



## DIESEL/PETROL Mechanic

### Course Duration

On average 27 Months

- 10 Months institutional training
- 15 Months on-the-job
- 02 Months trade test preparation and Trade test

<b>Learner Program Content:</b>
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BASIC PHASE	ADVANCED PHASE
- Maintain a storage battery	- Use measuring instruments
- Maintain hydraulic circuits on a coal cutter	- Plan a drilling work piece
- Maintain air assisted brakes	- Assist with overhauling a manual transmission
- Anti-lock Brake system	- Service a multiple v-belt drive on an engine
- Allowances and tolerances for fits	- Operate oxy-acetylene cutting equipment
- Check and adjust wheel alignment	- Use welding equipment
- Temper and grind a chisel	- Service brake shoes and wheel cylinder
- Examine bearings	- Overhaul a cylinder head assembly
- Mount a bearing manually	- Strip, clean and inspect a differential and final drive
- Remove and mount a bearing mechanically	- Assemble a differential and final drive
- Remove and mount bearings	- Overhaul an injector of a DP fuel system
- Remove and mount a bearing mechanically	- Overhaul an injector of an in-line fuel system
- Course control documents	- Select the gear ratio's on a manual transmission
- Select Conductors and cables	- Overhaul a manual transmission
- Change ,align and adjust caterpillar tracks	- Overhaul a planetary system
- Maintain clutches	- Assist with overhauling a pneumatic brake system
- Strip, inspect and maintain clutches	- Overhaul a propeller shaft
- Common Rail Diesel system	- Overhaul a power transmission
- Remove and replace the injector of a CRD engine	- Overhaul a sub-assembly
- Change ultrasonic sensors	- Overhaul a steering box (non power assisted)
- Test and identify faults in a charging system	- Repair a steering system
- Test the cooling system of a vehicle	- Overhaul and maintain a turbo charger
- Assist with dismantling an engine	- Repair a steering system

- Tune-up on an engine fitted with a distributor or in-line fuel system	- Maintain batteries
- Read Engineering drawings	- Maintain cylinder heads
- Test an engine on a dynamometer	- Maintain fuel systems
- Fault find and repair the hydraulics in mechanised machines	- Maintain lubrication systems
- Fault find hydraulic systems	- Start a four stroke petrol/diesel engine
- Fit split pins and circlips	- Maintain cooling systems
- Fit washers and tighten screws	- Principles of pneumatics
- Overhaul hydraulic brakes	- Construct a circuit with single acting cylinders
- Overhaul a servo-assisted hydraulic brake system	- Fit and adjust a service unit
- Use a file and saw	- Control the speed of a single acting cylinder
- Construct a circuit with rotary motor	- Construct a circuit controlled from two different points
- Principles of hydraulics	- Control the speed of a double acting cylinder
- Construct a circuit with sequenced actuators	- Design and construct a pneumatic circuit
- Construct a circuit with an accumulator	- Set pressure sequence valves
- Make up hydraulic hoses	- Construct and adjust a circuit with a time delay valve
- Diagnose and test a hydraulic circuit	- Pressure test a cooling system
- Test the pump in a circuit	- Service a poly v-belt drive on an engine
- Fit and set a pressure relief valve	- Maintain auto-electrical systems
- Construct a circuit with a single acting cylinder	- Recover a broken down vehicle (Manual/Automatic)
- Construct a circuit with a double acting cylinder	- Replace a canister type oil filter
- Construct a circuit with a check valve	- Remove and Replace the clutch of a vehicle
- Control a circuit with a rotary motion	- Repair a deflated tyre
- Control the speed of an actuator	- Replace an oil filter
- Construct a dual circuit	- Remove and replace an orbitrol steering valve
- Inspect and maintain magnetic belts	- Remove and replace a water pump
- Jack up a vehicle and make it safe	- Strip and clean an air filter
- Inspect and operate a 2/4 post lift	- Select and change bearings
- Lift and move equipment	- Service a Common Rail Diesel Engine
- Do lock-out procedure	- Service an engine with a DP fuel system
- Lubricate and service a vehicle	- Set headlights
- Set a drip feed lubricator	- Service an engine with a in-line fuel system
- Pack a plumber block	- Test and identify faults in a starter motor
- Maintain exhaust brake systems	- Service a pneumatic brake system
- Maintain exhaust brake systems (mechanical)	- Cut and fit gaskets
- Maintain and fault find on the cylinder head of an engine	- Fit seals and packing
- Maintain a storage battery	- Service an engine with a PT fuel system
- Maintain auto-electrical systems	- Service an engine with a PT fuel system
- Inspect and maintain diesel powered equipment	- Safety
- Drill a flange	- Set injectors according specifications
- Sharpen a drill	- Cut a thread with stock and dies

- Maintain a pedestal drill	- Inspect and maintain turbo chargers
- Maintain a pedestal grinder	- Drill and tap holes
-	- Identify threads
-	- Remove and replace universal joints
-	- Service a v-belt drive on an engine
-	- Grind valves

**Entrance Requirements:**

- All requirements for learners and the following:
- Minimum of Grade 12 Maths and Science or Technical N2 Maths and Engineering Science (Minimum of 40% )
- Candidate will require a full N2 (four subjects) to Qualify for a test.