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PRO-LINK®

VEHICLE APPLICATION GUIDE

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ABS DIAGNOSTIC COVERAGE

Comprehensive coverage across Bendix, WABCO, Eaton, Haldex, and Wabash ABS/ Brake electronic systems — including supported platforms, core functions, special tests, calibrations, and PLC trailer notes.

BENDIX — SYSTEMS & COVERAGE

- Supported systems: BlindSpotter; AutoVue FLC20; SafetyDirect Web Portal Processor; EC-80; TABS-6 Advanced; SmarTire TPMS; EC-60; TABS-6; EC-30T; EC-30; EC-17

Bendix — Basic Functions

- Read Active Faults
- Read and Clear Inactive Faults
- View Brake Data
- Note: PLC Converter required for trailer PLC (PN 604120)

Bendix EC-80 — Special Tests

- Lamps
- Sensor Sequence
- Load Battery Voltage
- Self Configuration
- Modulators
- ATC Valve
- Engine Limiting
- Drag Torque
- HSA Solenoid
- eTrack Solenoid
- Chuff Modulators
- Calibrate Lateral Acceleration Sensor
- Calibrate Steering Angle Sensor

Bendix TABS-6 Advanced — Special Tests

- Lamps
- Sensor Sequence
- Modulators
- Chuff Modulators
- Load Battery Voltage
- Reset ECU

Bendix SmarTire TPMS — Special Tests

- Axles Setup

Bendix EC-60 — Special Tests

- Lamps
- Sensor Sequence
- Load Battery Voltage
- Reset ECU
- Self Configuration
- Modulators
- Chuff Modulators
- ATC Valve
- Engine Limiting
- Outputs

Bendix TABS-6 — Special Tests

- Lamps
- Sensor Sequence
- Modulators
- Load Battery Voltage
- Reset ECU
- Self Configuration

Bendix EC-30 — Special Tests

- Lamps
- Sensor Sequence
- Modulators (Pulse/Test modes)
- Load Battery Voltage
- Reset ECU
- Self Configuration
- Retarder Relay
- Disable Traction Control
- ATC Valve
- Engine Limiting
- Serial Retarder
- Chuff Modulators

Bendix EC-17 — Special Tests

- Lamps
- Retarder Relay
- Reset ECU (LED display reset; manual available)
- Self Configuration
- Disable Traction Control
- Modulators (Pulse/Test modes)
- ATC Valve

WABCO — SYSTEMS & COVERAGE

- Air (Tractor & Trailer) and Hydraulic (Tractor) brake systems; ADAS: OnSide, OnLane, OnGuard

WABCO — Basic Functions

- Read Fault Codes
- Clear Fault Codes
- View Brake Data
- Note: Universal J560 PLC Adapter required for trailer PLC (PN 604120)

WABCO Air Brake — mBSP (Tractor) — Diagnostic Tests

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

WABCO Air Brake — E8 (Tractor) — Diagnostic Tests

- Valve Test
- ABS/ATC/Trailer/Hill Start Aid lamp tests
- Retarder Relay
- Engine Data Link
- Enable/Disable ATC
- Reset Memorized Components

WABCO Air Brake — 4.3 & 4.4 (Tractor) — Diagnostic Tests

- Valve
- Trailer Brake Valve (+ with ABS)
- ABS/ATC/Trailer lamp tests
- Relay
- Engine Data Link
- Enable/Disable ATC
- Reset Memorized
- Retarder

WABCO Air Brake — D & E (Tractor) — Diagnostic Tests

- Lamp/Valve/Relay tests
- Engine Data Link
- Wheel Sensor Sequence
- Trailer Brake Valve (+ with ABS)
- Retarder Relay

WABCO iABS (Trailer) — Diagnostic Tests

- Sensor Test
- Wheel Sensor Sequence
- Sensor Orientation (+ with Lift Axle)

- WABCO SmartTrac Hydraulic
- Actuate Valves
- Pump Motor
- Hydraulic Brake Tests
- Actuate Outputs/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

EATON ABS — COVERAGE & FUNCTIONS

- Supports Eaton GEN4 and GEN5 (SAE J1587)

EATON ABS — Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data
- Note: PLC Converter required for trailer PLC (PN 604120)
- Test Valves
- Test Warning Lamp

EATON Trailer ABS with PLC Communications — Diagnostic Functions & Tests

- ABS Tests
- Sensor Test
- Wheel Sensor Sequence
- Sensor Orientation (+ Lift Axle)
- Display/Change Parameters: Service Miles
- Revs/Mile

EATON Brakes — Diagnostic Functions & Tests

- Lamp
- ATC Enable/Disable
- Activate Valves
- Retarder Relay Activation
- Engine Datalink
- Auto-detect ECU configuration
- Read/clear current & historic faults
- Actuate modulators/valves
- Cycle brake retarder relays

- Battery voltage test
- Wheel sensor tests & traction disabling
- Retrieve ECU info
- Trailer ABS Warning Lamp
- Read trailer odometer/trip distance

HALDEX ABS — COVERAGE & FUNCTIONS

- Supports Haldex PLC, PLC Plus, PLC Select (SAE J1587)

Haldex — Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data
- Note: PLC Converter required for trailer PLC (PN 602020)

Haldex — Trailer ABS with PLC communications

- Diagnostic Functions
- Auto-detect ECU configuration
- View/clear current & historic faults
- Actuate modulators/valves
- Cycle retarder relays
- Battery voltage test
- Wheel sensor tests & traction disabling
- Retrieve ECU info
- Trailer ABS Warning Lamp
- Read trailer odometer/trip distance
- Calibrations:
- Tire Scale Factor
- Distance to Service
- Reset Trip Distance
- Clear Configuration
- Change ECU Units

Haldex ABS — Diagnostic Tests

- Test Valves
- Sensor Sequence Test

WABASH ABS — COVERAGE & FUNCTIONS

- Supports Wabash National MBS-1p and MBS-2 (SAE J1587)

Wabash — Basic Functions

- Read Active Fault Codes
- Read and Clear Inactive Fault Codes
- View Proprietary Parameters
- View Brake Data
- Note: PLC Converter required for trailer PLC systems (PN 602020)

Wabash Trailer ABS with PLC Communications — Diagnostic Functions & Tests

- Auto-detect ECU configuration
- View/clear current & historic faults
- Actuate modulators/valves; cycle retarder relays
- Battery voltage test
- Wheel sensor tests & traction disabling
- Retrieve ECU info
- Trailer ABS Warning Lamp
- Read trailer odometer/trip distance

Wabash ABS — Diagnostic Tests

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

ALLISON TRANSMISSION DIAGNOSTIC COVERAGE

Comprehensive coverage for Allison 1K/2K, CEC 1, WTEC (3K/4K), GEN 4, GEN 5, and GEN 6 transmissions — including basic functions and advanced diagnostic features (as supported by each controller family).

