Diesel Engines
This course provides a strong introduction to the operation and maintenance of the Caterpillar Model 16C M32 diesel engine. Students leave the classroom with an in-depth knowledge of basic four-cycle engine operation, engine construction, operating guidelines, pre-start checks, engine operating procedures, and troubleshooting.

I. Overview of Four-Cycle Engines

II. Basic Four-Cycle Engine Operation
   · Intake Stroke
   · Compression Stroke
   · Power Stroke
   · Exhaust Stroke

III. Engine Construction
   · Engine Housing
   · Oil Pan
   · Cylinder Head
   · Pistons
   · Connecting Rods
   · Cylinder Liner
   · Crankshaft
   · Vibration Damper
   · Flywheels
   · Bearings
   · Lubrication Systems
   · Fuel System
   · Cooling System
   · Governor

IV. Operating Procedures
   · Engine Operating Guidelines
   · Pre-Start Checks
   · Engine Operating Procedures
   · Troubleshooting

V. Maintenance
   · Maintenance System
   · Safety Instructions
   · Periodic Maintenance Schedule – Heavy Fuel
   · Engine Maintenance
   · Cylinder Head Maintenance
   · Cylinder Liner Maintenance
   · Crankcase Relief Valve Inspection/Checking
   · Piston and Connecting Rod Maintenance
   · Bearing Maintenance
   · Crankshaft Web Deflection Check
   · Bearing Shells and Bearing Bushes
   · Camshaft Maintenance
   · Compressed Air System Maintenance
   · Fuel System Maintenance
   · Turbocharger, Charge Air Cooler, and Exhaust Manifold
   · Lubricating Oil System Maintenance
   · Engine Auxiliary Equipment Maintenance