



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

## TRADE TEST LEVEL II AUTOMOTIVE MECHANICS

### 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"/>

<b>Learner/Trainee</b>  Learner/Trainee name: (Print)  Learner/Trainee comments:	<b>Assessor/Examiner</b>  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:

## Contents

TASK 1: CYLINDER HEAD SERVICE .....	5
TASK 2: PISTON ASSEMBLY (SUB ASSEMBLY) .....	7
TASK 3: VALVE TIMING .....	9
TASK 4: OIL PUMP SERVICE .....	11
TASK 5: RADIATOR REPLACEMENT .....	13
TASK 6: MECHANICAL FUEL PUMP .....	15
TASK 7: BATTERY REPLACEMENT .....	17
TASK 8: PROPELLER SHAFT .....	19
TASK 9: DRUM BRAKE .....	21
TASK 10: REMOVING AND FITTING WHEEL ASSEMBLY .....	24
TASK 11: CYLINDER HEAD SERVICE .....	26
TASK 12: CRANKSHAFT MEASUREMENT .....	28
TASK 13: ADJUSTING VALVE CLEARANCE .....	30
TASK 14: ENGINE LUBRICATION SYSTEM GEAR PUMP .....	32
TASK 15: REVERSE FLASHING OF THE COOLING SYSTEM .....	36
TASK 16: VALVE TIMING .....	38
TASK 17: OVERHAUL TANDEM BRAKE MASTER CYLINDER .....	40
TASK 18: UNIVERSAL JOINT SERVICE .....	42
TASK 19: SERVICING WHEEL ASSEMBLY – TYRE MENDING .....	44
TASK 20: CARBURETTOR SERVICING .....	46
FINAL PRACTICAL ASSESSMENT SUMMARY .....	49
ASSESSMENT OUTCOME .....	50
VALIDATION OF THE ASSESSMENT .....	52

## TASK 1: CYLINDER HEAD SERVICE

Activity/operation						
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Lifting equipment</li> <li>○ Torque wrench</li> <li>○ Mutton cloth</li> <li>○ Sockets/spanners</li> <li>○ Scraper</li> <li>○ Wire brush</li> <li>○ Paraffin</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p><b>c) Removing the Cylinder head</b>  This could include:</p> <ul style="list-style-type: none"> <li>○ Loosening the cylinder head bolts, starting from outwards going inwards.</li> <li>○ Removing the cylinder head bolts by loosening and removing them completely, starting from outwards going inwards.</li> <li>○ Removing the cylinder head from the engine block.</li> <li>○ Clean the cylinder head.</li> <li>○ Check for cracks.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>d) Fitting back the cylinder Head</b>  This could include:</p> <ul style="list-style-type: none"> <li>○ If the cylinder head is in good condition, fitting it back.</li> <li>○ Replacing cylinder head gasket correctly.</li> <li>○ Tightening the cylinder head bolts completely, starting from inwards going outwards.</li> </ul>	<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: PISTON ASSEMBLY (SUB ASSEMBLY)

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

<b>c) Removing the Piston Rings</b> This could include: <ul style="list-style-type: none"> <li>○ Removing the piston assembly out of the block</li> <li>○ Removing the piston rings using piston ring expander</li> <li>○ Cleaning the parts and check for wear</li> <li>○ Measuring the working gap</li> <li>○ Replacing the rings on the piston and measure side clearance</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Fitting Back Piston Assembly</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting back the piston in the block using piston ring squeezer with the usage of oil</li> </ul>	<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 3: VALVE TIMING

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Screw drivers</li> <li>○ Spanners/Socket wrenches</li> <li>○ Mutton cloth</li> <li>○ Paraffin</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Valve timing procedure</b> This could include: <ul style="list-style-type: none"> <li>○ Removing of crankshaft pulley</li> <li>○ Removing of timing cover</li> <li>○ Disturbing engine timing</li> <li>○ Timing methods:</li> <li>○ Identify timing marks on gears</li> <li>➤ Camshaft</li> <li>➤ Crankshaft</li> <li>○ Aligning marks on all gears</li> <li>○ Fitting timing belt correctly</li> <li>○ Timing cover</li> <li>○ Crankshaft pulley</li> <li>○ Rocker cover</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Starting and running the engine</b>	<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 4: OIL PUMP SERVICE

