter (DPF) system with a Diesel Oxidizing Catalyst (DOC) and a Selective Catalvtic Reduction (SCR) assembly to meet current diesel emissions standards.

The DPF system that is designed to capture particulate matter (PM), or soot,



Fuel system cooler



Diesel emissions system

is the same on both diesel engines except that the 3.0L system does not have a DPF fuel injector in the exhaust system for regeneration. The 3.0L system uses post injection from the main injectors during a DPF regeneration event instead of a DPF fuel injector.

Diesel Exhaust Fluid

The Diesel Exhaust Fluid (DEF) tank is installed on the frame on the left side of the vehicle. It includes a Level & Temperature Sensor, a drain plug and a tamper-resistant filler insert to prevent filling with fluids other than DEF. A visual DEF level gauge is helpful when filling the tank. The internal pickup includes the Coolant Heating Tube and Gauge Sending Unit. The pickup is serviced as a complete assembly.



DEF tank components

The DEF gauge on the instrument cluster indicates the quantity of DEF remaining in the DEF tank. When only one green bar is showing, the DEF tank is almost empty and should be refilled soon. If the vehicle is driven too long with only one bar, the green will change to amber and additional warnings and indicators will display. Vehicle

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speed will be severely limited when the DEF tank is empty.

The DEF indicator lamp on the instrument cluster will illuminate if there is a malfunction of the SCR system, the DEF level is too low or empty, of the DEF tank is refilled with any fluid other than DEF.

MIMAMORI SYSTEM

Vehicle Pigtail Connector

The Low Cab Forward trucks use the vehicle pigtail connector as the communication gateway

(similar to the Diagnostic Link Connector, or DLC, on other GM vehicles) from which a Vehicle Health Report can be downloaded. The connector is accessible after removing the relay fuse cover in the center of the lower dash panel. Behind the panel, the connector is located in the lower right corner of the opening. It has a green identifying mark under the clear plastic cover.

DEF gauge

Connect the RS232 Cable, which is an essential tool, to the vehicle pigtail connector and to a laptop USB port with GDS 2 installed.

Once connected, the Vehicle Health Report can be downloaded. The ignition must be on with the engine off throughout the download procedure. Two blue lights on the RS232 cable will flash while the download is in process.



1. Vehicle pigtail connector 2. BS232 cable

SPECIAL TOOLS

There are currently 90 service tools that a dealership may need for this program. However, each dealership's actual tool cost and/or need is dependent on their current tool inventory. In addition, nine of the service tools are available through the Loan Tool Program.

For additional information on the Low Cab Forward medium-duty trucks, refer to Bulletin #16-NA-337.

Thanks to Bob Briedis

Two Fobs Needed for RKE Transmitter Quick Learn on 2017 Models

For 2017 model year vehicles, excluding Acadia Limited, Enclave, Traverse, Express and Savana models, adding a new Remote Keyless Entry (RKE) transmitter, or key fob, using the quick learn procedure requires that two previously learned transmitters be present.



For 2017 MY vehicles, two previously learned transmitters must be present to perform the quick learn procedure.

TIP: If only one transmitter is present, the procedure will not complete and a Remote Learn Pending message will display on the vehicle's Driver Information Center. The new transmitter will not be learned and cannot be reprogrammed.

If only one transmitter is available, use SPS to add a new transmitter to the vehicle instead of the quick learn procedure. On 2016 and earlier model years, only one previously learned transmitter is needed to be present to perform the quick learn procedure.

Programming Additional Transmitters

The Adding Transmitters, also referred to as Adding Keys, programming does not erase any keys. The programming simply adds a key into the next available slot. Up to eight transmitters can be learned to a single vehicle. If a new transmitter is being learned to replace a damaged, inoperative, or stolen transmitter, follow the Replacing Transmitters procedure to ensure that an old transmitter cannot be used.

Before performing the quick learn procedure to add a transmitter, verify all mechanical keys operate correctly.

The quick learn procedure typically requires the two previously learned transmitters to be placed in the vehicle cupholder in the center console (if equipped) or to turn the ignition on/off with both transmitters.

