



Technical, Entrepreneurship and Vocational Education and Training Authority (TEVETA)

CRAFT CERTIFICATE IN AUTOMOTIVE MECHANICS (YEAR I)

Record of Practical Assessment

Learner`s Name: _____

Learner`s NRC No.:_____

Learner`s TEVETA No.:_____

Institution Name: _____

Institution TVA No.:_____

Assessment Period: _____

PREFACE

The Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) is an institution created under the Technical Education, Vocational and Entrepreneurship Training Act Number 13 of 1998, as amended by the Technical Education, Vocational and Entrepreneurship Training (Amendment) Act Number 11 of 2005.

The Act among other things provides that TEVETA shall:

- (a) regulate and conduct national examinations and assessments relating to technical education, vocational and entrepreneurship training;
- (b) charge and collect fees in respect of examinations, assessments and other services provided by the Authority;
- (c) award certificates to persons who succeed in examinations and assessments undertaken under this Act
- (d) do all such things connected with or incidental to the functions of the Authority under this Act.

Through this mandate, the Assessment and Qualifications Division of TEVETA has developed Practical Assessment Tool Kits to enable learners achieve the competences that are congruent with the demand of the workplace tasks. These tool kits in part are also intended to ensure that similar conditions under which all students in TEVET are assessed and examined apply wherever the course is undertaken in Zambia.

The Trainers shall work with the Learners to collect evidence of competence, using the benchmarks provided by the unit standards. During the year, the Learners shall be required to undertake a series of practical assessment tasks. It is the sum of all these assessments tasks that deems a Learner to be competent (or not).

This approach to assessment is not a one-off event but one that gives learners many opportunities to demonstrate skill and allow for the capturing and recording of these demonstrations.

For the Learner to be deemed competent, they must demonstrate competency in every aspect of the practical tasks being undertaken. It must however be understood by the Trainer that Competency does not mean expert. It means that the candidate has attained sufficient skill and knowledge to perform the activity or service to a degree and quality that is acceptable to the industry and the customer in a time within which a competent person at the level could reasonably be expected to perform the task.

While this will be undertaken at institutional level, it is therefore envisaged that the Assessment principles of VALIDITY, RELIABILITY, FAIRENESS and FLEXIBILITY shall at all times be adhered to.

Pre-Assessment

Assessment process explained to the Trainee (✓ if Yes).	<input type="checkbox"/>
Any appeal relating to the outcome of the assessment or the way in which the assessment was conducted shall be made through the TEVETA <u>fair treatment policy</u> as explained to the Trainee (✓ if Yes).	<input type="checkbox"/>

Learner/Trainee Learner/Trainee name: (Print) Learner/Trainee comments:	Assessor/Examiner Assessor/Examiner name: (Print) Assessor/Examiner comments:
I fully understand the assessment and appeals process.	Theory assessment sighted and checked as satisfactory. <input type="checkbox"/>
Signature: Date:	Signature: Date:

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TASK 1: CYLINDER HEAD SERVICE

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Straight edge ○ Valve spring compressor ○ Feeler gauge ○ Engine manufacturer's service manual ○ Lifting equipment ○ Torque wrench ○ Mutton clothe ○ Sockets/spanners ○ Scraper ○ Wire brush ○ Paraffin 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disassembling the Cylinder Head This could include: <ul style="list-style-type: none"> ○ Removing valves using valve spring compressor ○ Arranging valves in correct order ○ Removing valve seals ○ Cleaning/decarbonizing cylinder head and valves 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>d) Inspecting the Cylinder Head Parts</p> <p>This could include:</p> <ul style="list-style-type: none"> ○ Testing valves for straightness ○ Measuring valve stem dimensions ○ Checking valve face ○ Checking valve margin ○ Determining valve stem to valve guide clearance. ○ Measuring valve spring free height ○ Testing valve spring tension ○ Checking cylinder head warpage as follows: <ul style="list-style-type: none"> a. Positioning of the straight edge b. Selection and use of the feeler gauge ○ Checking valve seats condition ○ Checking threads condition ○ Checking cylinder head for cracks 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>e) Recondition of the Cylinder Head</p> <p>This could include:</p> <ul style="list-style-type: none"> ○ Lapping valves ○ Cleaning valves and cylinder head 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>f) Assembling of the Cylinder Head</p> <p>This could include:</p> <ul style="list-style-type: none"> ○ Installing Valves and valve seals ○ Testing for leakage on valves 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 2: OVERHAULING ENGINE BLOCK

