

Diesel Equipment Technology

SCOPE OF THE CONTEST

The contestants will demonstrate their knowledge and ability of diesel equipment technology. The contestants will compete in three tasks.

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.) Cummins 4Bt engine- diagnose and compression test
- 2.) Freightliner – CAT engine - Drive Line Repair
- 3.) Airbrakes – S-Cam

EQUIPMENT/MATERIALS:

- 1.) Supplied by Rosedale Tech:
 - All tools and supplies to complete the tasks/contest
 - Cummins 4Bt engine, Freightliner (CAT engine)

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
Cummins 4Bt engine- diagnose and compression test

Directions:

The following will be performed on a Cummins 4Bt engine:

- 1.) Diagnose surging, rough operations, misfiring, low power, slow deceleration
- 2.) Slow acceleration and shutdown problems; determine action.
- 3.) Perform cylinder compression test; determine action.

You will have sixty (60) minutes to complete this task.

Contestant Number: _____

Time Started: _____

Time Ended: _____

Total time on task: _____

Judges Initials: _____

Task # 2
Freightliner – CAT Engine - Drive Line Repair

Directions:

The following will be performed on a Freightliner with a CAT engine

- 1.) Remove and replace axle shafts
- 2.) Clean, inspect, lubricate and replace wheel bearings; replace seals and wear rings; adjust drive axle wheel bearings to specifications.

You will have forty (40) minutes to complete this task.

Contestant Number: _____

Time Started: _____

Time Ended: _____

Total time on task: _____

Judges Initials: _____

Task # 3
Airbrakes

Directions:

- 1.) Remove the S-Cam brakes and install S-Cam brakes
- 2.) Measure, record and inspect brake lining using a brake lining depth gauge.

You will have twenty (20) minutes to complete this task.

Contestant Number: _____

Time Started: _____

Time Ended: _____

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 (70pts)	
Task # 2 (70pts)	
Task # 3 (70pts)	
Total (210pts)	

Judges Initials: _____