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Allen keys</li> <li>○ Mutton cloth</li> <li>○ Spanner/socket wrenches</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Disassembling the Oil Pump</b> This could include: <ul style="list-style-type: none"> <li>○ Marking related parts of the housing</li> <li>○ Undoing and removing bolts securing the parts of the housing Remove pump gears</li> <li>○ Cleaning parts</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Assembling the Oil Pump</b> This could include: <ul style="list-style-type: none"> <li>○ Lubricating all parts</li> <li>○ Assembling gears into housing following the marks</li> <li>○ Installing pump end covers and torque to correct specifications</li> <li>○ Cleaning the area</li> </ul>	<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 5: RADIATOR REPLACEMENT

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Pliers</li> <li>○ Spanners</li> <li>○ Screwdrivers</li> <li>○ compressed air</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing the Radiator</b> This could include: <ul style="list-style-type: none"> <li>○ Removing radiator pressure cap</li> <li>○ Draining the water from the radiator</li> <li>○ Loosening clamps holding both top and bottom hoses</li> <li>○ Loosening bolts holding radiator</li> <li>○ Removing the radiator</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Fitting Back The Radiator</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting back the radiator in its place</li> <li>○ Tightening the bolts holding the radiator</li> <li>○ Fitting back the radiator hoses</li> <li>○ Filling it with water</li> <li>○ Replacing the radiator pressure cap</li> </ul>	<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: MECHANICAL FUEL PUMP

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Spanners</li> <li>○ Pliers</li> <li>○ Screwdrivers</li> <li>○ Mutton cloth</li> <li>○ Paraffin</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing Mechanical fuel pump</b> This could include: <ul style="list-style-type: none"> <li>○ Disconnecting pipes from the fuel pump</li> <li>○ Loosening nuts holding the pump</li> <li>○ Removing the fuel pump</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Fitting back mechanical fuel pump</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting back the fuel pump</li> <li>○ Tightening nuts holding the fuel pump</li> <li>○ Connecting back fuel pipes to the pump</li> </ul>	<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 7: BATTERY REPLACEMENT

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Spanners</li> <li>○ Screwdriver</li> <li>○ Mutton cloth</li> <li>○ Grease</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing the Battery</b> This could include: <ul style="list-style-type: none"> <li>○ Loosening the bolts and nuts holding the battery posts.</li> <li>○ removing the negative terminal followed by the positive terminal</li> <li>○ Removing the battery and store it properly preferably on a plank or rubber.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Visual Inspection of the battery</b> This could include: <ul style="list-style-type: none"> <li>○ Cleaning battery casing</li> <li>○ Checking for leaks</li> <li>○ Cleaning battery terminals</li> <li>○ Checking electrolyte level</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Fitting back the Battery</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting the battery in the appropriate place</li> <li>○ Fitting the terminals back to the posts starting with positive terminal</li> </ul>	<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: PROPELLER SHAFT

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wear work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Spanner/socket wrenches</li> <li>○ Ball pein hammer</li> <li>○ Screw driver</li> <li>○ Mutton cloth</li> <li>○ Circlip remover</li> <li>○ Bench vice</li> <li>○ Aluminium plates</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Procedure of Removing Propeller Shaft from the Vehicle</b> This could include: <ul style="list-style-type: none"> <li>○ Choking the vehicle to prevent it from moving.</li> <li>○ Marking the propeller shaft so that it is returned on the same position</li> <li>○ Loosening and remove the bolts holding the propeller shaft.</li> <li>○ Removing the propeller shaft.</li> <li>○ Cleaning the propeller shaft.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Fitting back the propeller shaft</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting back the propeller shaft to the vehicle following the marks.</li> </ul>	<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 9: DRUM BRAKE

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Pliers</li> <li>○ Screwdriver</li> <li>○ mutton cloth</li> <li>○ Ball pein hammer</li> <li>○ Axle stands</li> <li>○ Wheel spanner</li> <li>○ Choke blocks</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>c) Disassembling Brake Shoes</b> This could include: <ul style="list-style-type: none"> <li>○ Choking the vehicle and apply hand brake</li> <li>○ Loosening the wheel nuts</li> <li>○ Jacking up the vehicle rear wheels</li> <li>○ Fitting the axle stands</li> <li>○ Removing the wheel nuts and the wheel</li> <li>○ Releasing the hand brake</li> <li>○ Removing the wheel drum</li> <li>○ Removing the lock pins securing the brake shoes</li> <li>○ Removing the return springs</li> <li>○ Removing the brake shoes</li> <li>○ Cleaning the parts</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Inspecting of the drum brake</b> This could include: <ul style="list-style-type: none"> <li>○ Inspecting the brake shoes linings and the brake drums</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Fitting of the brake shoes</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting the brake shoes back</li> <li>○ Fitting the anchor pins back</li> <li>○ Fitting back the return springs</li> <li>○ Fitting back the wheel drum</li> <li>○ Adjusting the brake shoes</li> <li>○ Fitting the wheel back</li> <li>○ Jacking up the vehicle</li> <li>○ Removing the axle stands</li> <li>○ Removing the jack from</li> </ul>	<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 10: REMOVING AND FITTING WHEEL ASSEMBLY

