

THE POWER PULLING ASSOCIATION

MINIPULLER BUILD RULES

This pamphlet has been produced as an aid to building a mini tractor to full European standards. The pamphlet is not an absolute authority in its own right and pullers are advised to refer to the European Tractor Pulling Committee Rule book as issued by the BTPA if competition outside the PPA is envisaged. Any enquiries regarding build rules should be referred to the mini puller scrutineer in the first instance.

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Amendment : 09/2003

SAFETY

The rules and regulations in this pamphlet are designed to ensure the maximum safety to both the puller and spectator commensurate within the limitations of tractor design and operation. However, no guarantee can be given that any specific design requirement is 100% safe under all conditions.

Rules regarding competition pulling and operation of tractors are to be found in the PPA Club Rule Book.

MINIPULLER GENERAL CRITERIA

A minipuller is defined as a competition pulling tractor of american garden tractor size which may have any size or combination of power plant, gearbox or axle so long as the gross weight including driver does not exceed 950 kgs and the vehicle dimensions do not exceed 6 ft in width or 8 ft in length from rear wheel centre line to front of vehicle.

1.

WEIGHT

The maximum weight must not exceed :

950 kgs 2094 lbs

Official weight includes driver, vehicle with oil, water and fuel in competing condition.

DIMENSIONS

No portion of any tractor may exceed 8ft/244 cms forward of the centre of the rear wheel (excepting front tow bar).

No portion of any tractor shall exceed 6ft/183 cms in width.

CHASSIS AREA

General

a) Where engine or gearbox are used as part of chassis there must be sufficient strength to stop the tractor breaking in two, if a clutch, engine or gearbox failure occurs.

b) All tractors shall have wide front axles. Front wheels must track within rear wheels.

SEATS, FENDERS AND SUPERSTRUCTURE

a) All tractors must have a strong and rigid seat. If fenders are less than 6" above or more than 6" away from seat, side rails are required. These must be 4" high and be no less than half the length of the seat measured from the seat back.

2.

b) All tractors must have a fender or barrier between seat and tyre. This must curl 4" horizontally from vertical edge over tyre following tyre configuration with the fender top at least 18" long. A minimum fender to tyre clearance of 1" must be maintained. The fender must support the weight of the driver.

Fenders or shields must be so constructed that when the driver is seated and both hands are on the steering wheel he cannot touch any part of either rear tyre with any part of his body.

c) All parts of superstructure are to be securely fastened and no dangerously sharp edges are to be left.

d) three point, four strap (minimum) Seat harness must be fitted. (CE marked or BS marked)

TOW HITCHES AND DRAWBARS

a) Tow Hitch

All vehicles are required to have a tow hitch on the front of their vehicle. The hitch can extend a maximum of 6"/15cm ahead of the furthestmost portion of the vehicle, (hitch will not be counted in length when measuring the vehicle). The hitch must have a 3"/7.5cm diameter hole, preferably positioned horizontally, and strong enough to push or pull the vehicle at its heaviest weight. The device is to be used for no other purpose.

b) Drawbar

Drawbars shall be so constructed so that in the event of a drawbar breakage the drawbar supports do not pull from the top link or brace above the centreline of the rear axle of the vehicle. A drawbar, which has provision to be made shorter than legal length, is **NOT ACCEPTABLE** as a legal drawbar.

3.

Drawbars must be rigid in all directions. Drawbars must be parallel to the ground with a tolerance of +/- 4°.

Drawbars and hitching devices must be made out of steel with a minimum of 520N/mm² tensile strength.

The minimum thickness of drawbar must be 1"/25mm steel. All drawbars must be equipped with a hitching device 1"/25mm thick and must have a minimum of 2"/50mm round hole. Pulling point must be 1"/25mm from back edge of hitching device cross sectional thickness of 1"/25mm square steel or 1"/25mm round with 1/2"/12mm pin.

Drawbar height and adjustment bolts to be 5"/130mm or less from hooking point.

The minimum surface area of any cross section of the drawbar must not be less than 1"/25mm square, including the hitching point. The drawbar must have at least 12mm thickness in section in front of the 12mm horizontal mounting pin and 6mm thickness in section above and below the pin.

