Small Engine Parts Identification

Contest Guidelines

Each contestant must be able to identify the parts of the small engine and be able to give the purpose of each part. The engine parts will be identified on a disassembled engine, not on an assembled engine. The contestant will look at each part and give its name and its purpose to the judge orally*. Each contestant will also take a fill-in-the-blank vocabulary test online before contests. There will be a word bank at the top of the test page.

Engine Parts:

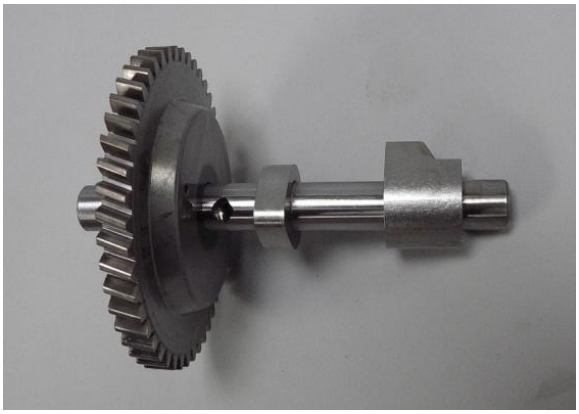
Air Cleaner
Armature
Camshaft
Carburetor
Combustion Chamber
Connection Rod
Crankcase
Crankshaft
Cylinder
Cylinder Block
Cylinder Head
Exhaust Valve
Fuel Tank
Flywheel
Flywheel Key
Intake Valve
Oil Filter Plug
Piston
Piston Head
Piston Ring
Spark Plug

Each contestant must work independently and without assistance*. Any outside assistance may disqualify the contestant. Contestants will be kept in a holding area until their competition begins.

**Students who communicate through an interpreter may use their interpreter during the oral testing. Students who require reading assistance may request to have the test read to them.*

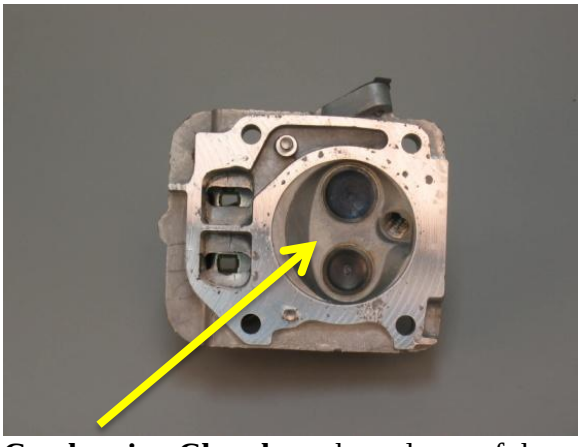
Air Cleaner: a device that filters the air that is mixed with the fuel in the engine.

Armature: a part consisting of coils of wire around an iron core that induces an electric current when it is rotated in a magnetic field.



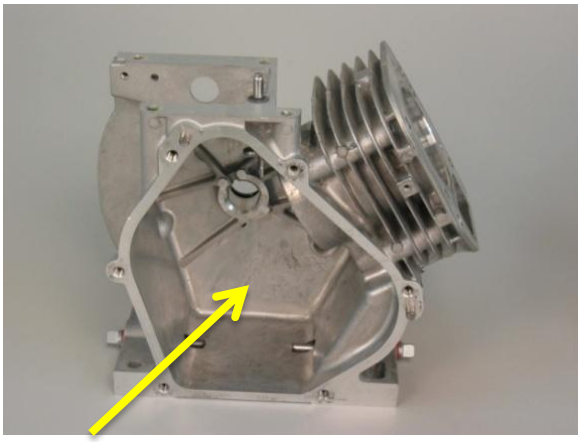
Camshaft: the shaft containing lobes or cams which rotate to raise and lower the valves.

Carburetor: a device for automatically mixing fuel in the proper proportion with air to produce a combustible gas.



