FREIGHTLINER
TRUCK CENTER
COMPANIES
NEBRASKA | KANSAS | IOWA
TRAINING CENTER

Engine Course Descriptions

DD15 Major Repair
Course Code: CEP01

Overview
This course will cover the disassembly and reassembly of the DD15 engine with emphasis on the air, coolant, lube and fuel systems. The course will also include special tools to be used and a basic diagnostic overview of the high pressure common rail fuel system. During reassembly, students will learn how to properly set up the gear train and gear lash as well as setting the valve and jake brake lashes. Upon complete assembly, the engine is tuned and will perform on a fully operational engine dynamometer under normal operating conditions. Program includes both classroom lectures and practical hands-on exercises.

What Will Be Covered
- General construction and operation principles
- New tooling
- System components and functions
- Common rail fuel system overview
- Fuel system flow and basic diagnostics
- Engine overhaul procedures and specifications
- DDEC VI electronics
- Tune up procedures
- Preventive maintenance

Length of Course
This 5-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OED03 – 2007 Aftertreatment System
OED04 – 2007 Basic Diagnostics
OER01 – DDEC Reports
OEP09 – Product Intro - DD15 Base Engine
OEP16 – Product Intro - DD15 Fuel
OEP10 – Product Intro - DD15 Cooling
OEP11 – Product Intro - DD15 Tune-Up
OEP12 – Product Intro - DD15 Air System
OEP13 – Product Intro - DD15 Lubrication
OEP14 – DDEC VI
OEP15 – DD15 Maintenance
OEP17 – DD13 Engine Overview
OEP28 – Coolant Web Course
OEE30 – Virtual Technician Training
OEM15 – Camshaft Housing Assembly – Removal and Installation Procedures
OED18 – Diagnostic Link 8.0 for Detroit Engines
OEL16 – Integrated Detroit Powertrain

DD15 Engine Diagnostics
Course Code: CEP02

Overview
This course is designed to give students a review of the DD15 engine component and sub-system relations. Students will interpret and analyze diagnostic overviews of the EGR system using DDDL along with diagnosing real work failure modes on the engine. Performance and symptom based diagnostics will include learning and understanding the fuel system schematic, flow and pressures. Program includes both classroom lectures and practical hands-on troubleshooting using the latest tools and software.

What Will Be Covered
- EGR system operation, codes and diagnostics
- Fuel system components and failure modes
- Fuel schematic interpretation to pressure readings
- Aftertreatment operation, codes and diagnostics
- Regeneration process and strategies
- MCM/CPC operation and parameterization
- Engine wiring schematic review and exercises
- Vehicle related electronics
- Understanding multiplexing systems

Length of Course
This 5-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Instructor Led Training)
CEP01 – DD15 Major Repair

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OEE31 – G2 Basic Electricity

EPA 2010 Update
Course Code: CEU02

Overview
This course provides technicians with detailed information regarding the changes in the operation, control, diagnostics and repair of the EPA 2010 DD platform engines. Students will use log file data to perform guided diagnostics to examine real life cases of SCR failure modes and OBD based fault codes. Program includes both classroom lectures and practical hands-on troubleshooting using the latest tools and software on a fully functional DD15 SCR simulator.

What Will Be Covered
- MCM / ACM / CPC software overview
- Review of SCR system overview
- Review of SCR configurations
- Review of SCR components and operation
- DEF air system
- DEF fluid system
- DEF coolant system
- Aftertreatment regeneration strategy
- Electronics and diagnostic software
- Elements and rules of On-Board Diagnostics (OBD)
- OBD fault reactions and diagnostics
- Guided fault diagnostics

Length of Course
This 5-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Instructor Led Training)
CEP01 – DD15 Major Repair
CEP02 – DD15 Engine Diagnostics

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OEQ13 – Introduction to BlueTec Components
OEU03 – 2010 DD Engine Component Changes
OEQ14 – Introduction to On Board Diagnostics
OEQ12 – Introduction to The BlueTec System
OEM14 – DPF Cleaning Process
OEP18 – DD Engine Fuel System Changes in 2011
OEP19 – The Fuel System Integrity Check Service Routine
OEP20 – Low Pressure Leak Test Procedure
OEP21 – Fuel System Diagnostics

GHG14 Update
Course Code: CEU14

Overview
This 3 day course is designed give students a working knowledge of changes made to the components, systems and diagnostics of the DD engines released to comply with Green House Gas regulations for MY 2014 (GHG14). The material features: Engine and vehicle component changes / System changes and operation with the Air system, Fuel system, Coolant system, Lubrication system, Airless aftertreatment operation, Electronic tools and diagnostics changes. Program includes both classroom lectures and practical hands-on troubleshooting using the latest tools and software on a fully functional DD15 SCR ADS simulator.