COVERAGE MAP

- Allison 1K/2K: Diagnostic & testing capability for 1K/2K applications (GEN III controller focus).
- Allison CEC 1: Commercial Electronic Control (CEC 1) — On/Off-Highway diagnostic capability.
- Allison WTEC (World Transmission Electronic Control): Also known as 3K/4K — WTEC II & WTEC III supported.
- Allison GEN 4: Diagnostic capability for GEN 4 (1K/2K and 3K/4K).
- Allison GEN 5: Diagnostic capability for GEN 5 (1K/2K and 3K/4K).
- Allison GEN 6: Diagnostic capability for GEN 6 (1K/2K and 3K/4K).

BASIC DIAGNOSTIC FUNCTIONS

- Read Fault Codes
- Clear Fault Codes
- View Data Lists
- Note: Calibrations are not supported.

ALLISON 1K/2K — GEN III CONTROLLERS

- Basic Functions: Read/clear faults; view data lists (no calibrations).

Advanced Features

- Solenoid Test
- Trans Fault Enable Test
- Gear Commanded Test
- Display I/O Wire Assignments
- View ECU EEPROM Calibration Info
- View Shift Inhibits

ALLISON CEC 1 — ON/OFF-HIGHWAY (CEC 1)

- Basic Functions: Read/clear faults; view data lists. Special tests are not supported; diagnostic capability available only for CEC 1 controller.

ALLISON WTEC (3K/4K) — WTEC II & WTEC III

- Basic Functions: Read/clear faults; view data lists (no calibrations).

Advanced Features

- Activate Fast Adaptive Mode
- Clear Active & Inactive Codes
- Display I/O Wire Assignments
- Enable Clutch Test
- Reset Auto Detect (WTEC III only)
- Reset Throttle Calibration
- Reset Unadapted Shifts
- View ECU EEPROM Calibration Info
- View Shift Inhibits

ALLISON GEN 4 — 1K/2K AND 3K/4K

- Basic Functions: Read/clear faults; view data lists (no calibrations).

Advanced Features

- Gear Command Test
- Reset Throttle Calibration
- Display I/O Wire Assignments
- Solenoid Tests
- Reverse Warning Lamp
- Transmission Fault Lamp
- Reset Auto-Config
- Shift Adapts Monitor
- Input/Output Functions Monitor

ALLISON GEN 5

- Basic Functions: Read/clear faults; view data lists (no calibrations).

Advanced Features

- Reset Adaptive Shift Parameters
- Clear All Shift Adaptive Data
- Reset Auto Detect Oil Level Sensor
- Output Tests
- Clutch Test Enabled
- Lamp Tests
- Reset Auto-Detect Retarder
- Reset Oil Life
- Reset Transmission Health Monitor
- Output Test

ALLISON GEN 6 — 1K/2K AND 3K/4K

- Basic Functions: Read/clear faults; view data lists (no calibrations).

Advanced Features

- Reset Transmission Health Monitor (1K/2K, 3K/4K)
- Clear All Shift Adaptive Data (1K/2K, 3K/4K)
- Reset Auto Detect Oil Level Sensor (3K/4K)
- Reset Adaptive Shift Parameters (1K/2K, 3K/4K)
- Output Test

CATERPILLAR DIAGNOSTIC COVERAGE

Comprehensive coverage for Caterpillar Electronic Engines (1990–2003) and CAT ACERT Engines (2003–2009), including basic functions, calibrations, diagnostic tests, special tests, troubleshooting settings, and configurable parameters.

PLATFORM OVERVIEW & COVERAGE

- CAT Engines with ACERT Technology: Vehicle Coverage: 2003–2009 — Reprogramming & diagnostics for CAT ACERT systems
- Caterpillar Electronic Engines: Vehicle Coverage: 1990–2003 — Reprogramming & diagnostics for legacy Caterpillar systems (3116, 3126, 3176, 3406, C-9, C-10, C-12, C-15, C-16)

CAT ENGINES WITH ACERT TECHNOLOGY (2003–2009)

Basic Functions

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

Advanced Features — Histograms

- 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 & 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 (1990–2003)

Supported Engines

- 3116
- 3126
- 3176
- 3406
- C-9
- C-10
- C-12
- C-15
- C-16

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
- 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 & 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 DIAGNOSTIC COVERAGE

Comprehensive coverage for Cummins on-highway engines (1994–Present) across Pre-EPA ’07, EPA ’07/’10/’13/’17/’20 and natural gas platforms — including basic functions, special tests, programmable parameters, and calibration support for EPA ’13+.

