Used Truck Association

2-3-16
Public Use
Agenda

- Cummins Update
- Product/Gearing Overview
- Backwards Compatible Product Improvements
- Valvoline Premium Blue Restore Oil
- OBD and Lamp Interface
- Extended Protection Plans
- Selling Tools and Resources
Top 10 Reasons to Depend on Cummins

1. Proven Dependability
2. Fuel Economy Leadership
3. Innovative Solutions
4. Integrated Technology
5. World-Class Support
6. Residual Value
7. Accessible Support Tools
8. Leading Performance
9. Available Across OEMs
10. Broadest Product Range
North American Heavy-Duty Truck Shipments Engine Manufacturers’ Market Share*

* Wards NA Heavy Duty Market Share (Class 8 Group 2) includes diesel and natural gas products
Complete Solutions and Strong Partnerships
Unmatched Support.

Cummins Care representatives will locate the nearest available and authorized service facility 24/7/365 at 1-800-DIESELS™
United States and Canada Dealer Density

Number of Cummins Certified OEM Dealer Locations

- International: 569
- Freightliner: 375
- Kenworth: 331
- Peterbilt: 274
- Volvo: 203
- Mack: 80
- Western Star: 73

Total 1905
Established Cummins MidRange Engines
Established Heavy Duty Engines

ISX15  ISX12  ISX12G  ISM
ISX15
Dependable Then...Dependable Now

1999 ISX

2002 ISX

2007 ISX

2010 ISX15

2013 ISX15
2007 ISX Enhancements

- HPI Fuel System and DOHC
- Variable Geometry Turbocharger
- EGR cooler
- Single Combination Lube Filter
2007 ISX Enhancements

- Crankcase Ventilation System
- Electronic Control Module (ECM 871)
- EGR Valve
- Cummins Intebrake
- High-Pressure Fuel Injection System (HPI)
2010 ISX15 Enhancements

- EGR Valve
- EGR Cooler
- Variable Geometry Turbocharger
- Venturi – Combo
- Oil Filter
2010 ISX15 Enhancements

- XPI Fuel Pump
- Intake Manifold
- XPI Fuel System and SOHC
- Electronic Control Module (ECM 2250)
- Fuel Filter
Cummins Aftertreatment System

Selective Catalytic Reduction Catalyst
- Converts NOx into harmless nitrogen gas and water vapor
- New material improves conversion efficiency

Decomposition Reactor and DEF Dosing Valve
- A mist of DEF is sprayed into the exhaust stream of the Decomposition Reactor, where DEF is converted through hydrolysis into Ammonia (NH3)

Diesel Particulate Filter
- Collects and oxidizes carbon to remove particulate matter from the exhaust
2013 ISX15 Enhancements

EGR Cooler
- The latest EGR Cooler design incorporates swage tubes and a strategic flow control improving the thermal resistance and cooling efficiency.

VGT™ Turbocharger from Cummins Turbo Technologies
- Electric actuation improves precision and responsiveness. The VGT Turbocharger assists in producing peak torque at lower rpms, enhances fuel economy, performance and braking horsepower.
2013 ISX15 Enhancements

Air Intake Throttle
- The Air Intake Throttle has been added to the 400-475 hp ratings. This new feature improves EGR control, and reduces parasitic losses.

Single High-Capacity Electronic Control Module (ECM 2350)
- A single ECM manages the engine and aftertreatment system in concert for optimal performance and fuel efficiency
2013 ISX15 Enhancements

XPI Fuel System
- Delivers superior performance due to its industry leading pressure injection. With multiple injection events per cycle for improved fuel efficiency and a smoother, quieter operation.

Crankcase Breather
- Provides a reliable and effective way to ventilate and filter crankcase gases. A heating element can be spec’d for cold weather operation.
10% Fuel Economy Improvement for up to $3,497 Savings

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Miles</th>
<th>MPG</th>
<th>Diesel Fuel Price</th>
<th>Annual Fuel Cost</th>
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<tbody>
<tr>
<td>2010 ISX15</td>
<td>100,000</td>
<td>6.5</td>
<td>$2.50</td>
<td>$38,462</td>
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<tr>
<td>2016 ISX15</td>
<td>100,000</td>
<td>7.15</td>
<td>$2.50</td>
<td>$34,965</td>
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</tbody>
</table>

*Average projected diesel price for 2016*
15 Liters = Big Bore Advantage

- Enables broader power/torque curves
  - Superior driveability due to prolonged peak torque at low RPMs
- Produces adequate power at the target node for fuel economy
- Provides architecture flexibility enabling total system optimization
  - Larger displacement provides:
    - Simpler air handling system design as it is easier to push air through
ISX15 Better Efficiency and Durability

- Break Mean Effective Pressure (BMEP) [psi]
  - Defined as torque per cubic inch
  - $150.8 \times \frac{\text{torque}}{\text{cubic inches}}$
  - Lower BMEP better durability
  - ISX15 has 17% lower BMEP vs. 12/13L engines

- Compression Ratio 18.9 : 1
  - Industry highest
  - Higher combustion expansion

- Peak Cylinder Pressure (psi)
  - Lower vs. 12/13L
ISX15 SmartAdvantage
The Smart Way to Better Fuel Economy

Better Fuel Economy
- Larger Sweet Spot to cover a wider cruise speed range

Smother Acceleration
- Vehicle Acceleration Management

Lighter Transmission
- Aluminum Range Cylinder
- Aluminum Shift Bar Housing
- Aluminum Rear Auxiliary Section
- Thin Wall Cast Iron Main Case

The Right Amount of Torque When You Need It
- SmartTorque2

Increased Thermal Efficiency
- Precision Lubrication System
- Cooler-less Design

Smarter Cruising with Overdrive and Direct Drive
- Small Step 10 Speed Gearing

Eaton Fuller Advantage
Cummins ISX15
SmartAdvantage

- Continuous improvements and innovative technology
- Utilizes downspeeding for up to 7% better fuel economy than competitors
- Engine and transmission share critical data
- Optimizes shifting for error-free, efficient driving
## An Optimal Solution for Every Application

<table>
<thead>
<tr>
<th>Transmission Top Gear</th>
<th>Cummins Engine</th>
<th>Power hp (kW)</th>
<th>Peak Torque lb-ft (N·m) @ rpm</th>
<th>Eaton Transmission Model</th>
<th>Axle Ratios</th>
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<tbody>
<tr>
<td>Small-Step Overdrive</td>
<td>ISX15 400 SA</td>
<td>400 (298)</td>
<td>1450/1650 (1968/2240) @ 1000</td>
<td>FAOM-14810S-EC3</td>
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<td></td>
<td>ISX15 400 SA</td>
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<td>1550/1750 (2103/2375) @ 1000</td>
<td>FAOM-15810S-EC3</td>
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<tr>
<td></td>
<td>ISX15 420 SA</td>
<td>420 (313)</td>
<td>1550/1750 (2103/2375) @ 1000</td>
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<td></td>
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<tr>
<td></td>
<td>ISX15 450 SA</td>
<td>450 (336)</td>
<td>1550/1750 (2103/2375) @ 1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Drive</td>
<td>ISX15 400 SA</td>
<td>400 (298)</td>
<td>1550/1750 (2103/2375) @ 1000</td>
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</table>

[SmartAdvantage™ Powertrain .com](https://www.smartadvantage.com)
Gearing Overview
2010 ISX15 Gearing
Linehaul

Performance
Balance
Maximum Fuel Economy

RPM @ 65 MPH
2013 ISX15 Gearing
Linehaul: Up to 85,000 lbs

400-475 HP

RPM @ 65 MPH

- Gearing to the low end of any rpm range increases shift density, for driver acceptance an AMT should be considered.
2013 ISX15 Gearing
Linehaul: Up to 110,000 lbs

485-600 HP

RPM @ 65 MPH
2013 ISX15 SmartAdvantage
Linehaul: Up to 80,000 lbs

Maximum Fuel Economy
Downspeed + AMT

RPM @ 65 MPH
Backwards Compatible Product Improvements
Lubricating Oil Filter Bypass Valve

- The bypass relieves the pressure across the filter during conditions with high filter restriction such as cold start, preventing damage to the filter and ensuring oil supply to the engine.

Old BPV Design
- Yellow – Stainless Steel Seat
- Blue – 33% Glass Filled Nylon Seat
- Red – Stainless Steel Stamped Cage
- Black – Viton O-rings

New BPV Design
- Injection molded polyetherimide
Simplicity in Design. Simplicity in Process
Lubricating Oil Filter Bypass Valve

- **Proven Design**
  On Cummins midrange engines for over 15 years

- **Simple Repair**
  No special training or tools

- **Customer Choice**
  You choose your preferred repair method to maximize uptime:
  Cummins authorized repair location or DIY
Maintenance Free Crankcase Ventilation Filter

- New CV Filtration technology for ISX15: Variable Impactor technology
  - For ISX15 N. America
  - Emissions and OBD transparent
- No changes to external dimensions
- Maintenance free
  - Lower TCO and more uptime
- No calibration update required
  - An illuminated Check Engine Lamp may indicate need for engine inspection
- Service P/N: 3691476
- Backwards compatible to 2007 ISX15
NanoNet Lubricating Oil Filter

- ISX15 operates at higher temperatures and pressures while delivering class leading fuel economy. This requires superior lubrication at all operating conditions.

- LF14000 with NanoNet media provides better filtration than stacked-disk media (LF9080)
  - Lower restriction and higher flow
  - More effective lubrication
  - Better engine protection on cold starts
  - Superior dust and particulate collecting capability; 99% efficiency at 30 micron

- LF14000NN is backward compatible to all ISX engines
NanoNet Lubricating Oil Filter

* Note there is not a venturi Nozzle in LF14000 NN

* LF14000 NN design does not require the venture to pull lube through the NanoNet combo section
Robust EGR Cooler

- Improved thermal fatigue resistance
  - Latest design in production since January 2013 with no documented thermal fatigue failures
  - More uniform coolant distribution
  - Swaged tubes for robust front/endplate connection

2007/2010  Straight Tubes
2013  Swaged Tubes
Maintenance Free Hydrocarbon Doser

- Self cleaning design
  - Previous design required cleaning at 150,000 miles

- Compatible with 2007 ISX15 and newer
ReCon DPF Exchange Program

- During normal operation, ash builds up in the Diesel Particulate Filter. Eventually the DPF needs to be cleaned or replaced.
- Faster than Cleaning
  - Simply remove the DPF and install the Cummins ReCon DPF
  - No need for DPF regeneration after installation
- Dependable
  - Cummins four-step remanufacturing process restores the DPF to original condition
- Better Value
  - 1 year, unlimited mileage warranty
  - Cummins gives full credit for undamaged cores
- Available for 2010 ISX15 engines
Thermal Recirculation Valve (TRV)

- Fuel Gelling or Waxing (caused by extreme cold weather) can result in:
  - Difficulty starting engine or staying running
  - DPF plugging

- TRV combats fuel gelling
  - Recirculates 90% of the fuel to the tank during idle
  - Routes the warm returned fuel to the Stage 1 filter when < 77°F (25°C)
  - Capable of melting wax in filter down to around -9°F (-23°C) below fuel cloud point

- Retrofit TRV kit available for service – P/N 4376341
Enhanced Fuel Economy with a NAAC

- “Boosted” Air Compressor:
  - Norm from 1998-2012 engines
  - Tapped into pressurized fresh air from the turbo to ease the air compressor duty cycle
  - Increased variability of fresh air to engine

- Cummins recommends Natural Aspirated Air Compressors for fuel conscious customers:
  - On average 1.5% improvement for line-haul applications
  - Up to 2% improvement in regional hauling with stop and go routes
OBD and Lamp Interface
What is OBD and the MIL

- **On-Board Diagnostics**
  - Monitors nearly every component that can affect the emissions control system
  - Tests emissions-related components and systems to detect malfunctions

- **Malfunction Indicator Lamp**
  - Illuminates to indicate an OBD related fault
  - 2013 and later products
  - And 400-450 hp 2010 ISX15
Improved Operator Dash Lamp Interface

- Requires a calibration upgrade
- Enhanced inducement functionality
  - Tank level
  - Tampering detection
- Reduced lamps
  - DEF tank level warning has less stages
- On-Board Diagnostics
  - 2010 ISX15 400-450 Hp
  - All 2013+ ISX15s
Dash Lamp Quick Reference for Drivers

- Enabling effective operation
- Bulletin # 4971518
Valvoline Premium Blue Restore™
Valvoline Premium Blue Restore™

- Cost-effective, alternative repair for ISX15 engines with excessive oil consumption
- Available now

Door frame oil change reminder:
How Restore™ Oil Works

- A fully synthesized base stock combined with the Valvoline Premium Blue Extreme additive pack
- This formulation is tailored to be a “solvent” and dissolve the hard carbon from the piston ring grooves and lands
- Dissolved carbon enable the first and second piston rings to move freely restoring oil control
- In conjunction, Fleetguard LF 14000 NN filter’s superior efficiency and capacity captures and holds the dissolved carbon without filter plugging
Diagnosis – When to Use Restore™ Oil

- Must use EDS
  - Solution within oil consumption troubleshooting directs use of Restore™ Oil for repairs outside of published coverage

- TSB150163 – provides specific guidance on fault codes and oil consumption thresholds guiding when to use Restore™ Oil.
How to Order Restore™ for Repairs

- Dealers need to order 5 cartons of the oil from their local distributor and one LF 14000 NN if not stocked locally or in-house.
  - Each carton includes three 1 gallon jugs.
- 15 gallons per repair.
  - 12 gallons required for the engine oil change.
  - 3 gallons for make-up during the next oil drain interval.
- Run the oil for an entire drain interval.
  - Customer uses regular oil and filter at next oil change.
Cummins Recommends Future Use

- For long-lasting, optimized operating conditions, Cummins recommends use of Restore™ oil and LF 14000 NN filter once a year or every 120,000 to 150,000 miles.
Extended Coverage
More Protection Options

Extended Protection Plan

Encore™

Encore Xtra™
More Affordable Extended Protection

- Confidence in our dependable products
- Better experience for customers
- Reducing total cost of ownership
Leading Residual Value

- 2016 ISX15 Extended Protection plans reduced pricing
- Same comprehensive component coverage
  - Does not include aftertreatment
- By offering more affordable pricing, we anticipate a higher volume of trucks being sold with extended coverage
Encore™ Protection Plan
Encore Protection Plan

- **Encore Protection Plan 2 (EP2) coverage includes:**
- Internal components, major components, and major engine systems, including cooled EGR major components
- Registered parts and labor
- Covers all these components, including mounting hardware and gaskets:
  - Cylinder head assembly, Rocker lever assembly, ECM, Piston, rings and liners
  - Lube oil cooler assembly, Cylinder block assembly, Crankshaft assembly
  - Front gear cover, Oil pan, Connecting rod assembly, Lube pump assembly
  - Camshaft and bushings, Cam follower assemblies, EGR cooler, valve and mixer
Encore Xtra™ Protection Plan
Reducing Total Cost of Ownership

- Now offering a new, more comprehensive coverage plan
- Creating better support for the used truck market
- Peace of mind knowing unexpected repairs are covered
- Enhances residual value
New Encore Xtra™ Coverage Program

- Encore Xtra™ available to EPA 2010 and 2013 ISX12 and ISX15 engines

- Options available
  - Encore Xtra™ Plan 1 coverage for 1 yr./100K or 2 yr./200K
  - Encore Xtra™ Plan 2 coverage for 1 yr./100K or 2 yr./200K

- Any owner, including 1st owner, can purchase the coverage
Encore Xtra™ Coverage Summary

- Plan 2 component coverage same as current
- Plan 1 coverage is Plan 2 components plus …
  - Fuel pump
  - Fuel injectors (excludes aftertreatment injector)
  - Turbocharger
  - Water Pump
  - Air Compressor
  - Select engine sensors
Encore Xtra™ Eligibility Requirements

- Coverage must be registered by 6 yr./650K
- Coverage is available after 18 months or 200,000 miles, whichever occurs first
- Current Extended Coverage must expire before vehicle is eligible for Encore Xtra™
- Must pass inspection requirements (same as current Encore)
Encore Xtra™ 2016 Incentive Program

- Cummins is dedicated to providing affordable protection for customers.

- For eligibility of **up to a 25% price reduction**, the following engine components must be updated to the latest design:
  - Lubricating Oil Bypass Valve
  - Engine Crankcase Breather
  - Fuel Pump Tappets
  - Fuel Pump Plungers (only applies to 2010-2012 ISX15 engines)

- A component inspection will be performed before the discounted price can be applied.
2010 ISX Fuel Pump Coverage
New Fuel Pump Protection Plan

- 2010 ISX Extended Protection Plan 1 omitted fuel pump coverage
- New stand-alone fuel pump coverage is available
- Addresses gap in coverage for 1st owners until they are eligible for Encore Xtra™
- Extended protection purchase not required
- **Only** 1st owners can purchase, but it is transferable
Tools and Resources
Sales Tools & Resources

Usedtruck.cummins.com

www.cumminsengines.com
Uprateability

2013 ISB6.7
2013 ISL9
2013 ISX12
2013 ISX15
2010 ISB6.7
2010 ISX12
2010 ISX15
2010 ISC8.3
2007 ISB
2007 ISC
2007 ISX
2007 ISL
2007 ISX
2004 ISC
2004 ISM
2004 ISX
N14 Plus
Customer Support - OnHighway Uprateability - OEM - 2007 ISX

07 ISX Uprateability

- Turbocharger
- Lube Cooler
- Gears
- Injectors & Cam

Families:
- Family 1: 450 ST, 450, 435 ST, 435***, 435 V*, 425 ST, 425, 400 ST, 400, 385 ST**
- Family 2: 500, 500 V*, 500 ST, 485 ST, 485, 450 ST, 450
- Family 3: 600, 550, 525

Uprate within family via calibration change
* Vocational ratings require gears
** Interbrake not available
Uprateability

2013 ISB 6.7
2013 ISL 9
2013 ISX 12
2013 ISX 15
2010 ISB 6.7
2010 ISC 8.3
2010 ISX 12
2010 ISX 15
2007 ISB
2007 ISC
2007 ISL
2007 ISX
2004 ISC
2004 ISM
2004 ISX
N14 Plus
Customer Support - OnHighway Uprateability
OEM - 2010 ISX15

- ISX15 EPA 2010 Uprateability
- Family 1 Ratings
  - 450 ST
  - 450
  - 435 V
  - 425 ST
  - 425
  - 400 ST
  - 400
- Family 2 Ratings
  - 500
  - 500 ST
  - 500 V
  - 485 ST
  - 485
- Family 3 Ratings
  - 600
  - 350
  - 525

- Camshaft
- Piston
- Turbocharger
- Water pump
- Thermostat Housing
- Intake & Exhaust Valves

For engines built through 2/13/2011:
- Calibration Only

For engines built on or after 2/14/2011:
- Beginning with ESN 79457211:
  - Camshaft
  - Piston
  - Injector

Note:
- Ratings 455V and 500V at 0.2a/NOx are not uprateable.
Base Warranty and Extended Coverage

- Warranty 2 yr / 250K miles
  - Late Registration up to 18 months
- Extended Coverage
  - Transferable without a fee
  - Check coverage using RAPIDSERVE Web
In addition to the base warranty, Cummins offers a variety of extended coverage plans that provide extra protection against major repair expenses. We offer extended coverage plans to fit every application and budget.

- ReCon Protection Plan I
- ReCon Protection Plan II
- NOW for Heavy Duty Engines
- NOW for MidRange Engines
- Encore Coverage
- ReCon Warranty
- Warranties - Heavy Duty Truck
- Warranties - Medium Duty Truck
Powerspec

- Free Software Application
  - Gearing Calculator
  - Electronic features- settings and descriptions
  - Customized engine ‘specs’
  - “Hot Specs” available for fleets
  - Collects valuable trip information
  - Reporting Feature

Free download at: www.cumminsengines.com/powerspec
QuickCheck 5600

- Read and Adjust Engine Settings from the Palm of Your Hand
  - Capture data from any electronic engine
  - Transfer ‘Hot Specs’
  - Adjust key engine electronic features
  - Read fault codes and engine data
RoadRelay 5.0

- Coach drivers, protect your equipment, read fault codes, and display trip information from a dash-mounted display:
  - Security Code Required before Key On
  - Compare up to 16 drivers
  - Over 70 trackable parameters
QuickServe ® (QSOL) App

- Available on Apple iOS and Android devices
- View part options, parts catalogs and engine dataplate information
- Includes a Fault Code Analyzer for Cummins electronic engines, providing specific fault code details and analysis
Mobile Fault Viewer App

- Available on Android devices
  - Will be available on Apple iOS devices later this year
- Requires ELM327 OBDII Bluetooth adapter and 9-pin interface to connect to ECM
- Reads public fault codes directly from ECM
- Helps prioritize service event
Dataplate Quick Reference

QuickServe Online:

<table>
<thead>
<tr>
<th>Engine Dataplate - (Original) VIN:</th>
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<tbody>
<tr>
<td>Marketing Model Name</td>
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<tr>
<td>ISX15 450</td>
</tr>
<tr>
<td>Service Model Name</td>
</tr>
<tr>
<td>ISX15 CM2250</td>
</tr>
<tr>
<td>EPA Model Name</td>
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<tr>
<td>CCEKH0912XAP</td>
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<td>SO33298</td>
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<td>JEP - JAMESTOWN ENGINE PLANT</td>
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<td>01 Mar 2012</td>
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<td>Warranty Start Date</td>
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<tr>
<td>23 May 2012</td>
</tr>
<tr>
<td>Fuel Pump Calibration</td>
</tr>
<tr>
<td>P847</td>
</tr>
<tr>
<td>CPL #</td>
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<td>CPL3719</td>
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<tr>
<td>Customer Number</td>
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</table>

QuickServe App:

PowerSpec:

Engine Dataplate Report

- Engine Type: ISX 2013
- Engine Serial Number: 0
- Unit Number: 0
- ECM Code: 0
- Software Phase: 9.4.0.35
- Extraction Date: 07/14/2015

ECM Information

- Module Name: CM2350
- ECM Code: EF10112.11
- Software Phase: 9.4.0.35
- ECM Serial Number: 2210094
- ECM Part Number: 5283648

Engine Information

- Engine Model: ISX 2013
- Engine Build Date: 010185
- Engine Serial Number: 0
Cummins Youtube Channels

https://www.youtube.com/user/CumminsEngines

https://www.youtube.com/user/CumminsWestport

https://www.youtube.com/user/CumminsPower

https://www.youtube.com/user/CumminsWestport

https://www.youtube.com/user/FleetguardFiltration

https://www.youtube.com/user/FleetguardFiltration
ISX15: The Leading Engine Choice

Fuel Economy Leadership

Superior Reliability & Durability

Lowest Cost of Operation

Unmatched Uptime & Support
Thank you for your time
Appendix
Why Downsizing?

Leveraging Diesel’s Torque

- New Diesel technology enabling delivery of more Torque sooner
- Highway cruising at lower RPMs
- Power demand can be met while in “Sweet-Spot”

Tractor Chassis Improvements
Reducing Cruise Speed Road Load
@Cruise level road: 215HP, now 160HP
# DEF Level Notifications - Simplified

<table>
<thead>
<tr>
<th>DEF (Urea) Gauge</th>
<th>Notification (audible OEM’s option)</th>
<th>Inducement (Each stage has a fault code associated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% reserve excluded in gauge</td>
<td>Lamp</td>
<td>None</td>
</tr>
<tr>
<td>&gt;10% full</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
| **Stage 1**  
Minimum 10% full  
(trimmable between 10-60%) | DEF Lamp solid | None |
| **Stage 2**  
From minimum of 2.5% to before tank is empty  
(trimmable between 2.5-50%) | DEF Lamp solid  
Check Engine Lamp solid | 25% torque derate |
| **Stage 3**  
1% or (low level and fail to prime) | DEF Lamp flashing  
Check Engine Lamp solid | 40% torque derate and begin search for severe inducement |
| **Stage 4**  
After engine has been intentionally shut down or fuel re-fill or idle continuously for > 1 hr. | DEF lamp flashing  
Check Engine Lamp solid  
Stop Engine Lamp solid | Torque derate & vehicle speed limited to 5 mph after one of the 3 possible triggers are met. |
Power Cylinder Enhancements

- Reducing oil consumption and improving uptime for our customers
  - Anti-polishing ring
    - Overhangs liner bore
    - Scrapes piston top land carbon deposits
    - Maintains piston carbon deposit thickness that will not contact the cylinder liner and accelerate bore polish
  - Smoother bore surface finish
    - Liner crosshatch has been modified to reduce residual oil in the combustion chamber
  - Lower flow valve stem seal
- Reduced oil consumption by ~40%