

Light Super Stock Rules

Eligibility of Contestant

1) All competitors are required to have on file with Illiana Pullers Association before competing in the 6000 Light Super Stock class a notarized form / statement stating competitor's clutch, flywheel and bell housing components are SFI approved and competitor's roll cage meets SFI specification 47.1 or 47.2. A new notarized form / statement must be on file each year before competition vehicle is allowed to compete. A form may be obtained from the Illiana Pullers Assoc. Board of Directors. A current year Outlaw's Truck and Tractor Pulling Association or Illinois Tractor Pullers Association notarized statement will be accepted. Current year NTPA clutch certification paperwork along with either an NTPA roll cage certification paperwork or Illinois Tractor Pullers Association roll cage certification will be accepted.

2) Light Super Stock entries shall compete at the following weights:

a. 6200#-components

b. 6500#-ag tractors

General Rules

1) All competitors are required to utilize a 5 point driver restraint harness and driver seat mounted to the roll cage structure independent of the tractor chassis. The 5 point driver restraint harness must be a quick release design and be securely fastened during competition.

2) All competing vehicles must be equipped with working rear wheel brakes.

Drawbars

1) All drawbars shall be constructed so that in the event of drawbar breakage, the drawbar supports do no pull from a top link or brace above the centerline of the rear wheels of the vehicle. Any vehicle with the drawbar hold up device above the centerline of the rear wheels must have a single pin breakaway type (slide out) drawbar. The drawbar hold up device is to be within 6 inches maximum forward of hook point.

2) Drawbars cannot be shorter than 18 inches. A drawbar, which has provisions to be made shorter than legal length, is not acceptable as a legal drawbar.

3) Drawbar height is not to exceed 20 inches.

Clutches and Flywheels

- 1) Competition vehicle is required to use an SFI SPEC 1.1 or SFI 1.2 steel plate or steel billet flywheel. NTPA stamped flywheels are acceptable. The flywheels must be made of steel with the following mechanical properties; tensile strength of 60,000 psi, yield strength of 40,000 psi. If an aluminum flywheel is used it must be SFI SPEC 1.1.
- 2) Positively no gray cast metal allowed in any flywheel and clutch component.
- 3) Competition vehicle is required to have an SFI SPEC 4.2 bell-housing blanket (an expired renewal date on an SFI SPEC 4.2 bell housing blanket will be accepted).
- 4) Bell housing blanket must meet the following construction criteria; 17 inches wide and long enough to wrap around the bell housing with at least 6 inches overlap, secured with six 2 inch wide nylon web straps with a steel D-ring on one end and sewn the length of the blanket (except for the overlap area) and long enough to pass back through steel D-ring and be tied in a saddle cinch along with four 2 inch nylon web retaining straps each at the front and back of the blanket.
- 5) Bell housing blanket straps are to be fastened forward and rear of the clutch / flywheel assembly. All straps must be securely fastened and the blanket must be secure against the rear face of the engine block.
- 6) The flywheel, clutch and pressure plate components must be SFI approved and numbered components. Other than a product of an SFI-approved manufacturer are exempt from certification as long as they are NTPA stamped.
- 7) No lightening holes allowed on the transmission face of the bell housing. One cooling hole allowed, maximum 2 inches in diameter on the face of the bell housing.
- 8) Bell housing may not be welded or repaired in the explosion area of the bell housing.
- 9) No chemical milling.
- 10) The inspection / maintenance hole in the bell housing shall not extend farther forward at its top edge than flush with the cross shaft hole nor farther downward at its bottom edge than to allow one ½ inch bolt diameter edge distance for fastening holes in both the bell housing and the inspection / maintenance hole cover. The length of the inspection / maintenance hole shall be no more than 8.5 inches, measured in a straight line, and the ends of the hole shall be smoothly and full radius to produce an oval shape.
- 11) There shall be twelve 5/16-inch grade 5 or better cap screws securing the cover to the bell housing. The cover must have a plate or fillet that fist flush inside of the housing. The cover and fillet must be steel. The fillet must be welded to the cover and all bolts must be flush to the inside.
- 12) There must be five bolts used to secure the transmission to the bell housing, 3/8-inch minimum diameter or four ½ inch bolts.
- 13) All bell housings must be flush on the inside surface.

14) SFI certified bell housing with Crower stand adjustment slot are acceptable.

15) Add four additional bolts to fasten the bell housing to block saver plate. These bolts are to be 3/8-inch grade 5 and between existing bolts on the top half of the bell housing, along with 5 evenly spaced bolts between block saver and bell housing on lower half.

