

Name: _____

Engine # _____

/21



4-stroke Internal Combustion Engine



Job – Engine Starting & Tuning

Introduction

It's time to start the engine once again. This time you will be asked to do more than simply start it, you'll need to tune-it for best performance as well.

Procedure

1. Before attempting to start the engine you'll need to make some initial settings to your carburetor. Find the specs for the adjustments noted below in the Briggs and Stratton service manual and record the settings.

Initial mixture screw setting _____

Initial idle set screw setting _____

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2. **Fill the engine's crankcase to the recommended oil level** (bottom of the threads)
3. Bolt your engine to a test stand. **Make sure that it is secure!**
4. When outside, fill the fuel tank with sufficient fuel for the short time that you will be running the engine.
5. Make the initial adjustments that you noted in step #1 above.
6. Secure the engine in a vice.
7. Start the engine.
8. When warmed up, tune it as per the demonstration.
9. **Show your instructor** that you engine is tuned to receive credit.

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Engine Tuned
Instructor's Initials

10. Shut off the engine. Take extreme care to **avoid burning yourself on the muffler** as you proceed through the remaining steps.
11. Remove the test stand. Return bolts to their places in the stand.
12. Drain the engine oil from the crankcase. Clean up any spills!
13. **Outside**, drain the fuel from the fuel tank. Use a funnel to avoid spills.
14. Once your engine is completely assembled. Wipe clean and **show your instructor** to receive final credit.

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Job Complete
Instructor's Initials

Questions

1. When an engine appears to be mechanically fit yet still fails to start, a knowledgeable person would investigate three things. What would these be?

- a. _____
- b. _____
- c. _____

/3

2. For the possible 'no-start' causes that you identified in question #1, explain how a person could check each without the use of specialized testing equipment, ie your lawnmower doesn't start and you have basic hand tools, but you don't have anything more.

a. _____

/2

b. _____

/2

c. _____

/2