NYS Skills USA Diesel Equipment Technology Virtual Project

Scope of the Contest –

To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of diesel equipment technology.

Contest Requirements –

- PDF Resume (one per student) You will be notified of website to send it to by April 1, 2021.
- 2 pre-recorded video submissions to the tasks outlined below, You will be notified of website to send it to by April 1, 2021.
- Written test

Scoring Information –

Scoring will be based upon the submission and quality of the resume and the aptitude of performance in the task performances, judged by industry professionals, and the written test.

Video Submissions –

The submissions of the tasks should be recorded, with no breaks and completed within one hour. The focus of the video should be on the work being done and student contestant narrating the work they are completing.
Task 1: Valve lash adjustment station

Situation:
Customer equipment has reached a point in its service that it requires a valve lash adjustment.

Instructions:
A time limit of one hour applies to the service scenario video. No actual bug needs to be installed into the demonstration equipment. The participant will treat each test he or she completes as it has passing results. This will send the participant to the next logical diagnostic step. The participant should run out of test and end with an inconclusive result. The participant shall announce what test he or she is about to perform before proceeding with that test.

Necessary Equipment:
- A truck, machine, or equipment that is equipped with 2 rockers per cylinder (intake and exhaust) bridge valve engines are allowable (no DOHC engines).
- Valve lash adjustment should be adjusted to a given set point (.012" to .016")
- Access to the engine will be needed.
- Valve cover should be excess able to be removed.

Required Tooling:
- Basic hand tool set (sockets, wrenches, screwdrivers, etc.)
- Feeler gauge set (standard)
- Any further tooling can be at the discretion of the instructor (barring tool, etc.)

Video of Demonstrated Procedures:
Record the contestant completing the task. One camera should show the entire lab/workstation the student is in. The second camera should be focused on the student as they complete the task. Please take in account for lighting and resolution of the footage.
Task #2 – Engine Oil Pressure

Scenario –
A running diesel engine has developed a fault in the engine oil pressure system. Troubleshoot plausible faults in the system. Note: no actual “bug” is needed to be installed into the demonstration machine.

Instructions –
Demonstrate the correct procedure to troubleshoot a faulty oil pressure gauge. Also include the necessary steps to demonstrate verification of engine oil pressure present during engine operation.

Necessary Equipment –
A running diesel engine, be it on a running engine stand or in a running diesel-powered machine (off-road or heavy-duty on road application).

Suggested Tooling:
- Basic Hand Tools
- Oil pressure gauge
- Appropriate piping and fittings
- Digital Multi-meter