GM MEDIUM DUTY EXHAUST SPECIFICATIONS

GENERAL INFORMATION

General Motors has engineered its exhaust systems to meet Federal emissions regulations. Federal emissions regulations prohibits any modification or alterations done to any components of the exhaust system including the catalytic converter. Any modification or alteration done to the exhaust system, including the catalytic converter will void any warranties regarding these components or any parts affected due alterations done to the exhaust system.

FEATURES

EXHAUST BRAKE (RPO=K40)

The exhaust brake is a valve in the exhaust stream that closes to provide back pressure to the engine for the purpose of slowing the vehicle during descents on steep grades. Exhaust brake is available on diesel engines only and operates as follows:

1. PCM/ECU provides power HSD (High Side Drive) to Exhaust Brake Relay coil if the following criteria are met:
   - Driver requested Exhaust Brake via Exhaust Brake Switch.
   - TCC (Torque Converter Clutch) engaged.
   - Throttle is low (< 7%)
   - Engine RPM > 1200 RPM
   - ABS not Active
2. EBC provides ground LSD (Low Side Drive) to other side of Exhaust Relay coil when ABS is Inactive. ABS Active pin (EBC – Electronic Brake Controller) goes high when ABS is active thus de-activating Exhaust Brake.
3. TCM (Transmission Control Module) monitors ABS Active signal via serial data bus in order to disengage the TCC when ABS is Active.
4. A green Exhaust telltale located in TTM (Telltale Module) will be lit when the Exhaust Brake is Active.

Exhaust brake contains exhaust restrictor (RPO=NPE) functionality in that it can be used as a warm-up aid.

When a vehicle is equipped with Exhaust Brake, the Air or Hydraulic EBC (with ABS) is used to control the exhaust brake relay. The EBC provides ground LSD (Low Side Drive) when ABS is inactive and high when ABS is active. Exhaust brake is deactivated when ABS is active.

EXHAUST RESTRICTOR (RPO=NPE)

The exhaust restrictor is a valve in the exhaust stream that closes to provide back pressure to the engine for the purpose of warming the engine. Exhaust restrictor is available on diesel engines only and operates as follows:

1. Can include Idle Boost.
2. No switch; automated through software.
3. PCM/ECU provides power (HSD) to the Exhaust Restrictor Relay coil if the following criteria are met:
   - Water Temperature is < 160°F
   - Vehicle Speed = 0 MPH
   - Throttle Position Sensor is Closed
   - Transmission is in Park/Neutral
   - Ambient Temperature is < 50°F
   - 45 Second Lag Time
4. Should also work with PTO mode where PTO takes priority.
5. A green Exhaust telltale located in TTM (TellTale Module) will be lit when the Exhaust Restrictor is Active. (This is the same telltale as for exhaust brake.)

Used as a warm-up aid for Family 3 school bus.

CONVENTIONAL EXHAUST SPECIFICATIONS

GAS & DIESEL

Engine	Order Code	Exhaust Front Pipes in. (cm)	Muffler Assembly in. (cm)	Catalytic Converter cu. in. (cu. cm)	Tailpipe in. (cm)
Vortec 8.1L	NB5	Stainless-Steel 2.5 (1) Diameter	Stainless-Steel Diameter 30 (61)	16.3 (268)	2 WD - Passenger Side Horizontal Dump Stainless-Steel 3 (7.6)
Vortec 8.1L	NB5	Stainless-Steel 2.5 (1) Diameter	Stainless-Steel Diameter 30 (61)	16.3 (268)	4 WD - Driver Side Horizontal Dump Stainless-Steel 3 (7.6)
Vortec 8.1L	N1B	Stainless-Steel 2.5 (1) Diameter	Stainless-Steel Diameter 30 (61)	16.3 (268)	Passenger Side Horizontal Dump Stainless-Steel 3in. (7.6)
Vortec 8.1L	N12	Stainless-Steel 2.5 (1) Diameter	Stainless-Steel Diameter 30 (61)	16.3 (268)	Passenger Side Horizontal Dump Stainless-Steel 3 (7.6)
Duramax 6600	NB5	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 30 (61)	16.3 (268)	2 WD - Passenger Side Horizontal Dump 409 Stainless Steel 3 (7.6)
Duramax 6600	NB5	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 30 (61)	16.3 (268)	4 WD - Driver Side Horizontal Dump 409 Stainless Steel 3 (7.6)
Duramax 6600	N1B	409 Stainless Steel Diameter 2.5 (1)	409 Stainless Steel Diameter 30 (61)	16.3 (268)	Passenger Side Horizontal Dump 409 Stainless Steel 3 (7.6)
Duramax 6600	N12	409 Stainless Steel Diameter 2.5 (1)	409 Stainless Steel Diameter 30 (61)	16.3 (268)	Passenger Side Horizontal Dump 409 Stainless Steel 3 (7.6)
ISUZU 6HK1-TC 7.8L I6	NB5	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 11x 30 (27.9 x 76.2)	Internal to Muffler	Driver Side Horizontal Dump 409 Stainless-Steel 4 (10)
ISUZU 6HK1-TC 7.8L I6	NPY	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 11x 30 (27.9 x 76.2)	Internal to Muffler	Driver Side Vertical Tailpipe 409 Stainless-Steel Diameter 4 (10)
Caterpillar C7	NB5	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 11x 30 (27.9 x 76.2)	Internal to Muffler	Driver Side Horizontal Dump 409 Stainless-Steel 4 (10)
Caterpillar C7	NPY	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 11x 30 (27.9 x 76.2)	Internal to Muffler	Driver Side Vertical Tailpipe 409 Stainless-Steel Diameter 4 (10)

TILT-CAB EXHAUST SPECIFICATIONS

DIESEL

Engine	Order	Exhaust Front Pipes in. (cm)	Muffler Assembly in. (cm)	Catalytic Converter cu.in. (cu.cm)	Tailpipe in.(cm)
ISUZU 6HK1-TC 7.8L I6	NB5	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel 11 x 30 (27.9 x 76.2)	Internal to Muffler	Passenger Side Horizontal Dump 409 Stainless Steel 4 (10)
ISUZU 6HK1-TC 7.8L I6	NEP	409 Stainless Steel Diameter 4 (10)	409 Stainless Steel Diameter 11x 30 (27.9 x 76.2)	Internal to Muffler	Driver Side Vert. Dump 409 Stainless 4 (10)