



Pathfinder Honour: Workbook

Small Engines



Name:

Club:

Date Started:

Date Completed:

Instructor Name:

Signature:

Club Director's Name:

Signature:

Please Award Patch:

Date:

To be signed by Authorised Person (ie District Director for Pathfinders) after satisfactory completion. Leaders, please see the Assessment Sheet for a checklist of practical requirements and a short test to check knowledge of honour.

Date Patch Presented

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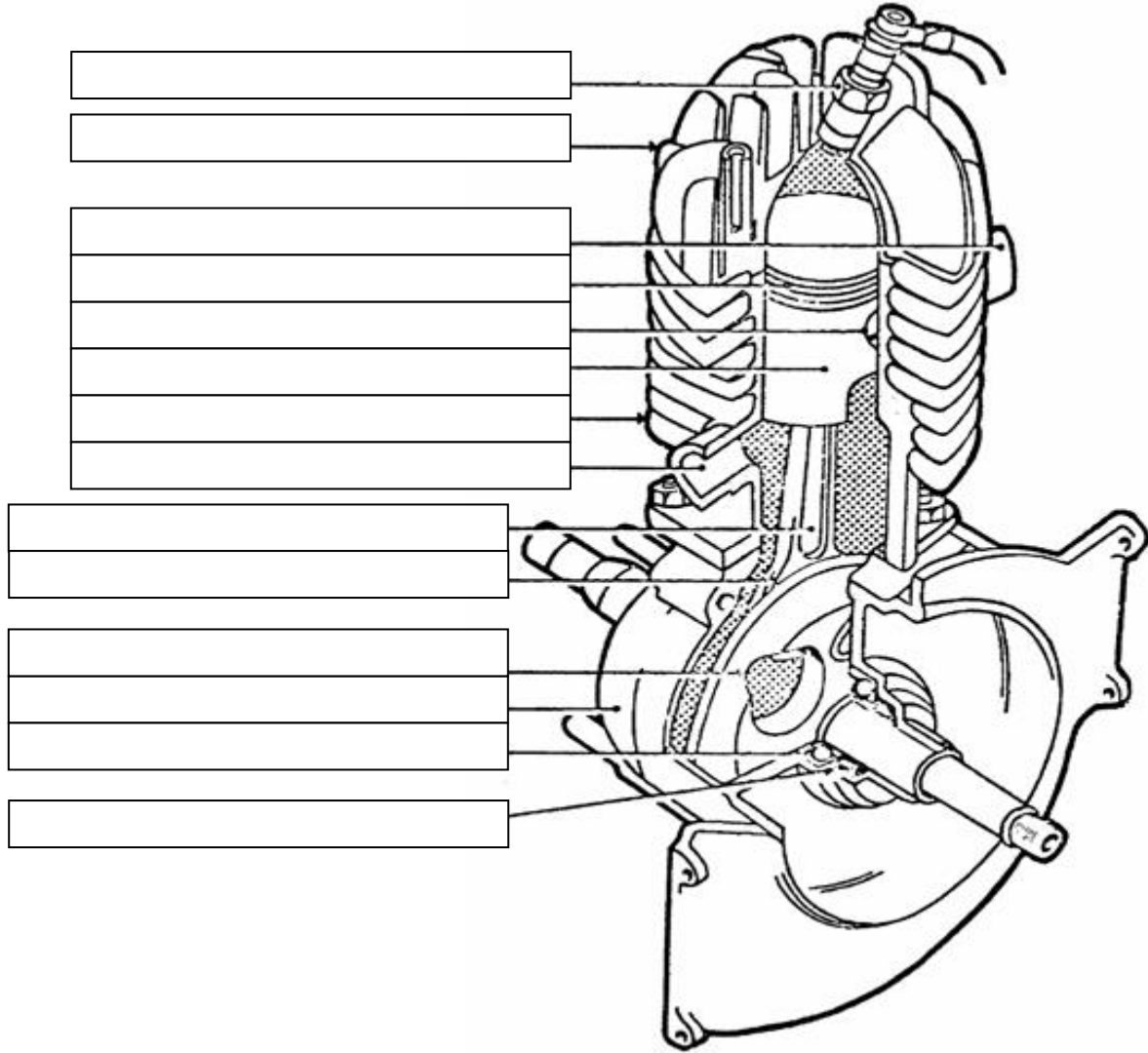
Requirement 1: Describe the basic design and operation of the 2 stroke (2-cycle) engine and the 4-stroke (4-cycle) engine.

The challenge: see if you can complete this requirement using your own works and diagrams

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Requirement 2: Name the parts of the 2-stroke (2-cycle) engine and tell what each part does.

Please name the parts shown below.



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Requirement 3: List the fuel types used in small engines and explain their use.

Please write short notes on each.

Petrol :	
Petrol/oil mix :	
Diesel:	
Nitro-methane:	

Requirement 4: Know and demonstrate safety rules associated with the operation of small engines including care and safety in fuel handling and storage.

Please add your responses in the places provided.

Laws and regulations:		
Manufacturer's Instructions:		
Safe operation of small engines:	1.	
	2.	
	3.	
Care and safety in fuel handling and storage.	1.	
	2.	
	3.	
	4.	
	5.	

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Requirement 5: Describe two types of ignition systems used in small engines.

	<u>Name of System</u>	<u>Brief Description</u>
1.		
2.		

Requirement 6: Describe acceptable cleaning products for small engines and engine parts. Why is gasoline (ie petrol) considered an improper cleaning fluid?

Describe acceptable cleaning products:	
Why petrol is considered an improper cleaning fluid:	

Requirement 7: List and tell how three basic lubrication systems operate.

	<u>Lubrication System</u>	<u>Brief Description of how it Operates</u>
1.		
2.		
3.		

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Requirement 8: List a general trouble-shooting procedure for small engines.

A small engine is not seized and its compression is OK. It won't start.
Explain how you would find out why.

What to check First:	
What to check Next:	

Requirement 9: Demonstrate that you know how to test and clean spark plugs and discuss how the examination of spark plugs gives an indication of the condition of a small engine.

Please give short notes:

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Requirement10: Demonstrate that you can overhaul, clean, inspect, reassemble, and properly tune a small engine.

Engine Make:	
Engine Model:	
No cylinders:	
Fuel Type:	
Cooling Type:	
2-stroke or 4-stroke	
When	
Where	
What was done:	