

# South Adams / Area 18 Machine Trades

## Compressed Air Dragster Rules

### Dragster Rules / Guidelines:

1. Must be a reciprocating type compressed air driven motor
  - a. NO Turbines, vane motors or impact type air motors allowed
2. Must be direct drive – no gear train or pulleys
3. Drive wheels
  - a. May have as many drive wheels as desired
  - b. Must be metal
  - c. May be knuled, grooved or otherwise textured for traction
  - d. Must not be able to cut skin (running or not running)
4. Non-Drive wheels may have a rubber “tire”
5. Must have a 5/16-24 tapped hole .5 deep for air fitting to be attached in the top of the dragster
6. Maximum air inlet inside diameter = .09375 (3/32”)
  - a. Limit 1 inlet from blow gun to car
7. Maximum Length: 8.000”
8. Maximum Height: 2.500”
9. Maximum Width: 3.5”
10. Maximum Weight: 24 oz (1.5 pounds)
11. Any residue or lost components left on track during race will result in a disqualification

### Race Rules / Guidelines:

1. Track surface will be made of plywood with no coating of any kind
2. Track will be two lanes approximately 5” wide (each)
3. Track guardrails will be 2.5” tall on each side of each track
4. Track will be a total of 8 feet long
5. Starting line will be 8.5” from end of board
6. Finish line will be the end of the track with a cushioned wall for the stop
7. Approximate length of track will be 7 feet.
8. Air Supply
  - a. 40 PSI (Dry Air)
  - b. Each competitor will have a pistol grip air blow gun to control their car
    - i. Harbor Freight part number: 68260
  - c. Air hose between blow gun and car = 1/8”
  - d. Air hose from air supply to blow gun = 1/4”
9. Standard “bracket” will be used to decide winner
10. First student completed with a working dragster will be eligible for a “by” if needed
11. Bracket will be set by the date the student is completed with their project
  - a. Example: First student done will race first round with last student done

### Student’s Minimum Machining Requirements:

1. Machine block square and parallel within .001 T.I.R.
2. Machine TWO (2) angles within .001 / 1” T.I.R.
3. Drill and ream with Lathe (Diameter +/- .0005)
4. Drill and Ream with Milling Machine (Diameter and Position +/- .0005)
5. Mill rectangle pocket with Manual Mill +/- .005
6. Turn I.D. and O.D. concentric within .001 T.I.R.
7. Turn tapered bore to specified dimensions, diameter and depth +/- .010
8. Drill and tap to depth with lathe and mill