PLATFORM OVERVIEW & COVERAGE

- Years Covered: 1994–Present
- Regulatory Generations: Pre-EPA ’07; EPA ’07; EPA ’10; EPA ’13; EPA ’17; EPA ’20; Natural Gas engines
- On-Highway Families: B6.7; L9; X12/X15; ISB; ISC; ISL; ISM; ISX; N14; M11; plus popular industrial Q-Series
    - Includes support for BNN (X15 CM2450 X142B) and BMF (X12 CM2450 X137B); EPA20 X12 CM2450, L9 CM2450, B6.7 CM2450; EPA17 X12 CM2350

CORE DIAGNOSTIC FUNCTIONS & CALIBRATIONS

- Read Active Faults
- Read and Clear Inactive Faults
- Engine & Aftertreatment Support
- Calibration support for EPA ’13+ engines — program Mobile Regen Min Speed; program Engine Idle Speed; updated Freeze Frame data for all EPA ’13+

SPECIAL TESTS — EPA ’13+ ADDITIONS (ECM-DEPENDENT)

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

SPECIAL TESTS — COMPREHENSIVE SUITE

- AFT DEF System Leak Test
- AFT DPF Regeneration
- AFT History
- AFT Maintenance Filter Installation
- AFT Shutoff Valve & Injector Override
- AFT SCR Performance Test
- AFT SCR System Test
- Current-Based PM Sensor Regeneration (EPA ’13+)
- Cylinder Cutout Test

- DEF Doser Pump Override
- DEF Dosing Heater Relay Test
- DEF Line Heater Relay Test
- DEF Tank Heater Control Valve Test
- DPF Restriction Test (EPA ’13+)
- EGR Valve Test (EPA ’04)
- Engine Abuse History (EPA ’04+)
- Engine State Monitor
- Fan Override Test
- Fast Idle Warm-up (EPA ’13+)
- Fuel Injector Performance Test
- Fuel Injector Reset (EPA ’13+)
- Fuel Lift Pump Override (EPA ’04)
- Fuel System Leakage Test
- Fuel System Table Reset (EPA ’13+, CNG only)
- Gas Throttle Control Test (EPA ’13+, CNG only)
- Intake Air Heater Override (EPA ’13+)
- Maintenance Monitor (EPA ’07+)
- Reset DOC/DPF
- Reset Trip Info
- SCR Maintenance (EPA ’13+)
- Turbocharger Actuator Test (EPA ’04)
- VGT Electronic Actuator Installation & Calibration
- VGT Hysteresis Test

PROGRAMMABLE PARAMETERS — ENGINE/VEHICLE/PTO

- Cruise Control Maximum Speed
- Cruise Control Enable/Disable
- Engine Idle Speed*
- Maximum Vehicle Speed
- Maximum Accelerator Vehicle Speed
- Mobile Regen Min Speed*
- Idle Shutdown
- Injector Barcode Adjustment
- PTO Additional Switch Speed
- PTO Cab
- PTO Ignore VSS
- PTO Maximum Engine Load
- PTO Maximum Vehicle Speed
- PTO Maximum Speed
- PTO Minimum Speed

- PTO Pump Mode
- PTO Pump Mode Maximum Vehicle Speed
- PTO Pump Mode Vehicle Speed Override
- PTO Ramp Rate
- PTO Resume Switch Speed
- PTO Set Switch Speed
- PTO State
- PTO Transmission Driven
- PTO Transmission Driven Type
- Vehicle Speed Sensor Operation
- Remote Accelerator Pedal or Lever
- Remote Accelerator Pedal or Lever Mode

DETROIT DIESEL DIAGNOSTIC COVERAGE

Overview of supported engines, platforms, modules, diagnostics, parameters, and data displays.

SUPPORTED ENGINE FAMILIES (1987–PRESENT)

- Detroit DDEC 6–20 systems
- Detroit Series 60™, DD5™, DD8™, DD13™, DD15™, DD16™
- Detroit MBE 900 and MBE 4000 (2001–2006)
- Detroit CNG engines (DDEC II–V support)

SUPPORTED VEHICLE PLATFORMS

- Detroit / Freightliner Chassis (2009–2024): Cascadia (Legacy + New), M2, B2, 5th Gen Cascadia support
- Freightliner Body & Chassis Modules:
- Transmission Control Module (TCM)
- Central Gateway
- Maintenance System
- HVAC (Front / Rear / ParkSmart)
- SAMs (Single, Cabin, Chassis)
- Instrument Cluster
- Door Modules (Driver / Passenger)
- Common Telematics Platform
- Multi-Purpose Camera
- Modular Switch Field
- Radar Systems (Front / Side)
- Steering Angle Sensor
- Integrated Predictive Powertrain Control
- Video Radar Decision Unit

MODULE SOFTWARE VERSIONS (LATEST DDEC 20 SUPPORT)

- MCM21T: v2A.1D, v2A.1F, v2B.1D, v2B.1F
- CPC04T: v4.19
- CPC501T: v31.10, v31.11
- ACM301T: v03.65
- ACM21T: v02.64, v02.5A
- ACM: v03.66

CORE DIAGNOSTIC CAPABILITIES

- Read/clear proprietary active & inactive fault codes
- Display parameters associated with active faults
- View live engine and vehicle data
- Multi-ECU support
- CNG engine support (DDEC II–V)

SUPPORTED DIAGNOSTIC TESTS

Emissions & Aftertreatment:

- DEF Quantity Test
- DPF Ash Accumulator
- DPF Regeneration
- SCR Efficiency Test (Parked)
- ATD Maximum Sensor Value Reset
- Purge Hydrocarbon Doser

EGR System:

- EGR Actuator Slow Learn
- EGR Delta Pressure Sensor Recalibration
- EGR Low Flow Test

Fuel & Injection:

- Metering Unit Flood Routine
- Injector Codes
- Compression Test
- Cylinder Cutout

Air & Engine Management:

- Idle Speed Balance
- Intake Throttle Valve Test
- Engine Idle Shutdown
- PLV Change

Pressure / Leak / Balance:

- FIS Low Pressure Leak Test

Output Testing:

- Activate Digital / Analog Output Pins & Functions (CPC, MCM)

DTNA TRANSMISSION DIAGNOSTICS (TCM01, TCM05T)

- Tilt Sensor Calibration
- TCM Release Lock
- Countershaft Brake Test

- Clutch Apply Leak Test
- Transmission Learn Procedure
- Gear / Range / Split Activation Procedures

CONFIGURABLE PARAMETERS (CPC / PGR GROUPS)

- Speed Limiters (LIM0, LIM1, LIM2, AC)
- Engine Brake
- Cruise Control
- Optimized Idle
- PTO Control
- Vehicle Speed Sensor
- Engine Protection
- Remote Accelerator Pedal
- Predictive Cruise Control
- Transmission Retarder
- Fleet Management
- Idle & PTO Shutdown
- Fan Configuration
- Inputs / Outputs
- Maintenance Settings
- Password-controlled parameter sets (PGR001–PGR055)

DDEC II–V LEGACY CAPABILITIES

- Cylinder Cutout
- Reset Trip Info
- Reset Maintenance Systems (Oil, Air, Fuel Filters, Coolant Inhibitor)
- Clear Maintenance Codes
- Reset AFR Learn Table
- Activate Digital / PWM Outputs
- ECM Inputs / Outputs
- EGR Differential Pressure Recalibration
- Configurable Parameters:
    - Engine/Vehicle Options
    - Fuel Economy Incentive
    - Idle Options
    - Injector Calibration Codes
    - Variable Speed Governor
    - Progressive Shift
    - Engine HP Rating
    - Function Lockout
    - Engine Droop
    - Top 2 Transmission

DATA DISPLAY (LIVE TELEMETRY)

Temperatures:

- Coolant, Oil, Fuel, Air Inlet, Ambient, Intake Air
- Intercooler, Turbo Inlet/Outlet
- EGR Temperature A & B

Pressures:

- Boost, Exhaust Backpressure
- Fuel Differential & Main Pressure
- Crankcase, Coolant
- Air Filter Differential
- Cylinder Boost Differential

Speeds:

- Engine Speed, Idle Speed, Turbo Speed
- Vehicle Speed, Cruise Set Speed
- Variable Speed Governor Set Speed

Voltages:

- Battery, Knock Sensor, RTC Backup
- Sensor Supply Voltage
- Mechanical / Misc
- Throttle Position / Counts
- Torque %, Engine Load %
- Fuel Economy & Fuel Flow
- Active Governor
- VSG Counts
- Relative Humidity
- Exhaust Air/Fuel Ratio
- Natural Gas Loop Status

ENGINE CONFIGURATION DATA

- ECM Date / Time
- Engine & ECM Serial Numbers
- Model #,
- Certification #
- Software Levels
- HP Rating / Rated Speed
- Peak Torque & RPM
- Idle Speed
- Transmission Type
- Communications (J1922, J1939)

ENGINE LIFE TOTALS

- Engine Hours
- Fuel Used (Driving / Idle / Trip)
- Idle Hours
- Cruise Hours
- Engine Brake Hours
- Variable Governor Hours
- Odometer
- Optimized Idle (Fuel & Time Saved)
- Preventative Maintenance A/B/C (% Remaining)

TRIP DATA

- Average Engine Load
- Fuel Economy
- Time/Fuel Use (Idle & Driving)
- Variable Speed Governor Hours
- Cruise Hours
- Brake Hours
- Trip Time / Distance

DETROIT ESS (SYNCHRO-SHIFT) TRANSMISSION

Configuration:

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

Performance Data:

- Output Shaft Speed
- Target vs Current Gear
- Shift Knob Counts
- Shift Intent
- Solenoid/Harness Status

Trip Data:

- Number of Shifts
- Driver Shifts
- Aborted Shifts

ADDITIONAL SYSTEMS & INDICATORS

- Natural Gas Loop Status
- Coolant & Oil Level
- Engine Brake Status
- Active Governor
- Knock Control
- Idle Shutdown
- Turbo Bleed Valve
- Half-Engine Mode

EATON – PACCAR TRANSMISSION DIAGNOSTIC COVERAGE

Comprehensive coverage for Eaton automated/manual platforms and PACCAR-branded Endurant transmissions — including proprietary faults/parameters access and core diagnostic functions.

PLATFORM OVERVIEW & COVERAGE

- Application Scope: Provides proprietary faults and parameters for Eaton and PACCAR transmissions

SUPPORTED TRANSMISSION FAMILIES

Eaton

- Endurant HD
- Endurant XD
- Fuller Advantage
- Procision
- Ultra Shift Plus

PACCAR (Endurant-based)

- TX-12 (Endurant)
- TX-18 (Endurant)

CORE DIAGNOSTIC FUNCTIONS

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

PROPRIETARY FAULTS & PARAMETERS

- OEM-Level Fault Access: Read manufacturer-specific DTCs for accurate triage (active & inactive)
- Parameter Visibility: Monitor proprietary transmission parameters needed for diagnosis and repair validation

NOTES & APPLICABILITY

- Coverage and available parameters/tests may vary by model year, controller, and installed options.

- TX-12 and TX-18 are PACCAR-branded variants of the Eaton Endurant platform.

2017- 2022 ENDURANT HD TRANSMISSIONS

Special Tests

- Clutch Calibration Test - Clutch and Rail Calibration
- Inertia Brake Test
- Grade Sensor Calibration

PROCISION TRANSMISSION

Special Tests

- Line Pressure Test
- Line Pressure Calibration
- Rail Calibration
- Clutch Pressure (PI) Calibrations
- Clutch Touch Point (PTP) Calibration
- Clutch Disable Valve Test
- TRS Shift Device Calibration
- Clutch Cooling Test
- Product Diagnostic Test

HEAVY-DUTY STANDARD (HDS) AND OBD II / EOBD DIAGNOSTIC COVERAGE

Comprehensive coverage for HDS J1708, HDS J1939, and OBD II/EOBD applications — including supported systems, core functions, available data lists (engine, DPF, trip), protocol notes, and limitations.

