Internal Memorandum

To: ENGR 100 Students
From: Cheng-Ling Chang (Brad),
Date: TBD
Subject: Group Engine Questions

Purpose

The purpose of this assignment is to help students learn the basics of how an engine works in preparation for writing the individual engine reports.

Group Assignment

Each team should answer the following questions together and turn in one copy for the entire team.

Note: these questions also appear as part of the Engine Handout. Please ask the instructor or TA if you have any questions:

Engine Questions

1. What is the purpose of the starter clutch? Explain from your examination how it does its job.

2. Why is there a cylinder shroud? What specific function does it serve?

3. From reading the appropriate sections of the repair manual, describe in general how the carburetor works.

4. What is the function of the choke and how does it work?

5. Describe in general how fuel manages to get ignited in your engine (i.e. the ignition system).

6. At what point(s) in the four-stroke cycle does a spark occur? How often does the spark plug spark? Does every spark result in combustion?
(7) Locate the intake and exhaust valves. Which one is larger? Why?

(8) Where are the timing marks on the camshaft and crankshaft gears? How can you tell if the timing is correct? Why is this important?

(9) Why is the camshaft made of nylon? Refer to US Patent #5,497,679 to find out. If the link doesn’t work, try google it~

(10) What are tappets, and what is their function?

(11) What types of materials are used on the flywheel? Why does the flywheel have one section made from a different material?

(12) What is the purpose of the flywheel? How much does it weigh? What would be the advantages and disadvantages of making it heavier? Why does it have fan-like vanes on it?

(13) What is the purpose of the rings on the piston and why is there more than one ring? (if you did not remove the piston, look at one of the disassembled pistons in the lab)