Name: _____ Engine # _____

/21

4-stroke Internal Combustion Engine

Job – Piston, Rings & Connecting Rod

Disassembly (OLD ENGINE!!!)

1. Follow the procedure for piston removal as described in the Briggs & Stratton Service Manual (Section 9, Page 2)
2. Remove the piston from the engine.
   Note the connecting rod cap's alignment marks.
3. Remove the Camshaft, crankshaft and tappets.
4. **DO NOT** separate the piston from the connecting rod.

Instructor's Initials

/2

Reassembly

1. Following the instructions found in the Briggs & Stratton Service Manual (Section 9 Pages 4 – 6)., replace the piston in the cylinder and correctly assemble the connecting rod.
2. Insert the tappets and the camshaft. Take care to align the camshaft and crankshaft gears correctly (Note: The alignment dots/lines…)

DO NOT REPLACE THE CRANKCASE COVER UNTIL YOUR INSTRUCTOR HAS INITIALED THE BOX BELOW!!

Instructor's Initials

/2

3. After receiving your Instructor's initials, assemble the rest of the engine.

4. Once your engine is completely reassembled show it to your instructor to obtain a final initial and credit for completion.

Instructor's Initials

/2

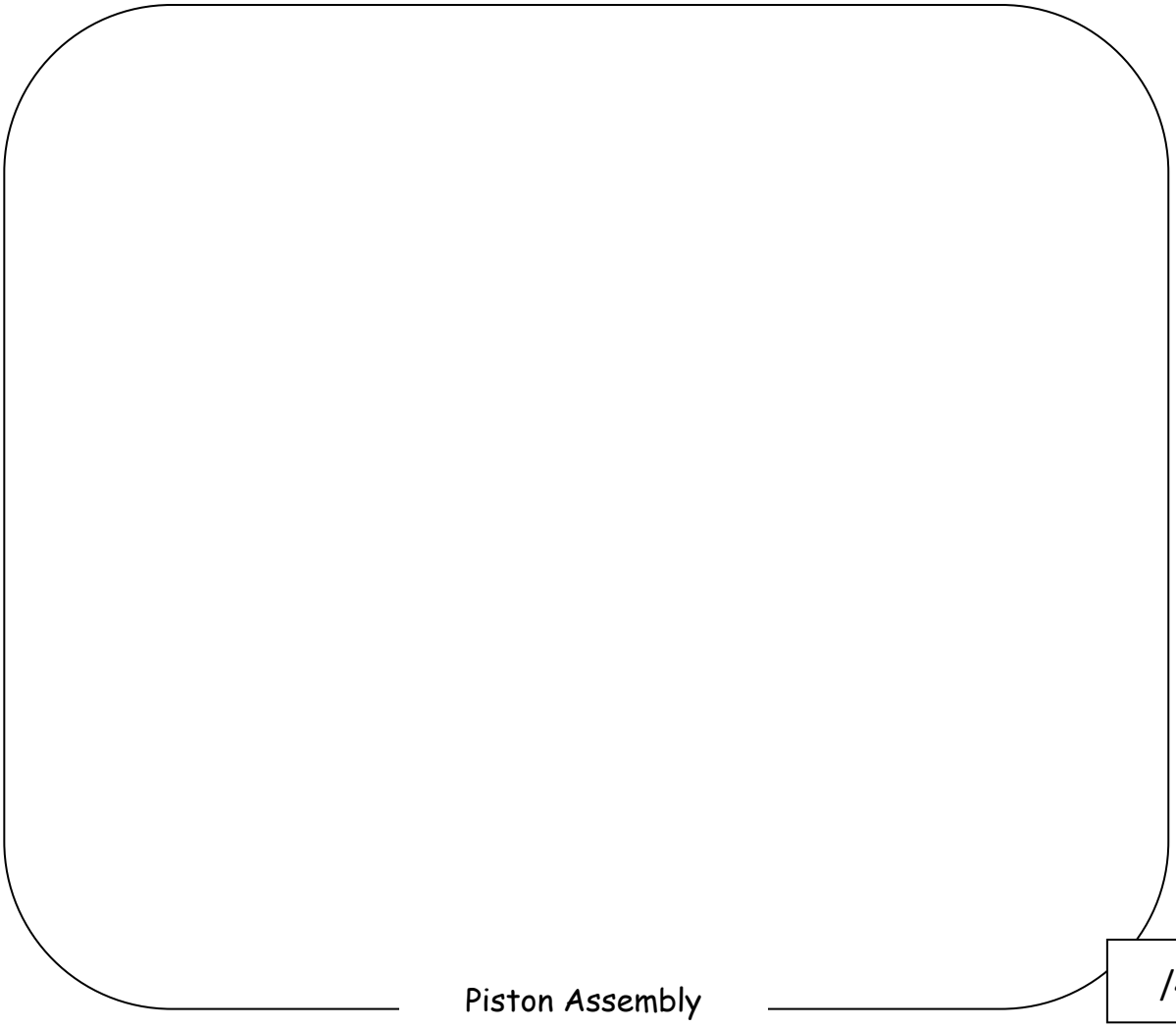
Answer the following questions.

1. With the aid of a diagram, explain clearly why assembly marks are necessary to correctly assemble the connecting rod.

Correct Alignment Incorrect Alignment

/3

2. Draw the piston assembly and **<u>label all</u>** its regions/components with correct names.



Piston Assembly

/4

3. What name is given to the system for lubrication used in this engine? Explain how it works. (If your oil distribution system is missing, what type of system might you expect to find?)

/2

4. Examine the wrist pin. How does it appear to be held in place?

/1

5. Although likely missing on the engine that you are working with, many engines utilize a specialized 'locking system' on the connecting rod bearing cap fasteners. What is it called? Why is this necessary?

/2

6. When engines are assembled care is always taken to align 'timing marks' found on both the camshaft and crankshaft gears/sprockets. What could/would the result be if these marks were incorrectly aligned?

/1

7. Why do engines need oil?

/2