Activity/operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This could include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Set of spanners ○ Set of sockets ○ Internal Micrometer screw gauge ○ Set of screw drivers ○ Mallet hammer ○ Mutton cloth ○ paraffin 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>c) Disassembling of components This could include:</p> <ul style="list-style-type: none"> ○ Draining oil and remove oil sump ○ Removing oil pump ○ Removing piston and connecting rod assemblies ○ Removing piston rings ○ Removing gudgeon pin ○ Marking and matching the removed assemblies ○ Removing associated end attachments ○ Removing timing gears ○ Removing crankshaft ○ Removing camshaft(s) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>d) Inspecting/Measuring of parts This could include:</p> <ul style="list-style-type: none"> ○ Checking condition of oil pump ○ Inspecting piston and connecting rod assemblies ○ Inspecting condition of threads ○ Measuring and recording measurements of: <ul style="list-style-type: none"> - Piston taper and ovality - Piston ring clearance - Piston ring end-gap - Gudgeon pin bore wear - Connecting rod bend and twist - Connecting rod small end bush clearance - Connecting rod big end ovality - Crankshaft run-out - Camshaft journals/bushes wear - Camshaft run-out - Cam-lobe lift - Camshaft journal/bearing working clearance - Bearing nip 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) Assembling engine block This could include: <ul style="list-style-type: none"> ○ Assembling pistons to connecting rods. ○ Fitting piston rings to pistons ○ Fitting main bearing shells and thrust bearings ○ Installing crankshaft ○ Installing main bearing caps ○ Tightening main bearing caps (specified sequence, specified torque) ○ Checking crankshaft end float using dial indicator ○ Installing piston and connecting rod assemblies ○ Tightening big end caps (specified sequence, specified torque) ○ Checking crankshaft free rotation ○ Installing camshaft ○ Aligning timing marks ○ Fitting timing covers and bell housing ○ Fitting flywheel to crankshaft ○ Torque crankshaft (specified sequence, specified torque) ○ Checking flywheel run-out using DTI ○ Installing oil pump ○ Installing oil sump ○ Replacing gasket and seals 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

TASK 3: CYLINDER BORE MEASUREMENT

Activity/ operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment. This should include: <ul style="list-style-type: none"> ▪ Personal tool box ▪ Spanners/sockets ▪ Bore gauge/internal micrometer ▪ Mutton cloth ▪ Personal Tool Box 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Measurements of the cylinder head. This could include: <ul style="list-style-type: none"> ○ Placing block on the bench or flat surface ○ Removing the pistons from the engine block ○ Zeroing of bore gauge or internal micrometer ○ Accuracy to determining ovality ○ Taking readings at correct positions ○ Taking correct number of readings ○ Accuracy in making recommendations 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB: Take measurements on one of the cylinder bore.

Cylinder bore No.	A1	A2	B1	B2	Ovality	Taper
Cyl.1:Top						
Bottom						

Recommendation:

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

TASK 4: CRANKSHAFT MEASUREMENT

Activity/ operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing Safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidates should prepare appropriate tools/equipment. This should include: <ul style="list-style-type: none"> ○ Personal tool box ○ Necessary spanners ○ Dual gauge ○ External micrometer ○ Vernier caliper ○ Mutton cloth ○ Vee blocks 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Carrying out the required start-up procedures and pre-operational checks. This should include: <ul style="list-style-type: none"> ○ Preparation of work area ○ Appropriate use of tools/equipment ○ Preparation of tools and measuring equipment 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Measurements of the Crankshaft This should include: <ul style="list-style-type: none"> ○ Cleaning the crankshaft using a mutton clothe ○ Placing crankshaft on Vee- blocks ○ Measuring the crankshaft using the correct tools ○ Zeroing of micrometer ○ Accuracy determining ovality ○ Taking readings at correct positions ○ Taking correct number of readings ○ Accuracy in making recommendations 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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NB: Take measurements on one main and one big end journal only.
Maximum Ovality, Taper and Wear tolerance is .0015" or .381mm

Bearing journal No.	A1	A2	B1	B2	Ovality	Taper	Wear
Main bearing journal							
Big end journal							

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 5: ADJUST VALVE CLEARANCE - USING OVERLAPPING METHOD

A) FOUR CYLINDER IN-LINE ENGINE

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Screw driver ○ Plug spanner ○ Feeler gauge ○ Spanner/socket wrenches ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Procedure of adjusting Valves This could include: <ul style="list-style-type: none"> ○ Removing the rocker cover ○ Turning the engine in the right direction while observing the cylinder number four 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

valves to overlap. <ul style="list-style-type: none"> ○ Stopping turning the engine when the valves overlap. ○ Checking valves of number one cylinder that they are free from the force of the rocker arm. ○ Loosening the lock nut of valves for cylinder 1. ○ Checking with the instructor or manual for the valve gaps. ○ Inserting the right feeler gauge leaf between the valve stem and the rocker arm. ○ Adjusting to correct gap. ○ Tightening the lock nut. 																										
d) Repeating the procedure in this pattern: This could include:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
<table border="1"> <thead> <tr> <th>Overlap the valves</th> <th>Adjust the valves</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Cylinder NO: 4</td> <td>Cylinder NO: 1</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 3</td> <td>Cylinder NO: 2</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 2</td> <td>Cylinder NO: 3</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 1</td> <td>Cylinder NO: 4</td> <td></td> <td></td> </tr> </tbody> </table>	Overlap the valves	Adjust the valves			Cylinder NO: 4	Cylinder NO: 1			Cylinder NO: 3	Cylinder NO: 2			Cylinder NO: 2	Cylinder NO: 3			Cylinder NO: 1	Cylinder NO: 4								
Overlap the valves	Adjust the valves																									
Cylinder NO: 4	Cylinder NO: 1																									
Cylinder NO: 3	Cylinder NO: 2																									
Cylinder NO: 2	Cylinder NO: 3																									
Cylinder NO: 1	Cylinder NO: 4																									
e) Then you overlap cylinder 1 and adjust valves of cylinder number 4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
<table border="1"> <thead> <tr> <th>Overlap the valves</th> <th>Adjust the valves</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Cylinder NO: 1</td> <td>Cylinder NO: 4</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 2</td> <td>Cylinder NO: 3</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 3</td> <td>Cylinder NO: 2</td> <td></td> <td></td> </tr> <tr> <td>Cylinder NO: 4</td> <td>Cylinder NO: 1</td> <td></td> <td></td> </tr> </tbody> </table>	Overlap the valves	Adjust the valves			Cylinder NO: 1	Cylinder NO: 4			Cylinder NO: 2	Cylinder NO: 3			Cylinder NO: 3	Cylinder NO: 2			Cylinder NO: 4	Cylinder NO: 1								
Overlap the valves	Adjust the valves																									
Cylinder NO: 1	Cylinder NO: 4																									
Cylinder NO: 2	Cylinder NO: 3																									
Cylinder NO: 3	Cylinder NO: 2																									
Cylinder NO: 4	Cylinder NO: 1																									
f) Replacing the rocker cover.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 6: ADJUSTING VALVE CLEARANCE - USING THE NINETH RULE