Activity/operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidate demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidate should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Wheel spanner</li> <li>○ Jack</li> <li>○ Axle stands</li> <li>○ Chock blocks</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing of wheel assembly</b> This could include : <ul style="list-style-type: none"> <li>○ Choking the vehicle from all the four wheels</li> <li>○ Loosening the wheel nuts of the wheel to be removed. Following correct procedure. Loosen them diagonally.</li> <li>○ Jacking up the vehicle side to be removed only.</li> <li>○ Fitting the axle stand.</li> <li>○ Removing the wheel nuts completely.</li> <li>○ Removing the wheel.</li> <li>○ Checking the threads on the wheel studs and the nuts. If they are worn out replace them.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Fitting back the wheel assembly</b> This could include: <ul style="list-style-type: none"> <li>○ Tightening the wheel nuts diagonally</li> <li>○ Jacking up the vehicle and remove the axle stand.</li> <li>○ Lowering the vehicle until the wheel worked on touches the ground.</li> <li>○ Removing the jack and tighten the wheel nuts again to the correct specification.</li> </ul>	<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 11: CYLINDER HEAD SERVICE

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment</b> This should include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ straight edge</li> <li>○ Feeler gauge</li> <li>○ Valve spring compressor</li> <li>○ Manufacturers service manual</li> <li>○ Torque wrench</li> <li>○ Mutton clothe</li> <li>○ Sockets</li> <li>○ Screw driver</li> <li>○ Grinding paste</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Disassemble Cylinder Head-Procedures and pre-operational checks.</b> This should include: <ul style="list-style-type: none"> <li>○ Removing valves using valve spring compressor</li> <li>○ Arranging valves in correct order</li> <li>○ Removing valve seals</li> <li>○ Cleaning/decarbonizing cylinder head and valves</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>d) Recondition cylinder head valve lapping/grinding.</b> This could include: <ul style="list-style-type: none"> <li>○ Lapping the valves by applying the grinding paste on the valve seat</li> <li>○ Cleaning the valves and cylinder head using solvent solution and a mutton clothe</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Assembling of the cylinder head and the valves.</b> This could include: <ul style="list-style-type: none"> <li>○ Installing the Valves and valve seals correctly</li> <li>○ Testing for leakage on valves by pouring the solvent in the valve ports of the cylinder head.</li> </ul>	<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 12: CRANKSHAFT MEASUREMENT

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

**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 13: ADJUSTING VALVE CLEARANCE

### b) USING THE NINETH RULE

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment</b> This should include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Feeler gauge</li> <li>○ Spanner/socket wrenches</li> <li>○ Mutton clothe</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>c) Carrying out valve adjustment</b> This should include: <ul style="list-style-type: none"> <li>○ Checking the instructors or manual book for the valve gaps.</li> <li>○ Removing the rocker/valve cover.</li> <li>○ Loosening locknuts using a wrench.</li> <li>○ Rotating the engine to fully open valve number 8.</li> <li>○ Passing a feeler gauge between rocker arm and valve stem of valve number 1.</li> </ul>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																		
<b>d) Repeat step 2.3 and 2.4 for the remainder of the valves as follows:</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																		
<table border="1"> <thead> <tr> <th>Fully open valve</th> <th>Adjust valve</th> </tr> </thead> <tbody> <tr> <td>Valve no: 8</td> <td>Valve No: 1</td> </tr> <tr> <td>Valve No: 7</td> <td>Valve No: 2</td> </tr> <tr> <td>Valve No: 6</td> <td>Valve No: 3</td> </tr> <tr> <td>Valve No: 5</td> <td>Valve No: 4</td> </tr> <tr> <td>Valve No: 4</td> <td>Valve No: 5</td> </tr> <tr> <td>Valve No: 3</td> <td>Valve NO: 6</td> </tr> <tr> <td>Valve No: 2</td> <td>Valve No: 7</td> </tr> <tr> <td>Valve No: 1</td> <td>Valve No: 8</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"> <li>○ Rechecking the valve clearances.</li> <li>○ Installing the Rocker/Valve cover.</li> <li>○ Checking with the instructor or manual for the valve gaps.</li> <li>○ Inserting the right feeler gauge leaf between the valve stem and the rocker arm.</li> <li>○ Starting and running the engine there should be no tappet noise.</li> </ul>																									

