

DIESEL MECHANIC: PHASE I
On-The Job Training Record
Apprenticeship: Log Book
[OFO Code: 653306]

Contract No:																			
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Trade Name:	Diesel Phase I
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Employer details:	
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Full Name:	
Surname:	

ID No:																			
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NOTE: The total number of hours allocated to the subjects are applicable to the year in which the apprentice is completing.

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Apprentice Name:													
ID No:													
NO	GUIDE/SUBJECT/TOPIC										START DATE		END DATE
1	Induction												
2	Overview												
3	Fasteners												
4	Hand Tools												
5	Care & Use of Measuring Equipment												
6	Engineering Materials												
7	Bearings & Bushes												
8	Basic Engineering Drawings												
9	Gaskets & Seals												
10	Power Tools-Electric & Pneumatic												
11	Sling Load & Lifting Equipment												
12	Fuse & Cut Metals												
13	Fundamentals of the Motor Trade												
14	LDV & HDV Basic Vehicle Lube Service												

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GUIDE/SUBJECT/TOPIC: INDUCTION											Ref No: I		
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Record of Occupation Trade experience and or Institutional Training													
JOB CARD NO	DETAILS OF WORK DONE								DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN	
	1. MEET RELEVANT COLLEAGUES.												
	2. TOUR OF WORKPLACE/ DEALERSHIP.												
	3. DEALERSHIP STRUCTURE												
	4. HEALTH AND SAFETY BRIEFING.												
	5. FINALISE ALL NECESSARY DOCUMENTS												
	6. COMPANY CONTRACT, POLICIES, STANDARDS, GUIDELINES, PROCEDURES (ALL AGREEMENTS: GRIEVANCE, DISCIPLINARY COMPANY RULES & QUALITY ASSURANCE PROCEDURES)												
	7. UNDERSTAND YOUR ROLE AS APPRENTICE.												
	8. TRAINING PATHWAY FOR THIS PROGRAMME.												
	9. PERFORMANCE APPRAISALS												
	10. TRAINING INSTITUTION												
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GUIDE/SUBJECT/TOPIC: OVERVIEW											Ref No: 2		
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JOB CARD NO	DETAILS OF WORK DONE								DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN	
	11. VEHICLE SYSTEM TERMS (ENGINE SYSTEM OVERVIEW)												
	12. ELECTRICAL SYSTEM OVERVIEW												
	13. HEATING AND AIR-CONDITIONING OVERVIEW												
	14. SAFETY												
	<ul style="list-style-type: none"> PPE: Safety Glasses, Steel-Toed Shoes, Gloves, Behaviour: Lifting & shop cloth disposal. 												
	<ul style="list-style-type: none"> Fire Extinguishers: Recall types of fire extinguishers 												
	<ul style="list-style-type: none"> First Aid: Location of equipment, kit content, processes, and procedures. Attend a first aid course. 												
	<ul style="list-style-type: none"> Hazardous Waste: Types of automotive waste products, storage and disposals, methods and rules. 												
	<ul style="list-style-type: none"> Recall a standard industrial safety course accredited by the industry. 												
	<ul style="list-style-type: none"> Recall Acts: <ul style="list-style-type: none"> Occupational Health and Safety Act (Act No 85, 1993). 												
	15. TRAINING INSTITUTION												
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JOB CARD NO	DETAILS OF WORK DONE <i>[Identify and use measuring, checking, forming, cutting, marking and fastening tools and tooling aids]</i>	DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN
	19. WRENCHES/ SPANNERS				
	20. SCREWDRIVERS				
	21. ALLEN KEYS				
	22. PLIERS				
	23. PUNCHES AND CHISELS				
	24. FILES				
	25. HACKSAWS				
	26. CUTTERS				
	27. STOCKS AND DIES; TAPS AND WRENCHES				
	28. MARKING OFF TOOLS				
	29. TRY SQUARE				
	30. THICKNESS GAUGES				
	31. ENGINEERS VICE				
	32. TRAINING INSTITUTION				
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JOB CARD NO	DETAILS OF WORK DONE	DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN
	33. LINEAR MEASUREMENTS:				
	• Use a vernier - depth, inside and outside				
	• Use a tape measure and steel rule.				
	• Use a calliper - inside and outside.				
	34. USING MICROMETRE'S:				
	• Outside Micrometer				
	• Inside Micrometer				
	• Depth Micrometer				
	35. USING GAUGES:				
	• Telescopic gauges				
	• Ball gauges				
	• Dial gauges				
	36. TRAINING INSTITUTION				
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GUIDE/SUBJECT/TOPIC: BEARINGS & BUSHES											Ref No: 7	
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JOB CARD NO	DETAILS OF WORK DONE	DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN							
	41. BUSHES (Maintenance & Installation (Disassemble, assess, and assemble). (OEM Specification - compliance)											