16) Only mechanically activated clutches allowed.

Engines

1) A legal Super Stock entry shall consist of a 2wd tractor OEM block or the OEM designated replacement block for the make of vehicle being entered.

2) An engine upgrade will be allowed. Engine upgrade must be of the same manufacturer of chassis and sheet metal. (I.e. no John Deere engine in an International chassis) The board of directors will determine a legal entry for an engine upgrade.

3) 505 cubic inch limit.

4) Super Stocks are limited to (3) pressure stages, with maximum of (4) turbochargers.

5) The following formula will be used for calculating cubic inch displacement on any piston type engine:
 $.785 \times \text{stroke} \times \text{bore} \times \text{bore} \times \text{number of cylinders}$.

a. NOTE: A 1% wear factor will be allowed for engine maintenance/wear.

6) Only two parallel valves per cylinder must be parallel with each other and parallel within 15degrees of cylinder wall. OEM canted valves allowed.

7) No overhead cams allowed.

8) Only cast type OEM hemi style heads allowed. A legal entry is to be determined by the IPA board of directors.

9) All turbochargers not under the hood must be completely shrouded, except for inlet and exhaust pipes with a minimum 0.060-inch steel. Turbochargers under fiberglass hoods must be completely shrouded with 0.060 inch metal under the area of the fiberglass, except for inlet and exhaust pipes.

10) The tubing on the pressure side of a turbocharger to the intake must be under the hood or side shields or be bolted or strapped securely.

11) The OEM engine cannot be modified externally in any way except for normal repair or for mounting of fuel injection pumps.

12) An external hold down device is allowed to hold head to block. This device connects top of head to bottom of block, and must remain behind side shields.

13) All engines must be secured and held rigid to OEM chassis.

- 14) Engines cannot move independent of rear end / transmission housing.
- 15) No auxiliary internal combustion engines are allowed on board to drive pumps, accessories, etc.
- 16) If Illiana Pullers Association Board of Directors doubts the legality of an entry, contestant must verify 150 units of the tractor in question have been manufactured. A notarized statement from the manufacture is required stating part numbers to prove legality of entry.
- 17) No computer controlled electronic fuel injection systems allowed.
- 18) Computer-controlled electronic diesel fuel injection allowed, (only on diesel tractors).
- 19) Intercoolers are only allowed to use if a single non-slotted 3x4 turbocharger is used. (i.e. Light Limited Super)
- 20) A deflection shield is required on both sides of the engine. Shields must extend the complete length of the block casting and be securely fastened. Shields must extend from sheet metal (hood) to 2 inches below bottom center of crankshaft throw and be securely fastened. Shields may extend beyond or cover starter or fuel pump. Shields shall be constructed of aluminum or steel a minimum of 0.060 inch thick or safety blanket material. Shields must be solid – motor mounts, filters, fuel injection pumps, steering rods, etc cannot serve as part of shield. Solid frame rails with no holes can serve as part or all of the shield, providing it covers required areas of block casting. It is recommended that a quick release fastener be used. Use of bolts, nuts, screws, locks are discouraged, (Reason: ease of access in emergency – fire, run-off, etc). Any competition vehicle with that requires tools for the removal of side shields must be equipped with an on-board fire control system. System must place one nozzle on each side of engine, inside the engine compartment. Not to be attached to the sheet metal.
- 21) A metal deflection shield between driver and engine from top of the hood to top of torque tube or transmission housing or clutch housing from side shield to side shield is required. No holes except for controls. Holes not to exceed ½ inch larger than control.
- 22) Shielding on all V or Y type engines must extend from the base of the head or the upper most point of piston travel to 2 inches below bottom center of crankshaft throw and be securely fastened.
- 23) Side shields must be mounted independently of the engine block. Motor mount, block saver plate and header mounting or chassis mounting is acceptable.
- 24) All tractors are required to shield all rotating mass mounted to front of crankshaft 360 degrees from front of engine block to one inch in front of the rotating mass. Shield to be from frame rail to frame rail by a minimum of 0.125 inch steel or aluminum and fastened to the frame on each side by a minimum of two evenly spaced bolts 3/8 inch grade 5 minimum. The remainder of the 360-degree shield will be the side shields and hood shielding. Note: Shield may be notched to allow belt to pass through and beneath the frame to drive fuel or oil pump.

25) All engine crankcase venting (blow by tubes) must be vented below the heads of that engine and extended down to the engine pan. All blow by tubes must exit forward of rear tires.

26) All competing vehicles must be equipped with a dead-man throttle. All throttles in a forward-rearward direction shall be closed in the rearmost position. No hydraulic throttle linkage allowed. Must be positive, two-way mechanical linkage.