Activity/Operation	Attempts																																									
	Satisfactory			Not Satisfactory																																						
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3																																				
a) Observe safety This should include <ul style="list-style-type: none"> ○ Wearing Safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																				
b) Candidates should prepare appropriate tools/equipment This should include: <ul style="list-style-type: none"> ○ Personal tool box ○ Feeler gauge ○ Spanner/socket wrenches ○ Mutton clothe 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																				
c) Carrying out valve adjustment This could include: <ul style="list-style-type: none"> ○ Checking the instructors or manual book for the valve gaps. ○ Removing the rocker/valve cover. ○ Loosening locknuts using a wrench. ○ Rotating the engine to fully open valve number 8. ○ Passing a feeler gauge between rocker arm and valve stem of valve number 1. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																				
d) Repeat step 2.3 and 2.4 for the remainder of the valves as follows:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Fully open valve</th><th style="text-align: center;">Adjust valve</th><th></th><th></th></tr> </thead> <tbody> <tr> <td>Valve no: 8</td><td>Valve No: 1</td><td></td><td></td></tr> <tr> <td>Valve No: 7</td><td>Valve No: 2</td><td></td><td></td></tr> <tr> <td>Valve No: 6</td><td>Valve No: 3</td><td></td><td></td></tr> <tr> <td>Valve No: 5</td><td>Valve No: 4</td><td></td><td></td></tr> <tr> <td>Valve No: 4</td><td>Valve No: 5</td><td></td><td></td></tr> <tr> <td>Valve No: 3</td><td>Valve NO: 6</td><td></td><td></td></tr> <tr> <td>Valve No: 2</td><td>Valve No: 7</td><td></td><td></td></tr> <tr> <td>Valve No: 1</td><td>Valve No: 8</td><td></td><td></td></tr> </tbody> </table>	Fully open valve	Adjust valve			Valve no: 8	Valve No: 1			Valve No: 7	Valve No: 2			Valve No: 6	Valve No: 3			Valve No: 5	Valve No: 4			Valve No: 4	Valve No: 5			Valve No: 3	Valve NO: 6			Valve No: 2	Valve No: 7			Valve No: 1	Valve No: 8								
Fully open valve	Adjust valve																																									
Valve no: 8	Valve No: 1																																									
Valve No: 7	Valve No: 2																																									
Valve No: 6	Valve No: 3																																									
Valve No: 5	Valve No: 4																																									
Valve No: 4	Valve No: 5																																									
Valve No: 3	Valve NO: 6																																									
Valve No: 2	Valve No: 7																																									
Valve No: 1	Valve No: 8																																									

<ul style="list-style-type: none"> ○ Rechecking the valve clearances. ○ Installing the Rocker/Valve cover. ○ Checking with the instructor or manual for the valve gaps. ○ Inserting the right feeler gauge leaf between the valve stem and the rocker arm. ○ Starting and running the engine there should be no tappet noise. 						
--	--	--	--	--	--	--

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 7: VALVE TIMING

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
During observation of work activities, the candidates demonstrated that they can:						
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing Safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidates should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Necessary spanners/sockets ○ Screw driver flat ○ Mutton cloth ○ Manual book 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Valve Timing procedures and pre operational checks This could include: <ul style="list-style-type: none"> ○ Removing of crankshaft pulley ○ Removing of timing cover ○ Disturbing engine timing ○ Timing methods: ○ Identify timing marks on gears ○ Camshaft ○ Crankshaft ○ Aligning of the marks on all gears ○ Fitting timing belt correctly 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Reassembling of the engine This could include: <ul style="list-style-type: none"> ○ Fitting back the timing cover ○ Fitting back Crankshaft pulley ○ Fitting back the Rocker cover 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Start and run the engine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

TASK 8: PISTON ASSEMBLY (SUB ASSEMBLY)

