

2001 State Competition
FFA Agricultural Mechanics Contest
University of Missouri
50 points

Name _____
Contestant Number _____
Chapter _____

Small Engines

1. Identify #1
 - A. Flywheel
 - B. Head Bolt
 - C. Fly Wheel Key
 - D. Fly Wheel Nut
2. Identify #2
 - A. Crankshaft
 - B. Camshaft
 - C. Piston Rod
 - D. Valve Lifter
3. Identify #3
 - A. Crankshaft
 - B. Camshaft
 - C. Valve Lifter
 - D. Piston Rod
4. Identify #4
 - A. Ratchet
 - B. Dial indicator
 - C. Dial caliper
 - D. Torque wrench
5. Identify #5
 - A. Intake valve
 - B. Exhaust valve
 - C. Tappet
 - D. Spring retainer
6. Identify #6
 - A. Air cleaner
 - B. Crankcase
 - C. Valve cover
 - D. Engine Block
7. Identify #7
 - A. Intake valve
 - B. Exhaust valve
 - C. Tappet
 - D. Spring retainer
8. Identify # 8
 - A. Piston Rod
 - B. Piston
 - C. Valve
 - D. Piston pin
9. Identify # 9
 - A. Valve spring compressor
 - B. Piston ring compressor
 - C. Condenser spring compressor
 - D. Piston ring groover
10. Identify #10
 - A. Engine Block
 - B. Crankcase
 - C. Valve cover
 - D. Head

General Questions 20 points

Total points received in ID area _____ pts.

Using provided Briggs and Stratton single cylinder four-cycle repair manual answer the following Questions.

1. Examine the shroud for engine tagged #1. The cylinder head for this engine should be torqued to _____. (2 pts.)
2. Examine the shroud for engine tagged #2. The engine oil should be changed _____ hours or every _____ after first oil change. (4pts.)
3. Examine the shroud for engine tagged #3. (4 pts.)
 - A. What year was it made? _____
 - B. What month was it made? _____
 - C. What assembly line was it made on? _____
 - D. What day of the month was it made on? _____
4. A spark plug for the small engine tagged #4 should be gapped to _____. (2pts)
5. The Compression ring end gap reject size is _____ inches on aluminum cylinder bores and _____ on cast cylinder bores. (2pts)
6. Examine the shroud for engine tagged #6. Using the check chart (spec chart) in the manual find the bore, stroke, and cubic inches of displacement for the engine, **must show work.** (6pts)

Skill Activity 20 pts

Total received in area _____ pts

7. The engine tagged #7 has one minor defect. This causes the engine NOT to start. Find the defect. Go to the contest official and explain to him which part is defective and why.

Troubleshooting Points 10 pts

10 pts if find correct part on first time

2 pts off for each wrong part until 0 remain.

Total _____ pts received

Tabulation Score Sheet

	<u>Possible</u>	<u>Earned</u>
10 questions, page 1, (2 points each)	20	_____
6 Manual related questions	20	_____
Troubleshooting activity	10	_____
Total Earned for Activity	50	_____