27) All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm.

28) A bolt in the crankshaft to hold damper pulley is required.

29) All engine driven fans must be shrouded with 1/16 inch steel or thicker, 360 degrees. Electric fans excluded.

30) Turbocharged engines are required to have one (1) cable that must surround the engine block and head. This cable must be placed between first and second cylinder through the exhaust manifold port area. Cable must be a minimum of 3/8 inch thickness. Cable must have a minimum of two (2) clamps at the splice. Cables must have approximately 4 inches of slack.

31) All diesel engines are required to install a three (3) way dump valve (manual) ahead of the injection pump to be operated from the dash panel.

32) All ether bottles (starting aids) must be placed outside of engine compartment.

33) All fuel lines to be steel braided or high pressure reinforced rubber. No plastic tubing allowed.

Chassis

1) Chassis must consist of OEM block or OEM designated replacement for make of tractor being entered. Block must remain in stock location and still maintain stock appearance for make & model sheet metal being entered. Vehicle being entered that feature an engine upgrade will be deemed legal by the board of directors.

2) The stock transmission housing or manufacturer's replacement and the stock final drive housing or manufacturer's replacement. The clutch housing, transmission case, rear end housing and axle housings must be OEM. No aluminum replacements.

3) Allow tractors with cast tub (belly type) frame (i.e. Oliver, CockShutt, White) to remove complete frame from front of transmission housing.

4) Any alteration to the chassis shell must have written approval of the Illiana Pullers Association's Board of Directors.

5) The tractor chassis and frame must remain stock from the rear of the engine block to the rear of the tractor on all tractors.

- 6) The OEM engine cannot be modified externally in any way except for normal repair or for mounting of fuel injection pumps.
- 7) Must have wide front-end axles. Front wheels shall track within the rear wheels.
- 8) The OEM engine cannot be modified externally in any way except for normal repair or for mounting of fuel injection pumps.
- 9) The clutch housing, transmission case, rear end housing and axle housings must be OEM. No aluminum replacements.
- 10) Hood and grill must be in place as intended by the manufacturer.
- 11) Sheet metal to be stock length and in stock location. Criteria to be to maintain original appearance.
- 12) Upgrading of sheet metal allowed to OEM dimensions and style, subject to the Board of Directors approval.
- 13) Maximum wheelbase of 114 inches unless originally produced with longer wheelbase, then must remain stock length.
- 14) Maximum length 13 feet from the center of rear wheel to forward most portion.
- 15) All tractors must either run safety tie bars mounted to rear axle housing with at least four axle housing bolts and extending forward to flywheel area and fastened to side of block or main frame with at least two 5/8 inch bolts, or a one piece frame extending from front of tractor to rear axle housing mounting bolts. Tie bars or frame must be sufficient strength to support weight of tractor with the bolts removed.
- 16) All safety blankets must be on the inside of tie bar and the tie bar must be fastened forward of the rear of the engine block.
- 17) All tractors that utilize a tube ladder type frames must be covered on the outside with steel or aluminum 0.060 thick.
- 18) The Illiana Pullers Association will allow component tractors to compete in Light Super Stock under the following criteria:
 - 19) Must install an aftermarket frame with an SFI-6.2 or 6.3 bellhousing to replace the original clutch housing. Must also install an aftermarket transmission and rearend to replace the original equipment transmission and rearend/final drive housing. No cast iron Ag-type transmission or rearend components allowed. After market transmission and rear end components must be approved by the IPA board.
 - 20) Primary (and secondary, if used) drawbar and rollcage, with five-point restraint harness, must be part of the aftermarket frame structure.
 - 21) Engine upgrade rule applies to component tractors as it does to ag tractors.

22) Engine location on component Super Stock tractors:

23) Centerline of the crankshaft may not be below the centerline of rear axle and must be parallel within two degrees in relationship to the ground. (Two degrees equals 7/16th-inch per foot. This equals approximately four inches of fall from center of rear axle to the 114-inch wheelbase point. This is to be measured with tire, hitch and weight in ready pull position.)

24) All engines in component Super Stock tractors to be mounted no farther forward than 60 inches from the centerline of the rear axle to rear of engine block.

25) Crankshaft centerline to be between top and bottom rail of frame. Bottom of frame rail may be no more than six inches below centerline of crankshaft from rear of engine block forward.

26) Component tractors are allowed to use any agricultural type engine that conforms to engine upgrade criteria for ag type tractors and cubic inch limits.

27) Appearance to remain stock of given brand and model

28) All drive train, excluding additional manual transmission, must be enclosed in 5/16" minimum steel or 3/8" inch aluminum, round, inside diameter not to exceed 2 inches more than the outside diameter of the largest universal joint, fastened every 6 inches or closer, with 3/8"-inch or larger bolts, Grade #5, or butt and seam welded, and securely mounted to vehicle's frame. Applies to all vehicles with exposed driveshaft. No more than 1/4 -inch of end of driveline shall be visible with driveline shielding in place.

29) Maximum wheelbase of 114 inches unless originally produced with longer wheelbase, then must remain stock length with maximum length 13 feet from the center of rear wheel to forward most position 30) It is STRONGLY recommended that all tractors have a tow hitch on the front of the vehicle. The hitch can extend a maximum of 6 inches ahead of the furthest front portion of the vehicle, (hitch will not be counted in length when measuring vehicle). The hitch must have a 3-inch diameter hole, preferably positioned horizontally and strong enough to push or pull vehicle at its heaviest weight. The device should be used for no other purpose.

Exhaust Systems

1) All exhaust systems must discharge vertically. The height to be a minimum of one foot (12 inches) above the bend of the pipe which discharges vertically measured from the top of the pipe to bottom of bend. Vertical is defined as being within 10 degrees (with 5 degrees variance), in any direction of being plumb.

2) All exhaust pipes must be securely attached.

3) Rain caps cannot be used.

4) No megaphone pipes allowed.

5) Venturi type headers acceptable.

6) Turbocharged engines must have two 3/8 inch grade 5 bolts in either (or both) vertical portion, or horizontal portion of exhaust pipes. Bolts are to be installed 90 degrees of each other and within one inch of each other.

Fuel and Fuel Containers

1) All forms of nitro methane including nitrous oxide and propylene are illegal as a fuel or fuel additive for pulling. Legal fuels are alcohol, water, diesel fuel, and gasoline or propane gas. No oxygen carrier or combustion accelerators are allowed. Methanol alcohol is a clear, colorless liquid with a mild odor at ambient temperatures. No additives are allowed in diesel fuel except those additives blended by the fuel manufacturer or refinery. Fuels may be checked by tech official at any event at any time.

2) No pressurized fuels allowed except in U.L. approved pressure tanks. No oxygen allowed.

3) No electronic fuel injectors or metering devices allowed.

Kill Switches

1) All competing vehicles with spark ignition must use a waterproof, dust proof tether type safety switch as an ignition kill switch and it must be in working order at all times. All diesel competing vehicles must have an air shut-off in working at order at all times.

2) On a spark ignition tractor, the kill switch must break or ground the ignition circuit. Spark ignition tractors with electric fuel pump(s), the kill switch must also break current to the fuel pump(s).

3) On a diesel tractor, the kill cable must activate the air shut-off required on a diesel engine. A cable may be used for this purpose, but must have positive type enclosed cable for the air shut-off. The cap must have a spring loaded closing mechanism. System to be deemed acceptable must at least prevent from building boost. It is recommended that a gasket / seal arrangement be used. To more effectively shut off air flow. Door or rain cap air shut offs (no "butterfly" type) will be required on all self-ignition engines with a separate control for the driver. Control for driver not to be the same as for the sled. No electrical operated air shut-offs allowed.

4) Kill switches on spark ignition tractors must be checked with engine running.

5) Track officials and/or tech inspectors have the option of checking kill switches as they feel is adequate at any event. It is recommended that all kill switches be check on all competing vehicles at every event.

6) All kill switches must be mounted independent of drawbar and/or wheelie bars / stabilizer bars.

7) The kill switch must be located in the rear center (maximum of 6 inches off center in any direction), approx four feet above the hook point.

8) The breakaway kill switches must have attached to them a minimum of a 2-inch diameter ring, with a minimum 1/8 inch cross-sectional thickness. The cable from the sled will be attached to this ring.

- 9) Portion of the kill switch and mounting bracket(s) must be able to withstand 32 pounds of pull per switch when pulled independently or collectively.
- 10) Kill switch ring must be secured with a single nylon tie wrap (1/8 inch). The tie wrap must be broken for a re-pull. Competitors will be responsible for replacing the kill switch mechanism and securing the tie wrap once kill switch is checked by tech official.
- 11) If vehicle has kill switch or shut-off located in a legal position, and during the pull it is pulled and the nylon strap is broken, and the presiding judge inspects and finds switch capable of operating properly under normal conditions, vehicle will be allowed to re-pull immediately or drop six positions. Decision to drop must be made before vehicle leaves the track. It is the puller's responsibility to see that the official checks the switch before leaving the track. .
- 12) Diesel and fuel injected engines must have a fuel shut-off valve control within easy reach of driver (your normal fuel shut-off on diesel pump). All diesel engines must be equipped with an emergency shutdown air shut-off at the air intake, which can be utilized from the tractor seat. Fuel injected ignition engines, fuel shutoffs to be located between fuel pump and injection nozzle.
- 13) The use of OHM meters and buzz boxes allowed, however, if there is any doubt of whether the device is hooked up properly or the person using the device is not 100 percent certain of the reading he receives, the pulling vehicle will be started to check the kill switch.