An area of 6"/15cm wide and 12"/30cm high immediately above the drawbar must be free of all obstructions (including weight, wheelie bars) for easy hooking and unhooking.

- c) Drawbars and wheelie bars are not to be connected.
- d) The drawbar distance from the centre of the rear axle cannot change during the pull.
- e) The maximum height of the drawbar must not exceed 13"/33cm and the minimum length from centre of rear axle to hitching point front face must be no less than 6"/15cm.

4.

STABILISERS, BUMPERS AND ROLLOVER BARS

- a) Stabiliser bars are required. The drawbar and drawbar assembly will not in any way be attached directly to stabiliser bar assembly. This device is to have wheels or a skidplate. Wheels are to be at

least 1"/25mm wide and 5"/13cm diameter. Skidplates to be at least 4"/10cm square at ground contact point.

Wheels or skidplates to be minimum of half the tyre diameter plus 100mm to maximum of plus 150mm measured radially from the axle centre line to the back of the pad/wheel. Pad/wheel to be maximum 6"/150cm from ground.

One pad or wheel is to be on each side of the tractor as far apart as possible, each one capable of supporting the tractor weight.

Bumper/nudge bar to be no more than 100mm rearward of back vertical edge of tyre.

NOTE:- PPA highly recommends the use of bumpers on all tractors to prevent tractor from passing over buckboard of sledge.

- b) A roll cage to design parameters, as listed in annex A must be fitted.

BALLAST WEIGHTS

All ballast weights must be affixed within the tractors maximum dimensions and forward of rearmost point of rear tyres.

All ballast weights must be securely fastened.

NOTE Ballast lost while under a green flag is a cause for disqualification. (Internal breakage excepted).

5.

ENGINE AREA

General

- a) Any engine which can be fitted within the weight and dimension criteria is acceptable.

- b) Aviation, marine and industrial engines are defined as engines not used for production automotive purposes.
- c) Driveline Shielding. Drivelines should be guarded with 5/16"/8mm steel plate or 3/8"/10mm aluminium. All driveline guarding to be minimum practical distance from shaft being guarded,
- d) Drivelines are defined as all rotating components which are not an internal part of the engine, gearbox or rear axle and are not brakes or wheels. However, transmission brakes should be treated as driveline.
- e) A propshaft safety loop is required on any driveshaft with U/Js unless guarded as in (c). Loop to be no more than twice the width of the largest flange diameter.
- f) Any other rotating part should be shielded such that bodily contact is not possible.
- g) No cast or composite harmonic balancers allowed. Only a steel pulley or collar is allowed on the crankshaft nose. SFI approved balancers are allowed. All blower pulleys to be steel or aluminium.
- h) All onboard batteries must be securely fastened and protected to prevent any risk of sparks or arcing.

6.

THROTTLES

- a) All pulling vehicles must be equipped with a Deadman's Throttle. All throttles must work in a forward/rearward direction and shall close in the rear position. The throttle lever, or pedal, must move the final throttling device in both the opening and closing directions regardless of whether return springs are fitted or not. A positive two-way mechanical linkage

only is allowed. No hydraulic throttles. Foot throttles must have a toe strap.

- b) Injection and butterfly shafts on engines must have dual return to idle springs (one on each side). Diesel engines must have visible return spring on injection pump throttle arm.

ENGINE MOUNTS

- a) All minipuller engine/automatic transmission combinations must have two front motor mounts and a support saddle for rear of transmission with 1/2"/12mm maximum clearance. (This saddle must demonstrate sufficient strength to support the weight of the engine if other mounts break)

OR

Two front motor mounts, support saddle at rear of engine with 1/2"/12mm clearance and a mount at rear of transmission (this is to prevent engine or transmission from dropping if breakage occurs).

ENGINE SHIELDING

- a) A deflection shield is required on both sides of all engines. Shield must extend the complete length of block casting and be securely fastened. It is to be made of aluminium or steel and be a minimum of 0.080"/2mm thick.

7.

