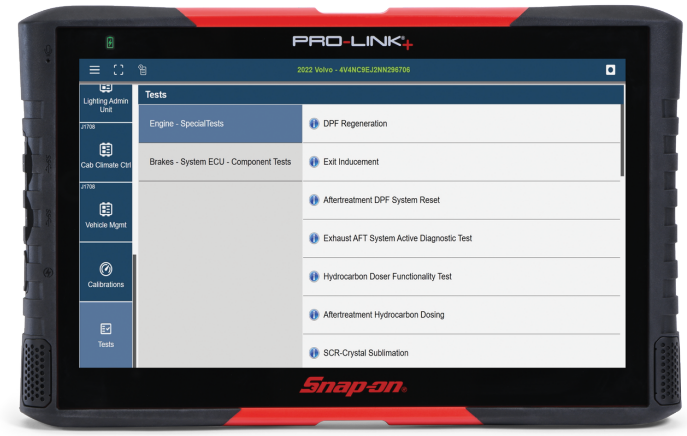
25.1



2025

PRO-LINK®+

VEHICLE APPLICATION GUIDE

DETROIT DIESEL ELECTRONIC CONTROLS (DDEC)

Engine Coverage: 1987-Present

The DDEC (DDEC 6 - 20) provides reprogramming and diagnostic capability for DDEC 6, 10, 13, 16, and 20 electronic systems.

Supports Series 60™, DD5™, DD8™, DD13™, DD15™, DD16™, and MBE.

Body and Chassis Coverage: 2009-2024

The DDEC supports reading proprietary diagnostic fault codes, and data on Freightliner Cascadia body and chassis modules.

New with This Release:

- **Added the latest support for DDEC 20 variant**
  - MCM21T - v2A.1D
  - CPC04T - v4.19
  - CPC501T - v31.10
  - CPC501T - v31.11
  - ACM301T - v03.65
  - ACM21T - v02.64
  - ACM21T - v02.5A

- **Added Freightliner Body and Chassis modules**
  - Transmission Control Module
  - Central Gateway
  - Maintenance System
  - HVAC Front
  - HVAC Parksmart
  - HVAC Rear
  - Single SAM
  - SAM Cabin
  - SAM Chassis
  - Instrument Cluster
  - Door Control Module – Driver
  - Door Control Module – Passenger
  - Common Telematics Platform
  - Multi Purpose Camera
  - Modular Switch Field
  - Radar Frontend
  - Steering Angle Sensor
  - Side Radar Right
  - Integrated Predictive Powertrain Control
  - Video Radar Decision Unit

Features:

- Read DDEC Proprietary Active and Inactive Fault Codes
- Clear Inactive Fault Codes
- Display Associated Parameters with Active Fault Codes

Supported Diagnostic Tests:

- DEF Quantity Test
- DPF Ash Accumulator
- Metering Unit Flood Routine
- ATD Maximum Sensor Value Reset
- DPF Regeneration
- Purge Hydrocarbon Doser
- Perform Parked SCR Efficiency Test
- Perform Output Component Test
- EGR Actuator Slow Learn
- EGR Delta Pressure Sensor Recalibration
- EGR Low Flow Test
- PLV Change
- Cylinder Cutout
- FIS Low Pressure Leak Test
- Idle Speed Balance
- Intake Throttle Valve
- Engine Idle Shutdown
- Injector Codes
- Compression Test
- Activate Digital Output Pins (CPC)
- Activate Analog Output Pins (CPC)
- Activate Digital Output Functions (CPC)
- Activate Analog Output Functions (CPC)
- Activate Analog Output (MCM)

Display and Change Configurable Parameters:

- Limiters LIM0 and LIM1 (CPC)
- Engine Brake (CPC)
- Cruise Control (CPC)
- Optimized Idle (CPC)
- PGR001 Communication Prog
- PGR002 Vehicle Parameters I Prog
- Common Limiters (CPC)
- PGR003 Common Limiters Prog
- Inputs (CPC)
- PGR007 PTO Control on PTO and CC pin Prog
- PGR008 Vehicle Speed Sensor Prog
- PGR005 DPF Prog
- PGR005 Limiters LIM0 and LIM1 Prog
- PGR007 DPF Config Prog
- PGR010 Engine Brake Prog
- PGR006 Limiters AC and LIM2 Prog
- PGR006 Fan Config Prog
- PGR012 Optimized Idle Prog
- PGR013 Inputs Prog
- PGR015 Cruise Control Prog
- PGR017 Idle and PTO Shutdown Prog
- PGR019 Automatic Fan Activation Prog
- PGR020 Remote Accelerator Pedal Prog
- PGR023 Limiters II Prog
- PGR018 Engine Protection Shutdown Prog
- PGR027 Fleet Management Prog
- PGR031 Vehicle Parameters III Prog
- PGR043 Acc Prog
- PGR047 Ag Prog
- PGR054 Predictive Cruise Control Prog
- PTO (CPC)
- Vehicle Speed Sensor (CPC)
- PGR055 Transmission Retarder Prog
- Passwords

DDEC (DDEC II, III, IV, and V)

DDEC II, III, IV, V provides reprogramming and diagnostic capability for DDEC II, III, IV, and V engines. Includes multi ECU support for DDEC II.

Basic Functions

- Read DDEC Proprietary Active and Inactive Fault Codes
- Displays Associated Parameters with Active Fault Codes
- Clear Inactive Fault Codes
- View Engine Data
- Added Support for CNG Engines

Diagnostic Tests

DDEC II

- Cylinder Cutout
- Reset Trip Info

DDEC III and IV

- Recalibrate EGR Differential Pressure Sensor
- Enable/Disable Page 2 Unique IDs
- Activate Digital Outputs
- Activate PWM Outputs
- Cylinder Cutout
- ECM Inputs
- ECM Outputs
- Reset AFR Learn Table
- Reset Oil Filter
- Reset Air Filter
- Reset Fuel Filter
- Reset Oil
- Reset Coolant Inhibitor
- Clear Maintenance Codes
- Particulate Filter De-green Reset
- Reset Trip Info
- Recalibrate EGR Differential Pressure Sensor

DDEC V

- Particulate Filter De-green Reset
- Reset Trip Info
- Recalibrate EGR Differential Pressure Sensor
- Enable/Disable Page 2 Unique IDs
- Cylinder Cutout
- Activate Digital Outputs
- Clear Maintenance Codes
- ECM Inputs
- ECM Outputs
- Frequency Inputs
- Activate PWM Outputs
- Reset Oil Filter
- Reset Air Filter
- Reset Fuel Filter
- Reset Oil
- Reset Coolant Inhibitor

Display and Change Configurable Parameters

- Clear Maintenance Codes
- Reset Trip Info
- Engine/Vehicle Options
- Fuel Economy Incentive
- Idle Option
- Injector Calibration Codes
- Variable Speed Governor
- Engine Protection
- Cruise Control
- Progressive Shift
- Engine Horsepower Rating
- Maintenance Alert System
- Function Lockout
- Passwords
- Engine Droop
- Engine Horsepower Rating
- Air Compressor
- Top 2 Transmission

Data Display

- Cylinder Exhaust Temperatures
- Engine Speed
- Engine Smoke Control
- Boost Pressure
- Engine Load Percent
- Beginning of Injection
- Oil Temperature
- Fuel Temperature
- Air Inlet Temperature
- Turbo Compressor Outlet Temperature
- EGR Temperature A
- EGR Differential Pressure A
- EGR Temperature B
- EGR Differential Pressure B
- EGR DPS Counts
- EGR Mass Flow Rate
- Barometric Pressure
- Turbo Speed
- Accelerator Pedal Position
- Battery Voltage
- Active Governor
- Torque Reduction Percentage
- Vehicle Speed
- PWM 1 (% Grounded)
- PWM 2 (% Grounded)
- PWM 3 (% Grounded)
- PWM 4 (% Grounded)

Engine Configuration

- Engine Speed
- ECM Date
- ECM Time
- Engine Model #
- 6N4M #
- 6N4D #
- 6N4C #
- Engine Serial Number
- ECM Serial Number
- Software Level
- EPA Certification #
- Engine Series
- Shared Version
- Rating Version
- Rated Engine Horsepower
- Rated Engine Speed
- Low Speed Governor RPM
- Peak Torque
- RPM at Peak Torque
- Idle Speed RPM
- Transmission Type
- Data Pages
- J1922 ABS Communications
- J1922 Transmission Communications
- J1939 Communications
- Water Pressure Governor
- Air Pressure Governor
- A/C Fan Timer
- Low Gear Torque Limit
- Low Gear Torque Limit Threshold
- Low Gear Torque Limit Set Speed

Engine Life Totals

- Avg. Engine Load While Driving
- Cruise Control Hours
- Engine Brake Hours
- Engine Revolutions
- Fuel Used
- Fuel Used During Idle
- Variable Speed Governor Fuel
- Idle Hours
- Time Saved Using Optimized Idle
- Fuel Saved Using Optimized Idle
- Engine Hours
- Preventative Maintenance A - % Left
- Preventative Maintenance B - % Left
- Preventative Maintenance C - % Left
- Variable Speed Governor Hours
- Odometer

Engine Trip Data

- Average Engine Load While Driving
- Cruise Control Hours
- Engine Brake Hours
- Average Fuel Economy
- Fuel Used
- Fuel Used During Idle
- Variable Speed Governor Fuel
- Fuel Used During Trip
- Idle Hours
- Fuel Saved Using Optimized Idle
- Time Saved Using Optimized Idle
- Trip Hours
- Odometer
- Variable Speed Governor Hours

Detroit Diesel Engine Synchro-Shift (ESS) Transmission Configuration

- Transmission Type
- Late Gear Change Enabled
- Second Chance Shift Enabled
- Engine Brake Shift Enabled
- Skip Shift Enabled

ESS Transmission Performance

- Output Shaft Speed
- Target Gear
- Current Gear
- Shift Knob Counts
- System Switch
- Shift Intent
- Brake Torque
- Neutral Switch
- In Gear Switch
- High Gear Range Solenoid
- Low Gear Range Solenoid

ESS Transmission Trip Data

- Number of Shifts By Transmission
- Number of Aborted Shifts
- Number of Shifts by Driver

Exhaust Backpressure Fault Times

- Exhaust Back Pressure Scaled High Time
- Exhaust Back Pressure Ramp Down time

Injector Response Times

- Injector 1
- Injector 2
- Injector 3
- Injector 4
- Injector 5
- Injector 6
- Injector 7
- Injector 8

Idle Options

- Ambient Temperature Lower Limit
- Ambient Temperature Upper Limit
- Auto Override Enabled
- Driver Alert
- Enabled on Variable Speed Governor
- Engine Has Shutdown By Idle Timer
- Idle Shutdown
- Timer Override
- Timer Status

Indicators

- Natural Gas Fuel System Loop Status
- Turbocharger Bleed Valve
- Coolant Level
- Engine Brake
- Oil Level
- Half Engine Mode
- Active Governor
- Knock Control
- Engine Smoke Control

Maintenance Alerts

- Oil Level Restriction
- Coolant Level Restriction
- Air Filter Restriction
- Oil Filter Restriction
- Fuel Pump Inlet Restriction
- Preventative Maintenance A - % Left
- Preventative Maintenance B - % Left
- Preventative Maintenance C - % Left

Mechanical

- Accelerator Pedal Position
- Beginning of Injection
- Blower Bypass Valve Opening
- Engine Brake Percent
- Engine Load Percent
- Injection Pump Usage
- Fuel Economy
- Engine Torque
- Adjusted Vehicle Speed
- Throttle Percent
- Throttle Position Counts
- Torque Reduction Percentage
- Variable Speed Governor Counts
- Vehicle Speed Sensor Pulses
- Vehicle Speed Sensor Ratio

Miscellaneous

- Exhaust Gas Air/Fuel Ratio
- Knock Level
- Natural Gas Fuel System Loop Status
- Relative Humidity

Optimized Idle

- Optimized Idle System Active
- Optimized Idle Thermostat Control Mode
- Optimized Idle Alarm Mode
- Optimized Idle Starter Relay

Pressures

- Air Filter Differential Pressure
- Air Inlet Temperature
- Atmospheric Pressure
- Boost Pressure
- Coolant Level
- Crankcase Pressure
- Coolant Pressure
- Cylinder Boost Differential Pressure
- Exhaust Back Pressure
- External Water Pump Pressure
- Fuel Pump Differential Pressure
- Fuel Pressure
- Oil Filter Differential Pressure
- Oil Pressure
- Cruise Control Pressure Set Point

PWMs

- PWM 1
- PWM 2
- PWM 3
- PWM 4

Speeds

- Adjusted Vehicle Speed
- Cruise Control Set Speed
- Engine Speed
- Engine Idle Speed
- Turbo Speed
- Vehicle Speed
- Variable Speed Governor Set Speed

Temperatures

- Air Inlet Temperature
- Ambient air Temperature
- Coolant Temperature
- Intercooler Temperature
- EGR Temperature A
- Fuel Temperature
- Intake Air Temperature
- Oil Temperature
- EGR Temperature B
- Turbo Compressor Inlet Temperature
- Turbo Compressor Outlet Temperature

Top 2 Transmissions

- Top 2 Cruise Switch

Turbo Charger

- Blower Bypass Valve Opening
- Boost Pressure
- Intercooler Temperature
- Sequential Turbo Mode
- Turbo Compressor Inlet Temperature
- Turbo Compressor Outlet Temperature
- Turbo Speed

Voltages

- Battery Voltage
- Knock Sensor Voltage
- RTC Backup Battery Voltage
- Sensory Supply Voltage

Detroit Diesel MBE
Vehicle Coverage: 2001-2006

Provides reprogramming and diagnostic capability on pre-EPA '07 Detroit Diesel MBE electronic systems. Supports MBE 900 and 4000.

Basic Functions

- Read Fault Codes
- Clear Inactive Fault Codes

Diagnostic Tests

- Sensor Voltage Test
- Cylinder Cutout
- Compression Test

Display and Change Configurable Parameters

- Injector Codes
- Idle/PTO Shutdown
- Engine Protection
- Engine Brake
- Cruise Control
- Limiters
- Fast Idle
- Starter Lockout
- RQV (Torque Limit)
- ABS/ATC Type
- Fan Configuration
- PTO Function
- Accelerator Pedal
- Input Configuration
- Fleet Management

VCU Diagnostic Versions 152-156

- Vehicle Parameters I (Group 2)
- Idle/PTO Shutdown (Group 17)
- Common Limiters (Group 3)
- Engine Protection Shutdown (Group 18)
- Limiters LMO & LIM1 (Group 5)
- Automation Fan Activation (Group 19)
- AC Limiters (Group 6)
- Remote Accelerator Pedal (Group 20)
- PTO Control on PTO and CC Pin (Group 7)
- Droop Control Mode (Group 21)
- Vehicle Speed Sensor (Group 8)
- Limiters II (Group 23)
- Engine Brake (Group 10)
- Fleet Management (Group 27)
- Maintenance Alert Sys and Opt Idle (Group 12)
- Passwords
- Inputs (Group 13)
- Vehicle Parameter Set
- Cruise Control (Group 15
- Injector Classification Codes
- Relay 1/Starter Lockout (Group 16)

Diagnostic Versions 150-151

- Starter Lockout (Group 1)
- Fast Idle (Group 10)
- Idle PTO Shutdown (Group 2)
- PTO Function (Group 11)
- Engine Protection (Group 3)
- Accelerator Pedal (Group 12)
- RQV (Group 4)
- Input Configuration (Group 13)
- Engine Brake (Group 5)
- Fleet Management (Group 16)
- ABS/ATC Type (Group 6)
- Cold Start Configuration (Group 20)
- Cruise Control (Group 7)
- Vehicle Parameter Set Limiters (Group 8)
- Injector Classification Codes
- Fan Configuration (Group 9)

LIGHT AND MEDIUM TRUCK (LMT)

GM®, Ford®, Isuzu®, Dodge/RAM®, Navistar CV Truck®, and Workhorse™

The software continues to provide diagnostic capability for a wide range of light and medium-duty trucks. The software also gives technicians OEM-proprietary and OBD II diagnostics for maintenance and repair productivity for OBD II-compliant 1996 and newer vehicles.

Basic Functions

- Read Fault Codes
- Clear Inactive Fault Codes
- Enhanced Coverage for Engines, Brakes, and Transmissions
- OBD-II Generic Support for Foreign and Domestic Vehicles that Meet OBDII Standards
- Medium-duty ISUZU Engine Diagnostic Support

Available Coverage: FORD® Engines

- NEW 2.7L (2017-2024)
- NEW 3.0L Powerstroke (2018-2024)
- NEW 3.3L (2018-2024)
- NEW 7.3L Gas (2020-2024)
- 2.5L (2014-2021)
- 3.2L PowerStroke (2015-2019)
- 3.5L (2011-2021)
- 3.7L (2011-2018)
- 4.2L (2000-2008)
- 4.6L (2000-2014)
- 5.0L (2011-2021)
- 5.4L (2000-2016)
- 6.0L PowerStroke (2003-2010)
- 6.2L (2010-2021)
- 6.4L PowerStroke (2008-2010)
- 6.7L PowerStroke (2011-2021)
- 6.8L (2000-2019)
- 7.3L PowerStroke (2000-2003)

Available Coverage: Ford® Brakes and Transmissions (2000–2024)

- Transit
- Transit Connect
- E250 – E450
- F250 – F750

Available Coverage: Isuzu® Engines

- 6.6L Gas (2020-2021)
- 6.0L (2005-2020)
- 5.2L Diesel (2005-2021)
- 3.0L (2011-2018)

Available Coverage: Isuzu® Brakes and Transmissions (2005–2021)

- NPR/NF3
- NQR/NRR
- FTR

Available Coverage: Dodge/RAM® Engines

Coverage for model years 2018 through 2021 with FCA Secure Gateway support

- 6.7L Cummins (2007-2024)*
- 5.9L Cummins (2006-2024)
- 5.7L HEMI (2006-2024)*
- 6.4L HEMI (2014-2024)*
- 3.6L V-6 VVT (2006-2024)

** Tests not available for these models for years 2018-2024*

Available Coverage: Dodge/RAM® Brakes, Transmissions, and Body Control Module (BCM)

- RAM 1500-5500 (2006-2024)

Available Coverage: Navistar® CV Truck

- 6.6L Duramax - L5D (2019-2021)
- Allison Transmission® (faults only)
- Body Control Module
- Chassis
- Glow Plug
- Instrument Cluster
- PTO
- Brakes

GM Engines

- 2.7L (2019-2021)
- 3.0L (2019-2021))
- 4.3L (2014-2021)
- 4.8L (2011-2018)
- 5.2L (2004-2009 and 2016-2021)
- 5.3L (2011-2021)
- 6.0L (1999-2020)
- 6.2L (2014-2021)
- 6.6L Gas (2020-2021)
- 8.1L (2000-2009)
- 2.8L Duramax (2019-2021)
- 6.6L Duramax (2001-2021)
- 7.8L Duramax (2004-2009)

GM Brakes and Transmissions (2001-2019)

- C1500 - C7500
- K1500 - K3500
- T4500 - T7500

Fault Code and Live Data support is available for the following modules (GM model years 2017–2019):

- Air Bag
- Body
- Chassis
- Instrument Cluster
- Remote Control Door Lock Receiver
- Glow Plug
- Power Take-Off
- HVAC
- HVAC Controls

Available Coverage: Workhorse™ – for the Following Engines

- 3.9L (2004-2005)
- 4.3L (1999-2005)
- 4.8L (2004-2012)
- 5.0L (1999-2000)
- 5.7L (1999-2004)
- 6.0L (2003-2012)
- 6.5L Diesel (1999-2005)
- 6.5L Turbo Diesel (1999-2002)
- 6.6L Duramax (2005-2006)
- 7.4L (1999-2000)
- 8.1L (2001-2012)

Available Support: Special Tests

Note: Tests may not be available for all makes and models.

Navistar® CV Truck Special Tests

- See GM® (Duramax®) Special Tests, below

GM® (Duramax)® Special Tests

- DPF Tests
- DPF Regen)
- DEF Tests
- VGT Calibration
- Cylinder Cutout

Ford® Special Tests

- DPF Regeneration
- SCR Tests
- Injector Quantity Adjustment
- Relative Compression (i.e., Power Balance)
- KOEO
- KOER

Dodge®/RAM® Special Tests

- Stationary Desoot (DPF Regen)
- Engine Tests
- Transmission Tests
- ABS Tests

Isuzu® Diesel Special Tests

- Injector Cutout
- DPF Normal/Slow Regeneration
- Lamp Tests
- Glow Plug Control
- EGR Solenoid
- Idle Shutdown Extension
- Exhaust Differential Pressure Sensor Learn
- Clear DPF Data
- Clear ECM Learned Data
- EGT Sensor 3 Reset
- DEF Control Module Reset

Isuzu® Diesel Calibrations

- Injector Flow Rates
- PTO Settings
- Cruise Control Settings
- Vehicle Speed Limit
- Engine Shutdown Settings

PACCAR® ENGINES AND CHASSIS

The PACCAR Engines and Chassis (Peterbilt/Kenworth) offers diagnostic capabilities for PACCAR MX engines, as well as the body and chassis systems.

MX Engine Coverage: EPA '10, EPA '13, EPA '17, and EPA '21 (2010 - 2024)

Body and Chassis Coverage: 2019 - 2024

Body and Chassis Module Supported: VECU, RHS, CMP, HVAC, MSM, SWS, DCD, and DCP
Basic Functions only

Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- View Diagnostic Parameters

New Support for EPA '20 PACCAR Engines

- Injector Cutout
- Check the injection system during cranking
- Evaluate the turbo actuator functionality
- Check the turbo actuator span
- Activate the air shutoff valve
- Check delivery fuel dosing valve
- Activate the fuel dosing valve
- Check leakage fuel dosing valve
- Check Fuel shutoff valve
- Check the particulate matter sensor
- Prime the system with the pump for DEF
- Activate the Pipe Heaters for DEF
- Activate the Tank Heaters for DEF
- Evaluate the Nox sensor after catalyst
- Evaluate the Nox sensor before catalyst
- Evaluate the SCR System
- Evaluate the aftertreatment temperature sensors
- Check if the common rail pressure release valve is stuck in the closed position
- Evaluate the injector back leakage
- Check the fuel system health
- Install and calibrate the VGT turbocharger actuator
- Reset the turbo actuator default position
- Reset the common rail pressure release valve
- Install a new DPF
- Install a Cleaned DPF

New Support for EPA '17 PACCAR Engines

- Check the injector system during cranking
- Evaluate the turbo actuator functionality
- Check the turbo actuator span
- Activate the mobile regeneration trigger
- Activate the air shutoff valve
- Activate the fuel dosing valve
- Check the particulate matter sensor
- Evaluate the Nox sensor after catalyst
- Evaluate the Nox sensor before catalyst
- Evaluate the SCR System
- Evaluate the aftertreatment temperature sensors
- Check if the common rail pressure release valve is stuck in the closed position
- Evaluate the injector back leakage
- Install and calibrate the VGT turbocharger actuator
- Disable DEF Derate
- Reset the common rail pressure release valve
- Program Injector Codes

Special Tests

DPF Regeneration

- The DPF Regeneration routine used to initiate a parked regeneration of the Diesel Particulate Filter (DPF).

Activate the mobile regeneration trigger

- This test procedure can be used to set the time-based regeneration trigger to perform a mobile regeneration.

Cleaned Filter - DPF Reinstallation

- The Cleaned Filter - DPF Reinstallation routine is designed to reset the electronic control module (ECM) data after the Diesel Particulate Filter (DPF) has been serviced. Once the reset is completed, a regeneration cycle may be required to clear Aftertreatment (AFT) fault codes.

New Filter - DPF De-Greening

- The New Filter - DPF De-Greening routine is designed to place the electronic control module (ECM) in a De-greening mode of operation.

DPF Maintenance

- The DPF Maintenance routine is designed to lower the stored electronic control module (ECM) soot level, which enables the ability to perform a stationary regeneration in a situation where the stationary regeneration has been inhibited.

Check the particulate matter sensor

- This procedure is used to check the functionality of the PM sensor, while the sensor is fitted in the exhaust system.

Dosing Injector Tests

- The Dosing Injector Tests are used to check the Dosing Fuel Shutoff Valve and the Dosing Fuel Injector. There are three modes, Dosing Quantity Test, Fuel Shutoff Valve Test, and Dosing Injector Leak Test.

DEF Line Heaters

- The DEF Line Heaters test is used to ensure that the DEF Line heater and relay are working correctly.

DEF Line Heater 1 (Pressure Line)

- The DEF Line Heater 1 test is used to ensure that the DEF Pressure Line heaters and relay are working correctly.

DEF Line Heater 2 (Return Line)

- The DEF Line Heater 2 test is used to ensure that the DEF Return Line heater and relay are working correctly.

DEF Line Heater 3 (Inlet Line)

- The DEF Line Heater 3 test is used to ensure that the DEF Inlet Line heater and relay are working correctly.

DEF Pump Heater

- The DEF Pump Heater test is used to check the function of the heater elements located inside the pump module.

DEF Tank Heater Control Valve Test

- The DEF Tank Heater Control Valve test is used to check the function of the Diesel Exhaust Fluid (DEF) Tank Heating Valve.

DEF Dosing Quantity

- The DEF Dosing Quantity test is designed to command the Diesel Exhaust Fluid (DEF) Dosing Valve to dispense a specific volume of DEF in a set amount of time.

DEF System Leak Test

- The DEF System Leak Test is designed to command the dosing system to prime and maintain pressure. This test can be used to verify that the system is free of leaks after reassembly, or to validate a repair of the dosing system.

Disable DEF Derate

- The Disable DEF De-rate function allows the vehicle to operate normally even if the ECM is requesting derated performance.

Evaluate the Nox sensor after catalyst

- This procedure is used to check the basic functionality of the NOx sensor after catalyst, while the sensor is removed from the exhaust system.

Evaluate the Nox sensor before catalyst

- This procedure is used to check the basic functionality of the NOx sensor before catalyst while the sensor is fitted in the exhaust system.

Evaluate the SCR System

- This test procedure is used to check the performance of the SCR catalyst. Several components of the SCR system are tested to see if they are functioning properly and will not have influence on the outcome of the catalyst test.

Evaluate the aftertreatment temperature sensors

- This test procedure is used to validate repairs, which are performed to solve exhaust temperature-related Diesel Exhaust Fluid Operator Interface (DEFOI) DTCs.

Check if the common rail pressure release valve is stuck in the closed position

- This test makes it possible to check if the common rail pressure release valve is stuck in the closed position.

Evaluate the injector back leakage

- This test is used to determine the internal leakage of the injectors and the common rail pressure release valve.

- **Reset the common rail pressure release valve**

Check the injection system during cranking

- This test makes it possible to test the high-pressure fuel system during cranking.

Injector Cutout

- The Injector Cutout test is used to disable injectors for troubleshooting cylinder performance issues and or cylinder misfires. This test can be run manually, on a single cylinder of your choice, or automatically.

Injector Code Programming

- The Injector Code Programming routine is designed to enable injector code programming following an injector replacement or location change.

Injector Pump Code Programming

- The Injector Pump Code Programming routine is designed to enable programming of the Injector Pump unit following an injector pump unit replacement or location change.

Reset the common rail pressure release valve

- Rests the stored common rail pressure release valve current control values stored in memory.

Check the fuel system health

- This test procedure is used to check the performance of the Fuel System.

Cylinder Compression Test

- The Cylinder Compression Test provides information about the mutual cylinders' performance and not the total engine state. During the compression test, the engine is cranking and no fuel is injected..

Cylinder Contribution Test

- The Cylinder Contribution test presents a graphic representation of how each cylinder is contributing to engine performance.

Cylinder Performance Test

- The Cylinder Performance test combines a cylinder compression test with an injector cutout test.

Reset Trip Info

- The Reset Trip Info routine is used to reset accumulated trip data stored in the electronic control module (ECM) since the last reset of trip data.

Exhaust Back Pressure Valve "BPV" Actuator

- The Exhaust Back Pressure Valve Actuator test is designed to actuate the Exhaust Back Pressure Valve (BPV) Actuator. The BPV Actuator is an electro pneumatic valve used to control the Back Pressure Valve located near the turbo outlet.

AFT History

- The AFT History feature displays historical records regarding the Aftertreatment System. Data associated with last 10 active regeneration events (both complete and incomplete) is provided.

Lamp Tests

- The Lamp Tests are used to check whether the dash mounted warning lamps are operating when commanded On or if currently On commanded Off.

Evaluate the turbo actuator functionality

- This test procedure is utilized to assess the movement of the VTG turbocharger nozzle ring, which regulates the flow of exhaust gases through the turbine.

Check the turbo actuator span

- This test procedure is used to verify the calibrated span of the VTG turbocharger.

Turbo Actuator Calibration

- The Turbo Actuator Calibration procedure performs a sweep of the VTG Turbocharger Actuator to find the range of motion end points (calibrating the actuator). This procedure is only required if the actuator was removed from the turbo.

Turbo Actuator Installation

- The Turbo Actuator Installation procedure prepares the Variable Turbine Geometry (VTG) Turbocharger Actuator for installation.

Reset the turbo actuator default position

- This procedure is used to recover a VTG turbocharger actuator that has a faulty parameter setting in the actuator memory (incorrect default position)

ALLISON® TRANSMISSION

ALLISON® 1K/2K

The Allison® 1K/2K application provides diagnostic and testing capability for Allison® 1K/2K transmissions.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Data Lists

Note: Calibrations are not supported.

Advanced Features

1K/2K (GEN III Controllers)

- Solenoid Test
- Trans Fault Enable Test
- Gear Commanded Test
- Display I/O wire assignments and functions (enabled/disabled)
- View ECU EEPROM calibration information
- View shift inhibits

ALLISON® CEC 1

The Allison® CEC 1 application provides diagnostic and testing capability for Allison® Commercial Electronic Control systems (CEC 1), for use both On Highway and Off Highway.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Data Lists

Special tests are not supported. Diagnostic capability is only available for CEC 1.

Allison® WTEC

Provides diagnostic and testing capability for Allison® World Transmission Electronic Control (WTEC) systems. WTEC is also known as Allison 3K/4K.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Data Lists

Note: Calibrations are not supported.

WTEC

- Supports WTEC II and III
- Activate fast adaptive mode to allow ECU to adjust quickly to optimum shift characteristics
- Clear Active and Inactive codes
- Display I/O wire assignments and functions (enabled/disabled)
- Enable clutch test to perform clutch pressure test or stall test in higher gears
- Reset AutoDetect (WTEC III only) to verify presence of retarder,
- oil level sensor, throttle, and engine coolant temperature sources
- Reset throttle calibration to ensure proper TPS adjustment
- Reset unadapted shifts to initial factory shift calibration settings
- View ECU EEPROM calibration information
- View shift inhibits

ALLISON® GEN 4

Provides diagnostic and testing capability for Allison® GEN 4 transmissions.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Data Lists

Note: Calibrations are not supported.

Advanced Features

GEN 4 (1K/2K and 3K/4K)

- Gear Command Test
- Reset Throttle Calibration
- Display I/O wire assignments and functions(enabled/disabled)
- Solenoid Tests
- Reverse Warning Lamp
- Transmission Fault Lamp
- Reset Auto-Config
- Shift Adapts Monitor
- Input/Output Functions Monitor

ALLISON® GEN 5

Provides diagnostic and testing capability for Allison® GEN 5 transmissions.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Data Lists

Note: Calibrations are not supported.

Advanced Features

GEN 5

- Reset Adaptive Shift Parameters
- Clear All Shift Adaptive Data
- Reset Auto Detect Oil Level Sensor
- Output Tests
- Clutch Test Enabled
- Lamp Tests
  - Transmission Fault Lamp
  - Neutral Start Lamp
  - Reverse Warning Lamp
  - Service Indicator Lamp

CAT® ENGINES WITH ACERT™ TECHNOLOGY

Vehicle Coverage: 2003 – 2009

Provides reprogramming and diagnostic capability for CAT® ACERT™ electronic systems.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View/Reset Trip Data
- View Engine Data

Advanced Features

Histogram

- Engine RPM vs. Time (%)
- MPH vs. Time (%)

Calibrations

- Boost Calibration
- Timing Calibration

Diagnostic Tests

- Injector Solenoid Test
- Injector Actuation Pressure Test
- Intake Valve Actuator Solenoid Test
- Cylinder Cutout Test

Special Tests

- Injection Actuation Pressure Driver Test
- Inlet Air Heater Enable Test
- Turbo Wastegate Solenoid Test
- Intake Valve Actuation Pressure Solenoid Test
- Reset Fleet Trip Info
- Timing Calibration
- Monitor Throttle Position Sensor
- PTO Throttle Position Sensor
- On/Off Cooling Fan
- Lockout Solenoid
- Shift Solenoid
- 55 MPH VSP/Speedometer
- Engine Running Output
- Starting Aid Output
- Retarder/Exhaust Brake
- Warning Lamp
- Low Oil Pressure Lamp
- Low Coolant Level Lamp
- High Coolant Temperature Lamp
- PTO Active Output
- Coolant Diverter Valve
- Three Speed Fan Brake

System Troubleshooting Settings

- Cooling Fan
- Dyno Mode
- Idle Shutdown Timer
- Powertrain Data Link
- Boost Calibration

Display and Change Configurable Parameters

- Vehicle Speed
- Cruise Control
- Exhaust Brake
- Engine Gear
- Smart Idle
- Output Selection
- Passwords
- ECU Rating
- ECU Identification
- Maintenance Parameters
- System Parameters
- Selected Engine Rating
- Cruise Control Parameters
- Parameter Lockout
- Exhaust Brake Options
- Unprogrammed Parameters
- Security Access Parameters
- Vehicle Speed Parameters
- Data Link Parameters
- Idle Parameters Old PTO
- Smart Idle Parameter
- Vehicle Activity Report Parameters
- Trip Parameters
- Dedicated PTO Parameters
- Timer Parameters
- Engine Monitoring Parameters
- Engine/Gear Parameters
- Output Selections

CATERPILLAR® ELECTRONIC ENGINES

Vehicle Coverage: 1990-2003

Provides reprogramming and diagnostic capability for Caterpillar electronic systems.

Supports 3116, 3126, 3176, 3406, C-9, C-10, C-12, C-15, and C-16 engines.

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View and Reset Trip Data
- View Engine Data

Calibrations

- Boost Calibration
- Timing Calibration
- RACK Sensor Calibration
- Injector Code Calibration

Diagnostic Tests

- Injector Solenoid Test
- Injector Actuation Pressure Test
- Cylinder Cutout

Special Tests

- Injection Actuation Pressure Driver Test
- 55 MPH VSP/Speedometer Test
- Inlet Air Heater Enable Test
- RACK BTM Sweep Test
- Injector Solenoid Test
- Reset Driver Trip Info
- Histogram: Engine RPM vs. Time (%)
- Histogram: MPH vs. Time (%)
- ECU Date/Time
- Retarder/Exhaust
- Shutoff Solenoid
- Rack BTM Sweep
- Timing BTM Sweep
- Cylinder Cutout
- Cooling Fan/Output #4 Driver Test
- 55 MPH VSP/Speedometer Test
- Tachometer Circuit Test
- Injector Solenoid Test
- Injection Actuator Pressure Driver Test
- Injection Actuation Pressure Test
- Inlet Air Heater
- MT/AT Transmission
- Multi-Function Output #1 Test
- Multi-Function Output #2 Test
- Multi-Function Output #3 Test
- ECU Date/Time
- Booster Sensor
- Timing Sensor
- Rack Sensor
- Monitor Throttle Position Sensor
- Injector Codes Calibration
- Monitor PTO Throttle Position Sensor
- Fuel Temperature Power Correction
- Idle Shutdown Timer
- Powertrain Data Link
- Cooling Fan

Display and Change Configurable Parameters

- Vehicle Speed
- Cruise Control
- Exhaust Brake
- Engine/Gear
- Smart Idle
- Output Selections
- Passwords
- Cruise Control
- Data Link
- Dedicated PTO
- Driver Reward
- Engine Monitoring
- Maintenance Indicator
- Rating Number
- System
- Trip
- ECU Identification
- ECU Rating
- Unprogrammable Parameters
- Parameter Lockout

CUMMINS® ENGINES

Vehicle Coverage: Pre-EPA 07, EPA 07, 10, 13, 17, 20, and natural gas engines.

Years Covered: 1994-Present

Provides support for the following on-highway engines:

- B6.7
- L9
- X12/X15
- ISB
- ISC
- ISL
- ISM
- ISX
- N14
- M11
- Additional support for popular industrial engines (i.e., Q Series)

Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- Engine and Aftertreatment Support

New with This Release

- Calibration support for EPA '13 and newer Cummins engines
  - *Ability to program Mobile Regen Min Speed
  - *Ability to program Engine Idle Speed
- New model support, including the following:
  - EPA20 X12 CM2450, L9 CM2450, B6.7 CM2450, and EPA17 X12 CM2350

Special Tests Added for EPA '13 and Newer Engines:

  - *AFT Intake NOx Test
  - *AFT Outlet NOx Test
  - *Air Handling Performance Test
  - *DEF Doser Count Reset
  - *DEF Pump Heater
  - *EGR Delta Pressure Auto Zero

Note: These tests available only on ECMs that support the test.

Special Tests Supported

AFT DEF System Leak Test

- The AFT DEF System Leak Test is designed to command the dosing system to prime regardless of system temperatures. This test can be used to verify that the system is free of leaks after reassembly, or to validate the repair of a faulty component in the dosing system.

AFT DPF Regeneration

- The AFT DPF Regeneration test is used to clean the Particulate Filter of soot.

AFT History

- The AFT History feature displays historical records regarding the Aftertreatment System. Data associated with the last 10 active regeneration events (both complete and incomplete) is provided.

*AFT Intake NOx Test

- Check the functionality of Aftertreatment Intake NOx Sensor.

*AFT Outlet NOx Test

- Check the functionality of Aftertreatment Outlet NOx Sensor.

AFT Maintenance Filter Installation

- The AFT Maintenance Filter Installation Test is used to reset the Engine Control Module (ECM) to allow Diesel Particulate Filter (DPF) regeneration after replacement or servicing of diesel exhaust system components. Reset options include Diesel Oxidation Catalyst (DOC) Maintenance and DPF Reset.

AFT Shutoff Valve and Injector Override Test

- The Aftertreatment Shutoff Valve and Injector Override Test is used to troubleshoot possible problems associated with a faulty Aftertreatment Fuel Injector, a faulty Aftertreatment Fuel Drain Valve, or a faulty Aftertreatment Fuel Shutoff Valve. The test has three modes: the AFT Dosing System Test, the AFT Shutoff Valve Test, and the AFT Injector Leak Test.

AFT SCR Performance Test

- The AFT SCR Performance Test is used to clean the Particulate Filter of soot and to monitor the status of both the Aftertreatment SCR Catalyst Outlet NOx Sensor and the Aftertreatment SCR Catalyst.

AFT SCR System Test

- The AFT SCR System Test is used to monitor the status of the Aftertreatment SCR Catalyst Outlet NOx Sensor and the Aftertreatment SCR Catalyst.

***Air Handling Performance Test**

- Evaluates the health of the air handling system by overriding actuator positions and analyzing pressure and flow characteristics based on sensor values and models

Current Based Particulate Matter Sensor Regeneration (EPA '13+)

- The Current Based Particulate Matter Sensor Regeneration test is used to clean the Aftertreatment Particulate Matter Sensor of soot.

Cylinder Cutout Test

- The Cylinder Cutout Test is used to cutout cylinders by disabling Fuel Injectors for troubleshooting cylinder misfires. The test can be run automatically with adjustable disabling times, or manually, allowing the user to disable/enable each cylinder.

***DEF Doser Count Reset (EPA 10)**

- The test will monitor and reset Diesel Exhaust Fluid (DEF) doser pump purge counts, both complete and incomplete.

DEF Doser Pump Override Test

- The DEF Doser Pump Override Test is used to check the fluid flow rate for a fixed amount of time.

***DEF Pump Heater**

- This test will check the Diesel Exhaust Fluid Pump Heating System health including pump heater relay, heater coil, and two temperature sensors.

DEF Dosing Heater Relay Test

- The DEF Dosing Heater Relay Test is used to ensure that the heater and relay are working correctly.

DEF Line Heater Relay Test

- The DEF Line Heater Relay Test is used to ensure that the heater and relay are working correctly.

DEF Tank Heater Control Valve Test

- The DEF Tank Heater Control Valve Test is used to ensure that the control valve is working correctly.

DPF Restriction Test (EPA 13+)

- The DPF Restriction Test is used evaluate the DPF filter for excess restriction.

***EGR Delta Pressure Auto Zero**

- This test allows running auto zero feature out of mission to help confirm successful troubleshooting of EGR differential pressure drop.

EGR Valve Test (EPA 04)

- The EGR Valve Test is used to troubleshoot the EGR valve by enabling the user to command the EGR valve open and closed.

Engine Abuse History (EPA 04+)

- The Engine Abuse History feature allows the user to view the times that the engine has been running above or below recommended operating parameters. This data provides insight into the life of the engine and what abuse it may have been subjected to.

Engine State Monitor

- The Engine State Monitor is used to monitor the current operating state controlling the operation of the engine. Any active engine derate conditions can be identified using this state monitor. In addition, this feature can be used to identify the root cause of engine performance issues.

Fan Override Test

- The Fan Override Test is used to engage the fan at full speed for an adjustable amount of time to aid with troubleshooting.

Fast Idle Warm-up Test (EPA 13+)

- The Fast Idle Warm-up Test is used to quickly increase engine temperature by altering the running characteristics of the engine.

Fuel Injector Performance Test

- The Fuel Injector Performance Test is used to test all fuel injectors at multiple, predetermined, fuel rail pressures.

Fuel Injector Reset (EPA 13+)

- The Fuel Injector Reset feature allows the user to clear the Fuel Injector adaptive learn values stored in the ECU.

Fuel Lift Pump Override (EPA 04)

- The Fuel Lift Pump Override test is used to troubleshoot the in-tank electrical fuel pump by allowing the user to command the pump On or Off.

Fuel System Leakage Test

- The Fuel System Leakage Test is a manual test used to pressurize the fuel system; the test allows for operator assisted diagnostics.

Fuel System Table Reset(EPA 13+, for CNG only)

- The Fuel System Table Reset feature allows the fuel system adaptive-learn table values stored in the ECU to be reset.

Gas Throttle Control Test (EPA 13+, for CNG only)

- The Gas Throttle Control Test is used to troubleshoot the throttle plate that controls engine air flow on CNG engines.

Intake Air Heater Override Test (EPA 13+)

- The Intake Air Heater Override Test is used to troubleshoot Intake Air Heater(s) by allowing the user to command Intake Air Heater(s) On or Off.

Maintenance Monitor (EPA 07+)

- The Maintenance Monitor test is used to reset the Maintenance Monitor interval period.

Reset DOC/DPF

- The Reset DOC/DPF feature is used to reset the ECM to allow Diesel Particulate Filter regeneration after replacement or servicing of diesel exhaust system components.

Reset Trip Info

- The Reset Trip Info feature is used to reset the resettable trip data.

SCR Maintenance (EPA 13+)

- The SCR Maintenance feature allows the adaptive-learning table values to be reset when Aftertreatment SCR components have been replaced.

Turbocharger Actuator Test (EPA 04)

- The Turbocharger Actuator Test is used to troubleshoot variable geometry turbochargers by allowing the user to command the turbocharger actuator position.

VGT Electronic Actuator Installation and Calibration

- VGT Electronic Actuator Installation and Calibration is used to facilitate accurate installation and calibration of an actuator when replacing a defective actuator in the field. This test is for engines with Variable Geometry Turbochargers only.

VGT Hysteresis Test

- This test is for engines with Variable Geometry Turbochargers only. The VGT Hysteresis Test is used to exercise the VGT to assist in troubleshooting. The test requests the VGT to exercise the actuator and measure the range of the actuator and the motor effort. The ECM then determines the VGT state and returns a passed or failed message.

Programmable Parameters Supported

Cruise Control Maximum Speed

- The Change Maximum Cruise Control Speed parameter is used to set the maximum speed of the vehicle when the Cruise Control option is enabled.

Cruise Control Enable/Disable

- The Enable/Disable Cruise Control parameter is used to either enable or disable the Cruise Control option.

*Engine Idle Speed

- This allows the user to set the engine idle speed that will be maintained when the accelerator pedal or lever is released.

Maximum Vehicle Speed

- The Change Maximum Vehicle Speed parameter is used to set the maximum speed of the vehicle while traveling on level ground.

Maximum Accelerator Vehicle Speed

- The Change Maximum Accelerator Vehicle Speed parameter is used to change the maximum accelerator pedal speed.

*Mobile Regen Min Speed

- This parameter sets the minimum vehicle speed at which the ECM is allowed to initiate or continue a Diesel Particulate Filter regeneration cycle.

Idle Shutdown

- The Idle Shutdown parameter is used to program the time the engine will run while the vehicle is parked at Idle before the engine shuts down. It can also be used to enable or disable the Idle Shutdown option.

Injector Barcode Adjustment

- The Injector Barcode Adjustment parameter is used to program the injector codes after installing the injectors or moving them to another cylinder.

PTO Additional Switch Speed

- Specify the engine speed obtained when the PTO Additional Speed is chosen. The range is between the PTO Minimum Engine Speed and PTO Maximum Engine Speed parameters.

PTO Cab

- Enables remote cab mounted PTO controls. The programmable range is Enable and Disable.

PTO Ignore VSS

- Disables vehicle speed monitoring during PTO operation. The programmable range is Enable and Disable.

PTO Maximum Engine Load

- Specify the maximum torque the engine can provide during PTO operation. The range is between 100 and 2500 ft.-lbs.

PTO Maximum Vehicle Speed

- This is the vehicle speed above which PTO cannot be activated. The range is between 0 and 15 mph.

PTO Maximum Speed

- This parameter is used to limit maximum engine speed while using PTO. The range is between the Idle Minimum Engine Speed parameter and 2500 rpm.

PTO Minimum Speed

- This parameter is used to limit engine speed while using PTO. The range is between the Idle Minimum Engine Speed parameter and 2500 rpm.

PTO Pump Mode

- Enables the PTO Pump Mode option. The programmable range is Enable and Disable. Once enabled both PTO Pump Mode Maximum Vehicle Speed and PTO Pump Mode Vehicle Speed Sensor Override must be programed.

PTO Pump Mode Maximum Vehicle Speed

- PTO Pump Mode Maximum Vehicle Speed is only programmable if the PTO Pump Mode is enabled. This is the maximum vehicle speed while in PTO pump mode. The programmable range is between 0 and 15 mph.

PTO Pump Mode Vehicle Speed Override

- PTO Pump Mode Vehicle Speed Sensor Override is only programmable if the PTO Pump Mode is enabled. If enabled the PTO Pump Mode Maximum Vehicle Speed will become active and must also be programmed. The programmable range is Enable and Disable.

PTO Ramp Rate

- Should the operator require an engine speed other than any of the three preset speeds, the SET/RESUME switch can be used to progressively increase or decrease rpm. The ramp rate parameter will determine how quickly the engine speed will change. The range of ramp rate is between 100 to 2500 rpm/sec.

PTO Resume Switch Speed

- Specify the engine speed to be obtained when the PTO Resume Switch Speed is chosen. The range is between the PTO Minimum Engine Speed and PTO Maximum Engine Speed parameters.

PTO Set Switch Speed

- Specify the engine speed to be obtained when the PTO Set Switch Speed is chosen. The range is between the PTO Minimum Engine Speed and PTO Maximum Engine Speed parameters.

PTO State

- Choose this feature if the benefits, security and, flexibility of the PTO features accurate speed control are desired.

PTO Transmission Driven

- Enables the Transmission Driven PTO options. The programmable range is Enable and Disable. Once enabled, Transmission Driven PTO Type must be configured. Programmable configurations are Engine Driven – Steady Load, Transmission Driven – Steady Load, Transmission Driven – Irregular Load, and Transmission Driven – Cyclic Load.

PTO Transmission Driven Type

- Transmission Driven PTO Type is only programmable if Transmission Driven PTO is enabled. Programmable configurations are Engine Driven – Steady Load, Transmission Driven – Steady Load, Transmission Driven – Irregular Load, and Transmission Driven – Cyclic Load.

Vehicle Speed Sensor Operation

- Enables or disables the vehicle speed sensor. The programmable range is Enable and Disable.

EATON - PACCAR TRANSMISSION

The Eaton - PACCAR Transmission application provides proprietary faults parameters.

Supports

- Eaton
  - Endurant HD
  - Endurant XD
  - Fuller Advantage
  - Procision
  - Ultra Shift Plus
- PACCAR
  - TX-12 (Endurant)
  - TX-18 (Endurant)

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Transmission Data

HINO ENGINES

Vehicle Coverage: 2005 - 2021

Provides diagnostic capability for medium-duty vehicles with Hino electronic engines.

Supports

- 600 Series Conventional (2005 - 2021)
- 300 Series Cab-Over (2012 - 2021)
  - Brake
  - Transmission

Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- View Engine Data

Engine Diagnostic Tests

- DPF Regeneration
- The DPF Regeneration function is used to manually force a stationary (parked) regeneration of the Diesel Particulate Filter (DPF).

Injector Cutout

- This test is used to disable injectors for troubleshooting cylinder-specific concerns. The test monitors engine rpm, fuel rate, and engine load or torque, whichever applies. Minimum, average, and maximum values are available at the end of the test.

Target RPM

- This test is used to establish and maintain a user selected engine RPM. There is no Pass/Fail message for this test, only user observed verification that the engine meets the selected RPM.

EGR Actuation

- This test is used to actuate the Exhaust Gas Recirculation (EGR) Valve. The user inputs a desired percentage of the EGR Actuator position. A 100% value indicates an EGR Actuator at its wide-open position. A zero percent command indicates the actuator is at its most closed position.

VNT Actuation

- This test is used to control the operation of the Variable Nozzle Turbocharger. The user inputs a desired percentage for the VNT opening. A value of zero percent equates to the VNT Actuator being commanded to its wide-open position, which allows more exhaust out of the turbo. A value of 100% would indicate the VNT actuator is commanded to its closed/near-closed position, which allows more boost to be created.

Intake Throttle Valve Actuation

- This test is used to actuate the Intake Throttle Valve (ITV). The user inputs a desired percentage for the Intake Throttle Valve actuator. A value of 100% indicates an ITV actuator that is at its wide-open position. A value of zero percent indicates an actuator near its most closed position.

Fuel Leak Inspection

- This test is used to raise the high-pressure fuel system to maximum pressure to check for leaks that may not be apparent at low pressures (idle, etc.). It can be also used to check that the ECU is capable of commanding high fuel pressure and meeting the demand.

Exhaust Brake Actuation

- This test engages/disengages the Exhaust Brake Valve. For proper Exhaust Brake adjustment, it is necessary to engage the Exhaust Brake. This test allows actuation without the engine running.

Glow Plug Activation

- This test is used to activate the glow plugs circuit and warm up the glow plugs.

DEF SCR Related Memory Reset

- This function is used to clear a persistent Selective Catalyst Reduction (SCR) system hard code.

SCR Memory Reset

- This function is used to clear a persistent Selective Catalyst Reduction (SCR) system hard code.

Burner Maintenance Distance Reset

- This function is used is used after replacing the Diesel particulate Filter (DPF) on 2011 to 2014 model year trucks equipped with the Burner System.

DPR Related Memory Reset

- This function is used to clear a persistent Diesel Particulate Reduction (DPR) system hard code.

Turbocharger Test

- This test is an inspection function to check that Intake Air Pressure is rising proportionally to engine speed and turbocharger demand.

Pump Relearn

- This test is used after a Pump replacement to start the Pump Relearn process.

Hydrocarbon Injector Test (Fuel addition valve)

- This test is used to check the electrical functionality and spray pattern of the Aftertreatment (AFT) System Fuel Injector.

Common Rail Pressure

- This test is used to verify that Common Rail Pressure Sensor is operating correctly and that the ECU-requested pressure (Target Common Rail Pressure) matches the sensor reading (Actual Common Rail Pressure).

Trip Reset

- This function clears the vehicle Trip History from the ECU.

Start Inhibit/Cranking Only

- This test disables all injectors during a cranking session. With the injectors disabled, starting is inhibited until the user leaves the test screen.

DEF Dosing

- This test is used to check that the Diesel Exhaust Fluid (DEF) System can dose a 5 ounce (150cc) volume.

DEF Leak Check

- This test is used to check for leaks in the Diesel Exhaust Fluid (DEF) System.

DEF Pump Reverting Valve

- This test controls the Diesel Exhaust Fluid (DEF) Pump Reverting Valve circuit. Whenever the key is turned off, the reverting valve activates. This causes the pump to push DEF back into the tank while emptying the lines.

Coolant Shutoff Valve

- This test activates the Coolant Shutoff Valve. The Coolant Shutoff Valve allows/blocks engine coolant flow into passages within the DEF tank.

DEF Heater Relay

- This test activates the heater relay for the Diesel Exhaust Fluid (DEF) heaters.

Backflow Line Heater

- This test enables the user to activate the line heater circuit manually. The backflow line is the line running from the Diesel Exhaust Fluid (DEF) Pump back to the DEF Tank. The heating element is within the line. When the test is activated supply voltage is provided to the heater element.

Pressure Line Heater

- This test enables the user to activate the line heater circuit manually. The pressure line is the line running from the Diesel Exhaust Fluid (DEF) Pump to the DEF Injector. The heating element is within the line. When the test is activated supply voltage is provided to the heater element.

Suction Line Heater

- This test enables the user to activate the line heater circuit manually. The pressure line is the line running from the Diesel Exhaust Fluid (DEF) Tank to the DEF Pump. The heating element is within the line. When the test is activated supply voltage is provided to the heater element.

Fuel Pump

- This test activates the fuel pump for the Burner System.

Atomizer Master Air Valve

- This test is used to activate the Atomizer Master Air Valve (AMAV).

Atomization Air Pressure Valve

- This test is used to activate the Atomizer Atomization Air Valve (AAAV).

Atomizer Injector Opening

- This test cycles the Atomizer Injector Opening.

Injection Coil

- This test is used to activate the Ignition Coil for the Igniters in the Burner System.

Combustion Air Valve

- This test actuates the Combustion Air Valve (CAV).

Atomizer Fuel Injection

- This test engages the Atomizer Fuel Injector to an open position.

Tachometer Display

- This test is used to check the functionality and accuracy of the Tachometer. The user inputs an RPM setting between 500 and 2500.

Engine Calibrations

- Maximum Vehicle Speed
- Maximum Cruise Speed
- Set Idle Shutdown time
- Enable Idle Shutdown
- Injector Programming
- Preset PTO Engine Speed (PTO Idle Speed, Increase Increment Adjustment)
- DPF Soot Load

300 Series Brake Diagnostic Tests

SH Valves

- These tests allows the user to turn on the pressure retention “isolation” ABS brake valve.

SR Valves

- These tests allows the user to turn on the pressure reducing “Dump” ABS brake valve.

INTERNATIONAL® ENGINES

Vehicle Coverage: 1994 – 2006

Supports all pre-EPA '07 International electronic engines.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Engine Data

Advanced Features

Diagnostic Tests

- KOEO (Key On Engine Off)
- KOER (Key On Engine Running)
- Injector Buzz Test
- Injector Contribution Test
- Cylinder Cutout Test (Dual box ECMs only)
- Injector Disable Tests (Dual box ECMs only)
- Relative Compression Test (Dual box ECMs only)

Display and Change Configurable Parameters

- Crank Inhibit
- Fan Control
- Idle Shutdown Timer
- Warm-up Device
- Warning and Protection System
- Hydraulic Pressure Governor
- PTO Control
- Radiator Shutter
- Vehicle Speed Limit
- Vehicle Retarder
- Two Speed Axle
- Traction Control
- Engine Signal Enables
- Cruise Control
- Engine Family /Transmission
- Customer Password
- Coolant Tank Selection
- Engine Air/Gas Management

NAVISTAR® BODY AND CHASSIS

Provides diagnostic and testing capability for International® body and chassis systems.

Vehicle Coverage

- International 4200/4300/4000 Series
- International 7000 Series (2005 and newer)
- International 8000 Series (2005 and newer)
- International CF Series (2005 and newer)

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters

Diagnostic Functions

- View expanded proprietary fault code descriptions
- Access connector pin information
- View timers
- Graph parameters
- Record snap shots

NAVISTAR® MAXXFORCE®

Vehicle Coverage: 2007-2015

MaxxForce engines 2014 through 2015. Supports all EPA '07 and EPA '10 medium and heavy-duty Navistar MaxxForce electronic engines. Also supports MaxxForce Big Bore engines.

New Features for Version 3.0

- Support for 2015 engines
- Enhanced support for 2010 to 2014 engines (SCR parameters and SCR special test)
  - New SCR parameters added
  - New SCR special test added
- New special test (Actuator Test) added

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Engine Data

Advanced Features

Diagnostic Tests

- KOEO – Key On Engine Off
  - Standard Test
  - Relative Compression Test
  - Injector Test
  - Output State High
  - Output State Low
  - Output State Air Heater Control
  - Output State Intake Air Heater
  - Continuous Monitor Test
  - DSI Continuous Monitor Test

- KOER – Key On Engine Running
  - Standard Test
  - Cylinder Cutout Test
  - Air Management Test
  - Continuous Monitor Test
  - VGT Output State Low
  - VGT Output State Medium
  - VGT Output State High
  - MAF Sensor Calibration
- Aftertreament Tests
  - Onboard Filter Cleanliness
- Injector Disable
- Relative Compression

Display and Change Configurable Parameters

- Fan Control
- Engine Idle Shutdown Control
- Idle Shutdown Timer
- Warm-up Device
- Warning and Protection System
- Hydraulic Pressure Governor
- PTO Control
- Radiator Shutter
- Vehicle Speed Limiting
- Vehicle Retarder
- Two Speed Axle
- Traction Control

Display Factory Programmed Parameters

- Crank Inhibit
- Vehicle Configuration
- Engine Cold Weather Assist
- Radiator Shutter Mode
- Water in Fuel Enable
- Transmission Type
- Vehicle Type
- PTO Control

PSI ENGINES

The PRO-LINK® Edge PSI Engines application provides diagnostic capability for vehicles with Power Solutions International® engines using the MT88 Engine Control Module.

Supports the Following Engines:

- 6.0L Gas
- 8.8L Gas
- 8.8L LPG
- 8.8L CNG

Basic Functions

- Change Vehicle Programmable Parameters
- View Diagnostic Parameters
- Read Active Faults
- Read and Clear Inactive Faults

Special Tests

Block Learn Multiplier (BLM) Learn

- This test function is used to enable and disable the Block Learn Multiplier (long term fuel trim).

Block Learn Multiplier (BLM) Reset

- This test function is used to reset the Block Learn Multiplier (long term fuel trim) to zero.

Tooth Error Correction Learn Test

- The Tooth Error Correction Learn (TECL) Test accounts for engine-to-engine variation in crankshaft position sensing. This improves the accuracy of the misfire detection algorithm and is required to meet OBD requirements.

Multiplicative Injection Time Correction

- This test is used to temporarily adjust injector pulse width for the selected cylinder using a multiplier factor.

O2 Sensor Heaters (Absolute Mode)

- This test is used to temporarily command the O2 sensor heater duty cycle to a specified value within the limits specified in the diagnostic tool.

O2 Sensor Heaters (Additive Correction Mode)

- This test is used to temporarily command an additional value to the current O2 sensor heater duty cycle within the limits specified in the diagnostic tool.

Canister Shut-Off Valve (Leak Test)

- The Canister Shut-Off Valve (Leak Test) is used to open and close the Canister Shut Off Valve.

Purge Solenoid Valve Opening

- The Purge Solenoid Valve Opening test is used to activate (duty cycle 100%) and deactivate (duty cycle 0%) of the Purge Solenoid Valve.

Purge Solenoid Valve Opening Additive Correction

- The Purge Solenoid Valve Opening Additive Correction test is used to command an additional value to the current purge solenoid valve duty cycle within the limits specified in the diagnostic tool.

Evap Service Bay Diagnostic Test

- The EVAP Service Bay Diagnostic Test is a self-test that checks the EVAP system for proper operation.

Cylinder Injector Disable

- During the Cylinder Injector Disable test, the target injector can be disabled by selecting the corresponding injector number to temporarily shut off the selected injector to aid in identifying defective injectors.

Engine Idle Target

- The Engine Idle Target test function is used to override IDLE RPM target to a set point within the limits specified in the diagnostic tool.

Fuel Open Loop Command

- The Fuel Open Loop Command test will command the ECM to put the engine operation in open loop. Closed loop fuel control will be disabled when this command is selected.

Gas Fuel Pump Control

- The Gas Fuel Pump Control test is used to turn the primary fuel pump on or off.

Gas Fuel Pump Control 2

- The Gas Fuel Pump Control 2 test will turn the Scavenge Fuel Pump (pump 2), on and off. In a fuel system equipped with two fuel pumps, the second fuel pump will be referred to as “Fuel Pump 2.”

VCPS (CAM Phaser) Exhaust Desired Position

- The VCPS (CAM Phaser) Exhaust Desired Position test is used to temporarily override the current degree value for the camshaft phaser exhaust desired position with a new value within the limits specified in the diagnostic tool.

VCPS (CAM Phaser) Exhaust Duty Cycle

- The VCPS (CAM Phaser) Exhaust Duty Cycle test is used to temporarily override the current duty cycle value for the camshaft phaser oil control valve commanding the valve to open or close.

Fan Control

- The Fan Control test enables the user to command the electric cooling fan on and off. If the vehicle supports multiple fan speeds, it can also control fan speed to HI, MED, or LOW.

TCIS (Trip Information Reset)

- The TCIS (Trip Information Reset) test resets all trip information to zero.

Malfunction Indicator Light (MIL) Command

- The Malfunction Indictor Light (MIL) Command test enables the user to command the Malfunction Indicator Lamp (MIL) on and off.

LP Fuel Pump Control

- This test enables the user to command the primary LP fuel pump on and off.

LP Fuel Pump Control 2

- This test enables the user to command LP fuel pump 2 on and off if the vehicle is equipped with a second LP fuel pump.

LP Tank Return Valve

- This test is used to command the LP Tank Return Valve open and closed.

LP Tank Supply Valve

- This test is used to command the LP tank Supply Valve open and closed.

LP Tank Supply Valve 2

- This test is used to command the LP Tank Supply Valve 2 open and closed.

Wait to Start

- This test enables the user to command the WAIT TO START lamp on and off.

CNG Rail Valve

- This test is used to command the CNG Rail Valve open and closed.

CNG Tank-1 and Tank-2 Valve

- This test is used to command the CNG Tank-1and Tank 2 Valve open and closed.

Vehicle Programmable Parameters

- Unit Number
- Tire Size
- Axle Ratio High
- Axle Ratio Low
- Dual Axle Ratio Input
- Dual Axle Source ID
- Road Speed Governor
- Reverse Speed Governor
- Safety Derate Enable
- A/C System Configuration
- Fuel Tank Configuration
- Coolant Level Switch Configuration
- Body Controller Source ID
- Crank Inhibit Configuration
- Crank Inhibit Source ID
- Remote Shutdown Enable
- Remote Shutdown Source ID
- Cruise Control Enable
- Cruise Control Speed Units
- Adaptive Cruise Control Enable
- Cruise/PTO Switch Source ID
- Service Brake Configuration (Read Only; cannot be programmed)
- Service Brake 2 Configuration (Read Only; cannot be programmed)
- Rough Road Multiplier (Read Only; cannot be programmed)
- Park Brake Source ID
- PTO Park Brake
- PTO Service Brake
- PTO Park/Neutral
- PTO Engine Torque Limit
- PTO Max RPM
- PTO Setpoint 1
- PTO Setpoint 2
- PTO Setpoint 3
- PTO Setpoint 4
- PTO Ramp Rate
- PTO Max Road Speed
- PTO Max Road Speed Threshold
- Remote PTO Enable
- Remote PTO Park Brake
- Remote PTO Service Brake
- Remote PTO J1939 Source ID
- Remote PTO Park/Neutral
- Remote PTO Engine Torque Limit
- Max Remote PTO RPM
- Remote PTO Setpoint 1
- Remote PTO Setpoint 2
- Remote PTO Ramp Rate
- Remote PTO Max Road Speed
- Remote PTO Max Road Speed Threshold

VOLVO/MACK

Vehicle Coverage: EPA '07, '10, '13, '17, '20 Conventional Aftertreatment and EPA '07 and '10 Spark Assist

Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- View Diagnostic Parameters

Advanced Features

EPA '13, '17 and '20 : Support for the Following Special Tests

DPF Regeneration

- The DPF Regeneration test is used to perform a service regeneration of the Diesel Particulate Filter (DPF).

Aftertreatment Hydrocarbon Dosing

- The Aftertreatment Hydrocarbon Dosing test is used to activate the doser, check the spray pattern from the doser injector, and measure the actual volume of fuel delivered from the dosing valve.

Hydrocarbon Doser Functionality Test

- The Hydrocarbon Doser Functionality Test is used to check the function of the exhaust aftertreatment system and allows monitoring of system conditions and component activations.

Exhaust AFT System Active Diagnostic Test

- The Exhaust AFT System Active Diagnostic Test is used to monitor the aftertreatment fuel pressure in relation to the sequence of the Shutoff Valve and the Purge Air Valve to determine if the system is working correctly.

SCR - Crystal Sublimation

- The SCR - Crystal Sublimation test is used to manually sublimate (or transform) Diesel Exhaust Fluid (DEF) crystals into a gas when crystals in the Selective Catalyst Reduction (SCR) catalyst accumulate to a level greater than that which can be removed during normal engine operation.

SCR - DEF Hose Heating Resistors

- The SCR - DEF Hose Heating Resistors test is used to check the function of the Diesel Exhaust Fluid (DEF) hose heating resistors.

SCR - DEF Tank Heating Valve

- The SCR - DEF Tank Heating Valve test is used to check the function of the Diesel Exhaust Fluid (DEF) tank heating valve.

SCR - DEF Dosing

- The SCR - DEF Dosing test is used to check the function of the of the Selective Catalytic Reduction (SCR) system's Diesel Exhaust Fluid (DEF) injection.

SCR Dosing, 120 Seconds and 240g

- The SCR Dosing tests are used to check the function of the SCR system's DEF injection. 120 Seconds and 240g is the large dosing test with an expected value of 6.6 to 8.1oz (196 to 240mL).

SCR Dosing, 120 Seconds and 60g

- The SCR Dosing tests are used to check the function of the SCR system's DEF injection. 120 Seconds and 60g is the small dosing test with an expected value of 1.7 to 2.0oz (49 to 60mL).

SCR Dosing, 2 Seconds and 0.02g

- The SCR Dosing tests are used to check the function of the SCR system's DEF injection. 2 Seconds and 0.02g is used to ensure lines are filled with DEF prior to the normal dosing tests (#2 and #3).

SCR - DEF Pressure Build

- The SCR - DEF Pressure Build test is used to check the pressure build potential of the Diesel Exhaust Fluid (DEF) system, and to allow the system to be pressurized without the engine running.

SCR - System Drain

- The SCR - System Drain is used to drain the SCR system of Diesel Exhaust Fluid (DEF). For example, when performing a service procedure that requires opening the SCR system, you would use the SCR System Drain to drain the system of DEF.

NOx Conversion Test

- The NOx Conversion Test is used to compare system behavior before and after a repair. The test performs a NOx sensor offset evaluation.

Aftertreatment DPF System Reset

- The Aftertreatment DPF System Reset test is used to reset the DPF system after treatment hydrocarbon dosing control valve adaptive factor, when cleaning or replacing the after treatment hydrocarbon doser. It also resets the soot ratio valve when soot is replaced or reinstalled.

SCR Dosing, Exit Inducement

- The SCR Dosing, Exit Inducement routine is used only after a dosing valve replacement, when DTC P208E 00 (Aftertreatment Reagent Valve Clogged) is active. Once a fully operating dosing valve is installed, this test should clear the DTC.

Injector Cutout

- The Injector Cutout test is used to disable injectors for troubleshooting cylinder-specific concerns. The test can be run automatically with adjustable disabling times.

EGR Valve Control

- The EGR Valve Control test is used to check the function of the Exhaust Gas Recirculation (EGR) valve.

Variable Geometry Turbo Function Service Routine

- The Variable Geometry Turbo Function Service Routine is used to check the Variable Geometry Turbocharger (VGT) functionality.

Cylinder Balancing

- The Cylinder Balancing test is used to check the injector fuel compensation values. The injectors are always compensated (either plus or minus) to obtain a stable idle speed.

Cylinder Compression

- The Cylinder Compression test is used to check the cylinder compression during a cranking session. Once the cranking session is complete a graph will be displayed.

Injector Click Test

- The Injector Click Test is used to run the forced injector self-check when the engine is not running. This test checks the spill valve and needle valve on the injectors.

Piston Cooling Jet Valve Control

- The Piston Cooling Jet Valve Control test is used to activate the piston cooling valve and to monitor the related oil pressure.

Fuel Pressure

- The Fuel Pressure test is a parameter viewing test with a supplemental graph for monitoring fuel pressure at defined engine speeds.

Intake and Exhaust Systems Check

- The Intake and Exhaust Systems Check test is a parameter viewing test with a supplemental graph for the purpose of checking the function of the intake manifold pressure sensor as well as restrictions in the intake or exhaust systems.

Boost Pressure Test Drive

- The Boost Pressure Test Drive is designed to check the function of the turbo/charge air system by observing intake manifold pressure increase while the vehicle is fully loaded and accelerating with 100% throttle.

Compression Brake Test

- The Compression Brake Test is used to allow the user to make a comparison between engine RPM fall time when the engine brake is in the On position and engine RPM fall time when the engine brake is in the Off position. The test controls the opening of exhaust valves during the engine compression and combustion (operating) stroke.

VGT Calibration

- This function is used to install a replacement VGT

Engine Protection Data Service Routine

- The Engine Protection Data Service Routine is used to view engine protection events.

View and Reset All Trip Data

- The View and Reset All Trip Data test is used to reset trip data, including data accumulations and occurrences that have been logged since the last reset of the service trip.

EPA '13, '17 and '20: Support for the Following Changeable Parameters

  - **Injector Code**
  - **Customer Road Speed Limit**
  - **Road Speed Limit With Pedal**
  - **Max Vehicle Speed in Second Highest Gear**

EPA '07 and EPA '10 Conventional Aftertreatment: Support for the following Special Test

DPF Regeneration

- The DPF Regeneration routine is used to perform a service regeneration (i.e., a stationary regeneration) of the Diesel Particulate Filter (DPF) when normal regeneration (i.e., a driving regeneration) is not able to effectively remove the soot from the DPF.

Aftertreatment Fuel Valve Shut-Off Valve Activation

- When the engine is running at idle with the aftertreatment fuel shut-off valve open (activated) and aftertreatment injector closed (not activated), the aftertreatment fuel pressure should be approximately equal to the engine fuel pressure, indicating that the aftertreatment fuel shut-off valve opens and is not clogged.

Discharge Recirculation Valve Activation

- The discharge recirculation valve (DRV) reroutes some of the turbocharger output back through the turbocharger. This test allows the discharge recirculation valve to be activated in order to check its functionality

Aftertreatment Injector Activation Flow Testing

- This allows the aftertreatment injector to be activated for flow testing

Aftertreatment Injector Activation

- This allows the aftertreatment injector to be activated in order to check its functionality

Aftertreatment Injector Air Leak Test

- This allows the aftertreatment injector to be closed so that it can be checked for air leakage

AFT Injector Adaptive Factor Reset

- The AFT Injector Adaptive Factor Reset is used to reset the adaptive factor that controls the injector so that adaptation begins again from a default value. It should be used only after the injector has been cleaned or replaced.

Soot Level Reset

- The Soot Level Reset is used after Diesel Particulate Filter (DPF) replacement, or after DPF re-installation following soot removal in a cleaning machine.

SCR - Crystal Sublimation

- The SCR - Crystal Sublimation test is used to manually sublimate (or transform) Diesel Exhaust Fluid (DEF) crystals into a gas when crystals in the Selective Catalyst Reduction (SCR) catalyst accumulate to a level greater than that which can be removed during normal engine operation.

SCR Start-up test

- The purpose of this test is to build pressure in the SCR System.

SCR-DEF Hose Heating Resistors

- The SCR-DEF Hose Heating Resistors test is used to ensure that the heaters and the relay are working correctly.

SCR-DEF Tank Heating Valve

- The SCR-DEF Tank Heating Valve test is used to check the function of the Diesel Exhaust Fluid (DEF) Tank Heating Valve.

ACM Learned Data Reset

- The ACM (Aftertreatment Control Module) Learned Data Reset is used only after the Aftertreatment component has been serviced or replaced. This will reset adaptation factors stored in the ACM.

Injector Cutout

- The Injector Cutout test is used to disable injectors for troubleshooting cylinder-specific concerns. The test can be run automatically with adjustable disabling times.

EGR Valve Activation

- The EGR Valve Activation is used to check the function of the Exhaust Gas Recirculation (EGR) valve.

Variable Geometry Turbo Function Service Routine

- The Variable Geometry Turbo Function Service Routine is used to check the Variable Geometry Turbocharger (VGT) functionality.

VGT Calibration

- This function is used to install a replacement VGT

Reset Learned Engine Data

- The Reset Learned Engine Data routine should be used when one or more of the following components are replaced: EGR Differential Pressure Sensor, EGR Venturi Tube, EGR Cooler, EGR Temperature Sensor, Variable-Geometry Turbocharger or Actuator, Boost Pressure Sensor, Intake Manifold Temperature Sensor, NOx Sensor(s), Engine Fuel Injector. Resetting learned engine data without component replacement may result in additional faults or system component failures.

EPA '07 and EPA '10 Spark Assist: Support for the following Special Test

DPF Regeneration

- The DPF Regeneration routine is used to perform a service regeneration (i.e., a stationary regeneration) of the Diesel Particulate Filter (DPF) when normal regeneration (i.e., a driving regeneration) is not able to effectively remove the soot from the DPF.

Atomization Air Valve (EPA '10)

- The purpose of this operation is to check the status of inputs and outputs that are related to the exhaust aftertreatment system.

DPF Air Shut-off Valve (EPA '10)

- The purpose of this operation is to check the status of inputs and outputs that are related to the exhaust aftertreatment system.

Combustion Air Valve (EPA '10)

- The purpose of this operation is to check the status of inputs and outputs that are related to the exhaust aftertreatment system.

Combustion and Atomization Air Valve Activation (EPA '07)

- The purpose of this operation is to check the status of inputs and outputs that are related to the exhaust aftertreatment system.

Master Air Valve Activation (EPA '07)

- The purpose of this operation is to check the status of inputs and outputs that are related to the exhaust aftertreatment system.

Ignition Coil Activation

- This object allows the component to be activated in order to check its function

Aftertreatment Fuel Valve Shut-Off Valve Activation

- When the engine is running at idle with the aftertreatment fuel shut-off valve open (activated) and aftertreatment injector closed (not activated), the aftertreatment fuel pressure should be approximately equal to the engine fuel pressure, indicating that the aftertreatment fuel shut-off valve opens and is not clogged.

Aftertreatment Injector Activation (EPA '07)

- This allows the aftertreatment injector to be activated in order to check its functionality

Aftertreatment Fuel Pump Activation

- This allows the aftertreatment Fuel Pump to be activated in order to check its functionality

Aftertreatment Active Diagnostic Test

- The Active Diagnostic Test is a self-test of the diesel particulate filter's thermal regenerator system

Soot Level Reset

- The Soot Level Reset is used after Diesel Particulate Filter (DPF) replacement, or after DPF re-installation following soot removal in a cleaning machine.

SCR - Crystal Sublimation (EPA '10)

- The SCR - Crystal Sublimation test is used to manually sublimate (or transform) Diesel Exhaust Fluid (DEF) crystals into a gas when crystals in the Selective Catalyst Reduction (SCR) catalyst accumulate to a level greater than that which can be removed during normal engine operation.

SCR Start-up test (EPA '10)

- The purpose of this test is to build pressure in the SCR System.

SCR-DEF Hose Heating Resistors (EPA '10)

- The SCR-DEF Hose Heating Resistors test is used to ensure that the heaters and the relay are working correctly.

SCR-DEF Tank Heating Valve (EPA '10)

- The SCR-DEF Tank Heating Valve test is used to check the function of the Diesel Exhaust Fluid (DEF) Tank Heating Valve.

ACM Learned Data Reset (EPA '10)

- The ACM (Aftertreatment Control Module) Learned Data Reset is used only after the Aftertreatment component has been serviced or replaced. This will reset adaptation factors stored in the ACM.

Injector Cutout

- The Injector Cutout test is used to disable injectors for troubleshooting cylinder-specific concerns. The test can be run automatically with adjustable disabling times.

EGR Valve Activation

- The EGR Valve Activation is used to check the function of the Exhaust Gas Recirculation (EGR) valve.

Variable Geometry Turbo Function Service Routine

- The Variable Geometry Turbo Function Service Routine is used to check the Variable Geometry Turbocharger (VGT) functionality.

VGT Calibration

- This function is used to install a replacement VGT

Reset Learned Engine Data

- The Reset Learned Engine Data routine should be used when one or more of the following components are replaced: EGR Differential Pressure Sensor, EGR Venturi Tube, EGR Cooler, EGR Temperature Sensor, Variable-Geometry Turbocharger or Actuator, Boost Pressure Sensor, Intake Manifold Temperature Sensor, NOx Sensor(s), Engine Fuel Injector. Resetting learned engine data without component replacement may result in additional faults or system component failures.

ABS

BENDIX®

Provides the capability to test and diagnose vehicles using the following Bendix systems:

- BlindSpotter®
- AutoVue® FLC20™
- SafetyDirect® Web Portal Processor
- EC-80™
- TABS-6™ Advanced
- SmarTire® Tire Pressure Maintenance System (TPMS)
- EC-60™
- TABS-6™
- EC-30T™
- EC-30™
- EC-17™

Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- View Brake Data

Note: PLC Converter required for trailer brake PLC systems (PN 604120).

EC-80 Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

Modulators

- The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

ATC Valve

- The ATC Valve test verifies the operation of the ATC Valve. Systems with the Electronic Stability Program (ESP) have two (2) ATC valves, one located on the drive axle (typical) and the other on steer axle (used with ESP). This test checks only the function of the drive axle ATC Valve.

Engine Limiting

- The Engine Limiting test is used to check that the ABS module can properly control the engine over the J1939 data bus.

Drag Torque

- The Drag Torque test is used to check that the ABS control module can properly control the engine over the J1939 data bus. Wheel slip is common on a drive axle due to driveline inertia. This condition is addressed by the Drag Torque function through increasing the engine torque to overcome the inertia.

HSA Solenoid

- The Hill Start Assist (HSA) Solenoid test checks the function of the HSA Solenoid by energizing the solenoid for three (3) seconds. Once the solenoid de-energizes, an audible exhaust of air should occur.

eTrack Solenoid

- The eTrac Solenoid test checks the function of eTrac Solenoid by energizing the solenoid for five (5) seconds.

Chuff Modulators

- The Chuff Modulators test is used to verify that the control module can command the modulators by energizing them for 1 to 2 seconds each.

Calibrate Lateral Acceleration Sensor

- The Calibrate Lateral Acceleration Sensor test checks the current g-force reading and allows calibration of the Lateral Acceleration Sensor (LAS). The sensor should read 0g with a tolerance of +/- 0.03g. Any reading outside of this range will require recalibration of the sensor.

Calibrate Steering Angle Sensor

- The Calibrate Steering Angle Sensor test checks the current degree reading and allows calibration of the Steering Angle Sensor (SAS). With the front wheels pointed straight ahead, the reading should be 0° with a tolerance of +/- 10°. When rotating the steering wheel to the right a quarter turn, the sensor should read -90° +/- 10°. When rotating the steering wheel to the left a quarter turn, the sensor should read 90° +/- 10°. If any of the readings are outside the specified range, the sensor requires recalibration.

TABS-6 Advanced Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Modulators

- The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

Chuff Modulators

- The Chuff Modulators test is used to verify that the control module can command the modulators by energizing them for 1 to 2 seconds each.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. Manual reset is not available.

Tire Pressure Maintenance System (TPMS) Special Tests

Axles Setup

- The Axles Setup function is used to program the number of axles, axle type, Sensor ID, and Cold inflation pressure programming (CIP) after replacing tires, changing tire locations, installing new pressure sensors, or installing a new Gateway Receiver.

EC-60 Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. Manual reset is not available.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

Modulators

- The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

Chuff Modulators

- The Chuff Modulators test is used to verify that the control module can command the modulators by energizing them for 1 to 2 seconds each.

ATC Valve

- The ATC Valve test verifies the operation of the ATC Valve. Systems with the Electronic Stability Program (ESP) have two (2) ATC valves, one located on the drive axle (typical) and the other on steer axle (used with ESP). This test checks only the function of the drive axle ATC Valve.

Engine Limiting

- The Engine Limiting test is used to check that the ABS module can properly control the engine over the J1939 data bus.

Outputs

- The Outputs test allows individual circuit activation of different outputs for up to one thousand milliseconds (i.e., one (1) second). This function is useful for electrical diagnosis as it allows the circuit to be isolated while testing.

TABS-6 Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Modulators

- The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. Manual reset is not available.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

EC-30T Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Modulators

- There are two tests in this category: Pulse Modulators and Test Modulators. These tests check the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator tests can cycle individual modulators for a longer duration and also cycle each twice.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. Manual reset is not available.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

EC-30 Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer. It may also be used to test the LED diagnostic lights on the EC-30 module.

Sensor Sequence

- The Sensor Sequence Test is used to check the orientation and operation of the ABS sensors.

Retarder Relay

- The Retarder Relay test is used to control the Retarder Disable Relay on the vehicle.

Load Battery Voltage

- The Load Battery Voltage Test is used to verify that supply voltage at the Bendix module remains within specification. The test energizes the ABS modulators and provides voltage values once completed.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. On EC-30 ABS modules the LED diagnostic display will be reset so the next fault code can be displayed. Manual reset is available.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

Disable Traction Control

- The Traction Control Enable/Disable test checks the ABS module's ability to turn the Automatic Traction Control (ATC) on and off. During this test the traction control gets disabled for a few seconds and reactivates.

