Student Name: ……
Date: ……

Unit Title	**IntroductionToSpark Ignition Power Units** **Task 4.1**	**Level:** **ONE** **Credit Value:** **4** **Unit Code:** **T/501/7011**	**Sheringham High School Motors**	
	The Learner Will:	**The Learner Can:**		**Done.**
	1.1 (4.1) Use safe working practices when working on spark ignition power units	1.Construct a line diagram to show the layout of the motor vehicle workshop and indicate the position of: • fire exits • fire extinguishers • eye wash facilities 2. State where the fire assembly point is that you should use if the fire alarm sounds when you are in the motor vehicle workshop. 3. State where the first aid room is situated, or where you should report to if first aid is required. 4. Identify the following items of personal protective equipment (PPE) and state at least one task where they should be used. 5. Vehicle exhaust gases are hazardous to health, so before starting and running an engine in the workshop what action should you take?		

Student Name: ……
Date: ……

Unit 4	**Dismantle Four stroke Spark Ignition Engine** **Task 4.1**	**Level:**	**ONE**	**Sheringham High School Motors**
		Credit Value:	**4**	
		Unit Code:	**T/501/7011**	

1.1 Use safe working practices when working on spark ignition power units

1 Construct a line diagram to show the layout of the motor vehicle workshop and indicate the position of:

1. fire exits
2. fire extinguishers
3. eye wash facilities

2 State where the fire assembly point is that you should use if the fire alarm sounds when you are in the motor vehicle workshop.

3 State where the first aid room is situated, or where you should report to if first aid is required.

4 Identify the following items of personal protective equipment (PPE) and state at least one task where they should be used.

Student Name: ……
Date: ……

1 

Item:

Task:

2 

Item:

Task:

3 

Item:

Task:

Date completed

Unit 4	**Dismantle Four stroke Spark Ignition Engine** **Task 4.1**	**Level:**	**ONE**	**Sheringham High School Motors**
		Credit Value:	**4**	
		Unit Code:	**T/501/7011**	

Student Name: ……
Date: ……

Unit 04 (T/501/7011)	Assessment Criteria 1.1 & 1.2	Task No 4.1
Task:	**Dismantle Four Stroke Spark Ignition Engine**	
Vehicle Details	**Special Tools**	**Data**
Make:		**Main Bearing Bolts Torque:**
Model:		**Big End Bolts Torque:**
Year:		**Cylinder Head Bolts Torque:**

Instructions to learners

6. Ensure that the engine is mounted securely
7. Remove cylinder head
8. Remove sump
9. Remove one piston and connecting rod assembly

Assessor Checklist	**Achieved Y/N**
PPE selected and used correctly	
Methodical Procedures used	
Special tool list completed	
Data correct	

Assessor Declaration

In signing this sheet the assessor and learner confirm that all the operation in this task were

Student Name: ……
Date: ……

Carried out by the named learner observed safe working practices at all times.

Assessor Signature…….. Date…….

Learner Signature…….. Date…….

Unit 4	**Spark Ignition Engine Locking Devices** **Task 4.3**	**Level:**	**ONE**	**Sheringham High School Motors**
		Credit Value:	**4**	
		Unit Code:	**Unit 04 T/501/7011**	

Instructions to learners **Assessment Criteria 2.1**

To prevent nuts and bolts loosening in service, various forms of locking devices can be used.

Below are examples of locking devices. In the box provided, explain how each devices prevent loosening.

Locking Device	Name	How it prevents loosening
	Nylon Insert Lock Nut	
	Stretch Bolt	
	Threadlock applied to bolt	

Student Name: ……
Date: ……

Shakeproof Washer

Spring Washer

Assessor Checklist	**Achieved Y/N**
Locking Devices identified	
Use correctly identified	

Assessor Declaration

In signing this sheet the assessor and learner confirm that all the operation in this task were Carried out by the named learner observed safe working practices at all times.

Assessor Signature…….. Date…….

Learner Signature…….. Date…….

Unit 4	**Spark Ignition Engine Gasket and Seals** **Task 4.4**	**Level:** **Credit Value:** **Unit Code:**	**ONE** **4** **Unit 04 T/501/7011**	**Sheringham High School Motors**

Unit 04 (T/501/7011)	**Assessment Criteria 2.1**	**Task 4.4**

Task: Spark Ignition Engine Gasket and Seals

Student Name: ……
Date: ……

Complete the table below to indicate the letter of the gasket named, the material used in manufacture and the substance sealed

Gasket	Letter	Material	Substance Sealed		
			Gas	Water	Oil
Cylinder Head					
Cambox Cover					
Inlet/Exhaust Manifold					
Crankshaft Rear Seal					
Sump					

A **B** **C**

D **E**

Student Name: ……
Date: ……

Assessor Checklist	**Achieved Y/N**
Gasket and Seals identified	
Use correctly identified	

Assessor Declaration

In signing this sheet the assessor and learner confirm that all the operation in this task were Carried out by the named learner observed safe working practices at all times.

