**II—General Rules for 3.0, and 3.6 Diesel Classes A**

**—Automatic Transmissions**

1. The use of torque converters, automatic shifts, etc., will be permitted.

2. All vehicles using an automatic transmission must have an SFI Spec. 29.1 automatic transmission flex plate. No cast iron is permitted.

3. All vehicles using an automatic transmission will use a positive gear lockout.

4. All automatic transmissions must have an approved safety blanket over the torque converter area. A full-length safety blanket is required. Automatic transmission shield or tractor blanket must meet SFI Spec. 4.1.

**B—Brakes**

1. All pulling vehicles will have adequate stopping brakes.

2. All brakes in the driveline will be shielded $360^{o}$ with 5/16 steel or 3/8 aluminum, around the brake components. Ends must be enclosed in the 1/8 steel or aluminum, no cast metal permitted to be used as part of shield.

3. All 4 X 4 trucks ill have complete working front and/or rear brakes.

**C—Chassis/Skids**

1. All pulling vehicles will have a wide front end. Front wheels must track with rear wheels.

2. Component chassis tractors, engine and sheetmetal does not have to match, but meet PPL approval.

3. Tractor Divisions: A front axle brace will be mandatory. Front axle support to be made of 2.00” X .095 tubing or 2.00” X .120 mild steel tubing or same material as tractor frame rails. Front axle supports should connect to each frame rail inline and extend towards front of tractor. Front skid/front axle support should have radius to prevent digging into track. Front axle support frame should be strong enough to support front end weight of tractor. Support should have a maximum of 4” clearance.

4. Suspension systems with air must utilize a self-contained system with the following components: Maximum of three pneumatic lines or hoses and one pressure gauge mounted on suspension's manifold system. Electrical wires are prohibited.

**D—Clothing**

1. Fire suits required in all classes, minimum of SFI 3.2 In flip bodied vehicles without a firewall or working doors, the driver will be required to wear an SFI 3.2A-5 approved suit. B) Fireproof gloves, fireproof head-sock, and fireproof shoes must meet SFI Spec. 3.3 C) All helmets must meet Snell 90 minimum, or SFI Spec. 31.1, 31.2, 41.1, or 41.2. D) Neck collars are recommended.

2. Helmet face shield must be worn down during competition.

3. Crew shirts, long pants are highly recommended in the hot pit area.

**E—Clutch/Bell Housing/Gearbox**

1. All engines using a clutch flywheel assembly will run a full block saver plate. Material being 1/4 aluminum or 3/16 steel minimum.

2. All automotive type engines using a clutch will use a 1/4 inch, one piece SFI 6.1, 6.2, 6.3 containment bell housing.

3. One cooling hole will be allowed in the bell housing, one (1) inch maximum diameter. Hole must not be in explosion area of bell housing.

4. No welding will be allowed in the explosion area of the bell housing.

5. No chemical milling permitted.

6. There will be five (5) 3/8" bolts or four (4) 1/2" bolts to secure bell housing to transmission.

7. All inspection maintenance holes must be no wider than 8 1/2 inches and the ends of the holes shall be smoothly and fully radiused to produce an oval shape.

8. Four (4) 3/8 grade 5 or better bolts are required in the top half of bell housing to block. Six (6) evenly spaced grade 5 or better bolts are required on bottom half of bell housing.

9. Any vehicle using two blown or turbocharged automotive engines, three naturally aspirated or any industrial marine or aircraft engine that is turbocharged or twin staged supercharged on one clutch must have a liner in the bell housing.

10. No cast iron clutch components or flywheels will be permitted.

11. Billet steel, aluminum, SFI 1.1 or SFI 1.2 flywheels will be accepted.

12. Clutches, flywheels and related components must be mounted to engine on vehicles using automotive type engines.

13. Modifieds: All crossboxes must have a total material minimum of 1-1/2" billet.

If cross-box does not meet minimum material, a safety blanket made of a minimum of 20 layers of ballistic nylon or 15 layers of Kevlar which will surround entire gearbox. Blanket will have a minimum width of 3X the width of the gearbox to give a horseshoe effect on end-capping gearbox. Blanket will be considered 1/4 steel to help meet approved total thickness.

14. All clutches on aviation, marine and industrial engines must be approved by the Pro Pulling League.

**F—Drawbars**

1. Hitch must be rigid in all directions. Hitch length and height cannot change before, during, or after pull. Drawbars must have the pivot pin on the same plane as the hook point. Drawbar must be parallel to the ground within (SS/SF/PRO/2WD) $15^{o}$. No cam, "L" or drop-down hitches or cam type rear ends permitted.

1a. MOD drawbar must be parallel to the ground within maximum of 10 degrees over its 18" length permitted.

2. All vehicles are required a safety hitch. Safety hitch must be as strong as primary hitch and cannot be connected to primary drawbar. Safety hitch must be mounted eight (8) inches below primary on all tractors and twelve (12) inches below primary for all trucks. A safety hitch should be a minimum of 3/8" thick.

3. All drawbars will have an opening minimum of 3.75" X 3".

4. All classes through 7500# must meet the following requirements: Drawbar must be a minimum of two (2) square inches total material at any point. This will include area of the pin

removed; pin will be 7/8 minimum. Must be a steel drawbar, not more than 1-1/2" by 1-1/2" square stock, nor less than one by one.

5. All classes above 7500# must meet the following requirements: Drawbar must be a minimum if 2 1/2 square inches total material at any point. This will include area of the pin removed; pin will be 15/16 minimum. Must be a steel drawbar, not more than 1-1/2" by 1-1/2" square stock, nor less than 1-1/4 by 1-1/4.

6. Any provisions or adjustments (ex. air pressure) that increase drawbar height after drawbar had been checked and "set" are prohibited.

7. **Modified 4X4 Trucks:**

A. Point of hook to centerline of rear axle shall be no less than 30% of vehicles wheelbase.

B. Hitch height not to exceed 26 inches.

C. Drawbar must be mounted solid to frame and rigid in all directions.

D. Pulling point can be no more than 1 1/2 inches from back of drawbar.

E. No cable, chain or clevis allowed in hitching device.

F. If bed is too long, it may be cut to accommodate 30% drawbar.

G. Hitch point must be clear and visible for hook and unhook of sled chain.

**G—Driveline Shielding**

1. Loops on all driveline must be round.

2. All U-joints must be shielded 360$^{o}$ with 3/8" thick aluminum or 5/16" thick steel. Shield will be six (6) inches long minimum and centered on u-joint. Inside diameter of shield will be no more than two (2) inches larger than u-joint area six (6) inches wide.

3. All vehicles with planetary rear ends will have the drive totally enclosed with 5/16" steel or 3/8" aluminum. The inside diameter will not be larger than two (2) inches larger than the largest universal joint. No more than 1/4" of driveline will be visible. Bolts holding shield together will be 3/8" grade or better, bolted every two (2) inches or closer.

4. All other vehicles not using planetary rear ends will have loops 360$^{o}$ around driveline two (2) inches away from driveline, made of 3/8" aluminum or 5/16" steel, and spaced every 36 inches.

5. Maximum length of driveline on a modified tractor is 48 inches.

6. 4X4 trucks will have three (3) loops per shaft, evenly spaced on driveline, 3/8" aluminum or 5/16" steel thickness, two (2) inch maximum away from driveline.

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

**H—Engines**

1. Shielding on v or y type engines must be from the base of the head to two (2) inches below the crankshaft throw. Frame may be used as all or part of the shield provided it is solid and covers the required area.

2. Shielding on in-line engines will run from hood to two (2) inches below the crankshaft throw. Shield must be complete, no holes accepted. Shielding must extend complete length of block and be securely fastened.

3. All engines will have a deflection shield, running the complete length of the block casting. Shield must be securely fastened and must be .060 inch thick. Starters, exhausts, fuel pumps, etc., will not be considered as part of the shield.

4. All side shields must be solid. Shielding will be made of a total of .125 aluminum or .090 steel minimum of inch thick.

5. Engine fans must be completely shrouded with steel 1/16" or thicker. Electric fans excluded.

6. All automotive engines equipped with a harmonic balancer must have balancer that is SFI Spec 18.1 and carry SFI identification.

7. All supercharger drive components will be shielded on top and sides with .060 steel or 1/8" aluminum. Side is defined as to the centerline of bottom pulley. Shield should be wider than drive components.

8. All vehicles using and automotive type supercharger will use aluminum blower studs, SEMA Specs 6061 T-6 to secure blower to intake manifold. Blower straps meeting SFI Spec 14.1 or high-quality nylon braided straps are required at all events.

9. Carbureted, or injected, marine or aircraft engines using a centrifugal super charger must be shielded as follows:

9A. Shielding will be the same on both side of the supercharger.

9B. The shield will start at the same as the centerline and extend for four (4) inches rearward and four (4) inches forward.

9C. Notching will be allowed only to fit around necessary components.

9D. On the front edge of the shield there will be a rolled lip, extending inward one inch at a $90^{o}$ angle.

9E. Shield will be constructed of 1/4" thick steel and be bolted every two (2) inches or closer with 3/8" grade 5 or better bolts.

9F. Shield to start at bottom of housing and go over top and down the other side.

9G. Superchargers, as specified in rules above, may use a safety blanket with the following properties: 22 ply ballistic nylon or 18 ply Kevlar.

10. All diesel engines will have a manual three-way dump valve installed ahead of the injection pump, to be operated from dash panel.

11. All diesel engines: truck or tractor permitted maximum deck plate of one inch.

12. All turbocharged engines 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 four (4) clamps at all splices.

**I—Exhaust**

1. All vehicles must have exhaust discharging vertically within ten (10) degrees of plumb. Height to be a minimum of 12 inches above the bend in pipe which discharges vertically. Bottom of bend to top of pipe.

2. No megaphone pipes allowed.

3. Venturi-style headers permitted.

4. No raincaps permitted.

**J—Fenders and Seats**

1. All vehicles must have a strong and rigid seat.

**K—Fuels & Fluids**

1. Acceptable fuel is diesel fuel. No fuels in pressurized containers. No oxygen carriers or combustion accelerators permitted.

2. No oxygen carriers or combustion accelerators allowed in water injection. Only water-soluble oil permitted in water injection.

3. No nitrous oxide, nitro methane, or propylene oxide. No ether bottles (starting aids) allowed on board while pulling.

4. Top lube is allowed, but no nitro based top lube will be accepted.

5. Intercoolers will be permitted to carry only water and ice.

6. All competitors will report to the scales full of fuel/water/ice etc.

7. All diesel tractors and trucks will have a fuel sampling valve.

8. All diesel-powered competition vehicles will have a water injection sampling valve. If no valve exists, the tank line will be unfastened to produce a sample.

9. All fluids are subject to diagnostic screening which includes but not limited to, specific gravity, mass spectrometer, oxygen concentration, and burn test(s).

10. Diesel fuel standards for PPL dielectric constant test are greater than 30 and less than 100. Any mixture of diesel fuel, upper cylinder treatments, cetane, etc. that does not fit into the required standard will be disqualified.

**L—Ignition/Dataloggers**

1. Electronic fuel injection is prohibited except diesel truck classes (2.6/3.0/DieselSS4X4).

**M—Tires**

A-30.5X32 maximum of 210 inch circumference, when inflated to 10psi on a 28" rim. Tread width not to exceed 31".

B-24.5X32 maximum of 210 inch circumference, when inflated to 10psi on a 26" rim. Tread width not to exceed 25".

C-20.8 maximum of 220 inch circumference when inflated to 20psi on a 20 inch wide rim. Tread width not to exceed 21.3 inches.

D-Modified 4X4 Trucks

-On a 20 inch rim, maximum circumference 112 inches inflated to 30psi.

E-Super Modified 2 WD/Mini-Rods

-On a 18 inch rim, maximum circumference 143 inches inflated to 28psi.

**N—Turbochargers**

1. All turbochargers mounted outside normal engine shielding will be shielded in.060" steel. All intercoolers mounted outside of normal engine shielding will be .060 aluminum.

2. All truck turbocharged engines should have: (2) 5/16 Grade 5 bolts, installed $90^{o}$ to each other and within 4 inches from exhaust housing flange.

3. Any single turbo (3.0" and larger in diameter) must have a minimum of 1/8" cable wrapped around turbo. Cable must wrap two revolutions around turbo, clamed by a minimum of two clamps at splice; or metal collars around intake with attaching 1/8" cables to exhaust housing; or Kevlar lined turbo blanket covering the intake housing.

5. All turbocharger alcohol engines shield sparkplugs with minimum of .125 steel or aluminum within two inches any direction of centerline of sparkplug.

**O—Safety Switches**

1. All vehicles will be required to use a kill switch.

2. Kill switch will be securely mounted to the back of the vehicle and have a two (2) inch diameter ring to attach the sled.

3. A tie strap will be used during tech to show vehicles have been teched. A 1/4" hole will be used to securely hold tie strap just above the skill switch. Only if tie strap is broken, decided by head track official, will competitor be given opportunity to pull again.

4. A white safety light is required to indicate that competition vehicle is in neutral during process of hooking or unhooking from sled. An additional reverse light, is highly recommended, amber in color will illuminate when vehicle is in reverse.

5. Kill switches on diesel motors will have the following:

5A. Air shut off must be operated from drivers' seat.

5B. Air shut off will consist of cap or guillotine that closes off air into the engine. The cap of guillotine will be spring loaded. Butterfly systems not permitted.

**Q—Weight**

1. No loose ballast inside the vehicle will be permitted.

2. No vehicle weighing more than class will be permitted.

3. Any weight loss while hooked to the sled and under the green flag will result in disqualification. Any weight touching the ground, although may be attached to the pulling vehicle, the pull will be disqualified. Internal breakage is an exception.

4. Weights must not interfere with the skill switch, drawbar, or chain. An area of 5" wide and 12" high immediately above the drawbar must be free of obstructions.

**III—Vehicle General Rules**

1. All pulling vehicles are required to have a minimum of 2.5 lb. fire extinguishers which are fully charged. Extinguishers must be within reach of driver.

2. Seatbelts must require 16.1 SFI Spec on all driver restraint assemblies and be worn during competition.

3. All vehicles will have a safety switch. The safety switch will ground the ignition and the electric fuel pumps on spark ignition motors and shut off the air intake to diesel motors.

4. No batteries are allowed inside cab of the vehicle unless they are a marine battery box and secured to the vehicle frame. Shielding is required for battery posts that are exposed. All batteries must have a solid hold down. No bungie cords.

5. All pulling vehicles will have a dead man throttle that will automatically return to the closed position. Throttles will work in a reverse to forward motion, reverse being closed.

6. All pulling vehicles must have a starter interrupter switch that will allow starter engagement only in neutral or park position on a transmission gear selector for mechanical reasons during the season.

7. All vehicles using a foot throttle must use a toe strap.

8. All vehicles using an automatic transmission must have a positive gear lockout.

9. Drivers or crewpersons must be seated and in control of the pulling vehicle any time motor is started or running.

10. All pulling vehicles must have a safety light. A) A white light automotive quality, a minimum of 2 inches in diameter, must be mounted with 30 inches of hooking point; and within 6 inches of center line. B) A light in the driver's compartment must be operated off the same system. C) Both lights and the starter interrupter switch will be operated off the shifter lever. D) A neutral light should illuminate when vehicle is in the neutral position. Lens color should be clear.