	42. RECALL TYPES OF BEARING FAILURES AND THEIR CAUSES.											
	43. BEARINGS (Maintenance & Installation): Renewal and adjustment. <ul style="list-style-type: none"> • Standard Ball Bearing. • Thrust Ball Bearing. • Straight Roller Bearing. • Thrust Roller Bearing. • Taper Roller Bearing • Needle Bearing. • Thrust Needle Bearing. • Spherical Roller Bearing. • Friction bearing. 											
	44. BEARINGS (Methods and processes) <ul style="list-style-type: none"> • Remove a bearing using a puller and press. • Fit a bearing to a shaft using a press. • (Grease: Pack the bearing) • Fit a roller bearing to a shaft by heating. <i>(Note: No contamination or damage to components or bearings).</i>											
	45. TRAINING INSTITUTION											
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GUIDE/SUBJECT/TOPIC: BASIC ENGINEERING DRAWINGS	Ref No: 8
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	46. READ, INTERPRET BASIC ENGINEERING' DRAWINGS (Pertaining to the trade).				
	47. IDENTIFY THE BASIC COMPONENTS OF AN ENGINEERING DRAWING				
	48. IDENTIFY ORTHOGRAPHICAL PROJECTION				
	49. MAKE FREE HAND SKETCHES (Including plan, front and side elevations).				
	50. TRAINING INSTITUTION				
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	54. ELECTRIC TOOLS: (Recall all power safety rules)				
	<ul style="list-style-type: none"> • Pedestal grinder (Use fixed and portable grinding machines including replacing, setting, truing and ringing of wheels.) • Pedestal drill press (Use fixed drilling machines. (Included: Identify their types and uses) • Hand drill (Use portable drilling machines. (Included: Identify their types and uses) • Recall drill bits and their uses. 				
	55. PNEUMATIC TOOLS: (Recall safety rules)				
	Air Compressor (Operations, parts)				
	<ul style="list-style-type: none"> • Impact Wrench (Operations, parts) • Air Ratchet (Operations, parts) • Air drill (Operations, parts) 				
	56. WORKSHOP LIGHTS				
	<ul style="list-style-type: none"> • Fluorescent light, Lead light 				
	57. TRAINING INSTITUTION				
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GUIDE/SUBJECT/TOPIC: SLING LOAD & LIFTING EQUIPMENT											Ref No: 11			
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JOB CARD NO	DETAILS OF WORK DONE										DATE	HOURS	MENTOR SIGN	APPRENTICE SIGN
	58. LIFTING													
	59. RECALL LIFTING EQUIPMENT <i>(Working load within equipment safe working load.. Correct method of slinging.. No kinks in wire rope slings and chain slings. No damage to equipment.)</i>													
	60. HOSTING SIGNALS:													
	<ul style="list-style-type: none"> Recall and demonstrate Hosting and hand signals. 													
	61. SLINGS:													
	<ul style="list-style-type: none"> Use the following equipment: <ul style="list-style-type: none"> Wire rope slings: 20mm diameter Shackles. Recall their methods and working loads. Chain Slings (Include inspections & Safe use) Rope, Chain & Tackle 													
	62. HOISTS													
	<ul style="list-style-type: none"> Recall the Coffin Hoist, Mobile Gantry, Engine Crane, Vehicle hoist <i>(Correct use, working load, safety)</i> 													
	63. FLOOR JACKS <i>(Correct use, working load, safety)</i>													
	64. TRAINING INSTITUTION													
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GUIDE/SUBJECT/TOPIC: FUSE & CUT METALS	Ref No: 12
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	65. SOFTSOLDER: <i>(Note: No dry joints. Joint to be mechanically and electrically sound).</i>				
	<ul style="list-style-type: none"> Identify tools and equipment used 				
	<ul style="list-style-type: none"> Prepare and solder: - Wire joints, Wire ends 				
	66. ARC WELDING /FLUX CORED ARC WELDING:				
	<ul style="list-style-type: none"> Recall safety working conditions (Including PPE/ Hazards, etc.)) 				
	<ul style="list-style-type: none"> Identify and set up AC and/or DC Machines, equipment including starting up and shutting down procedures. 				
	<ul style="list-style-type: none"> Differentiate between arc welding consumables 				
	<ul style="list-style-type: none"> Prepare material for arc welding (Including workpiece). 				
	<ul style="list-style-type: none"> Tack and arc weld workpieces incidental to the trade using manual arc welding techniques. Ensure all welding rods and current settings are correct) 				
	<i>(Note: Correct according to manufacturer's handbook and specifications. All safety aspects adhered to. Correct according to company welding procedures and practices with regard to weld joint preparation, voltage, amperages, and welding consumables).</i>				
	67. OXY ACETYLENE WELDING:				
	<ul style="list-style-type: none"> Recall safety working conditions (Including PPE/ Hazards, equipment (hoses are in good conditions), ventilations, etc.) 				

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	<ul style="list-style-type: none"> Identify and set up oxygen-fuel gas equipment including light up, adjustment of gas pressures and shut down procedures. 				
	<ul style="list-style-type: none"> Differentiate between brazing and gas welding consumables. 				
	<ul style="list-style-type: none"> Prepare material for gas welding. 				
	<i>Note: Correct according to manufacturer's handbook and specifications. All safety aspects adhered to. Correct to company brazing and gas welding procedures with regard to joint preparation including brazing and gas welding consumables.</i>				
	68. GAS CUTTING AND HEATING				
	<ul style="list-style-type: none"> Recall safety working conditions (Including PPE/ Hazards, equipment, ventilations, etc.) 				
	<ul style="list-style-type: none"> Identify and assemble gas cutting and heating equipment, including light up and shut down procedures. All steps are followed. 				
	<ul style="list-style-type: none"> Select nozzles and gas pressures for cutting and heating different materials of various thicknesses. 				
	<ul style="list-style-type: none"> Hand cut and heat materials incidental to the trade. 				
	<i>(Note: Correct method and procedure according to safety standards)</i>				
	69. BRAZING				
	<ul style="list-style-type: none"> Recall safety working conditions 				
	<ul style="list-style-type: none"> Identify and set up of equipment and procedures. 				
	<ul style="list-style-type: none"> Recall brazing consumables. 				
	<ul style="list-style-type: none"> Prepare material for brazing and apply techniques. 				
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	70. RECALL NAMES AND FUNCTIONS OF VEHICLE COMPONENTS				
	<ul style="list-style-type: none"> • The body 				
	<ul style="list-style-type: none"> • The Chassis 				
	<ul style="list-style-type: none"> • The drive train and its parts 				
	71. COOLING SYSTEMS (Safety precautions when working on cooling systems).				
	<ul style="list-style-type: none"> • Describe the functions of the following components: <ul style="list-style-type: none"> – thermostat. – radiator. – water pump. – fan and cowling. – engine oil cooler. 				
	<ul style="list-style-type: none"> • Explain: - <ul style="list-style-type: none"> – anti-freeze effect on boiling point. – altitude / pressure / boiling point relationship chart. 				
	<ul style="list-style-type: none"> • Remove, recondition and install water pump 				
	<ul style="list-style-type: none"> • Remove and install an oil cooler and a thermostat. (All safety aspects adhered to No fluid leaks). 				
	<ul style="list-style-type: none"> • Fill cooling systems (Correct level and all air expelled). 				
	<ul style="list-style-type: none"> • Carry out pressure tests on cooling systems. 				

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	<ul style="list-style-type: none"> • Test thermostat opening temperatures (outside machine) 				
	<ul style="list-style-type: none"> • Carry out a pressure test on oil coolers 				
	<ul style="list-style-type: none"> • Test radiator top and bottom tank differential temperatures. 				
	<ul style="list-style-type: none"> • Add additives to a given cooling system 				
	<ul style="list-style-type: none"> • Check and replace pulleys where necessary. 				
	72. FUEL SYSTEM (All safety aspects adhered to)				
	<ul style="list-style-type: none"> • Carburettor (All its components) 				
	<ul style="list-style-type: none"> • Petrol Fuel Injection system • Identify the main parts. • Carry out the following operations on a diesel engine fitted with an in-line fuel system - <ul style="list-style-type: none"> – bleed the fuel system. – remove and test the injector. – time the fuel pump to engine. – fit fuel filter. – set minimum & / set maximum idle R.P.M. • determine cause of a misfire 				
	<ul style="list-style-type: none"> • Common rail diesel fuel injector system (Identify the main system). 				
	<ul style="list-style-type: none"> • Dismantle, replace, adjust and calibrate components in various types of fuel systems. 				
	<ul style="list-style-type: none"> • Trace faults and repair fuel systems. 				
	73. ENGINE				
	<ul style="list-style-type: none"> • Explain Petrol Combustion Process (Spark Ignition Engine). 				
	<ul style="list-style-type: none"> • Explain diesel Combustion Process. 				
	<ul style="list-style-type: none"> • Explain engine classifications. 				
	<ul style="list-style-type: none"> • Explain engine layout. 				

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	<ul style="list-style-type: none"> • Explain engine components: <ul style="list-style-type: none"> – Turbocharger. – Starter motor. – Alternator. – Clutch. – Manual gearbox. – Heavy duty retarder. – Automatic Transmission. – Propshaft. – Driveshaft, and CV joints. – Differential. – Exhaust system. – Wheels & Tyres. – The braking system. 				
	74. TRAINING INSTITUTION				
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GUIDE/SUBJECT/TOPIC: WORK EXPERIENCE AND INDEPENDENT WORK	Ref No: 15
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	79. ON THE JOB EXPERIENCE AND INDEPENDENT WORK				
	<ul style="list-style-type: none"> This should cover at least 80% of all modules to ensure as wide as possible field of experience and must take place under supervisory control. 				
	<i>(Note: All work done to be recorded with respect to performance standards.)</i>				
Total					

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