

WEEK 17 WORKSHEET

Subject: Applied Technology

Year/Level: 13

Strand: 5	AT 13.5: Machines And Engines
Sub Strand	AT 13.5.1 Motorized Machines And Engines
Content Learning Outcome	AT 13.5.1.1 Demonstrate knowledge of the use of motorized Static machines.

LESSON NOTES

Chapter 5: Machines and Engines

Continued from week 16 Lesson notes....

STRAND OUTCOME

After completing this strand students will be able to:

- Identify and familiarize themselves with motorized machines and four stroke engines.

Engine bearing - Everywhere there is rotary action in the engine, bearings need. Bearings are used to support the moving parts.



Crankcase - Body of the engine to which the cylinder are attached and which contains the crankshaft and crankshaft bearing is called **crankcase**. It serves as the lubricating system too and sometime it is called **oil sump**. All the oil for lubrication is placed in it.



Valves - To control the inlet and exhaust of internal combustion engine, valves are used. The number of valves in an engine depends on the number of cylinders. Two valves are used for each cylinder one for inlet of air-fuel mixture inside the cylinder and other for exhaust of combustion gases.



Spark plug - It is used in spark ignition engine. The main function of a spark plug is to conduct the high potential from the ignition system into the combustion chamber to ignite the compressed air fuel mixture.



Injector - is usually used in compression ignition engine. It sprays the fuel into combustion chamber at the end of compression stroke. It is fitted on cylinder head.



Manifold - The main function of manifold is to supply the air fuel mixture and collects the exhaust gases equally from all cylinders. In an internal combustion engine two manifolds are used, one for intake and other for exhaust.



Camshaft - is used in IC engine to control the opening and closing of valves at proper timing. For proper engine output inlet valve should open at the end of exhaust stroke and closed at the end of intake stroke.



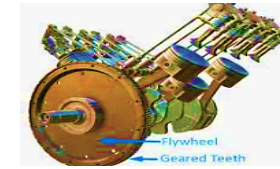
Gudgeon pin or piston pin - It connects the piston to connecting rod.



Pushrod - is used when the camshaft is situated at the bottom end of cylinder. It carries the camshaft motion to the valves which are situated at the cylinder head.



Flywheel - A flywheel is secured on the crankshaft. The main function of flywheel is to rotate the shaft during preparatory stroke. It also makes crankshaft rotation more uniform.



STUDENT ACTIVITY

1. Identify the function of following parts in internal combustion engine:

- Engine bearing - _____
- Crankcase - _____
- Camshaft - _____
- Gudgeon pin - _____
- Pushrod - _____
- Flywheel - _____
- Manifold - _____
- Injector - _____
- Valve - _____
- Pushrod - _____