

Automotive Service Technology

SCOPE OF THE CONTEST

The contestants will demonstrate their knowledge and ability of automotive service technology.

Review the tally sheet for scoring guidelines for each task.

(Total time of tasks will be the main deciding factor in a tie.)

TASKS:

- 1.) Automotive scan tool task (30 min)
- 2.) Machine rotor repair (30 min)
- 3.) Tire spin and balance (30 min)
- 4.) Written Test

EQUIPMENT/MATERIALS:

-ROSDALE TECH WILL PROVIDE ALL TOOLS AND EQUIPMENT FOR EACH TASK INCLUDING: ENGINES, COMPONENTS, SNAP-ON (SOLUS SCANNER), SNAP-ON (TIRE CHANGER MODEL # EEWH306B), HUNTER TIRE CHANGER (TCX535) AND HUNTER ROAD FORCE TIRE BALANCER (GSP9750).

SAFETY REQUIREMENTS

- 1.) Contestants must have knowledge of operational and safety procedures when using tools and equipment.
- 2.) All standard shop and safety procedures must be observed.
- 3.) During shop completion, all contestants must wear safety glasses or goggles and work shoes.

Task # 1
AUTOMOTIVE SCAN TOOL TASK

INSTRUCTIONS:

- When instructed to begin this task, connect the scan tool to the identified vehicle.
- Perform a scan test and list all codes displayed.
- Note event history if it is contained in the ECM.
- Record the information on the answer sheet.

Work quickly but as accurately as possible. You will have thirty (30) minutes to complete this task. Only correct answers will be counted. You will not be penalized for an incorrect answer so complete as many as possible.

Contestant Number: _____

Time Started: _____

Time Ended: _____

Total time on task: _____

Judges Initials: _____

Task # 1
AUTOMOTIVE SCAN TOOL TASK

Record all scan tool information below:

Codes Found:

1.)

2.)

3.)

4.)

5.)

6.)

7.)

8.)

9.)

10.)

Task # 2
MACHINE ROTOR

Instructions:

When instructed to begin this task, perform the required operations according to accepted industry standards.

Work quickly but as accurately as possible. You will have thirty (30) minutes to complete this task. Only correct answers will be counted. You will not be penalized for an incorrect answer so complete as many as possible.

Perform the following operations:

Note: Safety regulations including PPE must be followed at all times.

- Install supplied rotor
- Test spin rotor.
- Cut Rotor until each side is free of defects.
- Perform a surface "cross hatch" on rotor.

-Use a micrometer for the following:

Task	Recorded Value/Answer
List original rotor specifications.	
List current rotor specifications	
Is reading within specifications?	
Can this rotor be reinstalled?	
List the original drum specifications	
List the current drum specifications	
Can this drum be reinstalled?	

Contestant Number: _____

Time Started: _____

Time Ended: _____

Total time on task: _____

Judges Initials: _____

Task # 3
Tire Spin Balance Task

Work quickly but as accurately as possible. You will have thirty (30) minutes to complete this task. Only correct answers will be counted. You will not be penalized for an incorrect answer so complete as many as possible.

Directions:

- 1.) The purpose of this test is to determine how quickly and accurately you can dismount, mount and balance a wheel and tire assembly and re-install it onto the vehicle.
- 2.) You will be rated on your speed, accuracy, workmanship and use of accepted shop safety practices. To obtain the highest possible score you must jack the vehicle, remove the tire and wheel, dismount the tire and turn it over on the rim, remount, inflate to correct pressure, and balance the wheel and tire assembly to 0 – 0 specifications and re-install onto vehicle accurately torquing wheel bolts and returning vehicle to floor.
- 3.) The examiner will instruct you as to which wheel to remove. All equipment necessary will be provided at the test area. Notify the examiner once you have completed.
- 4.) Follow the job specifications listed below.

Job Specification
Vehicle must be properly jacked and secured on jack-stand
Tire must be removed without damaging tire or wheel
Tire must be "Turned Over" or that the "Marked" side is opposite from where it was when you began.
Tire must be mounted without damage to tire or wheel and inflated to 28 PSI.
Wheel and tire must be balanced to 0 – 0 specification
Vehicle must be lowered to floor and wheel bolts torqued to 90ft. lbs

