

Workplace Requirements

- Compile parts list
- Manufacture objects: filing, sawing, drilling, tapping, reaming.
- Repair and refill air conditioners for cabs
- Trace and repair faults on worn and faulty components: engine tappets, cylinder head assembly, rocker shaft assembly, cylinder block, camshaft & followers, crankshaft & bearings, piston & rings, connecting rod & bearing, timing gear train, oil pump assembly, flywheel, dampers (crankshaft pulley), crankshaft journals, cylinder liners, oil pump, valve and fuel injection timing.
- Remove and fit bearings: standard ball bearing, thrust ball bearing, straight roller bearing, thrust roller bearing, taper roller bearing, needle bearing, thrust needle bearing; spherical roller bearing
- Fit a bearings to a shaft
- Remove and install locking devices - lock-nuts, dowels, lock-plates, split pins, taper pins and wire method and sir clip, parallel, feather and woodruff key, plain flat washers, split lock washers and toothed washers
- Measure, tighten, torque and torque turn bolts and nuts.
- Maintain, fault find and repair cooling systems: water pump, thermostat, radiator, relief valve (cap), fan and cowling, engine oil cooler, drive belts,
- Electrical Systems: repair and adjust lights, trace test and repair auto electrical components; prepare and solder the following:- wire joints, wire ends; connect, maintain, test, and store batteries, auto electrical repairs using manufacturer manual
- Fuel Systems: bleed the fuel system, remove and test the injector, time the fuel pump to engine, fit fuel filter, set minimum idle R.P.M., set maximum R.P.M., determine cause of a misfire, mechanical governor
- Service vehicle in accordance with manufactures manual
- Remove and replace faulty exhaust systems, turbochargers (turbine wheel, shaft compressor wheel & housing, turbine centre
- Trace and repair faults on worn and faulty components on transmission systems: front wheel drive, rear wheel drive, mechanical gear drive, clutch systems
- Install, maintain and diagnose faults, adjust and repair hydraulic and power take off systems: tubing, flexible hydraulic hoses and fittings, hydraulic pumps (vane, gear, piston), directional control, pressure and flow control valves, hydraulic cylinders, following filters (suction, pressure, return), lifting devices.
- Maintain and adjust wet and dry brake system
- Maintain and repair power assisted steering systems, power steering, mechanical steering system

Workshop Equipment

- Shielded metal arc welding AC / DC machine
- Gas cutting, Heating and Welding Equipment
- Fixed and portable drilling machines
- Fixed and portable grinding machines
- Grinding wheel dresser
- Mechanical / Hydraulic Press
- Drill bits
- Lifting equipment and tackle
- Bench vice
- Oil bath and or induction heater
- Vernier height gauge
- Telescopic Gauge
- Trolley jack
- Dial set indicator
- Bearing puller
- Thread gauge
- Feeler gauge
- Belt tensioned
- Radius gauges
- Cylinder liner
- Work bench
- G-clamps
- Trestles
- Splitting tool
- Measuring instruments:-
 - tachometer
- Measuring instruments:-
 - compressor tester
 - ohmmeter
 - voltmeter
 - ammeter
 - hydrometer
 - dynamometer
 - hydraulic flow meter
 - hydraulic pressure gauge
 - injector tester
 - thermometer
 - timing light
 - Rev counter



Hand Tools

- Tool Box
- Chisels
- Punches
- Tommy bar
- Thread gauge
- Feeler gauge
- Steel tape
- Steel ruler
- Hammer
- Clips
- Callipers (Inside / Outside)
- Hacksaw
- Shifting Spanner
- Scriber
- Screw drivers
- Bevel Gauge
- Combination square
- Dividers
- Pliers
- Vice Grip
- Flange square
- Vernier: depth, inside and outside
- Micrometer: outside, Pliers
- Socket set
- Wrenches (Flat / Rings)
- Hand Files
- Engineering square