Small Engine Basic

9-A

Area #1 Regionals March 4, 2025

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Standards will follow State standards as closely as possible to get competitors ready for State competition

**Equipment and material**

* All tools and equipment provided by the contest chairperson

**Scope of competition**

* No written exam for this competition
* Students will be given job sheets explaining the tasks to be performed. Verbal instructions will be given when needed.
* Students will complete a number of tasks closely related to industry standards.

**Clothing requirement**s

* White crew neck T-shirt
* Work pants or jeans
* Leather boots
* Long hair must be tied back
* Z87 approved safety glasses prescription glasses approved for Z87 standards or goggles or safety glasses should be worn over.

**Skills performance**

* Students will cycle through several stations completing hands on tasks pertaining to small engines and small equipment repair, ID, or maintenance.

**Areas of focus are as follows**

1. Parts ID

* Engine crank case
* Pistons
* Cam
* Valve
* Head
* Carburetor
* Exhaust
* Governor
* Gaskets
* Spark plugs
* Recoil
* Any other parts pertaining to small engines or small engine repair

1. Tool ID

* 1/4, 3/8, 1/2 Ratchet/ Sockets
* Arrange SAE sockets (Fractional)
* Spark Tester
* Multimeter
* Torque Wrench & Settings
* Compression Tester
* Leak-down Tester
* Hand Tools (various)
* Tap & Die
* Ring compressor
* Any other parts pertaining to small engine repair or rebuilding

1. Engine part/ parts disassembly and reassembly following procedures

* Remove the head
* Separate the side of the crank
* Remove the piston/reinstall the piston
* Remove valve(s)/Reinstall valve(s)
* Recoil starter repair
* Any other service or repair procedure to do with small engine repair

1. Measuring (calipers, tape measure, micrometers)

* Pistons
* Crank
* Cylinder bore
* Various parts of engine repair

1. Manual usage(procedures, Labor times, torque specifications, capacities, ETC)

* Engine repair manual
* Labor guides
* Estimation

1. Two-Cycle / four cycle service

* String Trimmer Maintenance
* Chainsaw Maintenance
* Identify safety factors/test operation

Chain brake

Slap guard

Chain catch peg

Tip guard

ANY OTHER PARTS PERTAINING TO SMALL ENINGE REPAIR

1. Electrical repair, diagnose, ID

* Ignition coils
* Charge systems
* Safety systems
* Switches
* Relays
* ETC

ANY OTHER PARTS PERTAINING TO SMALL ENINGE REPAIR