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing work suit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Ring squeezer ○ Ring expander ○ Mallet hammer ○ Oil can ○ Sockets/spanners ○ Mutton cloth ○ Engine oil 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Removing the Piston Rings This could include: <ul style="list-style-type: none"> ○ Removing the piston assembly out of the block ○ Removing the piston rings using piston ring expander ○ Cleaning the parts and check for wear ○ Measuring the working gap ○ Replacing the rings on the piston and measure side clearance 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Fitting Back Piston Assembly This could include: <ul style="list-style-type: none"> ○ Fitting back the piston in the block using piston ring squeezer with the usage of oil 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

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Examiner Name/Sign:

Learner`s Name/sign:

Date:

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TASK 9: COMPRESSION LOSS TEST

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment: This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Manufactures specification manual ○ Plug spanner ○ Compression tester ○ Set of Sockets/spanners ○ Mutton cloth ○ A whistle stop ○ Cylinder leakage tester 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>c) Compression loss test This could include:</p> <ul style="list-style-type: none"> ○ Starting and running the engine until it attains the operating temperature ○ Removing spark plugs ○ Fitting the whistle stop into the spark plug hole. ○ Rotating the engine by hand, the whistle produces a sound when the piston is on the compression stroke ○ Whistle sound stops at the end of the stroke – TDC. ○ Removing the whistle stop and replace it with the leakage tester, and calibrate it to manufacturer's specifications ○ Injecting air into the cylinder being tested ○ Repeating the process to every cylinder and evaluate the results 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>d) Analysis This could include:</p> <ul style="list-style-type: none"> ○ Less than 10% leakage - Good ○ Less than 20% leakage - Acceptable ○ Less than 30% leakage - Poor ○ More than 30% leakage - Definite problem 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>e) Checking the source of the air leakage This could include:</p> <ul style="list-style-type: none"> ○ Air escaping from oil filler cap - Piston rings worn or broken ○ Air bubbling out of radiator - Burnt cylinder head gasket ○ Air hissing from inlet manifold - Defective inlet valve ○ Air coming out of exhaust tail pipe - Defective exhaust valve 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner`s Name/sign:

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TASK 10: COMPRESSION TEST

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Manufactures specification manual ○ Plug spanner ○ Compression tester ○ Mutton cloth ○ Set of Sockets/spanners 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Compression Test Procedure This could include: <ul style="list-style-type: none"> ○ Starting and running the engine until operating temperature is attained ○ Removing all the spark plugs ○ Cleaning areas around spark plug holes 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Testing This could include: <ul style="list-style-type: none"> ○ Cranking engine several times to remove soot and residue fuel from the cylinder ○ Connecting the compression tester to the spark plug hole on one cylinder ○ Cranking the engine through at least four compression strokes ○ Noting the reading of the first compression. ○ Zeroing the gauge by releasing the pressure and repeating the process for the remaining cylinders ○ Recording the highest reading on each cylinder and comparing the results 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

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TASK 11: MECHANICAL FUEL PUMP SERVICE

Activity/ operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This could include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Vacuum gauge ○ Pressure gauge ○ Set of screw drivers ○ Mallet hammer ○ Punch ○ Set of Sockets/spanners ○ Mutton cloth ○ Paraffin 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Disassembling of mechanical fuel pump This could include: <ul style="list-style-type: none"> ○ Disconnecting the battery terminal for safety ○ Disconnecting fuel pipes linking to the pump ○ Removing the bolts securing the fuel pump to the engine block ○ Cleaning the pump ○ Marking the diaphragm and pump chamber for easy assembly ○ Removing the bolts holding the housing and separate the two housings. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Inspecting parts for wear This could include: <ul style="list-style-type: none"> ○ Valves ○ Valve seat ○ Diaphragm ○ Springs wear 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Assembling Mechanical Fuel Pump This could include: <ul style="list-style-type: none"> ○ Fitting back the check valves, valve seat and springs ○ Assembling the pump correctly following the marks ○ Checking the pump with a vacuum gauge and a pressure gauge. ○ Tightening the bolts holding pump to the engine. ○ Connecting the fuel pipes to pump 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner`s Name/sign:

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TASK 12: BLEEDING DIESEL FUEL SYSTEM

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Sockets/spanners ○ Mutton cloth ○ Set of screw drivers 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Bleeding diesel fuel system This could include: <ul style="list-style-type: none"> ○ Opening the bleed screw on the fuel filter head ○ Operating the hand primer on the lift pump ○ Air will start coming out from the bleeding screw ○ Continuing pumping until clear fuel comes out of the bleeding screw ○ Closing the bleeding screw ○ Opening the bleeding screw on the injection pump and repeat the process 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

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TASK 13: CARBURETTOR SERVICING

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This should include: <ul style="list-style-type: none"> ○ Personal tool box ○ Spanner/socket wrenches ○ Pliers ○ Screw ○ Mutton cloth ○ Cleaning solvent ○ Compressed air 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Procedure of dismantling the Carburettor This could include: <ul style="list-style-type: none"> ○ Removing the carburettor from the vehicle ○ Cleaning the carburettor ○ Marking the body of the carburettor for easy 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>alignment</p> <ul style="list-style-type: none"> ○ Loosening the bolts and remove the air horn ○ Loosening the bolts to remove the throttle body ○ Loosening the bolts and remove the lower for the float chamber ○ Disconnecting the float chamber ○ Removing the jets ○ Removing the accelerator pump ○ Cleaning the parts ○ Inspect the parts 						
<p>d) Assembling the Carburettor This could include:</p> <ul style="list-style-type: none"> ○ Assembling bottom parts which include the float chamber, the float, needle valve and the accelerator pump piston. ○ Fitting the main jet, idle circuit jet, and the secondary venturi ○ Fitting the top cover for the float chamber ○ Fitting the air horn ○ Fitting the linkages for the throttle valve and the accelerator pump ○ Fitting back the carburettor on the vehicle 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

