

Contestant Name: _____

Practicum Score: _____

School: _____

**2026 Kansas State Agriculture Technical and Mechanical Systems
Compact Equipment Practicum Activity – 100 points**

Instructions: Place all answers on this page. Follow all instructions carefully and completely in order to obtain full points for this activity.

Section 1 – Parts Identification

Identify the part by placing the letter of the correct term for either the tool or the part identified in the blank to the left. Make sure that your letters are legible. Not all answers will be used. (3 points each)

Parts List:

Tools List:

- | | | | |
|-------------------|------------------|--------------------|---------------------------|
| A. Crankshaft | I. Piston | Q. Flywheel | Y. Spark Plug Tester |
| B. Camshaft | J. Main Bearing | R. Cylinder Head | Z. Piston Ring Compressor |
| C. Connecting Rod | K. Magneto | S. Crankcase Cover | AA. Tang Adjusting Tool |
| D. Cylinder | L. Fuel Tank | T. Piston Ring | BB. Flywheel Strap Wrench |
| E. Intake Valve | M. Carburetor | U. Rocker Arm | CC. Fuel Line Remover |
| F. Exhaust Valve | N. Governor | V. Valve Spring | DD. Digital Tachometer |
| G. Spark Plug | O. Air Cleaner | W. Piston Pin | EE. Piston Ring Expander |
| H. PCV Valve | P. Cylinder Head | X. Rewind Starter | FF. Flywheel Puller |

- | | | | | |
|----------|----------|----------|-----------|-----------|
| _____ 1. | _____ 4. | _____ 7. | _____ 10. | _____ 13. |
| _____ 2. | _____ 5. | _____ 8. | _____ 11. | _____ 14. |
| _____ 3. | _____ 6. | _____ 9. | _____ 12. | _____ 15. |

Section 1 Score - _____

Section 2 – Precision Measuring

Determine the measurement for each part by doing the actual measuring or looking at a picture of the measurement. Use the measuring tool at each station.

- 21. Outside diameter of the magneto end journal on this crankshaft? (5 points) _____
- 22. Diameter of the camshaft journal. (either end) (5 points) _____
- 23. Inside diameter of the bearing. (4 points) _____
- 24. Drill bit picture - w/dial caliper (4 points) _____
- 25. PTO shaft with 0-1 micrometer picture. (4 points) _____
- 26. Outside diameter of the metal bushing. Dial caliper (4 points) _____

Section 2 Score - _____

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Section 3 – Repair Manual Questions

Use the Repair Manuals provided to answer the following questions. All specifications will be for a Briggs and Stratton engine – **Model 130U200** Use proper labels!! (3 points each)

27. What is the engine displacement for this model? _____
28. How much oil should the engine have in it? _____
29. What is the Intake Valve Clearance for this engine? _____
30. How tight should the cylinder head screw be tightened ? _____
31. How tight should the valve cover screw be tightened? _____
32. When checking the cylinder bore, it is determined that the bore is 0.0025” out of round. Should you use or fix/replace this cylinder? Use Replace
(circle answer)
33. A connecting rod from this engine is checked and it is found that the diameter of the crank pin bearing diameter is 1.195” Use or Replace? Use Replace
(circle answer)

Section 3 Score - _____

Section 4 – Troubleshooting

Read the following scenarios and determine what the most likely cause might be based on the description.

34. You are attempting to start a transfer pump for your sprayer nurse tank for the first time this spring and it will not start. It has spark when checked with a tester. When you pull the recoil starter, you can tell that it seems to have adequate compression.

What is the most likely cause for this engine not starting? (4 points)

35. You transported your push mower to a neighbor’s farm to mow their yard. There were a few potholes and bumps on the way but the mower stayed in the back of the truck. When you got there, the mower would not start. You checked to see that there was gas in the tank and the starter rope pulls like you would expect.

What is the next thing that you should check? (4 points)

Section 4 Score - _____