

Power Equipment Technology

2020 Tool List and Scope of the Contest

Contestant must bring: Pencil or Pen, Calculator, Safety Glasses, Printed "Resume" submit at written exam

Clothing Requirement:

Business attire (short sleeve light blue dress shirt or Polo Shirt), Slacks (blue Docker), socks, black or brown work shoes, black belt

ALL CONTESTANTS REPORT to contest site at 7:30 AM for written exam, safety glasses & resume, BE PROMPT!

Tools:

The following list consists of some special tools you may want to become familiar with for the contest. You will find that most small engine shops will have most of these tools. Find a reputable small engine shop in your community and ask the technician if he/she would be willing to show them to you and maybe even give you a short lesson on how to use them.

-Spark Tester	-Compression/Leak down tester	-Digital Calculator
-Digital Tach	-Fluke digital multimeter	-Telescoping Gauges
-1/10000 Outside Micrometer	-1/1000 Vernier Caliper	-Dial Indicator

Scope of the Contest

- Know 2-cycle and 4-cycle theory of operation and how the engine functions.
- Be familiar with the various operating systems on small engines and know how to diagnose problems with these systems, such as the fuel, electrical, power train, and the ignition system.
- Have good customer relation's skills. How to greet the customer and know how to process a **work order**, customer's personal information, equipment information, and look up parts/costs. Know how to use a computer to look up parts. Use www.partstree.com web site to become familiar with this valuable tool for technicians.
- Know how to perform precise measurements with vernier micrometer and dial indicator, (+ or - .001) accuracy.
- You will be required to diagnose a failed engine. Find some type of guide to study failed engines. It does not matter whose guide you study. All small engines fail from the same problems.
- Know how to diagnose a poor running 4-cycle L-head or OHV engine in single or twin cylinders. Troubleshooting, repair, adjustment of engine valves. It doesn't matter what brand of engine, they all have the same major parts even if they are not interchangeable from manufacturer to manufacturer.

https://www.briggsandstratton.com/eu/en_gb/support/faqs/browse/valve-repair-maintenance.html

- A pen or pencil is required at **all** workstations.
- All the specialty tools will be provided at each workstation.
- Know how to read technical repair manual instructions to perform activity.
- Safety Glasses will be required on designated stations, safety glasses check at written exam.
- Know how to use a digital multi-meter to measure and diagnose electrical problems, example the **Fluke 73 III** will be used.
- Understand how recoil starters work and know how to repair a broken or non-functioning recoil starter.
- Know how to service and repair landscape tools.
- Know how the **Kohler EFI fuel system** operates, today's small engine manufacturers are using digital fuel control. Use this Kohler link:
http://www.kohlerengines.com/onlinecatalog/pdf/sm_24_690_02.pdf.