HDS OVERVIEW & POSITIONING

- What HDS Is: A generic, standards-based diagnostic application for SAE J1708/J1587 and SAE J1939 systems; and a generic OBD II/EOBD tool for light/medium vehicles
- What HDS Is Not: HDS does not change parameters or run special tests; does not support Allison, Isuzu, or Hino in HDS modes

HDS J1708 — COVERAGE & CAPABILITIES

- Years: 1988 – Current
- Scope: Generic diagnostics for SAE J1708/J1587 engines, transmissions, and brakes

Supported OEM Systems

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

HDS J1708 — BASIC FUNCTIONS

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

HDS J1939 — COVERAGE & CAPABILITIES

- Years: 2007 – Current (EPA ’07 and newer engines)
- Scope: Generic diagnostics for most SAE J1939 electronic engines
- Limitations: Cannot change parameters or run special tests; will not clear codes on

Caterpillar electronic engines

HDS J1939 — Basic Functions

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

HDS J1939 — View Engine Data

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

HDS J1939 — View Diesel Particulate Filter (DPF) 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 — 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 — COVERAGE & CAPABILITIES

- Scope: Generic OBD diagnostics for most foreign and domestic vehicles that meet SAE OBD II standards (includes EOBD)

OBD II/EOBD — Basic Functions

- Read Engine Fault Codes (OBD II/EOBD)
- Clear Fault Codes
- View Non-proprietary Parameters

- Display Freeze Frame Data

OBD II/EOBD — Supported Protocols

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

Generic OBD-II System Data & Monitors

- Calculated Engine Load %
- Catalyst/Heated Catalyst status
- Continuous & Non-Continuous Monitors
- Generic & Proprietary codes; Pending codes
- Malfunction Indicator Light (MIL) Status; number of DTCs; Readiness monitors
- DTC that caused freeze frame; Freeze frame data
- EGR System; Evaporative Purge; Secondary Air System
- Engine Coolant Temp (°F/°C); Intake Air Temp (°F/°C)
- Engine RPM; Vehicle Speed (MPH/KPH)
- Fuel Pressure (gauge); Fuel System Status (banks)
- MAP (kPa or inHg); MAF (g/s)
- Short-/Long-Term Fuel Trim (banks)
- O2 Sensor / Heater test results (all banks/sensors)
- Spark Advance (° for Cylinder #1)
- A/C Refrigerant System (where available)

EOBD Application

- Heavy-Duty Truck Engines: 2008–2015 PACCAR MX
- 2013–2015 Volvo Vehicles
- Medium Duty: 2011–2015 Hino; 2011–2015 Fuso; 2010–2015 Isuzu; 2011–2015 UD

HINO ENGINES DIAGNOSTIC COVERAGE

Comprehensive coverage for Hino medium-duty engines (2005–2021) — including supported platforms, core functions, engine diagnostic tests, aftertreatment & burner-system routines, DEF system tests, calibrations, and 300 Series brake diagnostics.

PLATFORM OVERVIEW & COVERAGE

- Vehicle Coverage: 2005–2021 — diagnostic capability for Hino electronic engines (medium-duty)
- Supported Platforms: 600 Series Conventional (2005–2021); 300 Series Cab-Over (2012–2021); Brake; Transmission

CORE DIAGNOSTIC FUNCTIONS

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

ENGINE DIAGNOSTIC TESTS — CORE ROUTINES

- DPF Regeneration
- Injector Cutout
- Target RPM
- EGR Actuation
- VNT Actuation
- Intake Throttle Valve Actuation
- Fuel Leak Inspection
- Exhaust Brake Actuation
- Glow Plug Activation
- DEF/SCR Memory Resets
- Burner Maintenance Distance Reset
- Turbocharger Test
- Pump Relearn
- Hydrocarbon Injector Test
- Common Rail Pressure
- Trip Reset
- Start Inhibit/Cranking Only
- DEF Dosing
- DEF Leak Check
- DEF Pump Reverting Valve
- Coolant Shutoff Valve

- DEF Heater Relay
- Backflow Line Heater
- Pressure Line Heater
- Suction Line Heater
- Fuel Pump
- Atomizer Master Air Valve
- Atomization Air Pressure Valve
- Atomizer Injector Opening
- Injection Coil
- Combustion Air Valve
- Atomizer Fuel Injection
- Tachometer Display

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
- SR Valves

INTERNATIONAL MOTORS (NAVISTAR) DIAGNOSTIC COVERAGE

Comprehensive, professionally formatted coverage and detailed capability descriptions for International A26 (EPA17), Navistar MAXXFORCE (2007–2015), Navistar Body & Chassis systems, and legacy Navistar engines (1994–2006).

VEHICLE & PLATFORM COVERAGE

- International A26 — EPA 2021: Read proprietary faults and view live engine/aftertreatment data for rapid triage and repair validation.
- International A26 — EPA 2017: Full suite of guided tests and resets for emissions, fueling, air management, and service routines (detailed below).
- International S13 Integrated Powertrain System: Faults and live data across all core powertrain modules; coordinated diagnosis.
    - Supported modules: ECM, ACM (Aftertreatment Control Module), PIM, GSM (Gear Shift Module), T14 Transmission
- Legacy International Electronic Engines (1994–2006): Pre-EPA ’07 platforms with faults, data, configurable parameters, and guided tests.
- Navistar MAXXFORCE (2007–2015): EPA ’07 & EPA ’10 medium/heavy-duty engines, including Big Bore, with expanded SCR parameters/special tests.
- Navistar Body & Chassis Systems: International 4200/4300/4000, 7000 (2005+), 8000 (2005+), CF (2005+); proprietary faults/parameters, KOEO/KOER, graphing, and snapshots.

INTERNATIONAL A26 — EPA 2017 - GUIDED TESTS & SERVICE RESETS

- Air Management Test
- DPF Regeneration
- Cylinder Cutout Test
- Multiple Cylinder Cutout Test
- Cylinder Balance
- MAF Sensor Calibration
- Dosing System Test (Flow Test)
- AFT Hydrocarbon Doser (Leak Test)
- AFT Fuel Enabled Actuator (Leak Test)
- Coolant System Flush
- DEF System Leak
- DEF Dosing System Test
- AFT Purge Air

- AFT Hydro Doser
- Reset Forced Active Regen
- AFT Fuel Enable
- AFT DEF Tank Heater Valve
- AFT DEF Line Heaters
- Reset: AFT Maintenance
- Reset: DPF Replacement
- Reset Crankshaft Learn
- Reset Service Interval
- Reset VGT Span Learn

INTERNATIONAL A26 — EPA 2021- GUIDED TESTS & SERVICE RESETS

- Faults and Data: Read proprietary active faults; clear inactive; view associated parameters to speed repair verification.