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TASK 14: SERVICING DIESEL INJECTOR

Activity/operation	Attempts					
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
During observation of work activities, the candidate demonstrated that they can:						
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Pop tester ○ Bench vice ○ Set of screw drivers ○ Set of Sockets/spanners ○ Mutton cloth ○ Diesel 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Disassembling of the injector This could include: <ul style="list-style-type: none"> ○ Placing the injector in the vice ○ Correct use of a wrench to separate the nozzle holder and the cap nut ○ Removing the spindle and the upper spring peg ○ Withdrawing the nozzle body and needle valve from the cap nut. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Inspecting injector parts for wear This could include: <ul style="list-style-type: none"> ○ Cleaning parts ○ Inspecting springs for breakage ○ Checking spindle for distortion ○ Checking for wear on the needle valve and nozzle body ○ Checking clearance between the needle valve and the nozzle body by sliding the needle into the body while holding them at 60 degrees. ○ Checking the condition nozzle holder and cap nut 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Assembling of the injector This could include: <ul style="list-style-type: none"> ○ Correct installation of the needle valve and nozzle body into the cap nut ○ Correct installation of spindle and upper spring peg into the nozzle holder. ○ Correct tightening of nozzle body onto the cap nut 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Testing the injector This could include: <ul style="list-style-type: none"> ○ Spray pattern ○ Chatter ○ Opening pressure ○ Leakage test 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

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TASK 15: ELECTRICAL FUEL PUMP (EFI) TESTING

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Spanner/socket wrenches ○ Pliers ○ Set of screw drivers ○ Mutton cloth ○ Water ○ Basin ○ Multi -meter 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Removing the fuel pump This could include: <ul style="list-style-type: none"> ○ Removing the negative terminal of the battery ○ Disconnecting the fuel supply and return pipes ○ Disconnecting the sender unit electrical cable ○ Unscrewing the bolts on top of the pump cover ○ Removing the fuel pump assembly from the tank ○ Inspecting the fuel pump assembly ○ Checking for continuity of current on the pump using multi-meter ○ Immersing the fuel pump in a basin completely ○ Connecting the terminals of the fuel pump to the respective terminals on the battery to run the fuel pump ○ Checking if the pump is in operation. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Examiner`s comments:

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TASK 16: TURBO CHARGER

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Set of Sockets/spanners ○ Mutton cloth ○ Set of screw drivers ○ Pliers 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disassembling Turbo Charger This could include: <ul style="list-style-type: none"> ○ Marking the turbo charger before disassembly ○ Removing bolts ○ Removing the hose assembly and the gasket ○ Removing the clamps ○ Separating compressor housing from the cartridge ○ Removing the bolts ○ Removing the clamps ○ Separating cartridge from the turbine housing ○ Assembling is the reverse of disassembling 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

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Learner`s Name/sign:

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TASK 17: TESTING THE THERMOSTAT

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Bunsen burner ○ Thermometer ○ Set of Sockets/spanners ○ Mutton cloth ○ String ○ Beaker ○ Thermostat ○ Water 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Testing thermostat This could include: <ul style="list-style-type: none"> ○ Tying a string to a thermostat ○ Dipping the thermostat in the water ○ Heating the water using a Bunsen burner ○ Putting the thermostat in the water to observe the temperature. ○ Observing the temperature at which the thermostat begins to open ○ When the thermostat has opened, removing it from the water and observing the thermostat closing 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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TASK 18: REVERSE FLASHING OF THE COOLING SYSTEM

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Set of screw drivers ○ Flush gun ○ Set of spanners/wrenches ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>c) Reverse flushing Procedure</p> <p>This could include:</p> <ul style="list-style-type: none"> ○ Remove one clip of the upper hose and disconnect the hose ○ Remove the thermostat from the engine ○ Connect the flushing gun to the upper hose to allow water to flow in the reverse direction. ○ After running the water for some time (about 5 minutes) the engine cooling system will be clean. ○ Remove the flushing gun ○ Fit the thermostat back to the engine ○ Fit the upper hose back and tighten the clip ○ Fill the cooling system with sufficient coolant 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Examiner's comments:

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Learner's Name/sign:

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TASK 19: COOLING SYSTEM PRESSURE TEST

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
d) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Pressure gauge tester ○ Set of Sockets/spanners ○ Mutton cloth ○ Set of screw drivers ○ Pliers 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Cooling system pressure test This could include: <ul style="list-style-type: none"> ○ Parking vehicle on level ground ○ Removing radiator pressure cap ○ Filling cooling system with coolant to required level ○ Fitting pressure tester to radiator neck ○ Introducing pressure into the cooling system using pressure tester ○ Checking by visual inspection where the leakage is coming from 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

Date:

Date

TASK 20: RADIATOR PRESSURE CAP TESTING

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Radiator pressure cap tester ○ Mutton cloth ○ Spanner/socket wrenches 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Inspecting the Radiator Cap This could include: <ul style="list-style-type: none"> ○ Inspecting the radiator pressure cap for any damages 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>d) Testing the Radiator Cap This could include:</p> <ul style="list-style-type: none"> ○ Connecting the radiator pressure cap to the pressure cap tester ○ Pumping from the handle of the pressure cap tester ○ Observing the gauge on the pressure cap tester ○ Recording the maximum reading indicated on the pressure cap tester gauge ○ Comparing the reading indicated and the reading observed 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Examiner's comments:

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TASK 21: WATER PUMP REPLACEMENT

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This could be: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Pliers ○ Set of screw drivers ○ spanners/socket wrenches ○ Silicone ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Removing water pump from the Vehicle This could include: <ul style="list-style-type: none"> ○ Draining the cooling system ○ Disconnecting the lower radiator hose from the water pump ○ Loosening the alternator and removing the belt ○ Removing the water pump bolts ○ Removing the water and hand it with care 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Refitting the water pump This could include: <ul style="list-style-type: none"> ○ Cleaning the gasket surfaces on the block and pump ○ Placing the pump in position and insert the bolts ○ Tightening to the specified torque ○ Reinstalling the fan and radiator hose ○ Filling the radiator with coolant 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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Examiner Name/Sign:

Learner's Name/sign:

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TASK 22: FAN BELT REPLACEMENT

Activity/operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This could include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Set of screw drivers ○ Set of Sockets/spanners ○ Mutton cloth ○ paraffin 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Removing The Fan Belt This could include: <ul style="list-style-type: none"> ○ Loosening the alternator clamp bolts ○ Removing the alternator towards the block to free the belt ○ Removing the fan belt off the drive pulley ○ Removing the fan belt up between the fan blades and the radiator 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Fan Belt Visual Inspection This could include: <ul style="list-style-type: none"> ○ Checking for cracks on the belt 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Replacing the Fan Belt This could include: <ul style="list-style-type: none"> ○ Replacing the fan belt on the fan, and respective pulley (depending) on the make ○ Tightening alternator clamp bolts sufficiently to hold the alternator in position ○ Adjusting the fan belt to the proper tension ○ Securely tightening all clamp bolts 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date

TASK 23: OIL PUMP SERVICE

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include <ul style="list-style-type: none"> ○ Personal tool box ○ Feeler gauge ○ Allen keys ○ Straight edge ○ Mutton cloth ○ Spanner/socket wrenches 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Removing the Oil Pump This could include: <ul style="list-style-type: none"> ○ Draining oil from the sump ○ Removing the sump ○ Removing the oil pump by loosening bolts on the pump ○ Cleaning the oil pump 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disassembling of the Oil Pump This could include: <ul style="list-style-type: none"> ○ Marking related parts of the housing ○ Loosening and remove bolts securing the parts of the housing ○ Removing pump gears ○ Cleaning parts 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) Recording Measurements On the oil pump This could include: <ul style="list-style-type: none"> ○ End clearance ○ Inner tip clearance (gear to housing clearance) ○ Gear wear Backlash 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Assembling the Oil Pump This could include: <ul style="list-style-type: none"> ○ Lubricating all parts ○ Assembling gears into housing following the marks ○ Installing pump end covers and tighten the bolts to correct specifications 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Fitting back the Oil Pump This could include: <ul style="list-style-type: none"> ○ Putting back the sump the sump ○ Filling in the oil into the sump 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 24: CHANGING ENGINE OIL AND OIL FILTER

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
During observation of work activities, the candidate demonstrated that they can:						
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Oil filter ○ Mutton cloth ○ Sockets/spanners ○ Engine oil 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>c) Changing engine oil This could include:</p> <ul style="list-style-type: none"> ○ Running engine until it attains operating temperature ○ Parking vehicle on level ground ○ Removing oil filler cap and dip stick ○ Loosening sump bolt to drain the oil ○ Using an appropriate tool, removing oil filter ○ When all the oil has drained down from sump, tightening drain plug. Replacing drain plug washer with new one ○ Replacing oil filter by smearing a film of oil on seal before fitting. Hand tighten the filter. Do not use tightening tool ○ Filling sump with clean engine oil while checking level with dip stick. ○ Tightening filler cap and run engine for about 2 minutes. ○ Switching off engine and let oil settle in sump and check oil level again. Top up if level has gone low. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

TASK 25: CARRY OUT BATTERY SERVICE AND MAINTENANCE

Activity/operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing of safety boots ○ Wearing of work suit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Spanners ○ Screwdrivers ○ Mutton cloth ○ Warm water ○ Grease ○ Multi-meter ○ Hydrometer ○ voltmeter 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Battery Operational Checks. This could include: <ul style="list-style-type: none"> ○ Cleaning battery casing ○ Checking for leaks ○ Cleaning battery terminals ○ Checking electrolyte level 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) State of Charge This could include: <ul style="list-style-type: none"> ○ Measuring battery terminal voltage using a voltmeter (multi-meter) ○ Measuring battery electrolyte specific gravity using a hydrometer 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Battery Load Test This could include: <ul style="list-style-type: none"> ○ Carrying out battery load test using a high-discharge (load) tester 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 26: IGNITION TIMING (CONVENTIONAL)