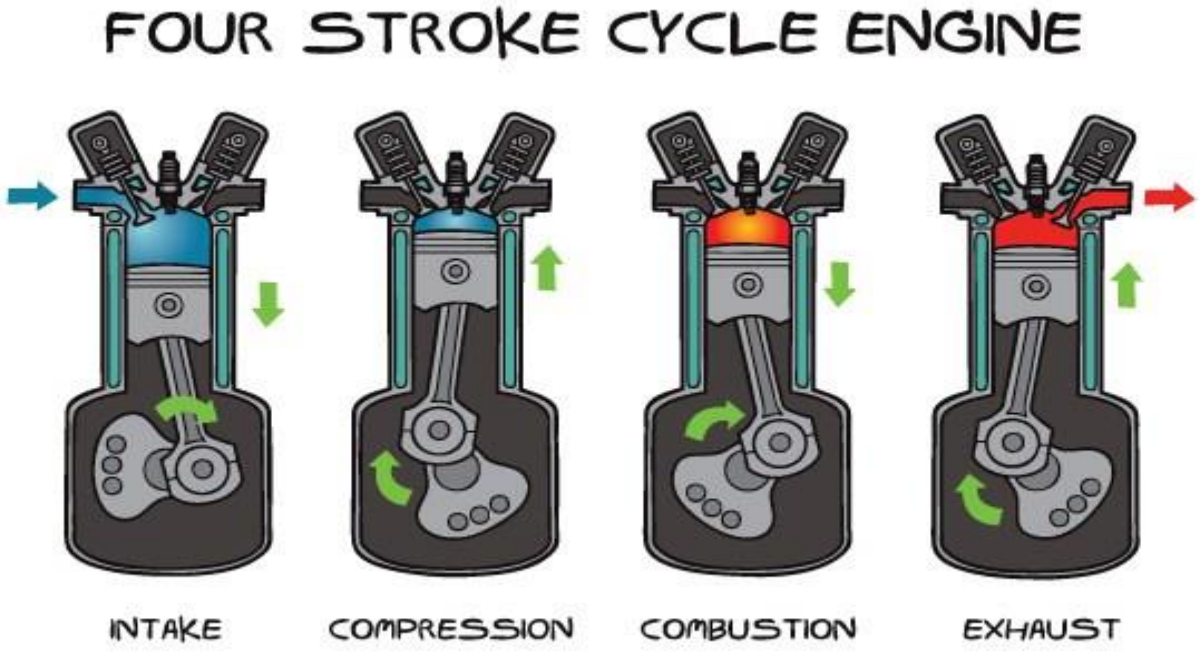
Assessor Signature…….. Date…….

Learner Signature…….. Date…….

Student Name: ……
Date: ……

Unit 4 How a Four stroke engine works	**Level:**	**ONE**	**Sheringham High School Motors**
	Credit Value:	**4**	
	Unit Code:	**Unit 04 T/501/7011**	