Engine-Procedures - KOEO

- Coolant System Flush
- Dosing System Test (Flow Test)
- Reset Crankshaft Learn
- Reset Service Interval
- Reset VGT Span Learn

Engine-Procedures - KOER

- MAF Sensor Calibration

ACM-Procedures KOEO

- Reset SCR Tamper Fault
- Reset: AFT Maintenance
- Reset: SCR Maintenance
- DPF Replacement

Tests Actuators

- EGR Valve
- Engine Compression Brake Solenoid 1
- Engine Compression Brake Solenoid 2
- Engine Coolant Pump
- Engine Fuel Actuator 1
- Engine Fuel Actuator 2
- Engine Fan
- VGT / Wastegate Valve
- Engine Throttle Valve
- Fuel Solenoid

Engine Tests KOEO

- Cold Start System
- Continuous Monitor

Engine -Tests KOER

- Air Management Test
- Cylinder Cutout Test
- High Pressure Pump

ACM-Test KOEO

- DEF Line Heaters
- DEF Supply Pump
- DEF Tank Heater
- DEF Dosing System
- DEF System Leak Test

ACM-Test KOER

- DPF Regeneration

LEGACY INTERNATIONAL ENGINES (1994–2006) — FUNCTIONS, TESTS & PARAMETERS

- Basic Functions: Read/clear fault codes; view engine data.

Legacy Diagnostic Tests (Guided)

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

Legacy Configurable Parameters

- Crank Inhibit
- Fan Control
- Idle Shutdown Timer
- Warm-up Device
- Warning & 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 MAXXFORCE ENGINES (2007–2015) — COVERAGE & FEATURES

- Vehicle Coverage: EPA ’07 and EPA ’10 medium/heavy-duty Navistar MAXXFORCE engines, including Big Bore (2014–2015 coverage).
- Version Enhancements: Support for 2015 engines; enhanced 2010–2014 coverage.
- SCR Additions: New SCR parameters and new SCR special test for improved diagnosis.
- Actuator Test: New special test added for component validation.
- Basic Functions: Read fault codes; clear fault codes; view engine data.

NAVISTAR BODY & CHASSIS — COVERAGE, FUNCTIONS & DIAGNOSTIC TESTS

- Vehicle Coverage: International 4200/4300/4000; International 7000 (2005+); International 8000 (2005+); International CF (2005+).
- Basic Functions: Read active faults; read/clear inactive faults; view proprietary parameters.
- Diagnostic Functions: Expanded proprietary fault descriptions; connector pin info; timers; parameter graphing; snapshots.

Navistar — Advanced Diagnostic Tests

- KOEO — Standard Test
- Relative Compression Test
- Injector Test
- Output State — High/Low
- Output State — Air Heater Control / Intake Air Heater
- Continuous Monitor Test / DSI Continuous Monitor

Navistar — KOER Tests

- Standard Test
- Cylinder Cutout Test
- Air Management Test
- Continuous Monitor Test

- VGT Output State — Low/Medium/High
- MAF Sensor Calibration

Navistar — Aftertreatment & Additional

- Onboard Filter Cleanliness
- Injector Disable Relative Compression

Navistar — Configurable & Factory Parameters

- Configurable Parameters:
  - Fan Control
  - Engine Idle Shutdown Control
  - Idle Shutdown Timer
  - Warm-up Device
  - Warning & Protection System
  - Hydraulic Pressure Governor
  - PTO Control
  - Radiator Shutter
  - Vehicle Speed Limiting
  - Vehicle Retarder
  - Two Speed Axle
  - Traction Control
- Factory Programmed Parameters:
  - Crank Inhibit
  - Vehicle Configuration
  - Engine Cold Weather Assist
  - Radiator Shutter Mode
  - Water in Fuel Enable
  - Transmission Type
  - Vehicle Type

LIGHT & MEDIUM TRUCK (LMT) DIAGNOSTIC COVERAGE

Comprehensive coverage for GM, Ford, Isuzu, Dodge/RAM, Navistar CV Truck, and Workhorse — including engines, brakes, transmissions, OBD-II support, special tests, and calibrations (1996–2025 where applicable).

PLATFORM OVERVIEW

- OEM Coverage: GM, Ford, Isuzu, Dodge/RAM, Navistar CV Truck, Workhorse
- Diagnostics Scope: OEM proprietary + OBD-II for 1996+ compliant vehicles
- Basic Functions: Read Fault Codes; Clear Inactive Fault Codes; Enhanced coverage for engines, brakes, transmissions; Generic OBD-II for foreign & domestic

FORD — ENGINES

- 2.7L (2017–2024)
- 3.0L Power Stroke (2018–2024)
- 3.3L (2018–2024)
- 7.3L Gas (2020–2024)
- 2.5L (2014–2021)
- 3.2L Power Stroke (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 Power Stroke (2003–2010)
- 6.2L (2010–2021)
- 6.4L Power Stroke (2008–2010)
- 6.7L Power Stroke (2011–2021)
- 6.7L 4V OHV Power Stroke® V8 Turbo Diesel B20 Engine (2024-2026) Faults and Data only
- 6.7L High Output Power Stroke V8 Turbo Diesel B20 Engine (2024-2026) Faults and Data only
- 6.8L (2000–2019)
- 7.3L Power Stroke (2000–2003)
- 7.3L 2V DEVCT NA PFI V8 (2024-2026) Faults and Data only

Ford — Special Tests

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

FORD — Brakes & Transmissions (2000–2024)

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

ISUZU — ENGINES

- 6.6L Gas (2020–2021)
- 6.0L (2005–2020)
- 5.2L Engines (2022–2024)
- 5.2L Diesel (2005–2021)
- 3.0L (2011–2018)

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

ISUZU — Brakes & Transmissions (2005–2024)

- NPR/NF3
- NQR/NRR
- FTR
- 22–24 Series N (Diesel 5.2L)
- Added faults & data for DEF and Mimamori (2023–2024) — 5.2L (1L5)

DODGE/RAM — ENGINES COVERAGE 2018–2024 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 2018–2024 on starred engines

Dodge/RAM — Special Tests

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

DODGE/RAM — Brakes, Transmissions, BCM

- RAM 1500–5500 (2006–2024)

NAVISTAR CV TRUCK

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

Navistar CV Special Tests

- DPF Tests
- DPF Regeneration
- DEF Tests
- VGT Calibration
- Cylinder Cutout

GM — ENGINES (FAULTS & DATA UP TO MY2025; INCLUDES GLOBAL B)