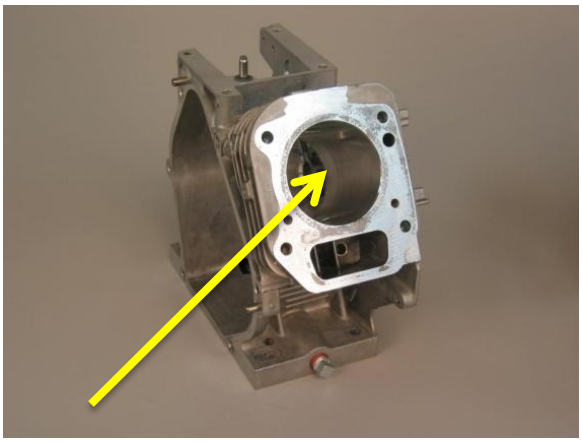
Combustion Chamber: the volume of the cylinder above the piston with the piston at top dead center.

Connecting Rod: a rod that connects the piston to the crankshaft.

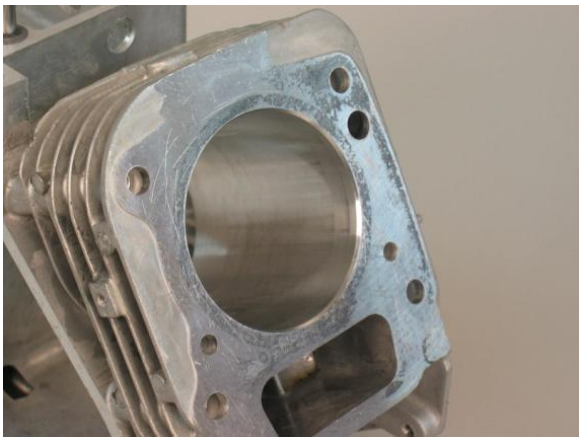


Crankcase: the housing where the crankshaft and many other parts of the engine operate.

Crankshaft: the main shaft of the engine which, in conjunction with the connecting rod, changes the reciprocating motion of the piston into rotary motion.

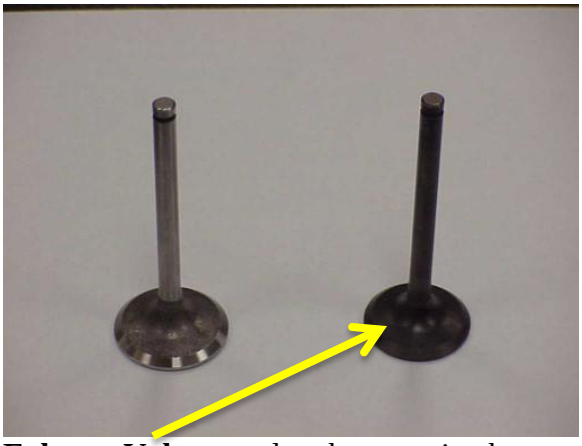


Cylinder: a round hole having some depth bored to receive a piston. Sometimes referred to as a bore or barrel.



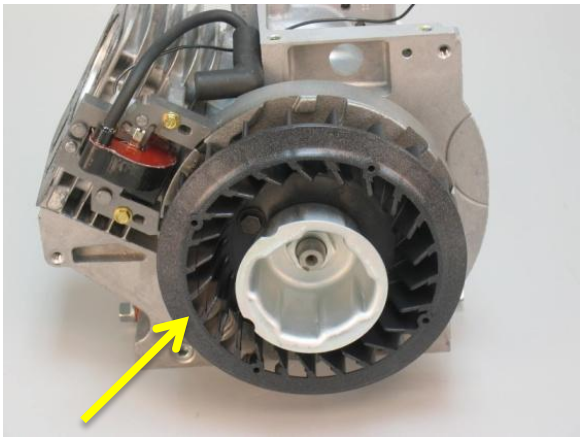
Cylinder Block: the largest single part of an engine; the main mass of metal where the cylinders are bored or placed.

Cylinder Head: a detachable portion of an engine fastened securely to the cylinder block that contains all or part of the combustion chamber.