To initiate programming, each new transmitter is placed in the transmitter pocket, which is located in the center console storage compartment (if equipped)



Transmitter pocket on the LaCrosse

or the new key/transmitter is placed in the ignition switch. The ignition is turned to the ON position (do not crank the engine). The vehicle theft light on the instrument cluster will turn off or the Driver Information Center will indicate the key/transmitter is learned.

Be sure to keep other transmitters at least 12 inches (30 cm) away from the ignition switch or transmitter pocket while learning.

Refer to #PIC6208 for additional information on the quick learn procedure for 2017 models.

Refer to the appropriate Service Information for complete details on RKE transmitter programming for each specific GM model.

(Thanks to Chris Crumb

Damaged Shipping Container Restraining Belts

Many service replacement engines, transmissions and transfer cases are delivered to dealerships in shipping containers that use a ratchet-style restraining belt. The belt is used to securely hold the component in place inside the shipping container.



Shipping container with ratchet-style belt securing the component.

The shipping container also is used to return the core unit of the replaced component. Recently, some cores have been returned with the restraining belts cut, leaving the core unsecured in the container.

TIP: When the new component is received in the dealership, release the belt in the shipping container using the ratchet mechanism. Do not cut the webbing of the belt.



Belt ratchet mechanism

Secure the Core Unit

Once the core unit to be returned has been placed into the shipping container, use the belt to secure the core. Tighten the belt enough to prevent movement in the bottom of the container.



Do not cut the belt.



Damaged belt

Core units returned to the Warranty Parts Center (WPC) or the Core Center that have had the belts cut, leaving the component unsecured, may be subject to a warranty claim debit.

Refer to the instructions now being included in the shipping containers for proper operation of the ratchet-style restraining belt and complete shipping instructions.

Containers with Damaged Belts

If a service replacement engine, transmission or transfer case assembly with a cut or damaged belt is received in your dealership, contact Matt Stedman by email at matthew.stedman@gm.com or by phone at 586-419-9370 with the details of your order. All belts in the containers are being inspected prior to shipping.

↔ Thanks to Mark Gordon

Shift to Park Message with Five DTCs Set

A Shift to Park message may display on the Driver Information Center of some 2016-2017 Malibu and Volt models. These models are equipped with the 5ET50 automatic transmission (RPOs MKV, MKE), which is an electronically-controlled, continuously-variable electric transmission (or drive unit) on hybrid models.

The following DTCs may be set:

P1AEE – Drive Motor 1 Control Module Hybrid/EV Battery System Voltage High Voltage

P1AEF– Drive Motor 2 Control Module Hybrid/EV Battery System Voltage High Voltage

P1AF0 – Drive Motor 1 Control Module Hybrid/EV Battery Voltage System Isolation Lost

P1AF2 – Drive Motor 2 Control Module Hybrid/EV Battery Voltage System Isolation Lost

P1E22 – Auxiliary Transmission Fluid Pump Control Module Hybrid/ EV Battery Voltage System Isolation Lost

If only two or three of these DTCs are set, follow the appropriate Ser-

vice Information diagnostic procedures. The cause may not be any internal components of the transmission.

If all five DTCs are set, there is an internal fault with the transmission and the transmission requires replacement. Do not attempt any internal repairs.

Volt 5ET50 transmission

Refer to #PIP5321 for more information on the Volt 5ET50 (RPO MKV) transmission restriction program.

Refer to #PIP5390 for more information on the Malibu 5ET50 (RPO MKE) transmission restriction program.

ℜ Thanks to John Riker

Service Know-How

10217.02V Emerging Issues - February 9, 2017

The latest service topics from Brand Quality and Engineering are reviewed, including an update on the new 2017 Service Training Standards and how to perform a software update on the AFIT diagnostic tool.

To view Emerging Issues seminars:

- Log in to www.centerlearning.com
 - Select Resources > Video on Demand > GM STC > Search Videos; or
 - Select Catalog to search for the course number, and then select View
 > Take or Continue Course





GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

Publisher:

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