- 2.7L (2019–2021)
- 3.0L (2019–2021)
- 4.3L (2014–2021)
- 4.8L (2011–2018)
- 5.2L (2004–2009; 2016–2021)
- 5.3L (2011–2021)
- 6.0L (1999–2020)
- 6.2L (2014–2021)
- 6.6L Gas (2020–2021)
- 6.6L Gas L8T (2022–2023)
- 6.6L Gas L8T (2024–2025)
- 8.1L (2000–2009)
- 2.8L Duramax (2019–2021)
- 6.6L Duramax (2001–2021)
- 6.6L Diesel L5P (2022-2023)
- 6.6L Diesel L5D MD (2022-2023)
- 6.6L Diesel L5P (2024-2026)
- 7.8L Duramax (2004–2009)

GM — Brakes & Transmissions (2001–2019)

- C1500–C7500
- K1500–K3500
- T4500–T7500
- 6L80E transmission (2022-2026)
- 6L90E transmission (2022-2026)
- 10L80E transmission (2024-2026)
- 10L90E transmission (2024-2026)
- 10L1000 Allison transmission (2024-2026)
- 8L80E (2022-2025)
- 8L90E (2022-2025)
- 8L80E Global (2022-2025)
- 8L90E Global (2022-2025)
- 10L90E Global (2022-2025)
- 10L90E Non Global (2022-2025)
- 10L80E Global (2022-2025)
- 10L80E Non-Global (2022-2025)

GM — Modules with Fault/Live Data (2017–2019)

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

GM (Duramax) — Special Tests

- DPF Tests
- DPF Regeneration
- DEF Tests
- VGT Calibration
- Cylinder Cutout

WORKHORSE — ENGINE COVERAGE (FAULTS & DATA)

- 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)

PACCAR ENGINES & CHASSIS DIAGNOSTIC COVERAGE

Comprehensive coverage for PACCAR MX engines and Peterbilt/Kenworth body & chassis systems — including EPA ’10/’13/’17/’21 engine support, module coverage, basic functions, guided tests, special routines, calibrations, and resets (2010–2024 engines; 2019–2024 body/chassis).

PLATFORM OVERVIEW & COVERAGE

- OEM Platforms: Peterbilt / Kenworth (PACCAR) — MX engines plus body & chassis systems
- MX Engine Coverage: EPA ’10, EPA ’13, EPA ’17, EPA ’21 (2010–2024)
- Body & Chassis Coverage: 2019–2024
- Body & Chassis Modules: VECU, RHS, CMP, HVAC, MSM, SWS, DCD, DCP — Basic Functions only

BASIC DIAGNOSTIC FUNCTIONS

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

PACCAR MX — EPA ’20 ENGINE SUPPORT: GUIDED TESTS & SERVICE ROUTINES

Fuel System & Injection

- Injector Cutout
- Check the injection system during cranking
- Evaluate the injector back leakage
- Check the fuel system health
- Injector Code Programming
- Injector Pump Code Programming

DEF / SCR Aftertreatment

- Prime the system with the pump for DEF
- Activate the Pipe Heaters for DEF
- Activate the Tank Heaters for DEF
- DEF Dosing Quantity
- DEF System Leak Test
- Evaluate the SCR System
- Evaluate the aftertreatment temperature sensors

Sensors & Emissions

- Check the particulate matter sensor
- Evaluate the NOx sensor before catalyst
- Evaluate the NOx sensor after catalyst

Common Rail & Pressure Control

- Check if the common rail pressure release valve is stuck closed
- Reset the common rail pressure release valve

Turbocharger / VGT

- Evaluate the turbo actuator functionality
- Check the turbo actuator span
- Install and calibrate the VGT turbocharger actuator
- Reset the turbo actuator default position

DPF Service & Component Installation

- Install a new DPF
- Install a cleaned DPF

PACCAR MX — EPA '17 ENGINE SUPPORT: GUIDED TESTS, ROUTINES & PROGRAMMING

Core Tests & Activations

- 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 closed
- Evaluate the injector back leakage
- Install and calibrate the VGT turbocharger actuator

Controls, Programming & Resets

- Disable DEF Derate
- Reset the common rail pressure release valve
- Program Injector Codes

SPECIAL TESTS — PACCAR MX (EPA ’17/’20)

- DPF Regeneration — Initiate parked regeneration of the DPF
- Activate the mobile regeneration trigger
- Cleaned Filter — DPF Reinstallation
- New Filter — DPF De-Greening
- DPF Maintenance
- Dosing Injector Tests — Quantity test, Fuel Shutoff Valve test, Injector Leak test
- DEF Line Heaters
- DEF Line Heater 1 (Pressure Line)
- DEF Line Heater 2 (Return Line)
- DEF Line Heater 3 (Inlet Line)
- DEF Pump Heater
- DEF Tank Heater Control Valve

ADDITIONAL UTILITIES & INFORMATION

- Cylinder Compression Test
- Cylinder Contribution Test
- Cylinder Performance Test
- Reset Trip Info
- Exhaust Back Pressure Valve (BPV) Actuator
- AFT History
- Lamp Tests

PACCAR BODY & CHASSIS (PETERBILT/KENWORTH) — MODULES & FUNCTIONS

- Coverage: 2019–2024
- Supported Modules: VECU, RHS, CMP, HVAC, MSM, SWS, DCD, DCP
- Available Functions: Basic Functions only (Read Active Faults; Read/Clear Inactive Faults; View Diagnostic Parameters)

PSI ENGINES DIAGNOSTIC COVERAGE

Comprehensive coverage for PSI engines using MT88 ECM, including gasoline, LPG, and CNG platforms with full diagnostic tests, programmable parameters, and fuel system controls.

PLATFORM OVERVIEW & SUPPORTED ENGINES

- Supported Engines
- 6.0L Gas
- 8.8L Gas
- 8.8L LPG
- 8.8L CNG

CORE DIAGNOSTIC FUNCTIONS

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

SPECIAL TESTS — FUEL, AIR, EMISSIONS, EVAP, SENSORS, INJECTORS

- BLM Learn
- BLM Reset
- Tooth Error Correction Learn
- Multiplicative Injection Time Correction
- O2 Sensor Heaters (Absolute Mode)
- O2 Sensor Heaters (Additive Mode)
- Canister Shut-Off Valve (Leak Test)
- Purge Solenoid Valve Opening
- Purge Solenoid Valve Additive
- EVAP Service Bay Diagnostic Test
- Cylinder Injector Disable
- Engine Idle Target
- Fuel Open Loop Command
- Gas Fuel Pump Control
- Gas Fuel Pump Control 2
- VCPS Exhaust Desired Position
- VCPS Exhaust Duty Cycle
- Fan Control
- TCIS Trip Reset

- MIL Command
- LP Fuel Pump Control
- LP Fuel Pump 2
- LP Tank Return Valve
- LP Tank Supply Valve
- LP Tank Supply Valve 2
- Wait to Start Lamp
- CNG Rail Valve
- CNG Tank-1 and Tank-2 Valves

PROGRAMMABLE VEHICLE 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 Config (read-only)
- Service Brake 2 Config (read-only)
- Rough Road Multiplier (read-only)
- Park Brake Source ID
- PTO Park Brake
- PTO Service Brake
- PTO Park/Neutral
- PTO Engine Torque Limit
- PTO Max RPM
- PTO Setpoint 1-4

- 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 Setpoints 1-2
- Remote PTO Ramp Rate
- Remote PTO Max Road Speed
- Remote PTO Max Road Speed Threshold

VOLVO/MACK DIAGNOSTIC COVERAGE

VOLVO/MACK Vehicle Coverage: EPA ‘07, ‘10, ‘13, ‘17, ‘20 Conventional Aftertreatment and EPA ‘07 and ‘10 Spark Assist

Basic Functions:

- Read Active Faults: Retrieve currently active trouble codes for immediate diagnostics.
- Read and Clear Inactive Faults: Access stored inactive faults and clear them after repairs.
- FT Band FTB Description: Provides detailed fault band and description across screens and reports.
- View Diagnostic Parameters: Monitor real-time engine and aftertreatment parameters for troubleshooting.

Advanced Features and Special Tests (EPA ‘13, ‘17, ‘20):

- DPF Regeneration
- Aftertreatment Hydrocarbon Dosing
- Hydrocarbon Doser Functionality Test
- Exhaust AFT System Active Diagnostic Test
- SCR – Crystal Sublimation
- SCR – DEF Hose Heating Resistors
- SCR – DEF Tank Heating Valve
- SCR – DEF Dosing Tests (Large, Small, Prime)
- SCR – DEF Pressure Build
- SCR – System Drain
- NOx Conversion Test
- Aftertreatment DPF System Reset
- SCR Exit Inducement Routine

Engine & Injector Related Tests:

- Injector Cutout
- EGR Valve Control
- Variable Geometry Turbo (VGT) Function Test
- Cylinder Balancing
- Cylinder Compression
- Injector Click Test
- Piston Cooling Jet Valve Control
- Fuel Pressure Test

- Intake & Exhaust System Check
- Boost Pressure Test Drive
- Compression Brake Test
- VGT Calibration
- Engine Protection Data Routine
- View & Reset All Trip Data

Configurable Parameters (EPA ‘13, ‘17, ‘20):

- Injector Codes
- Customer Road Speed Limit
- Road Speed Limit with Pedal
- Max Vehicle Speed in Next-to-Top Gear

EPA ‘07 / EPA ‘10 — Conventional Aftertreatment Tests:

- DPF Regeneration
- Aftertreatment Fuel Valve Activation
- DRV Activation
- Aftertreatment Injector Flow Testing
- AFT Injector Air Leak Test
- AFT Injector Adaptive Factor Reset
- Soot Level Reset
- SCR Crystal Sublimation
- SCR Start-up Test
- DEF Hose Heater Test, Tank Heater Valve Test
- ACM Learned Data Reset
- Reset Learned Engine Data

Spark Assist (EPA ‘07 / ‘10) Tests:

- DPF Regeneration
- Atomization Air Valve Test
- DPF Air Shut-Off Valve Test
- Combustion Air Valve Activation
- Master Air Valve Activation
- Ignition Coil Activation
- Aftertreatment Fuel Pump Activation
- Active Diagnostic Test for Spark-assist DPF regen
- SCR Crystal Sublimation & Start-up tests

Volvo Transmission Tests:

- Clutch Cylinder Procedure Test
- Gear Activation (Installed/Removed)
- Clutch Wear Check
- Transmission Test (Removed)

- IPWM Valves Clutch Activation procedure
- PWM Valves Clutch procedure
- Transmission, clutch, engagement point procedure
- Input Signals for Gear Selection procedure
- Split Cylinder procedure
- Gear Selector Cylinder 2/3 procedure
- Gear Selector Cylinder 1/Reverse procedure
- Gears procedure
- Gear Selector
- Gear Activation, Control Housing calibration procedure with Transmission removed

Volvo OBD Support:

- J1979-2 OBD-UDS scanning for multiple modules on VNL4 platforms.

VNL4 Engine Coverage (2012–2025):

- Exhaust AFT Service Regeneration
- Exit Inducement Routine
- DPF System Reset
- AFT System Active Diagnostic Test
- Hydrocarbon Doser Functionality
- Hydrocarbon Dosing
- SCR Pressure Build
- SCR Dosing
- SCR System Drain
- Injector Click & Cutout Tests
- Boost Pressure Drive Test
- Fuel Pressure
- Intake/Exhaust System Checks
- Piston Cooling Jet Valve
- Engine Protection Data Routine
- Cylinder Balance & Compression Brake Test
- Injector Code Calibration

VNL4 Module Coverage:

- ACM (Aftertreatment Control Module) – Faults & Data
- VMCU (Vehicle Management Control Unit) – Faults & Data
- TECU (Transmission Control Unit) – Faults & Data
- EBS (Electronic Brake System) – Faults & Data



2026
PRO-LINK
Vehicle Application Guide

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