**Examiner's comments:**

---



---



---



---



---



---



---



---



---



---

Signed:

Examiner Name/Sign:

Learner's Name/sign:

Date:

Date:

**TASK 14: ENGINE LUBRICATION SYSTEM GEAR PUMP**

Activity/Operation	Satisfactory			Not satisfactory		
	1	2	3	1	2	3
During observation of work activities, the candidates						



<b>demonstrated that they can:</b>						
<b>a) Observe safety</b> This could include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment.</b> This should include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Mutton cloth</li> <li>○ Straight edge</li> <li>○ Feeler gauge</li> <li>○ Cleaning solvent</li> <li>○ Necessary spanners</li> <li>○ Scriber</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing the oil pump.</b> This could include: <ul style="list-style-type: none"> <li>○ Draining of oil from the sump</li> <li>○ Removing the sump from the engine</li> <li>○ Removing the oil pump by loosening bolts</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>○ The pump using a correct spanner</li> <li>○ Cleaning the of the oil pump</li> </ul>						
<b>d) Disassembling of Oil Pump.</b> This could include: <ul style="list-style-type: none"> <li>○ Marking related parts of the housing using a scriber</li> <li>○ Loosening and removing bolts securing the parts of the housing</li> <li>○ Removing the pump gears from the pump</li> <li>○ Cleaning the parts in solvent solution e.g. paraffin</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p><b>e) Assembling of the Oil Pump.</b>  This could include</p> <ul style="list-style-type: none"> <li>○ Lubricating all parts of the pump with grease</li> <li>○ Assembling all the gears into housing following the marks</li> <li>○ Installing pump end covers and tightening the bolts to correct specifications with a correct spanner</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>f) Fitting back the Oil Pump</b>  This could include:</p> <ul style="list-style-type: none"> <li>○ Putting back the oil pump into the sump</li> <li>○ Filling in the oil into the sump</li> </ul>	<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 15: REVERSE FLASHING OF THE COOLING SYSTEM

Activity/Operation						
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidates demonstrated that they can:</b>						
<b>a) Observe safety</b> This could include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment.</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Combination pliers</li> <li>○ Flat screw driver</li> <li>○ Flushing gun</li> <li>○ Personal tool box</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Flushing Cooling Procedure</b> This could include: <ul style="list-style-type: none"> <li>○ Removing one clip of the upper hose using the screw driver and disconnecting the hose</li> <li>○ Removing the thermostat from the engine</li> <li>○ Connecting the flushing gun to the upper hose to allow water to flow in the reverse direction.</li> <li>○ After running the water for some time (about 5 minutes) the engine cooling system will be clean.</li> <li>○ Removing the flushing gun</li> <li>○ Fitting the thermostat back to the engine</li> <li>○ Fitting the upper hose back and tighten the clip with a screw driver</li> <li>○ Filling the cooling system with sufficient coolant</li> </ul>	<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 16: VALVE TIMING

Activity/Operation						
	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidates demonstrated that they can:</b>						
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment</b> This should include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Necessary spanners/sockets</li> <li>○ Screw driver flat</li> <li>○ Mutton cloth</li> <li>○ Manual book</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Valve Timing procedures</b> This could include: <ul style="list-style-type: none"> <li>○ Removing of crankshaft pulley</li> <li>○ Removing of timing cover</li> <li>○ Disturbing engine timing</li> <li>○ Timing methods:</li> <li>○ Identify timing marks on gears</li> <li>➤ Camshaft</li> <li>➤ Crankshaft</li> <li>➤ Aligning of the marks on all gears</li> <li>○ Fitting timing belt correctly</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Reassembling of the engine</b> This could include: <ul style="list-style-type: none"> <li>○ Putting back the timing cover</li> <li>○ Putting back Crankshaft pulley</li> <li>○ Putting back the Rocker cover</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Start and run the engine</b>	<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 17: OVERHAUL TANDEM BRAKE MASTER CYLINDER