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Spanner/socket wrenches ○ Pliers ○ Screw ○ Mutton cloth ○ Timing light ○ Petrol ○ Battery 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Ignition Timing procedure This could include: <ul style="list-style-type: none"> ○ Starting the Engine ○ Switching off the engine ○ Removing the distributor from the engine ○ Cranking the engine ○ Disconnecting the terminal (negative) from 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> ○ battery ○ Rotating the engine and overlap cylinder No.4 ○ Putting cylinder No.1 on compression with both valves closed ○ Turning the engine slightly backwards, putting it on the right firing mark (10° before TDC) ○ Rotating the distributor shaft and let the rotor arm point to segment No.1 ○ The C.B points just about to open ○ Fitting the distributor cap ○ Fitting the HT cables according to the firing order(1342 or 1243) ○ Starting the engine ○ Carrying out dynamic ignition timing 						
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Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 27: CHECKING AND CHANGING SPARK PLUGS (EFI ENGINE)

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wear safety boots ○ Wear work suit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Set of screw drivers ○ Plug spanner ○ Sockets/spanners ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Checking spark plug This could include: <ul style="list-style-type: none"> ○ Disconnecting ignition coil harness connectors. ○ Removing ignition coils ○ Removing spark plugs with spark plug spanner ○ Cleaning plugs in sand blast cleaner ○ Checking insulator for cracks or chips, gasket for damage or deterioration and electrode for wear and burning. If they are excessively worn away, replace with new spark plugs ○ Checking spark plug gap ○ Installing spark plugs ○ Installing ignition coils. ○ Connecting ignition coil harness connectors 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

TASK 28: DISTRIBUTOR SERVICING

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Bench vice ○ Set of screw drivers ○ Set of Sockets/spanners ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Dismantling of the distributor This could include: <ul style="list-style-type: none"> ○ Removing the distributor cap ○ Removing the rotor arm ○ Disconnecting the vacuum advance mechanism ○ Removing the contact breaker points ○ Removing the capacitor (Condenser) ○ Removing the contact breaker plate ○ Removing the cam plate and the cam ○ Removing the centrifugal advance mechanism ○ Inspecting the components 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Assembling the distributor This could include: <ul style="list-style-type: none"> ○ Fitting the cam plate and the cam to the distributor housing ○ Fitting the contact breaker plate ○ Fitting the vacuum advance mechanism ○ Fitting the contact breaker points and adjust the C.B points gap to the correct specification ○ Fitting the condenser 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Testing This could include: <ul style="list-style-type: none"> ○ Test the contact breaker points for ground ○ Test the C.B points if they are opening and closing 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

Signed:

Examiner Name/Sign:

Learner`s Name/sign:

Date:

Date:

TASK 29: ALTERNATOR SERVICING

Activity/operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe Safety This should include: <ul style="list-style-type: none"> ○ Wearing safety boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Ohmmeter ○ testing bulbs ○ multi- meter ○ set of spanners ○ set of socket wrenches ○ set of screw drivers ○ mallet hammer ○ bench vice ○ mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Disassembling the Alternator This could include: <ul style="list-style-type: none"> ○ Removing rear end cover. ○ Removing rotor from drive end frame ○ Removing brush holder and 1C regulator ○ Removing rectifier holder ○ Removing rectifier end frame ○ Removing pulley 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Cleaning Alternator Parts This could include: <ul style="list-style-type: none"> ○ Cleaning the parts. ○ Laying out parts in logical order 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Identifying of Alternator Parts This could include: <ul style="list-style-type: none"> ○ Rotor field coil ○ Starter winding ○ I.C. Regulator ○ Diode pack ○ Brushes 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Inspecting and Testing of Parts This could include: <i>Inspecting Rotor Winding:</i> Testing the rotor using ohmmeter for: <ul style="list-style-type: none"> ○ Ground/short circuit ○ Open circuit ○ Inspecting rotor slip rings for roughness or scores. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Inspecting Stator Winding This could include: Using an ohmmeter test the stator winding for: <ul style="list-style-type: none"> ○ Open circuit/continuity ○ Ground/short circuit 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Measuring Brushes This could include: <ul style="list-style-type: none"> ○ Using Vernier calliper, measure the exposed brush length. ○ Check brush spring tension. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Testing Rectifiers (Diodes) This could include: <ul style="list-style-type: none"> ○ Inspecting positive rectifier diodes using ohmmeter. ○ Inspecting negative rectifiers (diodes) using ohmmeter 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

j) Alternator Bearings <ul style="list-style-type: none"> ○ Checking front bearing for roughness or wear. ○ Checking rear bearing for roughness or wear. 						
j) Reassembling Alternator This could include: <ul style="list-style-type: none"> ○ Installing pulley. ○ Installing rectifier end frame ○ Installing rectifier holder. ○ Installing brush holder and 1C regulator. ○ Installing rotor from drive end frame. ○ Installing rear end cover. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Testing Alternator This could include: <ul style="list-style-type: none"> ○ Tests run the Alternator. ○ Measuring Alternator output voltage. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date

TASK 30: SERVICING THE STARTER MOTOR

Activity/Operation	Attempts					
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
a) Observe safety This should include: <ul style="list-style-type: none"> ○ Wearing safety shoes/boots ○ Wearing worksuit or overall 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Candidate should prepare appropriate tools/equipment This could include: <ul style="list-style-type: none"> ○ Personal tool box ○ Multi- meter ○ Bench vice ○ Mallet hammer ○ Set of screw drivers ○ Sockets/spanners ○ Mutton cloth 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Dismantling of the starter motor This could include: <ul style="list-style-type: none"> ○ Marking the starter motor for correct alignment when assembling. ○ Loosening and removing the solenoid bolts from the starter motor. ○ Removing the nut holding the cable that supplies current to the bushes, from the solenoid. ○ Removing the solenoid. ○ Loosening and removing the through bolts. ○ Removing the commutator end frame. ○ Removing the drive assembly. ○ Removing the field frame. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Inspecting of starter motor parts This could include: <ul style="list-style-type: none"> ○ Brushes for wear. ○ Soundness for the cables to brushes. ○ Soundness of the commutator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Testing starter motor armature This could include: <ul style="list-style-type: none"> ○ Short circuit. ○ Ground. ○ Continuity 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Testing starter motor field frame This could include: <ul style="list-style-type: none"> ○ Short circuit. ○ Ground. ○ Continuity 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Testing the starter motor diodes This could include: <ul style="list-style-type: none"> ○ Shorting. ○ Soundness. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

h) Assembling the starter motor This could include: <ul style="list-style-type: none"> ○ Fitting the armature and pinion drive assembly to the field frame. ○ Fitting the commutator end frame, aligning the marks correctly. ○ Fitting the through bolts. ○ Fitting the solenoid correctly to the release fork. ○ Tightening the bolts holding the solenoid. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Testing the starter motor This could include: <ul style="list-style-type: none"> ○ Mounting the starter motor onto the bench vice. ○ Placing the battery on the bench. ○ Connecting the cables to crank the starter motor 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date

FINAL PRACTICAL ASSESSMENT SUMMARY

TASK NO.	TASK NAME	SATISFACTORY	NOT SATISFACTORY
1	OVERHAUL A CYLINDER HEAD	<input type="checkbox"/>	<input type="checkbox"/>
2	OVERHAUL AN ENGINE BLOCK	<input type="checkbox"/>	<input type="checkbox"/>
3	CYLINDER BORE MEASUREMENT	<input type="checkbox"/>	<input type="checkbox"/>
4	CONDUCT CRANKSHAFT MAIN AND BIG-END MEASUREMENT	<input type="checkbox"/>	<input type="checkbox"/>
5	ADJUST VALVE CLEARANCE - USING OVERLAPPING METHOD	<input type="checkbox"/>	<input type="checkbox"/>
6	ADJUSTING VALVE CLEARANCE – 9 th Rule	<input type="checkbox"/>	<input type="checkbox"/>
7	STATIC ENGINE OR VALVE TIMING	<input type="checkbox"/>	<input type="checkbox"/>
8	PISTON ASSEMBLY	<input type="checkbox"/>	<input type="checkbox"/>
9	COMPRESSION LOSS TEST	<input type="checkbox"/>	<input type="checkbox"/>
10	COMPRESSION TEST	<input type="checkbox"/>	<input type="checkbox"/>
11	MECHANICAL FUEL PUMP SERVICE	<input type="checkbox"/>	<input type="checkbox"/>
12	BLEEDING DIESEL FUEL SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>
13	CARBURETTOR SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
14	SERVICE A DIESEL INJECTOR	<input type="checkbox"/>	<input type="checkbox"/>
15	ELECTRICAL FUEL PUMP (EFI TESTING)	<input type="checkbox"/>	<input type="checkbox"/>
16	TURBO CHARGER	<input type="checkbox"/>	<input type="checkbox"/>
17	TESTING THE THERMOSTAT	<input type="checkbox"/>	<input type="checkbox"/>
18	REVERSE FLASHING OF THE COOLING SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>
19	COOLING SYSTEM PRESSURE TESTING	<input type="checkbox"/>	<input type="checkbox"/>
20	RADIATOR PRESSURE CAP TESTING	<input type="checkbox"/>	<input type="checkbox"/>
21	WATER PUMP REPLACEMENT	<input type="checkbox"/>	<input type="checkbox"/>
22	FAN BELT REMOVAL	<input type="checkbox"/>	<input type="checkbox"/>
23	OVERHAUL ENGINE LUBRICATION GEAR PUMP	<input type="checkbox"/>	<input type="checkbox"/>

ASSESSMENT OUTCOME

Competent ☒

Not Competent ☐

Learner/Trainee	Assessor/Examiner
Learner/Trainee name: _____ (Print)	Assessor/Examiner name: _____ (Print)
Learner/Trainee comments:	Assessor/Examiner comments:
Signature: _____ Date: _____	Signature: _____ Date: _____

VALIDATION OF THE ASSESSMENT

NAME:.....

DATE:.....

POSITION: **PRINCIPAL/HEAD OF INSTITUTION**

SIGNATURE:.....

NAME INSTITUTION:.....

STAMP:

