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## **Head Tech Responsibilities:**

Head Tech official will have final say on all safety and competition decisions at events.

Head of all HPS Fuel & Water testing and final say on results.

If not at the event, he will appoint 1 tech person as head tech at every event. Head tech chooses where other tech people work at that event.

## **WARRANTY DISCLAIMER**

The rule promulgated in this Rule Book are intended as guidelines for the sport of tractor and truck pulling, and the rules relating to the safety of equipment are the responsibility of each driver who participates in the sport of tractor and truck pulling under these rules. No expressed or implied warranty of safety is intended nor may be inferred from the publication of these rules, nor the compliance therewith. Nothing herein should be construed as a guarantee against injury or death of participants, bystanders or spectators.

Specifications and rules set forth in this Rule Book are based upon the recommendations of competing members, crewmen, and other participants in the sport of truck and tractor pulling. All participants must assume all liability for any damage or loss caused by or from their equipment and their use thereof.

HPS specifically states that it has not tested any equipment or use of equipment that it refers to in its Rule Book and makes no warranties either specific or implied with regard thereto and any use thereof. The user must look to the manufacturer thereof with regard to said warranties.

## **Membership**

All memberships are valid from January 1 to December 31 of calendar year.

Membership: \$50

Vehicle Registration: \$50

Insurance: \$150

INSURANCE: The following is a brief summary of insurance coverage for those who hold a HPS membership. Insurance coverage at event site includes \$10 million liability, \$20,000 accidental death and \$240,000 excess medical. Spouse and dependent children also have accidental death and medical coverage for accidents while on site at HPS sanctioned events.

For more information on insurance coverage, loss reports, etc., refer all calls/correspondence to: USPA 1-217-923-3949.

### **Pulling Classes**

- Small Block Economodified Tractor
- Pro Street 4x4 Pickup
- Big Block Economodified Tractor
- 8200 Super Field Tractor (SF)
- Light Limited Super Stock Tractor (LLSS)
- Limited Pro Stock 4x4 Pickup (LPS 4x4)
- Light Limited Pro Stock Tractor (LLPS)
- Light Limited Modified Tractor (LLM)

### **Official Heartland Class Weights**

Small Block Economod	5,200	
Pro Street 4x4	6,200	
Big Block Economod	6,000	
Super Field	8,200	
Light Limited Super Stock	6,200	
Limited Pro Stock 4x4		8,000
Light Limited Pro Stock	8,500	
Light Limited Mod	6,200	

#### **Points Race**

- 1) Points - 1st Place receives 15 points, then 1 point less per position down to 11th place or 5 points, after 11th place everyone that attempts to hook will get 5 points.
- 2) All members will collect points from the date they buy their membership.
- 3) All members will receive 0 points for any hooks they miss.
- 4) In the case of breakage, you will have 3 days to fix vehicle

from the date of the event(s) puller broke at, if next event is less than 3 days to next event or family emergency or natural disaster, puller will get last place for that event. Breakage is only eligible if it occurred at a Heartland event.

5) A competitor may rebuild mid-season and retain previous points with old Heartland membership as long as the person is not running his/her old vehicle on the membership.

6) If a vehicle is sold mid-season, seller has right to choose to either keep points or transfer to new owner.

## **Economodified Tractors**

### **A. Engine Components**

1. One V-8 cast iron production automotive engine block built by the original manufacturer allowed. The engine must have a cubic inch measurement not exceeding 375 cubic inches for small block engines and 475 cubic inches for big block engines. The only allowable engines are listed below:

Small Block:

General Motors: 283, 327, 350, 400

Chrysler: 318, 340, 360

Ford: 302, 351W, 351C

\*must be de-stroked to fit maximum cubic inches

Big Block:

General Motors: 396, 427, 454

Chrysler: 383, 400, 440

Ford: 429, 460

2. Lifters must be hydraulic flat tappet only.

### **B. Heads**

1. Vehicles may use any cylinder head except Hemi.

### **C. Harmonic Balancers**

1. Harmonic balancers must be approved or shrouded with 1/4" steel no more than one inch (1") from the balancer in any direction of rotation, and must be securely fastened.

### **D. Fuels**

1. Only pump gasoline 92 octane maximum will be allowed. No aviation gas, methanol, etc., will be allowed. Fuel shall be subject to check. If the fuel is in question, the fuel tank shall be

drained and refilled with premium unleaded gasoline.

#### E. Fuel Delivery

1. Fuel must be delivered through a carburetor with a maximum of four (4) barrels. No injection system of any style or any turbo charging or supercharging will be allowed.

#### F. Maximum Tractor Weight

1. Maximum tractor weight for the classes are as follows:

Small Block: 5200 pounds

Big Block: 6000 pounds

Weight maximum includes the driver, vehicle full of fluids (oil, fuel, water, etc.) and deemed ready to compete. A minimum 200 pounds of moveable weight is recommended. No tarp straps will be allowed to secure weights.

#### G. Rear Ends/Transmissions

1. Tractor-style only rear ends and transmission. No additional gearboxes allowed.

2. All tractors must be equipped with automatic transmissions.

3. Flywheel inspection cover must be in place.

#### H. Body Components

1. Tractors must have matching hood and grill. Hood and grill components are not required to match the rear end of the tractor.

2. No portion of an econo-modified tractor may exceed fourteen feet (14') forward of the center of the rear end.

#### I. Tires/Rims/Wheels

1. Econo-Modified Tractors can operate with rear tires maximum size 18.4 x 38.

2. No radial tires allowed.

## **Pro Street 4x4 Pickups**

#### A. Engine Components

1. One V-8 case iron production automotive engine block built by the original manufacturer allowed. The engine must have a cubic inch measurement not exceeding 475 cubic inches. The only allowable engines are listed below:

General Motors: 396, 427, 454

Chrysler: 383, 400, 440

Ford: 429, 460

2. Lifters must be hydraulic flat tappet only.
3. One carburetor of any CFM is allowed. Forced air systems, fuel injection, etc., prohibited. Tunnel ram manifolds allowed.
4. Any ignition system allowed.
5. Open headers allowed. Exhaust must exit vertically or to rear.
6. Stock, mechanical, aftermarket, and/or electric fuel pump(s) allowed.
7. Power steering, alternator, water pump, fan, etc., may be removed, modified, or replaced; however, Pro Street vehicles are required to negotiate to and from the pit/track area under their own power.

#### B. Transmissions/Rear-Ends

1. Any transmission originally available and mass produced by factory is allowed in a two or four wheel drive truck. High stall torque converters and shift kits are allowed. Stock transfer case housing with aftermarket gears are allowed.

2. Factory limited slip or Detroit Locker type differentials are allowed. Solid, welded, or spooled differentials are allowed.

#### C. Body Components

1. Body style must be a pickup. Trucks must retain all body components as delivered from the dealer (doors, hoods, fenders, matching box, etc.). Front bumpers may be modified to facilitate additional weight and/or hooks. Front weight bars may be up to , but cannot exceed 8' 6" in width. Rear bumpers and tailgates may be removed. Single bucket seat may be used in place of factory seat, but must be securely fastened. Fender splash guards (i.e. wheel wells, tubs, etc.) may be removed, but must be shielded (can be a bed cover, aluminum, etc.). The hood may be modified to accommodate headers, air cleaner, etc. All windows and windshield must be in place as intended by the manufacturer, and may be either Lexan or glass.

2. Springs and shocks may be modified. Traction bars, ladder bars, etc., are allowed. Removal of rear leaf springs, etc. is allowed.

#### D. Tires

1. 33x12.50 maximum tire tread,
2. Tires must be DOT approved with no alterations.



3. No bar tires, studs, dual tires, tire chains, lugs, or belts allowed.

4. Any rim height allowed, and different wheel offsets are allowed.

5. Outside edge of the narrow axle must overlap the centerline of the tire on the wide axle by at least one inch (1").

6. Wheel base limit must not exceed 133".

#### E. Brakes

1. Front wheel brakes must be in satisfactory operating condition at the time of inspection.

2. Rear brakes may be removed.

3. Brake lines that pass through bell-housing area must be protected by .125" steel securely fastened to frame.

#### F. Fuel

1. Only pump gasoline 92 octane maximum will be allowed. No aviation gas, methanol, etc., will be allowed. Fuel shall be subject to check. If the fuel is in question, the fuel tank shall be drained and refilled with premium unleaded gasoline.

2. Use of alcohol, nitro methane, benzene and/or nitrous oxide prohibited. No special pressurized fuel systems allowed.

#### G. Weights

1. All weights must be safely secured to truck and must not extend forward more than sixty inches (60") from the centerline of the front wheel.

## **Super Field**

1. Max OEM cubic inch 466 @ 3200RPMs. Allow Case/Oliver to run 504 @ 3200 RPMs.

2. Max tire size - 20.8X38. Cut tire optional.

3. OEM stock head for that model of or series of engine.

4. OEM stock intake & exhaust manifold (spacers allowed 1" maximum).

5. Water injection and ice boxes NOT permitted.

6. Any MM A pump (Any pump -P or less).

7. Stock out of the box S300 turbo with no alterations to any internal wheels, housings, or shafts.

8. All tractors to be equipped with a Data Log RPM sensor.

Female 110-receptacle on back of tractor. Plug in must be within 12" of kill switch for easy access.

9. Ruling for going over RPM limit:

1st offense: Dropped to last place points

2nd offense: No points & no money that hook

3rd offense: Banned from associaton for 1 year & 1 day from date of violation.

10. Tractors must be equipped with steel fly wheel, steel clutch components & clutch blanket.

11. Tube frames allowed.

12. Fuel: VP DX fuel mandatory

13. Test ports mandatory.

## **Light Limited Super Stock**

A. Engines

1. Blocks and crankcase shall be the same as manufacturer or facoty replacement.

2. Engine must match brand of tractor.

3. Rear of engine must be in stock location for make and model of rear end transmission housing, with a maximum tolerance of a 1" adapter plate.

4. A 1% tolerance will be given on cubic inch to allow for normal engine wear.

5. No V-8 engines permitted.

6. Maximum of 315 cubic inches for twin turbo charged diesel engines. Intercoolers allowed. No MAF enhancement

7. Maximum of 410 cubic inches for single turbo charged diesel engines. Intercoolers allowed.

8. Maximum of 470 cubic inches for single turbo charged diesel engines. No intercoolers allowed.

9. Maximum of 370 cubic inches for single turbo charged alcohol engines. No intercoolers allowed

10. Allow diesel only 360 and under 2 (3" intake) chargers. No MAF enhancements.

11. Cylinder heads must be the OEM manufacturing for said tractor and engine block or factory replacement block at the time of manufacture. Original casting must be retained. Porting and

polishing of the original parts is allowed. Modifications to the cylinder head(s) to accept for billet, cast, recast, molded, or any other kind of insert is NOT allowed. Cylinder heads limited to two valves per cylinder. No overhead camshafts allowed.

11. Maximum thickness of 1" plate is permitted between the top of the block and the bottom of the cylinder head.

13. Turbocharger(s) shall not exceed a 3" inlet and a 4" outlet measured at the face of the wheels. No "step down" intake housing, exhaust housing, or wheel of any kind allowed. The intake wheel and exhaust wheel must protrude into the maximum allowed inlet and outlet dimensions at least 1/2". No secondary source of air and no slots of any kind allowed. Heading slots must be permanently disabled by being welded shut. No temporary inserts or plugs allowed.

14. Turbocharger(s) must be under stock hood or shrouded end to end and 360 degrees around with .060" steel or heavier. Turbocharger(s) must also be shrouded if under a fiberglass or plastic hood.

15. Use of supercharger(s) is not allowed.

16. The largest fuel system allowed is a "P"- pump with one plunger per cylinder and one injector per cylinder. No electronically controlled fuel system allowed.

17. No secondary source of fuel (liquid or gas) or oxygen enhancer allowed.

18. Water injection allowed with oil lubricant only. No additives allowed in injected water. Water will be subject to testing.

19. Exhaust must be discharged vertically. No rain caps or curved pipes at outlet allowed. Exhaust pipes must be securely fastened to tractor.

20. Exhaust pipes must have two 3/8" grade five bolts set within 1" at 90 degrees to each other at least one foot below opening in the exhaust and two 3/8" grade five bolts set as close as possible to turbo before upward elbow.

21. Harmonic balancer must be shielded with at least 1/8" metal underneath the front of the block and secured to the frame with four 3/8" bolts.

22. Engine must have one 3/8" safety cable completely

surrounding the block and head passing between the first and second cylinders, through the exhaust manifold port area, with a minimum of two clamps at all splices with 4-6 inches of slack.

23. Must have a spring-loaded closing mechanism air shutoff. To be deemed acceptable when activated, the shutoff mechanism must prevent boost of engine. The kill switch must be mounted securely to the back of the tractor and have a 2-inch diameter ring (minimum 1/8" thick). Operator must also be able to operate from the driver seat.

24. Fuel system must have manual three-way dump valve installed ahead of the injection pump. To be operated by the operator from the driver seat.

25. Must have "Dead Man" throttle with two return springs that automatically returns to idle when released by operator.

26. No mechanical fans allowed.

27. Flywheel will be made of steel or aluminum and SFI approved. Absolutely no cast iron allowed. All clutch assemblies will be steel and SFI approved. No cast iron.

#### B. Frame

1. Maximum length 13 feet. Measured from center of rear axle to forward most point. Excluding tow hook.

2. Maximum wheel base 114".

3. OEM tractor rear end and transmission housings only will be accepted, no component tractors allowed.

4. Allow air bags and/or coil over shocks on the front of tractor as long as they cannot be adjusted from the seat.

5. Allow tractors with cast tub (belly)-type frame (i.e., Oliver, Cockshutt, White) to remove complete frame from front of transmission housing. Engin and clutch housing to remain in original location and mounted solid as intended by original manufacturer.

6. Skid plates for all tractors in class. Skid plates must be mounted in-line with each frame rail and extend from the center of the front axle forward (on both sides) equal in strength to frame rail material. Skid must be securely mounted and braced to the chassis. Skid plates surface to be minimum of 4 inches wide and 12 inches long with a minimum of 6 inch curve when measured from the front most part of rolled edge.

Note: Skid plate must be able to support the weight of the front end when checked with jack. Maximum ground clearance is bottom of wheel rim not to exceed 4 inches with front tires in normal operating position.

7. Safety tie bars will be required in all tractor classes. Tie bars will be from frame rail to rear axle housing and be capable of supporting the tractor with all bolts removed from transmission housing.

8. All hitches will be minimum 3 1/2" inches long X minimum 3 inches wide at the hook point. Lateral thickness of hitch will be maximum of 1 1/2" minimum 1 inch cross sectional thickness. Hitch will be no shorter than 18" measured from the center of the rear axle to the hooking point.

9. Maximum hitch height 20".

10. Roll cage is required to meet SFI 47.1 requirement. 5 point SFI harness required.

11. Wheelie bars; independent of hitch. Must be able to lift tractor with jack under pad in heaviest class tractor participates in. Pad to be no more than 10" above ground and should be minimum length of 32" from center of axle when set at the 10" maximum height.

#### C. Tires

1. Maximum tire size 30.5x32

2. Minimum tire size 18.4x38

#### D. Fuel

1. Acceptable fuels are diesel, alcohol, and gasoline.

2. No oxygen carriers or combustion accelerators will be permitted.

3. No ether starting aid can be on tractor.

#### E. Weight

1. Weight for the class is 6200 pounds.

## Limited Pro Stock 4x4 Pickups

1. The maximum weight is 8000 pounds.

2. The OEM chassis is mandatory. The vehicle must retain the full OEM chassis. Wheel tubs, back-half conversions, tube chassis are prohibited. Maximum wheelbase 158" and 102" maximum width (outside tire to outside tire.) Rigid suspension allowed. Hydraulic steering is allowed.

3. The body must be an OEM truck body, including the complete OEM floor pan and must retain complete OEM firewall. Complete bed floor, hitch is allowed to protrude through the bed floor with minimum amount of floor removed. No flatbeds permitted. The body must retain the full sheet metal, aftermarket steel hoods are permitted. The hood must be closed and securely latched while hooked to the sled.

4. Maximum engine size will be 460 cubic inch. Engines must come from factory in one ton or smaller diesel pickup truck. Engine must remain in stock location as intended by manufacturer. Engines may be interchanged between manufacturers.

a. No aftermarket blocks permitted.

b. Head must be OEM or OEM one piece cast replica for that brand engine. No billet heads of any material. Outside dimensions of cylinder head must measure factory width and length. Head must retain OEM valve angle .

5. Front of engine block can be no farther forward than 17" of center line of front axle.

6. Engine must have cable surrounding block and head. Cable must be minimum 3/8" diameter located between cylinders #1 and #2. Cable must pass through manifolds. Cable will have 4-6" of slack with a minimum of 4 cable clamps at splice.

7. All engines will have a deflection shield, running the complete length of the block casting. Shield must be securely fastened and must be .060" thick. (This equates to a steel inner fender).

8. Hook point must be no closer than 44" of center line of rear axle, hitch height maximum of 26", with a minimum of a 3.75" x 3.0" opening. Hitch point must be easily accessed. No "trick" type hitches permitted. Hitch must be stationary in all directions.

Hitch must be frame mounted. Hitch must be mounted center line of rear axle or behind. Hitch must not exceed a maximum of 25 degree angle from pivot point to hook point. No hitch supports or adjusters fastened to the rear axle housing shall be above the centerline of the rear axle. Pivot pin of drawbar can be no farther forward than center line of the rear axle.

9. Secondary hitch required. Minimum of 3/8" steel, located 12" below primary hitch on the same vertical plane. (You should be able to look directly through both at the same time - they need to be lined up).

10. The turbocharger is smooth faced intake housing, limited to a maximum of 3.0" inlet, (no map ring) with all air entering through the 3.0" opening. Intake wheel must protrude 1/8th inch inside of opening.

11. Exhaust must exit straight up, with (2) 3/8" bolts mounted in a cross pattern no more than 1" apart as close to the turbine wheel as possible, no more than 6" away from the turbine wheel.

12. Intercoolers allowed Dumping or draining intercoolers without a catch pan within 100 feet of competition track is prohibited.

13. Water injection is prohibited. All components must be removed from the truck.

14. Air shut off must have a cable that goes to the rear of truck operated by the sled operator and also one to the cab of the truck. Kill switch will be securely mounted to the back of the vehicle and have a two (2) inch diameter metallic ring to attach the sled.

15. Fuel Systems: Maximum of one P7100 pump, limited to one plunger per cylinder. The use of multiple high pressure common rail fuel pumps is allowed. Ford Powerstroke engine may utilize a second HPOP. Electronic fuel injection is permitted. A 3-way dump valve mounted before the injection pump is mandatory which can be operated by the driver while strapped in the seat.

16. No fuel lines or tanks permitted inside of truck cab unless securely mounted in marine box.

17. Fuel limited to diesel fuel. No alcohol, nitrous, propane or oxygen enhancing agents allowed.

18. Must run DOT approved tire. Maximum tire height 35". No studded tires or chains. No alteration to DOT tires allowed.

Dual rear wheels are permitted on rear axle only. Maximum of 6 tires.

19. Front weights must be no more than 60" from the centerline of the front axle to forward most point and be securely fastened. No weights are allowed in cab of the truck. If weights are located in the bed of truck they are to be securely fastened to the bed of the truck.

20. Drive trail will consist of the following: Any front axle, any transfer case and any rear axle. No planetaries allowed.

21. Axle shields are required. Shield to be .060" thickness steel or aluminum. Shield not to be mounted to axle ends or hub bolts. A hole may be cut in one to allow locking in of hubs.

22. No cast iron clutches or flywheels permitted, must be SFI approved. Trucks with automatic transmissions, refer to General Rules.

23. SFI bellhousing blankets and/or SFI blow proof bellhousing required.

24. All U-joints must be shielded 360 degrees with 3/8" thick aluminum w 1/8" steel liner or 5/16" thick steel. Shield will be 6 inches long minimum and centered on u-joint. Inside diameter of shield will be no more than 2 inches larger than u-joint.

25. All intermediate shafts between the transmission and transfer case will be totally enclosed in 3/8" aluminum or 5/16" steel, 1/4" of shaft may be visible.

26. Fire extinguisher (2.5#) or fire suppression system, Helmets - Snell 90 or better, SFI fire suits, head sock, gloves, shoes, and seatbelts required.

### **Light Limited Pro Stock Tractors**

1. All engine blocks must remain in original location as intended by the manufacturer. Sheet metal to be stock length and location must be stock appearing.

2. Tractors must have grill and hood in place as intended by manufacturer.

3. Tractors must have stock block, agricultural type block, or OEM replacement block. No automotive blocks permitted. Maximum 8 cylinders permitted.



4. Maximum wheelbase is 114” and maximum length is 13’ from center of the rear axle to the forward most point of the tractor.

5. All turbocharged engines on super stock tractors will have one cable totally surrounding the engine block and head. The cable will consist of 3/8” diameter and located between the first and second cylinders. Cable must pass through the manifold areas. Cable will have four (4) to six (6) inches of slack. There will be a minimum of two (2) clamps at all splices.

6. A deflection shield between driver and engine from top of hood and top of transmission housing or clutch housing is required. Deflection shield will go from side shield to side shield. This will help provide a barrier during a flash fire.

7. All tractor engines are required to shield all rotating mass mounted on the front of the crankshaft. Shield to be frame rail to frae rail by a minimum .125 aluminum or steel fastened to the frame on each side by two evenly spaced bolts. (3/8 Grade 5 minimum)

8. All tractors are required to have an approved bell housing blanket that meets SFI 4.2 specifications.

9. No four-wheel drive tractors will be permitted.

10. All tractors with a competition weight of 7,000 to 10,000 pounds will require a 47.1 SFI spec rollover protection.

11. Maximum weight permitted is 8500 pounds.

12. Maximum cubic inch limit is 466.

13. Maximum tire size 24.5 x 32. Cut tires permitted. Radial tires permitted.

14. OEM stock head for that model or series engine permitted.

15. Components are not permitted.

16. OEM rearend, transmission, and engine must be instock location, bolted and secured to OEM chassis.

### **Modified Tractors**

1. Maximum weight is 6200 pounds.

2. Allowable fuels: alcohol, diesel, kerosene, any form of gas/race gas. Absolutely no nitro methane or nitrous oxide allowed.

race gas. Absolutely no nitro methane or nitrous oxide allowed.

EFI is allowed on any engine combination listed below:

1. Maximum of one 600ci hemi headed V8 automotive style engine with maximum blower size of 14-71, no screw blowers allowed.

2. One fuel injected Allison V-12 aircraft engine limited to 8.8-1 supercharger overdrive ratio

3. One carbureted gas Allison V-12 aircraft engine limited to 9.6-1 supercharger overdrive ratio

4. One carbureted gas Merlin or Packard V-12

5. Any combination of N/A wedge head automotive style engine with combined displacement of 750ci air forced induction.

6. Any combination of forced air induction wedge head automotive style engine with combined displacement of 750ci, no billet blocks allowed.

i. Turbos limited to one per bank, non-staged. Aluminum heads- 766mm inducer compressor side, 76 mm exducer turbine side. Single turbo will be limited to 132 mm inducer compressor side.

ii. Any type of engine driven blower excluding screw type, no over drive limit no variable speed device.

iv. No intercoolers allowed.

7. One ag or industrial style engine with any 4.1” inducer compressor side turbo, limited to 505ci displacement on alcohol and unlimited displacement on diesel. Aftermarket aluminum heads allowed no overhead cams or hemi style combustion chambers.

8. a) One Lycoming T53 L-13 turbine with water injection

b) Twin Lycoming T53 L-1, L-11 without water injection

c) All turbines must be operated within military specifications

9. Any combination of automotive style diesel engines limited to 900ci displacement, may run one turbo per engine limited to 3” inducer compressor side and 3.5” exducer turbine side. No intercoolers; Water injection is allowed.

a. Under 450ci will be allowed to run at 7000 pounds.

10. One 1100ci Ford GAA engine on alcohol limited to two non-staged turbo chargers.

## **Turbine Modified Rules**

1. No turbine engine is allowed to run a clutch/flywheel assembly or any automatic transmission.
2. Exhaust pipes on turbines must extend a minimum of 6 inches about the top of the exhaust opening.
3. Exhaust stack diameter to be no smaller than 1 inch of engine outlet.
4. No turbine engine will be operated beyond military temperature and RPM limites.
5. Turbine air intake must be screened with metal screen that has openings no larger than 3/16 inch.
6. Turbine engines must have a 3/8" steel shroud that surrounds the engine. Shroud must extend a minimum of 5 inches forward and ten inches of the turbine section. The shroud must incorporate a minimum of 3/8 inch thick flanges that extend radially inward from the shroud on both ends of the shroud with a maximum of 1 inch of the engine casing. A 1/2 inch gap between the engine and the ID of the flange must be maintained for air circulation inside the shroud. The flanges may be scalloped out to clear turbines accessories, brackets, etc. And maybe either rolled edged of the shroud or steel rigs attached by welding or riveted to the shroud.
7. Two independent over speed protection devices are required for power turbine wheel.
8. The governor setting must not exceed manufactuer's maximum specs. Over speed shutdown - consist of speed monitor that activates a normally closed solenoid valve located between the fuel control and fuel manifold. Trip setting to be low enough to prevent over speed in event of driveline failiure. No TF-35 engine allowed.
9. Turbine engines allowed starter motor onbard or auxiliary power unit to be carried onboard and running during a competitive attempt but must not be hooked into the drive train during competition attempt.
10. Any specifications not listed refer to PPL turbine rules.