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment.</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Necessary spanners</li> <li>○ Mutton cloth</li> <li>○ Internal Circlip pliers</li> <li>○ Flat screw driver</li> <li>○ Brake fluid</li> <li>○ Bleeding pipes</li> <li>○ Bench vice</li> <li>○ Personal tool box</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Master cylinder removal from vehicle</b> This could include: <ul style="list-style-type: none"> <li>○ Removing of the pipes.</li> <li>○ Removing of holding nuts from master cylinder.</li> <li>○ Removing of the master cylinder without spillage of brake fluid.</li> <li>○ Disposing off, of old brake fluid.</li> <li>○ Cleaning master cylinder exterior and interior</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Disassembling of master cylinder</b> This could include: <ul style="list-style-type: none"> <li>○ Removing the reservoir tank.</li> <li>○ Clamping the master cylinder in a bench vice.</li> <li>○ Remove the snap ring</li> <li>○ Remove secondary piston holding bolt</li> <li>○ Depress primary piston</li> <li>○ Remove the primary and secondary</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



pistons.						
<b>e) Identification of components of the master cylinder</b> This should include: <ul style="list-style-type: none"> <li>○ Primary piston</li> <li>○ Secondary piston</li> <li>○ Valves</li> <li>○ Springs</li> <li>○ Seals</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>f) Reassembling of the master cylinder</b> This could include: <ul style="list-style-type: none"> <li>○ Lubricating the parts requiring lubrication such as holes in the master cylinder</li> <li>○ Fitting the reservoir</li> <li>○ Reassembling the parts</li> <li>○ Bench bleeding the master cylinder</li> <li>○ Fitting the master cylinder and bleed the whole system</li> </ul>	<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 18: UNIVERSAL JOINT SERVICE

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This could include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment</b> This could include: <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Internal and external Circlip pliers</li> <li>○ Flat screw driver</li> <li>○ Ball pein/mallet hammer</li> <li>○ Bench vice</li> <li>○ Necessary spanners</li> <li>○ Mutton clothe</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing Propeller Shaft from the Vehicle</b> This could include: <ul style="list-style-type: none"> <li>○ Choking of the vehicle to prevent it from moving.</li> <li>○ Marking of the propeller shaft so that it is returned on the same position.</li> <li>○ Loosening and removing of the bolts holding the propeller shaft.</li> <li>○ Removing the propeller shaft from the vehicle</li> <li>○ Clean the propeller shaft.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Servicing of the universal joint</b> This could include: <ul style="list-style-type: none"> <li>○ Removing of the universal joint from the propeller shaft</li> <li>○ Identifying of the other parts such as York, spider and cups</li> <li>○ Checking for wear on the universal joint</li> <li>○ Lubricating of all the universal joint parts</li> <li>○ Fitting back the universal joint to the propeller shaft correctly</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) Fitting back the propeller shaft following the mark	<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 19: SERVICING WHEEL ASSEMBLY – TYRE MENDING

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wearing worksuit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare appropriate tools/equipment</b> This could include <ul style="list-style-type: none"> <li>○ Personal tool box</li> <li>○ Tyre lever</li> <li>○ Ball pein/mallet hammer</li> <li>○ Crow bar</li> <li>○ Key valve</li> <li>○ Mutton cloth</li> <li>○ Tuff staff solution patches R2,R3,R4</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) Removing tyre from the vehicle</b> This could include: <ul style="list-style-type: none"> <li>○ Choking the vehicle from all the four wheels</li> <li>○ Loosening the wheel nuts of the wheel to be removed.</li> <li>○ Following the correct procedure. Loosen them diagonally</li> <li>○ Jacking up the vehicle, side to be removed only.</li> <li>○ Fitting the axle stand</li> <li>○ Removing the wheel nuts completely.</li> <li>○ Removing the wheel from vehicle</li> <li>○ Checking the threads on the wheel studs and the nuts. If they are worn out, replace them.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>d) procedure on Tube Mending</b> This could include: <ul style="list-style-type: none"> <li>○ Deflating of the wheel</li> <li>○ Removing the tube from the tyre</li> <li>○ Check the tube for leakage by dipping it in a bucket of water, when it is inflate</li> <li>○ Mending the tube, by applying tuff staff solution on the affected area and put a patch on it if there is leakage</li> <li>○ Fit the tube in the tyre and inflate it to 30 psi/210 kPa</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) Fitting wheel assembly back on the vehicle</b> This could include: <ul style="list-style-type: none"> <li>○ Fitting the wheel assembly.</li> <li>○ Tightening the wheel nuts diagonally</li> <li>○ Jacking up the vehicle and removing the axle stand.</li> <li>○ Removing the jack and tightening the wheel nuts again to the correct specification.</li> </ul>	<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 20: CARBURETTOR SERVICING