Contestant Number: _____

Time ended: _____

Time Started: _____

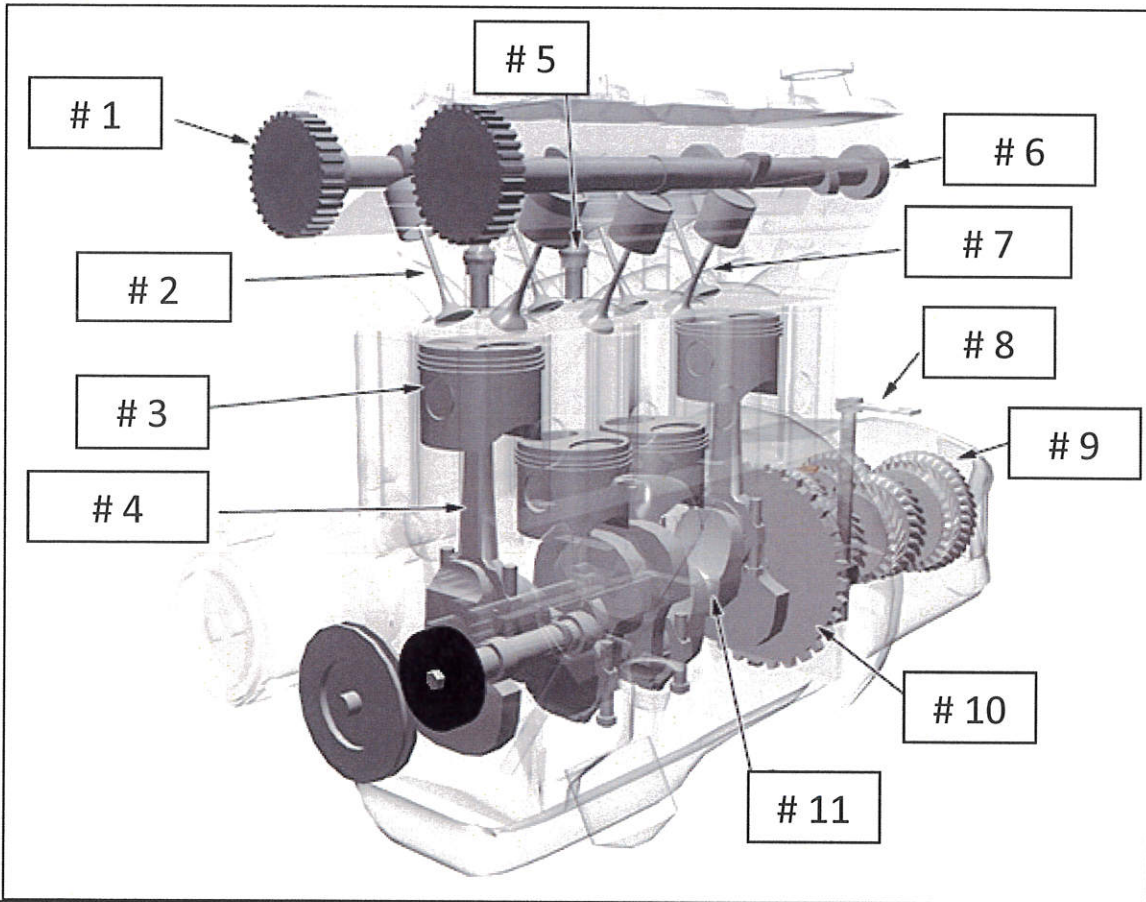
Total time on task: _____

Judges Initials: _____

Task # 4

Written Test

Directions: Use the diagram below to fill in the answers.
 You will have thirty (30) minutes to complete this task.



1.)	6.)
2.)	7.)
3.)	8.)
4.)	9.)
5.)	10.)

11.)

- 1.) Hazardous materials include all of the following except _____.
 - a. Engine oil
 - b. Asbestos
 - c. Water
 - d. Brake cleaner

- 2.) An oil filter should be hot drained for how long before disposing of the filter?
 - a. 30 to 60 min
 - b. 4 hours
 - c. 8 hours
 - d. 12 hours

- 3.) The spring rate of a spring is measured in units of _____.
 - a. lb. per inch
 - b. ft.- lb
 - c. psi
 - d. in.-lb

- 4.) The part of many rear suspension systems that controls side-to-side movement is called the _____.
 - a. Rear control arm
 - b. Track rod or panhard rod
 - c. Stabilizer bar
 - d. Trailing arm

- 5.) Unusual noise during a test drive can be caused by _____.
 - a. Defective wheel bearings or stabilizer bar links
 - b. Defective or worn control arm bushings or ball joints
 - c. Worn or defective CV joints
 - d. All of the above

- 6.) A noise and pull toward one side during braking is a common symptom of a worn or defective _____.
 - a. Shock absorber
 - b. Strut rod bushing
 - c. Stabilizer bar link
 - d. Track rod bushing

- 7.) A strut-type suspension is used _____.
 - a. In the front only
 - b. In the rear only

- c. In both the front and rear
- d. In rare vehicles no longer in production

8.) The left front of the vehicle is higher than the right front and the right rear is lower than the left rear. What is the most likely cause of this problem?

- a. A weak right rear shock absorber
- b. A broken track rod
- c. A broken left front shock absorber
- d. A sagging right rear spring

9.) A G-force sensor measures forces during _____.

- a. Cornering
- b. Acceleration
- c. Braking
- d. All of the above

Contestant Number: _____

Time ended: _____

Time Started: _____

Total time on task: _____

Judges Initials: _____

Tally Sheet

Contestant Number: _____

Items Evaluated	Possible Points	Task # 1	Task # 2	Task # 3
Procedure	15			
Accuracy	15			
Quality/Appearance	10			
Speed	10			
Tool/Equipment Usage	10			
Safety Practices	10			
Total	70			
Judges Initials				

Task	Total Points
Task # 1 (70 pts)	
Task # 2 (70 pts)	
Task # 3 (70 pts)	
Written Test (40 pts)	
Total (250 pts)	

Judges Initials: _____