1 **2** **3** **4**



Intake

Student Name: ……
Date: ……

Compression

Student Name: ……
Date: ……

Combustion

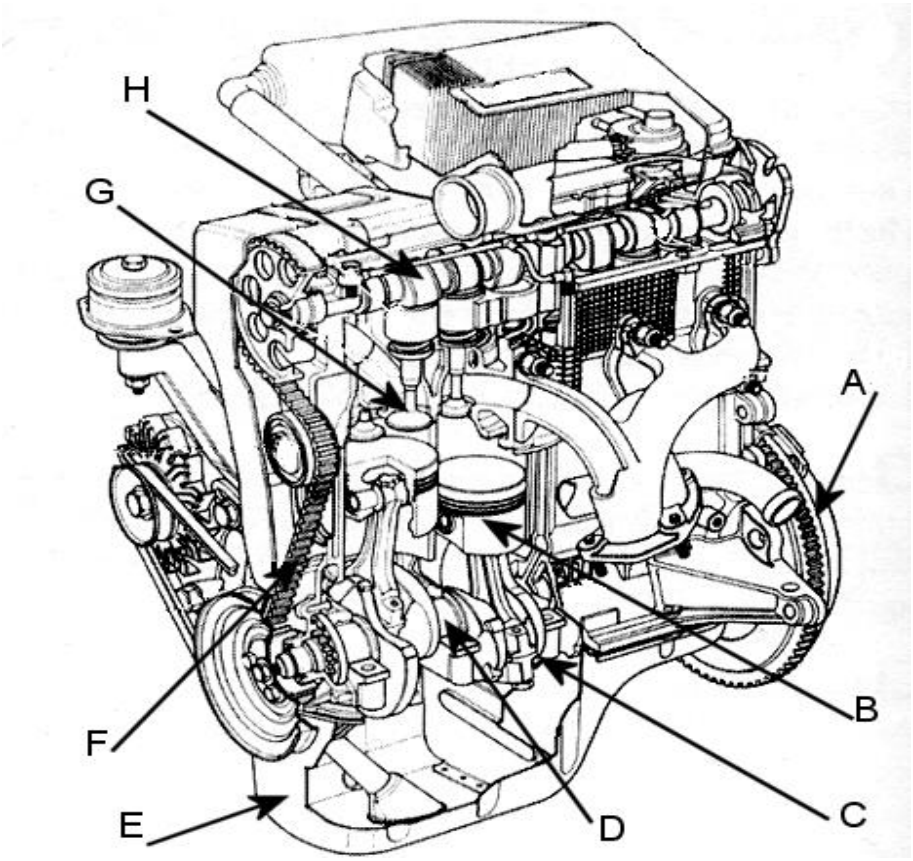
Exhaust

Student Name: ……
Date: ……

Unit 4	**Main Components of a Four stroke Engine**	**Level:** **ONE** **Credit Value:** **4** **Unit Code:** **Unit 04** **T/501/7011**	**Sheringham High School Motors**

Components	**Letter**
Piston	
Valve	
Connecting Rod	
Timing Belt	
Crankshaft	
Camshaft	
Sump	
Exhaust manifold	

Student Name: ……
Date: ……



Unit 4 **Test Your Progress**	**Level:**	**ONE**	**Sheringham High School Motors**
	Credit Value:	**4**	
	Unit Code:	**Unit 04 T/501/7011**	

Unit 04 T/501/7011

Introduction To Spark Ignition Power Units

Test Your Progress

Student Name: ……
Date: ……

This engine part moves up and down in the bore.

It is called;

1. **Plunger**
2. **Piston**
3. **Big end**

These engine part lets fuel and air into the cylinder head and exhaust gases out.

They are called;

1. **Push rod**
2. **Seal**
3. **Valve**

This engine part turns the linear movement of the piston into rotary movement.

It is called;

1. **Crankshaft**
2. **Flywheel**
3. **Camshaft**

On a 4-stroke petrol engine this part ignites the fuel air mixture.

It is called;

1. **Ignitor**
2. **Ignition coil**

Student Name: ……
Date: ……

3. **Spark plug**

This engine part joins the piston to the crankshaft.

It is called;

1. **Joining rod**
2. **Connecting rod**
3. **Connecting arm**

This engine part takes the rotary movement from the crankshaft to the camshaft.

It is called;

1. **Cam belt**
2. **Primary belt**
3. **Cam strap**

This measurement tool is used to fasten the bolts on the engine to the correct pressure.

It is called;

1. **Socket wrench**
2. **Spanner**
3. **Torque wrench**

Student Name: ……
Date: ……

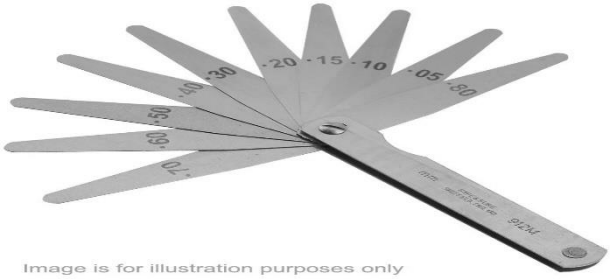


Image is for illustration purposes only

This measuring tool is used to measure clearance between two components parts.

It is called;

1. **Feeler gauge**
2. **Gap gauge**
3. **Finger gauge**

This engine part is used when two components come together and need to retain fluid.

It is called;

1. **Seal**
2. **Gasket**
3. **Plug**

This engine part is used where there is one fixed and one rotating part that needs to be fluid tight.

It is called;

1. **Plug**
2. **Seal**
3. **Gasket**

This workshop equipment is used to hold the engine when you are working on it.

It is called;

1. **Vice**
2. **Engine stand**
3. **Engine holder**

Student Name: ……
Date: ……

On lifting equipment you will see a warning sign informing you of the safe SWL of the equipment.

What does SWL stand for;

1. **Slow working lift**
2. **Systems weight load**
3. **Safe working load**

Student Name: ……
Date: ……

Tutor Signature……..
Date: …….