Safety

- 1) If an Illiana Pullers Association track official or tech official feels a vehicle is unsafe, they have the right not to allow vehicle to pull. Track official or tech official has the right to bar a competition vehicle from competing if he or she believes that the vehicle has a potential safety problem.
- 2) All drivers are required to wear a fire suit that meets SFI specification 3.2A-1.
- 3) All drivers must wear helmets that meet or exceed Snell 2000 rating or must meet SFI specification 41.2. No modifications or alterations of the helmet are allowed. All chinstraps must be fastened. Helmets with fire retardant lining and a flame retardant neck shirt allowed. If you use a helmet with a fire retardant lining and flame retardant neck skirt, no head sock is required. Once a helmet has suffered a severe impact, it must be replaced or sent to manufacturer for re-inspection.
- 4) All drivers are required to wear a full 360-degree neck collar meeting SFI specification 3.3 or a Hahn's device.
- 5) Flame retardant underwear is highly recommended with the use of any protective clothing.
- 6) A capable operator must be in the driver seat while vehicle is running.
- 7) All pulling vehicles must be equipped with a starter interrupter switch on the gearshift, which will allow starter engagement only in neutral position.

8) All pullers will have fire protection equipment and helmets on any time while on the track and driver are on the pulling vehicle, or the puller will be disqualified.

9) All drivers must wear full fire protection including full-face helmets with shield, head sock, fire gloves, fire shoes and SFI certified fire suits. It is recommended that the face shield be in the down position during competition.

10) Head socks / neck skirts must be inside of driving suit. Nothing exposed while competitor is sitting in seat ready to compete.

11) All vehicles must utilize a roll cage that meets SFI specification 47.2 along with a 5-point quick release harness and driver seat mounted to the roll cage structure. Failure to use 5 point release harness while competing will result in automatic disqualification.

A. Competitors are required to complete a notarized statement saying his or her roll cage meets SFI specification 47.2.

12) All vehicles are required to have a quick release, removable or swing away steering wheel for ease of extraction of driver in event of injury.

Seats and Fenders

1) All vehicles must a shield between driver and tire, (does not have to be a fender), to consist of a solid barrier between driver and any part of the rear tires sufficient to be able to support the weight of driver. The barrier must be a minimum of 6 inches wide at the bottom, increasing to a minimum of 36 inches at the top and the barrier must curl a minimum of 6 inches from vertical out over the tire in the same configuration as the tire.

2) Fenders or tire shields must be constructed so that when the driver is seated and the hands are on the wheel, he or she cannot touch the rear tire with any part of his body.

Stabilizer Bars

1) Stabilizer bars are required (no wheels allowed). The drawbar assembly will not in any way be attached to the stabilizer bar assembly.

2) The stabilizer bar must extend a minimum of 32 inches behind a line drawn from the center of the wheel to the ground. Pad must not be more than 10 inches off the ground at 32-inch point and be measured during hitch check before competition. The stabilizer pad must be a minimum of 5 inches square with a minimum of 20 inches allowed from outside of one pad to the other. No crossbars between stabilizer bars allowed behind point of hook.

3) In addition to the stabilizer bars, there must be a brace that extends vertically 12 inches from the rear most tip of the skid pads. There must be a support brace extending inward to frame, axle or top of stabilizer bar arms. Materials used must be of minimum strength of materials used for stabilizer bars.

Design and material must withstand severe impact of sled. Vertical brace should extend rearward a minimum of 2 inches from the radius of the tire.

Tires

1) Class is open to pulling vehicles with rubber tires. No dual tires, tire stubs or chains permitted. All power must be transmitted through the wheels.

2) Rear tires are limited to a width of 30.5 inches. (Width is determined by tire manufacturer)

3) 20.8 x 38 tire, or narrower, is allowed on 38 inch diameter rims. No tire width wider than 20.8 allowed on a 38 inch diameter rim.

4) No larger rim diameter allowed than 38 inches.

All general rules apply where applicable.