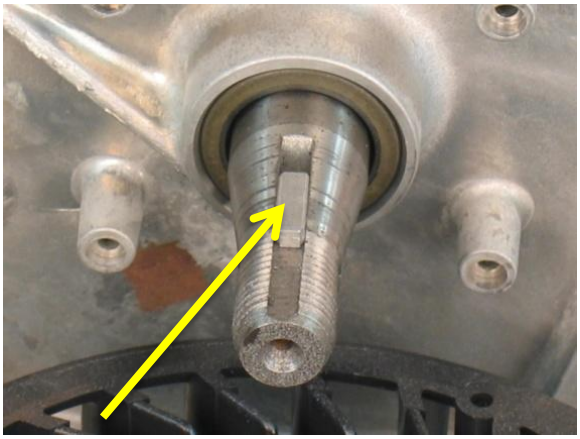


Exhaust Valve: a valve that permits the remains of the burned fuel to leave the combustion chamber.

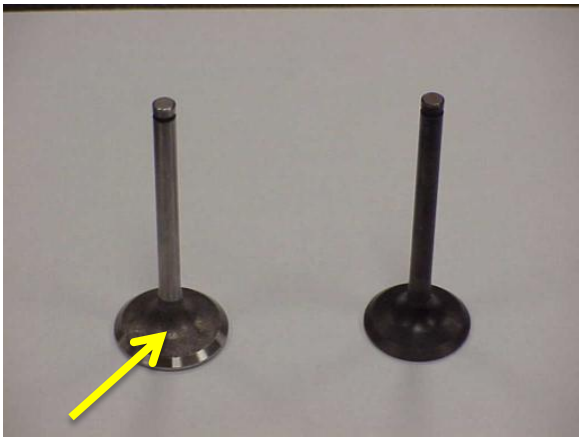
Fuel Tank: the device which contains the fuel to be burned in the engine.



Flywheel: a heavy wheel that maintains the speed of the engine while it is running.



Flywheel Key: a device that holds the flywheel in place.



Intake Valve: a valve that permits the air- fuel mixture to enter the combustion chamber and seals its exit.

Oil Filler Plug: the device that closes the opening where the crankcase is filled with oil.

Piston: a cylindrical part closed at one end that is connected to the crankshaft by the connecting rod.

Piston Head: the part of the piston above the rings.

Piston Rings: expanding rings placed in the grooves of the piston to create a seal that prevents the passage of fluid or gas past the piston.

Spark Plug: a device inserted into the combustion chamber of an engine that contains an insulated control electrode for conducting current.

Contestant # _____

Small Engine Parts Identification

ID and Purpose

Parts	Identification						Definition						Total
Fuel Tank	10	8	6	4	2	0	10	8	6	4	2	0	
Spark Plug	10	8	6	4	2	0	10	8	6	4	2	0	
Cylinder Block	10	8	6	4	2	0	10	8	6	4	2	0	
Armature	10	8	6	4	2	0	10	8	6	4	2	0	
Air Cleaner	10	8	6	4	2	0	10	8	6	4	2	0	
Crankshaft	10	8	6	4	2	0	10	8	6	4	2	0	
Intake Valve	10	8	6	4	2	0	10	8	6	4	2	0	
Piston Head	10	8	6	4	2	0	10	8	6	4	2	0	
Piston Ring	10	8	6	4	2	0	10	8	6	4	2	0	
Connecting Rod	10	8	6	4	2	0	10	8	6	4	2	0	
Piston	10	8	6	4	2	0	10	8	6	4	2	0	
Camshaft	10	8	6	4	2	0	10	8	6	4	2	0	
Cylinder Head	10	8	6	4	2	0	10	8	6	4	2	0	
Exhaust Valve	10	8	6	4	2	0	10	8	6	4	2	0	
Flywheel	10	8	6	4	2	0	10	8	6	4	2	0	
Flywheel Key	10	8	6	4	2	0	10	8	6	4	2	0	
Crankcase	10	8	6	4	2	0	10	8	6	4	2	0	
Oil Filler Plug	10	8	6	4	2	0	10	8	6	4	2	0	
Carburetor	10	8	6	4	2	0	10	8	6	4	2	0	
Cylinder	10	8	6	4	2	0	10	8	6	4	2	0	
Combustion Chamber	10	8	6	4	2	0	10	8	6	4	2	0	
Total Score (420 points possible)													

Contestant # _____

Small Engine Parts Identification

Score Sheet

Vocabulary Score (105 Possible)	
Verbal Score (420 Possible)	
Total Score (525 Possible)	
Resume Penalty **(minus 0-5 points from total)**	
Clothing Penalty **(minus 0-5 points from total)**	

Small Engine Parts Identification

1. A rod that connects the piston to the crankshaft.

a. Armature
b. Connecting Rod
c. Flywheel Key
d. Piston

2. A round hole bored at a certain depth to receive a piston (sometimes called a bore or barrel).

a. Carburetor
b. Crankcase
c. Cylinder
d. Piston

3. A valve that permits the remains of the burned fuel to leave the combustion chamber.

a. Camshaft
b. Exhaust Valve
c. Intake
d. Piston

4. The device which contains the fuel to be burned in the engine.

a. Air Cleaner
b. Crankcase
c. Fuel Tank
d. Piston Head

5. A cylindrical part closed at one end that is connected to the crankshaft by the connecting rod.

a. Armature
b. Camshaft
c. Flywheel
d. Piston

6. A device inserted into the combustion chamber of an engine that contains an insulated control electrode for conducting current.

a. Armature
b. Cylinder
c. Flywheel
d. Spark Plug

7. A device that filters the air that is mixed with the fuel in the engine.

a. Air Cleaner
b. Combustion Chamber
c. Cylinder Head
d. Fuel Tank

8. A device for automatically mixing fuel in the proper proportion with air to produce a combustible gas.

a. Air Cleaner
b. Carburetor
c. Crankcase
d. Oil Filler Plug

9. The main shaft of the engine which, in conjunction with the connecting rod, changes the reciprocating motion of the piston into rotary motion.

a. Camshaft
b. Crankshaft
c. Flywheel Key
d. Piston Ring

10. The device that closes the opening where the crankcase is filled with oil.

a. Connecting Rod
b. Crankshaft
c. Oil Filler Plug
d. Spark Plug

11. Expanding rings placed in the grooves of the piston to create a seal that prevents the passage of fluid or gas past the piston.

a. Carburetor
b. Flywheel
c. Piston Rings
d. Spark Plug

12. A device that holds the flywheel in place.

a. Armature
b. Camshaft
c. Flywheel Key
d. Piston Ring

13. The housing where the crankshaft and many other parts of the engine operate.

a. Carburetor
b. Combustion Chamber
c. Crankcase
d. Cylinder Block

14. The shaft containing lobes or cams which rotate to raise and lower the valves.

a. Armature
b. Camshaft
c. Connecting Rod
d. Crankshaft

15. The part of the piston above the rings.

a. Carburetor
b. Combustion Chamber
c. Cylinder Block
d. Piston Head

16. The volume of the cylinder above the piston with the piston at top dead center.

a. Carburetor
b. Combustion Chamber
c. Cylinder Block
d. Piston

17. A detachable portion of an engine fastened securely to the cylinder block that contains all or part of the combustion chamber.

a. Carburetor
b. Combustion Chamber
c. Cylinder Head
d. Fuel Tank

18. A valve that permits the air-fuel mixture to enter the combustion chamber and seals its exit.

a. Armature
b. Exhaust Valve
c. Intake Valve
d. Spark Plug

19. A part consisting of coils of wire around an iron core that induces an electric current when it is rotated in a magnetic field.

a. Armature
b. Cylinder
c. Flywheel
d. Piston

20. A heavy wheel that maintains the speed of the engine while it is running.

a. Camshaft
b. Flywheel
c. Piston
d. Spark Plug

21. The largest single part of an engine. The main mass of metal where the cylinders are bored or placed.

a. Combustion Chamber
b. Crankcase
c. Cylinder Block
d. Fuel Tank

Small Engine Parts Identification

1. A rod that connects the piston to the crankshaft.

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b. Connecting Rod
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d. Piston

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d. Piston Head

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c. Cylinder Block
d. Fuel Tank