



شركة ميرك العربية السعودية
MEIRC Saudi Arabia

Diesel Engine Maintenance & Troubleshooting

Duration 5 Days

Introduction

This course is designed for Diesel mechanics who are looking for further instruction in troubleshooting marine diesel engine failures and diesel maintenance and repair. Participants receive both demonstration and hands-on training on working diesel engines.. They will perform many of the following maintenance and repair procedures below.

Who Should Attend

Engineers and technicians.

Course Objectives

At the end of the program participants will be able to:

- Define the fundamentals of engine and component diagnosis.
- Explain engine performance test procedures following manufacturers recommendations and safe work practices.
- Perform engine component and system failure analysis.

Course Outlines:

1. Troubleshooting

- 1.1. Failure to crank
- 1.2. Failure to fire
- 1.3. Overheating
- 1.4. Smoking (white, blue, black)
- 1.5. Misfiring
- 1.6. Knocking
- 1.7. Runaway
- 1.8. Hunting
- 1.9. Hydrostatic Lock
- 1.10. Transmission Problems

2. Maintenance

- 2.1. Service Cooling System
- 2.2. Perform Compression Test
- 2.3. Adjust Valve Clearance
- 2.4. Service/Rebuild Injector



2.5. Adjust Engine Idle & No Load Wide Open Throttle

2.6. Check Injection Timing

2.7. Engine Alignment

n of this chapter, the participant will be able to:

- identify the different cutting tools used in turning operation by names and their use;
- Explain the principles of metal cutting elements;
- identify material and its properties of each type of cutting tool;
- Explain why continuous chip formation differs from short chip formation; identify forces acting at this cutting point;
- Calculate speed and feed of cutting tools of different materials.

Course Outline

1. Lathe Cutting Tools

- Introduction to Cutting Tools
- The Lathe
- Turning Operation
- Types of Lathe Cutting Tools
- Cutting Tool Materials

2. Milling Machine Cutters

- The Horizontal Mill
- Cutters Used on Horizontal Arbor
- Tooth Shape on Milling Cutters
- Cutter Rotation
- Vertical Milling Attachment
- Vertical Milling Cutters End Mills
- Stub Arbor and Large Diameter Cutters
- Spindle Speed and Feed

3. Files

- Shapes
- Teeth
- Grade of Cut of a File
- Cuts of Files
- Cross-section of Files
- Use of Files
- File Handles and Safety
- Review Questions

4. Saw Blades

- The Hacksaw
- The Hacksaw Blades
- Sizes



- Teeth Set
- Parts
- Materials
- Cutting Speeds

5. Chisels

- Material
- Hot Cold Chisel
- Angles
- Shapes
- Uses
- Standard Sizes

6. Drills

- Parts of the Drill Press
- Shape of Standard Drill Bit 7.3 Types
- Angles
- Drill Point
- Speeds
- Feeds
- Counter Sinking
- Counter Boring
- Drilling Thin Plate
- Safety

7. Reamers

- Long Fluted Machine Reamer
- Machine Chucking Reamer
- Taper Reamers
- Adjustable Reamers
- Counter Boring
- Spot Facing
- Counter Sinking

8. Taps and Dies

- Taps
- Drilling Hole Before Tapping
- Sizes
- Wrenches
- Uses in Order
- Stock and Die
- Review Questions #
- Tapping
- External Threading
- Die Boxes