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#### **WARRANTY DEPARTMENT**

13400 Outer Drive West Detroit, MI 48239-4001

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# IMPORTANT WARRANTY INFORMATION

REF 14-027

Effective 07/23/2014 Release 07/23/2014

SUBJECT Detroit's New Consolidated Labor Operations (CLOs)

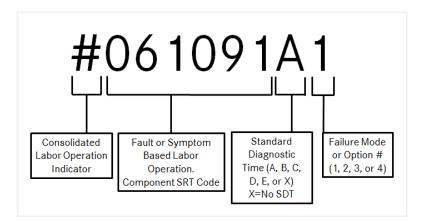
# ❖ Enhanced CLOs

In an effort to support the service network and streamline the claim submittal process, effective with claims filed on or after July 23, 2014, the Detroit Warranty Department is introducing Consolidated Labor Operations (CLOs). The new CLO format allows Standard Repair Time (SRT) to be combined with Standard Diagnostic Time (SDT) for specific failure modes.

#### CLO Structure

With the CLO enhancement, Detroit has added two additional characters. The alpha indicator (A), usually in the 8th character position of the labor operation, displays the included SDT for a specific failure mode.

The numeric failure mode indicator (1), usually in the 9th character position of the labor operation, identifies the specific failure mode. See below for a sample EPA10 Diesel Exhaust Fluid (DEF) Metering Unit CLO that displays the multiple failure modes possible for a single primary failed part (PFP).



Each failure mode will be described in detail in the *Labor Description* field. Selecting the correct failure mode option is critical when filing a warranty claim. The CLOs are based on the fault code or symptom and the repair path required to correct the complaint. Repair time could vary between chassis model and engine service model; **please refer to the applicable Labor Time Guides (LTG) for appropriate times and included labor operations**.

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# CLO General Guidelines

Steam cleaning and repair verification could be included in the CLOs, depending on the failure mode. Repair verification that may be included in labor operations are:

- 132100 Repair Validation
- 132200 Engine Performance Test
- 062600 Regeneration of the After Treatment Device (ATD) [Parked]

Admin time (939-6010A) is not included in the CLOs and needs to be submitted as its own line item on the warranty claim.

Providing the fault code/symptom and repair path in the technician write-up and claim narrative will assist in selecting the correct CLO for the failure.

#### New CLOs

CLOs were created for the following components:

- 1. EPA 10 After Treatment System (ATS) DEF Metering Unit
- 2. Belt Tensioner
- 3. Fuel Quantity Control Valve (QCV)
- 4. Oil Pan/Gasket
- 5. Hydrocarbon (HC) Doser Injector Valve
- 6. HC Doser Block
- 7. Air Compressor
- 8. High Pressure Fuel Pump

# IMPORTANT WARRANTY INFORMATION LETTER

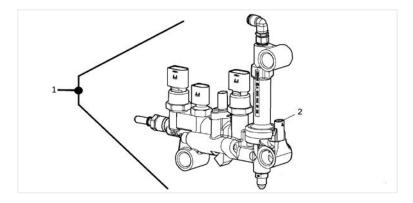
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# Labor Operation

# **EPA10 ATS DEF Metering Unit**



- 1. DEF Metering Unit
- 2. DEF Metering Unit Diffuser Heater

CLO Code	Description
#061091A1	# ATS-DEF METERING REPLACEMENT (FAULT CODE 3361 FMI 5)

**Summary**: Includes time for removing chassis components such as steps and/or fairings to access the DEF metering unit. Inspect the connector, measure the voltage and the resistance through the DEF dosing valve. Remove and replace the DEF metering unit. Performing a high idle parked regeneration to validate the repair for regulatory fault codes.

#061091C1 # ATS-DEF METERING UNIT FLUSHED ON THE ATS (FAULT CODE 3361 FMI 7)

**Summary**: Includes time for removing chassis components such as steps and/or fairings to access the DEF Metering Unit. Compare the DEF Metering Unit pressure sensor readings. Remove the DEF metering unit air supply line and the air inlet screen. Inspect the air inlet screen for debris and/or oil. Remove the DEF nozzle supply hose and flush water through the air channel. Performing a high idle parked regeneration to validate the repair for regulatory fault codes.

Note: The DEF metering unit is not removed from the ATS during this procedure.

