



2007 State Competition
FFA Agricultural Mechanics Contest
University of Missouri
50 points

Contestant # _____
Contestant Name _____
Chapter _____

Small Gas Engines

Directions: Please circle the appropriate answer for each question. When you are finished please turn your sheet in. Remember to put your name, contestant number, and chapter on your paper. Not doing so will result in a zero for this section. If you have questions please feel free to ask.

*** Up to 5 safety points will be deducted from your final score if necessary. Please wear your safety glasses and practice safe methods while competing in this activity.**

1.) **Select the correct tool and measure the bore of the engine #1.**

- A. 1.59 in B. 2.67 in C. 3.00 in D. 3.15 in

2.) **Using the measurement obtained above, calculate the displacement of engine #1. Note the tag on the table to determine the stroke of the engine.**

- A. 18.37 B. 19.44 C. 19.75 D. 20.30

3.) **Engine #2 is on the _____ stroke.**

- A. Intake B. Compression C. Power D. Exhaust

4.) **Engine #3 is on the _____ stroke.**

- A. Intake B. Compression C. Power D. Exhaust

5.) **What is the measurement on the micrometer tagged letter A?**

- A. .675 B. .750 C. .875 D. .950

6.) **How often should the air filter be serviced on engine #4?**

- A. 10 hours
B. 50 hours
C. 100 hours
D. None of the above

7.) **Engine #5 is not getting fuel. Why not?**

- A. The fuel switch is shut off.
B. A fuel line plugged.
C. The float is stuck in the carburetor.
D. The fuel filter is plugged.

- 8.) Within what distance of the top of the filler neck should the fuel be added to the fuel tank of engine #5?
A. 1 ¼ in B. 1 ½ in C. 1 ¾ in D. 2 in
- 9.) Engine oil for engine #5 should initially be changed after _____ hours of operation then every _____ hours there after.
A. 10-15, 100
B. 3-5, 25
C. 9-11, 75
D. 5-8, 50
- 10.) Valve clearance on engine #5 should be checked _____.
A. Yearly B. Monthly C. Every other year D. Every 5 years
- 11.) Engine #6 is missing _____.
A. Tappet
B. Push Rod
C. Connecting Rod Cap
D. Governor
E. Head Gasket
- 12.) Engine #7 is missing _____.
A. Tappet
B. Push Rod
C. Connecting Rod Cap
D. Governor
E. Head Gasket
- 13.) Engine #8 is missing _____.
A. Tappet
B. Push Rod
C. Connecting Rod Cap
D. Governor
E. Head Gasket
- 14.) Engine #9 is missing _____.
A. Tappet
B. Push Rod
C. Connecting Rod Cap
D. Governor
E. Head Gasket
- 15.) Engine #10 is missing _____.
A. Tappet
B. Push Rod
C. Connecting Rod Cap
D. Governor
E. Head Gasket

16.) What letter is the rocker arm?

- A. A B. B C. C D. D E. E

17.) What letter is the camshaft?

- A. A B. B C. C D. D E. E

18.) What letter is the connecting rod?

- A. A B. B C. C D. D E. E

19.) What letter is the flywheel washer?

- A. A B. B C. C D. D E. E

20.) What letter is the compression ring?

- A. A B. B C. C D. D E. E

21.) What is the tool labeled #1?

- A. Compression Tester
- B. Valve Lapper
- C. Flywheel Holder
- D. Recoil Mechanism Wrench
- E. Wire Feeler Gauge

22.) What is the tool labeled #2?

- A. Compression Tester
- B. Valve Lapper
- C. Flywheel Holder
- D. Recoil Mechanism Wrench
- E. Wire Feeler Gauge

23.) What is the tool labeled #3?

- A. Compression Tester
- B. Valve Lapper
- C. Flywheel Holder
- D. Recoil Mechanism Wrench
- E. Wire Feeler Gauge

24.) What is the tool labeled #4?

- A. Compression Tester
- B. Valve Lapper
- C. Flywheel Holder
- D. Recoil Mechanism Wrench
- E. Wire Feeler Gauge

25.) What is the tool labeled #5?

- A. Compression Tester
- B. Valve Lapper
- C. Flywheel Holder
- D. Recoil Mechanism Wrench
- E. Wire Feeler Gauge