What Will Be Covered
- General overview/Cascadia Evolution
- Software tools
- Component overview and changes
- GHG14 DD15AT Air systems
- GHG14 Fuel system changes
- GHG14 DD13/DD16 Overview
- Airless dosing system
- GHG14 Electronic changes
- Virtual Technician (VT) overview
- DT12 transmission overview
- DT12 transmission repair procedures
- Guided fuel system diagnostics
- Guided aftertreatment system diagnostics

Length of Course
This 3-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Instructor Led Training)
CEP01 – DD15 Major Repair
CEP02 – DD15 Engine Diagnostics
CEU02 – EPA 2010 Update

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OEP22 – GHG14 Aftertreatment System
OEP23 – Diagnostics for GHG14
OEP24 – DD Engine Component Changes

Series 60 EGR Major Repair v2
Course Code: CES08

Overview
This course will cover the disassembly and reassembly of the Series 60 EGR engine. Students will learn to correctly repair and overhaul engine components, perform preventive maintenance and tune-up procedures and recognize EGR components. Upon complete assembly, the engine is tuned and will perform on a fully operational engine dynamometer under normal operating conditions. Program includes both classroom lectures and practical hands-on exercises.

What Will Be Covered
- General construction and operation principles
- Fuel system
- Air system
- Lube system
- Cooling system
- Governors and other fuel control devices
- Overhaul procedures and specifications
- Tune up procedures
- EGR components
- Preventive maintenance

Length of Course
This 4-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OES01 – Product Intro - Series 60 Fuel
OES02 – Product Intro - Series 60 Tune-Up
OES03 – Product Intro - Series 60 Cooling
OES04 – Product Intro - Series 60 Air Intake
OES05 – Product Intro - Series 60 Lubrication
OES06 – Series 60 Maintenance
OED06 – Basic Diagnostics
OER01 – DDEC Reports
OES07 – Series 60 DDEC IV-V

Note: *Technicians that have taken the following combinations are grandfathered through and do not have to attend Major Repair v2.*

Pre-EGR Overhaul (1439) + '04 Update (DDC 8879) or
Pre-EGR Overhaul (1439) + '02/'04 Update (DDC 8883) or
Series 60 EGR Major Repair (DDC 8893)

MBE 4000 EGR Major Repair v2
Course Code: CEF01

Overview
This course will cover the disassembly and reassembly of the MBE 4000 EGR engine. Students will learn to correctly repair and overhaul engine components, perform preventive maintenance and tune-up procedures and recognize EGR components. Upon complete assembly, the engine is tuned and will perform on a fully operational engine dynamometer under normal operating conditions. Program includes both classroom lectures and practical hands-on exercises.

What Will Be Covered
- General construction and operation principles
- Fuel system
- Air system
- Lube system
- Cooling system
- Governors and other fuel control devices
- Overhaul procedures and specifications
- Tune up procedures
- EGR components
- Preventive maintenance

Length of Course
This 3-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OEF05 – Product Intro - MBE 4000 Fuel
OEQ03 – Product Intro - MBE 4000 Tune-Up
OEF06 – Product Intro - MBE 4000 Cooling
OEF07 – Product Intro - MBE 4000 Air Intake
OEF04 – Product Intro - MBE 4000 Lubrication
OEF03 – MBE 4000 Maintenance
OED06 – Basic Diagnostics
OER01 – DDEC Reports
OEE06 – MBE Electronics

Note: *Technicians that have taken the following combinations are grandfathered through and do not have to attend Major Repair v2.*

Pre-EGR Overhaul (DDC 8858) + '04 Update (DDC 8884) or
MBE 4000 EGR Major Repair (DDC 8885)

MBE 900 EGR Major Repair v2
Course Code: CEN03

Overview
This course will cover the disassembly and reassembly of the MBE 900 EGR engine. Students will learn to correctly repair and overhaul engine components, perform preventive maintenance and tune-up procedures and recognize EGR components. Upon complete assembly, the engine is tuned and will perform on a fully operational engine dynamometer under normal operating conditions. Program includes both classroom lectures and practical hands-on exercises.

What Will Be Covered
- General construction and operation principles
- Fuel system
- Air system
- Lube system
- Cooling system
- Governors and other fuel control devices
- Overhaul procedures and specifications
- Tune up procedures
- EGR components
- Preventive maintenance

Length of Course
This 3-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OEN04 – Product Intro - MBE 900 Fuel
OEQ03 – Product Intro - MBE 900 Tune-Up
OEN05 – Product Intro - MBE 900 Cooling
OEN01 – Product Intro - MBE 900 Air Intake
OEN02 – Product Intro - MBE 900 Lubrication
OEN07 – MBE 900 Maintenance
OED06 – Basic Diagnostics
OER01 – DDEC Reports
OEE06 – MBE Electronics

Note: *Technicians that have taken the following combinations are grandfathered through and do not have to attend Major Repair v2.*

Pre-EGR Overhaul (DDC 8859) + '04 Update (DDC 8889) or
MBE 900 EGR Major Repair (DDC 8886)

EPA ’04 Engine Diagnostics
Course Code: CED01

Overview
This course is designed to give students a practical and comprehensive look at all phases of the troubleshooting process for Detroit Diesel and Mercedes Benz electronics. Students will learn to effectively gather and assess preliminary information prior to beginning the diagnostic process and therefore develop an effective methodology by examining real life cases in an interactive dialog format. Program includes both classroom lectures and practical hands-on troubleshooting of faults using the latest electronic tools.

What Will Be Covered
- Legacy Pre-EPA ’07 engine platforms – Series 60, MBE 900 & MBE 4000
- Utilizing available resources – DDCSN website
- Basic electrical theory, concepts and tools
- Practical problem solving using snap shot data
- Practical problem solving methods to examine fuel economy issues
- Practical problem solving for issues related to incorrect parameter settings
- Understanding cylinder misfire diagnostics using electronic tools
- Reading and interpreting wiring schematics and diagrams

Length of Course
This 5-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Instructor Led Training)
Series 60 Major Repair ILT (CES08 or equivalent) or MBE 4000 Major Repair ILT (CEF01 or equivalent) or MBE 900 Major Repair ILT (CEN03 or equivalent)

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OER01 – DDEC Reports
OED06 – Basic Diagnostics
OES07 – Series 60 DDEC IV-V
OEE06 – MBE Electronics

2007 Product Update
Course Code: CEU01

Overview
This course provides technicians with detailed information regarding the changes in the operation, control, maintenance and repair of the DTNA legacy EPA '07 engines. Program includes both classroom lectures and practical hands-on exercises along with log file recording, retrieving and interpretation.

This course will include coverage of all three DTNA legacy product lines. (Series 60 / MBE 900 / MBE 4000)

What Will Be Covered
- Maintenance procedures and changes
- Component changes to all engine platforms
- Advanced diagnostic software DDDL 7.xx
- Log file interpretation
- DDEC VI electronics
- Aftertreatment system component review
- Aftertreatment system operation review
- Diagnostic fault codes
- New tooling
- ULSD fuel / CJ-4 oil

Length of Course
This 4-day course begins at 8:30 am and ends at 4:30 pm each day.

Prerequisites (Instructor Led Training)
EPA '04 Certified in one of the following engines:

Series 60
MBE 4000
MBE 900

Prerequisites (Web-Based Training)
Web-Based Training Courses & Exams: Accessfreightliner.com > Aftermarket Resource Center (ARC)

OED04 – 2007 Basic Diagnostics
OED03 – 2007 Aftertreatment System

At least one of the following engine update exams:

OEF02 – 2007 MBE 4000 Engine Update
OEN06 – 2007 MBE 900 Engine Update
OES09 – 2007 Series 60 Engine Update

DISCLAIMER
Due to the demand for training in certain classes, training dates may be added or cancelled without notice. Please check the schedule on our website at **www.truckcentercompanies.com/training** *or contact us to ensure that the training date you require is still available before submitting an application. The Training Center reserves the right to cancel or reschedule any class.*