# ATS-DEF METERING UNIT REMOVED, DISASSEMBLED, FLUSHED AND/OR DIFFUSER KIT INSTALLED (FAULT CODE 3361 FMI 7 or 4335 FMI 7)

**Summary**: Includes time for removing chassis components such as steps and/or fairings to access the DEF Metering Unit. Compare the DEF Metering Unit pressure sensor readings. Remove the DEF metering unit air supply line and the air inlet screen. Inspect the air inlet screen for debris and/or oil. Measuring air pressure supplied from the Pressure Limiting Unit (PLU) if required. Removing the DEF Metering Unit from the ATS. Removing the DEF metering unit air pressure sensor and the diffuser heater to dissolve the DEF crystal. Performing a high idle parked regeneration to validate the repair for regulatory fault codes.

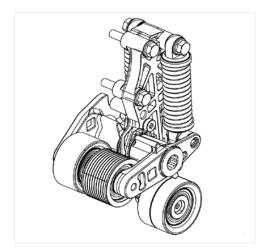
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# **Belt Tensioner**



CLO Code	Description
#053004A1	# BELT TENSIONER ASSEMBLY / BELT NOISE / TENSIONER LEAKING OIL

**Summary**: Includes time for accessing the belt tensioner, inspecting the belt tensioner. Removing and replacing the belt tensioner.

Note: Bumper end cap is included for Cascadia truck models.

#053004B1 # BELT TENSIONER ASSEMBLY / BELT NOISE WORN BUSHING / MISALIGNMENT WITHOUT BELT REPLACEMENT

**Summary**: Includes time for accessing the belt tensioner, inspecting the belts, belt tensioner, and pulley alignment. Removing and replacing the belt tensioner.

Note: Bumper end cap is included for Cascadia truck models.

#053004B2 # BELT TENSIONER ASSEMBLY / BELT NOISE WORN BUSHING / MISALIGNMENT WITH BELT REPLACEMENT

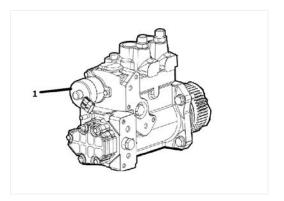
**Summary**: Includes time for accessing the belt tensioner, inspecting the belts, belt tensioner, and pulley alignment. Removing and replacing the belt tensioner and belts.

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# **Fuel QCV**



#### 1. Fuel Quantity Control Valve

CLO Code	Description
#022009A1	# FUEL QUANTITY CONTROL VALVE / LEAKING FUEL EXTERNALLY

**Summary:** Includes identifying the source of the fuel leak by visual inspection. Removing and replacing the fuel quantity control valve.

Note: Bumper end cap is included for Cascadia truck models.

#022009B1 # FUEL QUANTITY CONTROL VALVE / SURGING AT IDLE / ROUGH RUNNING

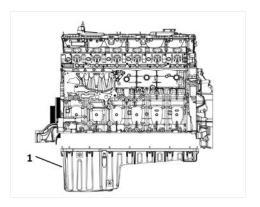
**Summary:** Includes operating the engine parked at idle, disconnecting the delta P sensor connector and reconnecting. Performing a Fuel System Integrity Check (FSIC) and reviewing select parameters to identify a faulty fuel quantity control valve. Removing and replacing the fuel quantity control valve.

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# Oil Pan/Gasket



#### 1. Oil Pan

CLO Code	Description
#047000X1	# OIL PAN OR OIL PAN GASKET FAILURE, LEAKING OIL

**Summary:** Includes identifying the source of the oil leak by visual inspection. Draining the engine oil, removing the oil pan for oil pan and/or oil pan gasket replacement.

#### Notes:

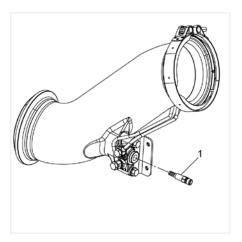
- Bumper end cap is included for Cascadia truck models.
- Elevating the truck is part of the repair.

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# **HC Doser Injector Valve**



# 1. HC Doser Injector Valve

CLO Code	Description
#024007X1	# HYDROCARBON (HC) DOSER INJECTOR VALVE (FAULT CODE 4077 FMI 14)

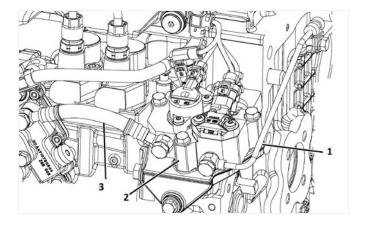
**Summary:** Includes following the published troubleshooting and replacing the HC doser injector valve.

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# HC Doser Block (EPA10 and GHG14 Only)



- 1. HC Doser Valve Feed Line
- 2. HC Doser Injector Block
- 3. HC Doser Block Supply Line

CLO Code	Description
#024008X1	# HYDROCARBON (HC) DOSER BLOCK ASSEMBLY (FAULT CODE 3556 FMI 1 OR 3556 FMI 18)

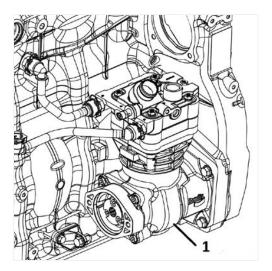
**Summary:** Includes performing a low temperature regen for 20 minutes and comparing the ATS temperature sensor readings. Removing and replacing the HC doser block.

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# **Air Compressor**



#### 1. Air Compressor

CLO Code	Description
#124000X1	# AIR COMPRESSOR / MOUNTING SEALS, EXTERNAL OIL LEAK

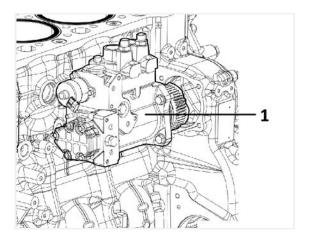
**Summary**: Includes removing the inner fender if equipped, power steering pump and air compressor.

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# **High Pressure Fuel Pump**



### 1. High Pressure Fuel Pump

CLO Code	Description
#022000A1	# HIGH PRESSURE FUEL PUMP EXTERNALLY LEAKING OIL OR FUEL

**Summary**: Includes identify the source of the leak. Removing the high pressure fuel pump. Replacement of the high pressure fuel pump mounting gasket or the high pressure fuel pump.

**Note**: Bumper end cap is included for Cascadia truck models.

#022000E1	# HIGH PRESSIRE FUEL PUMP			
#022000E1	(FAULT CODE 157 FMI 16, 1077 FMI 7)			

**Summary**: Includes following the published diagnostics and high pressure fuel pump R&R.

Note: Bumper end cap is included for Cascadia truck models.

#022000C1 # HIGH PRESSURE FUEL PUMP, METAL IN FUEL, WITHOUT FUEL INJECTORS REPLACED, 2 FUEL TANKS FLUSHED

**Summary**: Includes following the published diagnostic for metal in the fuel and identifying the high pressure fuel pump is faulty. Removing the fuel filters for inspection. Removing the Pressure Limiting Valve (PLV) to inspect for metal in the fuel rail.

Replacing the high pressure fuel pump, fuel filter module.

Flushing the low pressure fuel lines. Draining, removing, flushing and installing the fuel tank per OEM guidelines.

#### Notes:

- Bumper end cap is included for Cascadia truck models.
- If the unit is equipped with a frame mounted fuel filter, such as a Davco, labor operation 122-6010A and 122-6030A should be added.

#### **IMPORTANT WARRANTY INFORMATION LETTER**

Verify latest version on-line: Warranty Operation Letters are available at DDCSN.com> Literature> Service Letters/Bulletins> Warranty Operations

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### #022000C2

# # HIGH PRESSURE FUEL PUMP, METAL IN FUEL, WITH FUEL INJECTORS REPLACED, 2 FUEL TANKS FLUSHED

**Summary**: Includes following the published diagnostic for metal in the fuel and identifying the high pressure fuel pump is faulty. Removing the fuel filters for inspection. Removing the Pressure Limiting Valve (PLV) to inspect for metal in the fuel rail.

Replacing the high pressure fuel pump, fuel filter module, and all six fuel injectors.

Flushing the low pressure fuel lines. Draining, removing, flushing and installing the fuel tank per OEM guidelines.

#### Notes:

- Bumper end cap is included for Cascadia truck models.
- If the unit is equipped with a frame mounted fuel filter, such as a Davco, labor operation 122-6010A and 122-6030A should be added.

The new CLOs are available at <a href="www.ddcsn.com">www.ddcsn.com</a> > Warranty > Warranty Operation Letters. Any questions or feedback regarding these new enhancements may be addressed through the Warranty Support Center > Detroit Inquiries.