Activity/Operation						
	Satisfactory			Not Satisfactory		
During observation of work activities, the candidates demonstrated that they can:	1	2	3	1	2	3
<b>a) Observe safety</b> This should include: <ul style="list-style-type: none"> <li>○ Wearing Safety shoes/boots</li> <li>○ Wear work suit or overall</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) Candidates should prepare</b> appropriate tools/equipment This could include: <ul style="list-style-type: none"> <li>○ necessary spanners</li> <li>○ sockets</li> <li>○ screw driver flat /star</li> <li>○ mutton cloth</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>c) Dismantling the Carburettor</b> This could include: <ul style="list-style-type: none"> <li>○ Removing the carburettor from the vehicle</li> <li>○ Cleaning the carburettor</li> <li>○ Marking the body of the carburettor for easy alignment</li> <li>○ Loosening the bolts and removing of the air horn</li> <li>○ Loosening the bolts to remove the throttle body</li> <li>○ Loosening the bolts and remove the lower for the float chamber</li> <li>○ Disconnecting the float chamber</li> <li>○ Removing the jets</li> <li>○ Removing the accelerator pump</li> <li>○ Cleaning of all the parts</li> <li>○ Visual Inspection of the parts</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) Assembling the carburettor</b> This could include: <ul style="list-style-type: none"> <li>○ Assembling the bottom parts which include the float chamber, the float, needle valve and the accelerator pump piston.</li> <li>○ Fitting the main jet, idle circuit jet, and the secondary venture</li> <li>○ Fitting the top cover for the float chamber</li> <li>○ Fitting the air horn</li> <li>○ Fitting the linkages for the throttle valve and the accelerator pump</li> <li>○ Fitting back the carburettor on the vehicle</li> </ul>	<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	CYLINDER HEAD SERVICE	<input type="checkbox"/>	<input type="checkbox"/>
2	PISTON ASSEMBLY SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
3	VALVE TIMING	<input type="checkbox"/>	<input type="checkbox"/>
4	OIL PUMP SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
5	RADIATOR SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
6	FUEL PUMP SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
7	BATTERY SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
8	PROPELLER SHAFT SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
9	DRUM BRAKE SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
10	TYRE CHANGING SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
11	CYLINDER HEAD SERVICE	<input type="checkbox"/>	<input type="checkbox"/>
12	CRANKSHAFT MEASUREMENTS	<input type="checkbox"/>	<input type="checkbox"/>
13	VALVE ADJUSTMENT - 9TH RULE	<input type="checkbox"/>	<input type="checkbox"/>
14	OIL PUMP	<input type="checkbox"/>	<input type="checkbox"/>
15	RADIATOR FLUSHING	<input type="checkbox"/>	<input type="checkbox"/>
16	VALVE TIMING	<input type="checkbox"/>	<input type="checkbox"/>
17	TANDEM MASTER CYLINDER	<input type="checkbox"/>	<input type="checkbox"/>
18	UNIVERSAL JOINT SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
19	TYRE AND WHEEL SERVICING	<input type="checkbox"/>	<input type="checkbox"/>
20	CARBURETTOR SERVICING	<input type="checkbox"/>	<input type="checkbox"/>

**Assessor/Examiners comments:**

[illegible]

## ASSESSMENT OUTCOME

Competent ☐

Not Competent ☐

<b>Learner/Trainee</b>	<b>Assessor/Examiner</b>
Learner/Trainee name: _____ (Print)	Assessor/Examiner name: _____ (Print)
<b>Learner/Trainee comments:</b>	<b>Assessor/Examiner comments:</b>

Signature: _____	Signature: _____
Date: _____	Date: _____

**VALIDATION OF THE ASSESSMENT**

NAME:.....

DATE:.....

POSITION: PRINCIPAL/HEAD OF INSTITUTION

SIGNATURE:.....

NAME INSTITUTION:.....

STAMP:

