



merSETA
MANUFACTURING, ENGINEERING
AND RELATED SERVICES SETA

TRAINING SCHEDULE FOR TIMEBASED APPRENTICES

MOTORCYCLE & SCOOTER 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. Annealing of materials.	90
Drawings:	Reading and interpretation of drawings from workshop manuals and bulletins.	60
Power unit:	Knowledge of function and different forms of energy. Knowledge of workings of petrol engines.	156
Systems:	Function and composition of fuel, exhaust, cooling and lubrication systems.	156
Electrical principles:	Knowledge of batteries, volts, amps, ohms, watts. Knowledge of magnetism. Function of distributor, magnetos, coils and spark plugs. Elementary knowledge of starter motors, alternators and regulators.	140

Document Title	Time Based Training Schedule-Motorcycle and Scooter Mechanic		
Document Number	LPM-TS-007	Date Compiled	01 August 2009
Page Number	Page 1 of 3	*Last Revision Date	
Revision Number	Rev 00	Access	Controlled
Review: Learning Programme Manager		Approved: CEO	

Ball, roller and babbitt metal bearings:	Knowledge of types of bearings used in the motor industry. Making of simple calculations. Identification of worn and defective bearings.	116
Clutches:	Knowledge of all types of clutches used in the motor cycle industry.	124
Gearboxes:	Knowledge of simple gearbox principles. Calculating simple gear ratios. Knowledge and identification of various kinds of gear systems.	132
Drive shafts:	Knowledge of purpose of drive shafts. Types of joints. Use of lubricants. Knowledge of purpose of sprockets and chains. Making of simple calculations of ratios.	132
Final drive:	Knowledge of theory of crown wheel and pinion drive type rear axles. Calculating simple ratios. Use of dial test indicators. Knowledge and identification of differential types and type of axles. Removing and replacing rear wheel bearings.	140
Wheel and tyres:	Identification of wheel types, rim and tyre sizes, causes of tyre wear and failure. Removal, adjustment and replacement of front wheel bearings. Removal and replacement of wheels, tyres and tubes. Balancing of wheels.	132
Suspension and steering systems:	Knowledge of composition of coil springs and shock absorbers units. Identification of all sections of suspensions commonly used in the motor cycle industry.	70
Brakes:	Knowledge of friction laws and ability to identify composition of friction materials. Ability to correctly remove, replace and adjust braking mechanisms commonly used in the motor industry.	70
Lubrication and servicing:	Application of maintenance schedules lubricants and materials. Maintenance of batteries, filters.	132
Cooling systems:	Maintenance of cooling systems.	132
Engine tuning:	Running and minor tuning adjustment, eg: carburettors, ignition, plugs, points and timing.	132

Document Title	Time Based Training Schedule-Motorcycle and Scooter Mechanic		
Document Number	LPM-TS-007	Date Compiled	01 August 2009
Page Number	Page 2 of 3	*Last Revision Date	
Revision Number	Rev 00	Access	Controlled

Replacement and servicing of components:	Removal and replacement of engine assemblies and system components such as cooling, fuel, electrical and exhaust systems, clutches, gearboxes, propeller shafts, universal joints, sprockets and chains, rear axle assemblies, front and rear suspension components, mechanical and hydraulic brake components wheel bearing, front and rear, and electrical lighting systems. Diagnose and remedy by application of differentiation between wear requiring replacement or adjustment.	639
Sketches and diagrams:	Making sketches of mechanical parts and elementary auto electrical circuits. Reading and interpretation of drawings, signs and symbols, and elementary wiring diagrams.	90
Advanced practical training: Engine units – overhauling and fitting of parts:	Dismantling and complete assembling of engine including overhauling and fitting of the following parts: Pistons, rings and gudgeon pins, main and big end bearings, cylinder heads, valve trains.	281
Inspection and assessment of wear:	Location and identification of fault in cylinders, on crankshaft, main and big end journals, camshaft journals, valve trains and cylinder heads.	281
Assessment of wear and overhauling of systems and units:	Overhaul, assess for wear, reassemble and adjust, where necessary, of clutches, gearboxes, propeller shafts, sprockets and chains, final drive, front axle and rear axle assemblies, steering boxes and switches, suspension systems and brake systems. Location of faults by systematic trouble shooting and adjustment and/or replacement of worn or faulty components and parts. Repair and/or replacement of faulty assemblies.	282
Frame and swing arm alignment:	Knowledge of frame and swing arm alignment.	80
Testing equipment and gauges:	Correct use of vacuum gauge, compression tester, amp, volt, tacho and dwell angle meters, timing lights, exhaust gas analysers, condenser and coil testers, spark-plug cleaners and testers.	200
Major service:	Carrying out major tune-ups of carburettors and ignition systems.	200
Revision and independent work:		

Document Title	Time Based Training Schedule-Motorcycle and Scooter Mechanic		
Document Number	LPM-TS-007	Date Compiled	01 August 2009
Page Number	Page 3 of 3	*Last Revision Date	
Revision Number	Rev 00	Access	Controlled