Modulators

- There are two tests in this category: Pulse Modulators and Test Modulators. The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

ATC Valve

- The ATC Valve test verifies the operation of the ATC Valve. Systems with the Electronic Stability Program (ESP) have two (2) ATC valves, one located on the drive axle (typical) and the other on steer axle (used with ESP). This test checks only the function of the drive axle ATC Valve.

Engine Limiting

- The Engine Limiting test is used to check that the ABS module can properly control the engine over the J1939 data bus.

Serial Retarder

- The Serial Retarder test verifies the ability of the ABS module to control different types of retardation (via J1922 or J1939) of the engine, exhaust, driveline, or transmission.

Chuff Modulators

- The Chuff Modulators test is used to verify that the control module can command the modulators by energizing them for 1 to 2 seconds each.

EC-17 Special Tests

Lamps

- The Lamps test is used to activate/deactivate warning lamps in the Instrument Cluster and the ABS Warning Lamp on a trailer.

Retarder Relay

- The Retarder Relay test is used to control the Retarder Disable Relay on the vehicle.

Reset ECU

- The Reset ECU function is used to clear a corrected fault code. On EC-17 ABS modules the LED diagnostic display will be reset so the next fault code can be displayed. Manual reset is available.

Self Configuration

- The Self Configuration function commands the Bendix ECU to rescan for connected hardware (ABS sensors, modulators, and Automatic Traction Control). The current configuration is shown on the test screen. This test deletes the current configuration in the ECU. The ECU then searches for connected hardware and displays the new configuration.

Disable Traction Control

- The Traction Control Enable/Disable test checks the ABS module's ability to turn the Automatic Traction Control (ATC) on and off. During this test the traction control gets disabled for a few seconds and reactivates.

Modulators

- There are two tests in this category: Pulse Modulators and Test Modulators. The Modulators test checks the function of the ABS Modulators. Unlike the Chuff Modulators test, which cycles all the modulators in a sequence for a maximum of two (2) seconds each, the Modulator test can cycle individual modulators for a longer duration and also cycles each twice.

ATC Valve

- The ATC Valve test verifies the operation of the ATC Valve. Systems with the Electronic Stability Program (ESP) have two (2) ATC valves, one located on the drive axle (typical) and the other on steer axle (used with ESP). This test checks only the function of the drive axle ATC Valve.

WABCO® ABS

Part of the ABS Software Suite

The WABCO® Suite provides diagnostic and testing capability for WABCO® brake electronic systems. Supports WABCO® brake systems: Air (Tractor and Trailer) and Hydraulic (Tractor).

The WABCO® Suite provides diagnostic capability for WABCO® OnSide®, OnLane™ and OnGuard® ADAS modules.

Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Brake Data

Note: Universal J560 PLC Adapter required for trailer brake PLC systems (PN 604120).

WABCO® Suite Diagnostic Tests

Air Brake Tests—mBSP (Tractor)

- Valve Test
- Enable ATC Test
- Disable ATC Test
- ESC End Of Line

Air Brake Tests—E8 (Tractor)

- Valve Test
- ABS Lamp Test
- ATC Lamp Test
- Trailer Lamp Test
- Hill Start Aid Lamp
- Retarder Relay Activation
- Engine Data Link Test
- Enable ATC Test
- Disable ATC Test
- Reset Memorized Components

Air Brake Tests—4.3 & 4.4 (Tractor)

- Valve Test
- Trailer Brake Valve Test
- Trailer Brake Valve with ABS Test
- ABS Lamp Test

- ATC Lamp Test
- Trailer Lamp Test
- Relay Test
- Engine Data Link Test
- Enable ATC Test
- Disable ATC Test
- Reset Memorized Test
- Retarder

Air Brake Tests—D & E Series (Tractor)
- Lamp Tests
- Valve Tests
- Relay Test
- ABS Lamp Test
- ATC Lamp Test
- Engine Data Link Test
- Wheel Sensor Sequence Test
- Trailer Brake Valve Test
- Trailer Brake Valve with ABS Test
- Retarder Relay Test

iABS Tests (Trailer)
- Sensor Test
- Wheel Sensor Sequence Test
- Sensor Orientation Test
- Sensor Orientation Test with Lift Axle

ABS Tests(Trailer)
- Sensor Test
- Wheel Sensor Sequence Test
- Sensor Orientation Test
- Sensor Orientation Test with Lift Axle
- Display and Change Configurable Parameters
- Service Miles
- Revs/Mile
- SmartTrac Hydraulic
- Actuate Valves
- Pump Motor Test

Hydraulic Brake Tests
- Actuate Outputs
- Actuate Valves
- Brake Bleed Procedure
- Reconfigure Retarder
- Actuate Lamps
- Activate Retarder Relay
- ATC Enable – Disable
- Engine DataLink Test
- Parking Brake Test
- Retarder DataLink Test
- Clear Counters

Note: Some tests may not be available on all controllers.

EATON ABS

Provides diagnostic and testing capability for Eaton® brake electronic systems utilizing the SAE J1587 communication protocol.

Supports
- Eaton GEN4 and GEN5

Basic Functions
- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data

Note: PLC Converter required for trailer brake PLC systems (PN 604120).

Diagnostic Functions
- Trailer ABS system with PLC communications
- Auto detects the OEM's ECU system configuration
- View and clear current and historic faults
- Actuate modulators and valves
- Cycling of the brake retarder relays
- Testing of battery voltage
- Wheel sensor testing and traction disabling
- Retrieval of ECU information
- Testing of the trailer's ABS Test Warning Lamp
- Read trailer odometer/trip distance

Diagnostic Tests: Eaton ABS
- Test Valves
- Test Warning Lamp Test

HALDEX ABS

Provides diagnostic and testing capability for Haldex® brake electronic systems utilizing the SAE J1587 communication protocol.

Supports

- Haldex PLC, PLC Plus, and PLC Select

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data

Note: PLC Converter required for trailer brake PLC systems (PN 602020).

Diagnostic Functions

- Trailer ABS system with PLC communications
- Auto detects the OEM's ECU system configuration
- View and clear current and historic faults
- Actuate modulators and valves
- Cycling of the brake retarder relays
- Testing of battery voltage
- Wheel sensor testing and traction disabling
- Retrieval of ECU information
- Testing of the trailer's ABS Test Warning Lamp
- Read trailer odometer/trip distance

Haldex Calibrations

- Tire Scale Factor
- Distance to Service
- Reset Trip Distance
- Clear Configuration
- Change ECU Units

Diagnostic Tests: Haldex ABS

- Test Valves
- Sensor Sequence Test

WABASH ABS

Part of the ABS Software Suite

The Wabash ABS application provides diagnostic and testing capability for Wabash® brake electronic systems utilizing the SAE J1587 communication protocol.

Supports

- Wabash National MBS-1p and MBS-2

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data

Note: PLC Converter required for trailer brake PLC systems (PN 602020).

Diagnostic Functions

- Trailer ABS system with PLC communications
- Auto detects the OEM's ECU system configuration
- View and clear current and historic faults
- Actuate modulators and valves
- Cycling of the brake retarder relays
- Testing of battery voltage
- Wheel sensor testing and traction disabling
- Retrieval of ECU information
- Testing of the trailer's ABS Test Warning Lamp
- Read trailer odometer/trip distance

Diagnostic Tests: Wabash ABS

- ABS Warning Lamp Test
- Backup Lamp Test
- Trailer Warning Lamp Test

HDS J1708

The HDS J1708 diagnostic application provides the functions necessary to diagnose most SAE J1708/J1587 electronic controlled systems (engines, transmissions, brakes). The difference between Heavy Duty Standard and our other applications:

- It's generic.
- You cannot change parameters or run special tests.
- It does not support Allison, Isuzu, or Hino.

Includes

- HDS J1708: 1988 - Current

Provides generic information for the following systems:

- Caterpillar
- Cummiins
- Detroit Diesel
- Mack
- Navistar/International
- Volvo
- Bendix
- Meritor WABCO
- Eaton
- ZF Meritor

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Non-proprietary Parameters
- View Trip Information

HDS J1939

The HDS J1939 diagnostic application provides diagnostic capabilities for most SAE J1939 EPA '07 and newer electronic controlled engines. The difference between Heavy Duty Standard and our other applications:

- It's generic.
- You cannot change parameters or run special tests.
- It does not support Allison, Isuzu, or Hino.

Includes

- HDS J1939: 2007 - Current

Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Non-proprietary Parameters
- View Trip Information

Note: Will not clear codes on Caterpillar® electronic engines.

HDS J1939 Features: View Engine Data

- Engine Speed
- Injector Control Pressure
- Fuel Delivery Pressure
- Percent Load
- Air Inlet Temperature
- Inlet Air Mass Flow Rate

HDS J1939 Features: View Diesel Particulate Filter Data

- Aftertreatment 1 Regeneration Status
- Aftertreatment 1 Total Number of Active Regeneration Inhibit Requests
- Particulate Trap Regeneration Inhibit Switch
- Particulate Trap Regeneration Force Switch
- Particulate Trap Lamp Command
- Exhaust System High Temperature Lamp Command
- Particulate Trap Passive Regeneration Status
- Particulate Trap Active Regeneration Status
- Particulate Trap Status

HDS J1939 Features: View Trip Data

- Trip Distance
- Trip Group 1
- Trip Group 2
- Trip Average Fuel Rate
- Trip Fuel Usage
- Instantaneous Fuel Economy
- Fuel Consumption Rate

OBD II/EOBD

The OBD II/EOBD application provides diagnostic capability for most foreign and domestic vehicles that meet SAE OBD II standards.

Includes

- OBD II and European OBD (EOBD): Supports most foreign and domestic vehicles that meet SAE OBD II standards.

Basic Functions

- Read OBD II/EOBD Engine Fault Codes
- Clear Fault Codes
- View Non-proprietary Parameters
- Display Freeze Frame Data

OBD II/EOBD: Vehicle Protocols Supported

- ISO 15765 (CAN 500 & GMLAN)
- J1850 VPW (GM® & Chrysler®)
- J1850 PWM (Ford®)
- ISO 9141 (Foreign)

Generic OBD-II System Functions

- A/C Refrigerant System
- Calculated Engine Load %
- Catalyst
- Comprehensive
- Continuous Monitors
- Diagnostic trouble codes (DTC's)
- Displays federally mandated generic OBD II information
- Displays Generic OBD II data list info
- DTC that caused freeze frame
- EGR System
- Engine Coolant Temperature Degrees F or C
- Engine RPM
- Evaporative Purge
- Freeze frame data
- Fuel Pressure (gauge)
- Fuel System Status Banks
- Fuel System
- Generic codes

- Heated Catalyst
- Intake Air Temperature (IAT) Degrees F or C
- Intake Manifold Absolute Pressure (MAP) kPa or Hg
- Long Term Fuel Trim Banks
- Malfunction Indicator Light (MIL) Status
- Mass Airflow Rate (MAF)
- Misfire
- Non-Continuous Monitors (Once per trip)
- Number of DTC's
- O2 Sensor Heater
- O2 Sensor
- Oxygen Sensor Banks--all sensors
- Oxygen sensor test results
- Pending codes
- Proprietary codes
- Readiness status monitors
- Secondary Air Status
- Secondary Air System
- Short Term Fuel Trim Banks
- Short Term Fuel Trim Oxygen Sensors Banks--all sensors
- Spark Advance Degree's Cylinder #1
- Throttle Position %
- Vehicle Speed MPH/KPH

EOBD Applications

Heavy Duty Truck Engines

- '08 - '15 PACCAR® MX Engines
- '13 - '15 Volvo® Vehicles

Medium Duty Engines

- 2011 - 2015 Hino® Vehicles
- 2011 - 2015 Fuso® Vehicles
- 2010 - 2015 Isuzu® Vehicles
- 2011 - 2015 UD® Vehicles