



TRAINING SCHEDULE FOR TIMEBASED APPRENTICES

DIESEL FUEL INJECTION PUMP MECHANIC

Introduction to the Industry:	Responsibilities, appearance and attitude in work situation.	28
Safety:	Basic safety precautions applicable in the trade to be practised throughout apprenticeship, with special reference to safe handling and care of hand tools, noxious and flammable gases, liquids and gases under pressure, electrical installations, machine protection, machine and pneumatic tools, grinding wheels, moving and overhead machinery and use of portable fire extinguishers. Theory and practice of first aid.	50
Knowledge of: Hand and workshop tools:	Care and use of tools. Making of work pieces and/or parts using the techniques of chipping, drilling, filing, reaming, sawing, scraping, screwing and tapping. Sharpening of cutting tools. Use of pullers and presses. Dressing, trueing, checking and mounting of wheels on grinding machine. Use of securing, locking and sealing devices.	100
Brazing, soldering and welding:	Knowledge and use of gas and electric welding and soldering processes.	90
Drawings:	Reading and interpretation of drawing from workshop manuals and bulletins and blue.	60
Power unit:	Knowledge of function and different forms of energy and workings of internal combustion engines.	140
Ball, roller and babbitt metal bearings:	Knowledge of types of bearings used in fuel injection systems normally used in the motor industry. Making of simple calculations. Identification of worn and defective bearings.	116
Injector nozzles:	How to handle injector nozzle equipment. Dismantling, inspection and assembly of injectors. Inspection of nozzles to check that nozzles specified by engine makers are used. Inspection and checking of all component parts of injector holders. Inspection of injector needles and nozzles to decide whether they can economically be reconditioned or whether replacement is necessary. Knowledge and use of the suction fan. The selection of correctly ground angles on	

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	lapping pins to restore seat angles as originally specified. Regrinding of needles to the angles originally specified. Use of special lapping pastes. Checking of spray characteristics and needle lift. Final assembly of injector. Testing, setting to specified breaking pressure. Reconditioning of injectors. Maintenance of injector nozzle equipment. Nozzle cleaning theory.	500
Fuel pumps:	Dismantling and assembling of single and multi-cylinder, non-camshaft fuel pumps. Dismantling and assembling of in-line fuel pumps with camshafts, mechanical or pneumatic governors; transfer (or primary) pumps. Dismantling, inspection, replacing of worn parts, re-assembling, checking and calibrating of fuel pumps with hydraulic governors. Dismantling inspection, replacing of worn parts, re-assembling, checking and calibrating of rotary type fuel pumps.	978
More advanced work:	Calibration of in-line fuel pumps. Knowledge of the reading of basic calibrating charts and how to apply this to fuel pumps on testing machines. Setting of basic and maximum fuel readings. Checking and setting governors for maximum and idling speeds. Testing primary pumps for pressures and delivery. Removing and replacing of fuel pumps and injectors from vehicles. Checking and resetting of timing. Fault finding. Maintenance of calibrating equipment. Knowledge of fuel injection systems.	818
Revision and independent work:		

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