

General Tractor Rules

and Two Wheel Drive Trucks

General Information

- A. One hook per pulling unit per class.
(Two individuals can not pull same unit)
- B. Any Major infraction will cause loss of eligibility for a year and 10 days.
- C. Engine and/or drive train protest will be a \$100 protest fee, if engine and/or drive train are found to be illegal, fee will be refunded.
If engine and/or drive train are found to be legal, protest fee will be given to the owner of vehicle protested.
- D. Weight Protest fee is \$25
- E. RRVPA requires an on board fire extinguisher that is easily accessible by driver.
- F. Contestants must be a minimum of 16 years old with a valid drivers license.
- G. No Stock vehicles to pull in Modified classes.

1. Chassis

- A. All units must have working brakes.
- B. Modified tractors are a Maximum of 14' center of wheel forward.

2. Draw bars

- A. Minimum draw bar length 18” from center of rear wheel to hook points, to be measured horizontally. Maximum height of 20” from to of hitch parallel to the ground. Must be ridged in all directions. Hitch hole is parallel to the ground and must be 1” thick and a hole 3” wide and 4” long. Hooking point may not be more then 1.5” from the edge of device.
- B. No portion of the tractor may interfere with the sled or the hitch during the pull. No trick hitches or cam type rear ends.
- C. All modified tractors must be equipped with an additional safety hitch to qualify for indoor events. The additional hitch must be mounted approximately 6" below the pulling hitch. Safety hitch must be of significant strength to hold the pulling vehicle in the event the pulling hitch breaks. The safety hitch cannot be mounted on any part of the pulling hitch.

3. Engines

- A. Deflection shields are required both sides of all Engines. Shield must cover entire block casting. Made of .060 Aluminum or steel.
- B. Shielding must extend from Upper most part of piston travel to 2” below crank throw.
- C. Exhaust must extend vertically. Outlet must be no less than 1” of opening.
- D. Harmonic Balancers must be SFI or shrouded with 1/4” steel.
- E. Must run Electric Fan for cooling, no engine mounted fans.
- F. Turbo Chargers NOT under a hood must be completely shrouded, except for inlet/outlet pipes, with 1/16” steel. Two 3/8 grade 5 bolts cross bolted in the exhaust as close to turbo as possible.
- G. SFI Blower restraints required on Supercharged engines.
All exposed components must be shielded. Must run return springs on both sides of Injection butterfly shafts.
- H. Inline Industrial Engines are required (2) 3/8 cable around the head and block between #1 and #2 Exhaust port. 4 clamps and 4” of slack.
See NTPA rulebook for more information

4. Turbine Engines

- A. Only T-53, T-55, T-58, T-64 and JFTD-12 turbine engines are allowed in RRVPA competition. (No Homemade turbines)
- B. No turbine engine will use a clutch/flywheel assembly or an automatic transmission.
- C. Exhaust pipe must extend a minimum of 6 inches above the top of exhaust opening and no smaller than 1 inch of the engine outlet.
- D. All air intakes shall be screened with a metal screen tailing a 3/16” inch or smaller openings.
- E. No turbine engine and governor setting will be operated beyond military temperature and RPM limits.
- F. All Turbine Engines must have 360 degree shroud that extends a minimum of five (5) inches forward and ten (10) inches aft of the turbine section

Steel turbine engine containment shroud:

- Engines under 1500 hp must have 3/8-inch steel shroud
- Engines over 1500 hp must have a 1/2-inch steel shroud

Composite containment shroud:

- Shroud construction metal inner ring-Kevlar layers-metal outer ring
- Minimum metal thickness of .032
- T-53 and T-55 are required to have 25 layers of Kevlar
- T-58, T-64 and JFTD-12 are required to have 40 layers of Kevlar

G. Two independent over-speed protection devices are required for power turbine wheel(s).

1. Governor with setting not to exceed manufacture's maximum specifications
2. Over speed shutdown consisting of a speed monitor activating a normally closed solenoid valve located between the fuel control and fuel manifold. Trip setting to be low enough to prevent over speed in case of drive-line failure

5. Gear boxes, clutch, flywheel and transmissions.

I. Aircraft, Marine, and Industrial

- A. When a gear box is used between the engine crankshaft and the clutch, the gear box output shaft must not exceed 1.5:1 ratio the speed of the crankshaft. No torque converters allowed behind the gear box. The shaft that accepts the flywheel must be made of solid billet steel and 2.25" diameter, to be heat treated 4140 steel, 30-38 Rockwell. All clutch assemblies used in the application must meet current SFI standards. Bell housing s to be bolted to a 1/4" steel plate with minimum of 12 3/8" grade 5 bolts evenly spaced. The 1/4" plate must have Four 3/8" Grade 5 bolts attaching it to the frame. The Gear box must be securely fastened frame with 3/8" plate steel, or secured to rear of the engine. Gear Box must be constructed of 3/8" steel of 3/4" aluminum. Drivers of these type of arrangements must prove gear box speed.
- B. Clutch and Bell housing mounted directly to Engine must be SFI approved. All components must be of steel, aluminum, or ductile iron. NO GRAY CAST IRON.
- C. Tractor required to have entire clutch or torque converter area enclosed. 360 degrees with minimum 3/8" steel. Shield must be covered with SFI

scatter blanket. Minimum 12” wide. Must cover all components.

II. Clutch and Flywheel Automotive Engines

- A. All Automatic transmissions must have a reverse gear lockout. Must be covered with SFI approved blanket. Torque converters must be shielded 360 degrees.
- B. All Automotive type engines using a clutch, must have a SFI approved bell housing, block plate, flywheel and pressure plate. 1 one inch hole allowed for cooling. Inspection/Maintenance holes must be covered by same material thickness of bell.

6. Driveline shielding.

- A. All drive shafts must be enclosed in 5/16” minimum steel. Inside diameter must be less than 2” of the largest U-joint. Must have Grade 5 bolts every 6” or less or be butt or seam welded.
- B. All drive line brakes must be 360 degree shielded with 3/8” steel.

7. Fuel

- A. Legal Fuels. Alcohol, Water, Diesel, Aviation Gas, Gasoline, Race Fuel, and Turbine Fuel. Nitrous Oxide and Oxygenated fuels. Check Class rules. (All forms of Nitro are illegal)

8. Safety

- A. All pulling vehicles must have ignition kill switch and/or air shutoff. Kill switch must be mounted in the center at the rear of tractor above hitch. Must have minimum 2” ring.
- B. Spark Ignition engines, must break or ground ignition circuit.
- C. Must break current to any electric fuel pumps.
- D. Diesel Engines must have an air shutoff, a cable can be used for this. Must be able to active shutoff from the operators seat too.
- E. Drivers must be able to shut down ignition and fuel from operators seat. (Automotive Engine with mechanical fuel pump exempt.)
- F. If kill switch is pulled, presiding judge will decide if puller may re-pull.
- G. All vehicles must have starter interrupter switch only allowing engine to be started in Neutral position. Switch may be mounted on clutch pedal.

- H. All vehicles must have 2 reverse indicator lights, one light visible to driver and one visible to the hooking crew.
- I. Driver must shift into neutral and raise hands when hooking sled.
- J. Main battery disconnects required in all tractor classes.
- K. All vehicles must be equipped with minimum 2.5 pound dry chemical or Halon fire extinguisher. (Halon not allow on Diesel Engines)
- L. All tractors must have wide front axle. Skid plate/skis required.
- M. All tractors must be equipped with a deadman throttle. Throttle must be closed in rear most position. Must be a two way mechanical linkage. Foot throttles must have toe straps.
- N. ROLL CAGES ARE REQUIRED. Cage must enclose the driver and be Minimum 1.75 diameter by 0.125 thickness.
- O. Tractors must have a ridged High back seat and 5 point Harness.
- P. Fenders and Shields to be constructed to protect the driver from being able to reach the tire from belted position. Also must with stand tire failure.
- Q. Stabilizer Bars (Wheelie Bars) must extend 32” back from center line of wheel, must not interfere with the pulling hitch. Must be 10” from the ground. Wheelie bars must be able to support the weight of the vehicle.
- R. Driver's must wear SFI Helmet and Fire Suit(1 or 2 Piece)
A face sock, neck brace, shoes and gloves are recommended.
Driver must have eye protection. Windshield counts for Eye protection.
- Q. All weights must be securely fastened on the pulling vehicle. Any ballast lost while hooked to the sled will be cause for disqualification.