



DEUTZ Corporation
3883 Steve Reynolds Blvd.
Norcross, Georgia 30093
U.S.A.
Tel: (770) 564-7100
Fax: (770) 564-7222

ENGINE TRAINING (Train the Trainer)

The “Train the Trainer” Schools may cover 1 (one) or 2 (two) engine families in theory and practice (depending upon engine size). Engine and system related updates will be included. In the theoretical session all system functions, components with their function and design features, assembly, adjustments and test procedures will be explained. System and component failure symptoms will be explained in their appropriate theoretical session.

The Training Program is laid out as follows:

2 Days Theory

2 Days Practice

1 Day Presentation Practice and Evaluation.

1st Day Basics and specific engine-related subjects

2nd Day Specific engine related subjects

3rd Day Engine Disassembly

4th Day Engine Rebuild

5th Day Presentation Practice



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1st Day Basics and Specific Engine Related Subjects

- Introduction of Deutz Corporation
- Diesel engine basics
- Name plates, differences and content (Deutz, MSHA, EPA, Rating Change)
- Declaration of power (Power Ratings, SAE Horse Power, Metric Horse Power)
- Engine Identification (ISO)
- 4 - Stroke Principle
- Combustion Requirements
- Air Induction System (Air Cleaner, Restriction Warning Devices)
- Combustion System (Direct-, Indirect Injection, Naturally Aspirated, Turbo-Charged)
- Combustion Process (Naturally Aspirated, Turbocharged, Charge Air, Exhaust System)
- Basic Fuel Injection System (Tank, Lines, Lift Pumps, Filters, Injection Pumps)
- Pump Function (Plunger & Barrel, Fuel Metering, Delivery, Delivery Valve)
- Specific Engine Related Subjects (First Engine)
- Engine Family (Size, Power Output, Components)
- Name Plate Location
- Engine Designation
- Engine Specific Fuel System (Injection Pump, Pump Drive)
- Fuel Injection Pump Installation
- Injection Pump Timing
- Speed Governor Design and Function



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1st Day, continued Basics and specific engine related subjects

- Connecting Rod and Bearing Assembly
- Connecting Rod and Piston Assembly
- Piston and Piston Rings (Design for Turbocharged and/or Naturally Aspirated Engines)
- Cylinder Surface Treatment

2nd Day Specific Engine Related Subjects

- Specific Engine Related Subjects (First Engine), continued
- Cylinder Head Design and Repair
- Setting Piston Crown Clearance
- Aneroid Device
- Crankcase Ventilation System
- Cooling System (Function, Repair and Maintenance)
- Engine Specific Lube Oil System (Cooling and Oil Flow)
- Engine Specific Electrical Wiring
- Engine Specific Starting Aid
- Specific Engine Related Subjects (Second Engine)

Same Subjects are covered as above



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3rd Day Engine Disassembly

- Introduction of Engine
- Indicating Locations and Components
- Disassembly of Engine
- Removal of Valve Train, Cylinder Head, Pistons, Connecting Rods
- Removal of Cylinders, Gear Train, Camshaft, Crankshaft

4th Day Engine Rebuild

- Engine Assembly in accordance with factory procedures and specifications
- Using Engine Specific Special Tools
- Measure Clearances, Adjust Tolerances
- Fuel Injection Pump(s) Installation
- Fuel Injection Timing
- Engine Preparation for Start Up
- Engine Test Run



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5th Day Presentation Practice

- The Trainee will perform a 10 to 15 minute presentation of his / her own choice in front of the "Train the Trainer" attendees.
- The school attendees are going to evaluate every presentation.

The program is laid out to make sure the instructor presents the training program to his audience following the approved and safe working procedures as specified and accepted by DEUTZ AG.

At the end of the training seminar all participants will receive a certificate.

With the completion of this seminar, the participant can perform training on the Deutz Engine product line. The participant is also permitted to hand out training certificates in the name of his company. This certificate may show his company's and Deutz' logo. DEUTZ Corporation will also issue a Technician Certification Number to those that have attended a training school conducted by a DEUTZ Corporation certified Instructor.

The people that have been trained by this instructor will be accepted by Deutz Corporation, Atlanta to perform warranty work.