Shields must be solid. Motor mounts, filters, steering rods etc. cannot serve as part of shield. Solid frame rails with no holes can serve as part or all of shield providing it covers required areas of block casting. It is recommended that a quick release fastener be used (wing Dzus type or cotter pin type hood pins). Use of bolts with nuts are discouraged, the

reasons being ease of access in case of emergency (fire, run off etc.) and to aid scrutineering.

- b) Starter motors, fuel filters, oil filters and fuel injection pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
- c) Shielding on all V or Y type engines (including marine or aircraft) must extend from base of head or the uppermost point of piston, travel to 2"/5cm below bottom centre of crankshaft throw and be securely fastened.
- d) Piston powered aircraft, industrial or marine engines must have a minimum of 0.120"/3mm thick shield. This may be in one or two layers.
- e) Side shields must be mounted independently of the engine block. Motor mount, block saver plate and header mounting or chassis mounting is acceptable.

POSITIVELY NO CAST IRON.

AVIATION, MARINE AND INDUSTRIAL ENGINES

- a) On aviation, marine and industrial engines in power pulling applications where a gearbox is used between the engine crankshaft and the clutch, the gearbox output shaft must not exceed 1½ x (1.5:1) the speed of the crankshaft. No torque converters are allowed behind the gearbox.

8.

The shaft that accepts the flywheel must be made of solid billet steel, and 2¼"/57mm thick to be heat treated 4140 steel, 30 to 38 Rockwell C, din 42 Cr Mo 4/VC Mo 140, 300 to 380 Brinell HB. Clutches are limited to a maximum of 11".

- b) On aviation, marine and industrial engines in power pulling applications with the clutch mounted on the crankshaft, the shaft or adapter which accepts the flywheel must be made of solid billet steel with the same specifications as rule 1.

CLUTCHES AND BELLHOUSINGS (AMI)

Non proprietary clutches are limited to 11".

Crower clutches are acceptable to 12.5".

NOTE Only Crower and Hays clutches meet former SEMA standards 1-2.

- c) Bellhousings or protections must be bolted to an engine plate with a minimum of 12 x 3/8"/M10 grade 8.8 bolts evenly spaced around bellhousing or protection.

Engine plate to be ¼"/6mm steel plate or greater, or 3/8"/10mm aluminium plate or greater.

The plate to which the bellhousing is bolted must be securely fastened to the engine by at least 8 x 3/8"/M10 bolts grade 8.8.

When using a gearbox between engine and bellhousing or protection the plate to which the bellhousing is bolted must be securely bolted to the frame with at least 8 x 3/8"/M10 bolts (four on each side of frame).

9.

If using a single rail design the ¼"/6mm plate on the front of the bellhousing must be securely fastened to the frame with 8 x 3/8"/M10 grade 8.8 bolts (four on each side of the frame).

Any other alterations must be approved by the PPA or affiliated organisation.

- d) On all pulling vehicles the tubing on the pressure side of a turbo charger or supercharger to the intake must be under the hood or shield or be bolted or strapped securely.
- e) Superchargers or combinations must be fitted with 2 x 2"/5cm webbing straps passing over the supercharger or combination in such a way that should an inlet manifold explosion occur the superchargers or combination will be restrained. These belts should be left just slack (seat belt webbing is acceptable). The straps are to be secured to a solid part of the engine (not the inlet manifold).

TURBINE ENGINES

- a) Any turbine engine that exceeds 8000 rpm on the output shaft shall not be allowed to use a clutch/flywheel assembly or an automatic transmission.
 - b) The exhaust pipe on any turbine must extend to a minimum of 6"/15cm above the top of the exhaust opening and must have a horizontal orifice.
 - c) No turbine engines will be operated beyond original manufacturers temperature and rpm limits.
 - d) All turbine air intakes shall be screened with metal screen having openings no larger than 1/8"/3mm.
- 10.

e) All turbine engines must have a 360° cover extending from the location of the power turbine wheel(s) for a minimum distance of 12"/31 cm rearwards (as far as is practicable within exhaust restrictions) and 5"/13cm forward made of 3/8"/10mm steel with all joints securely fastened with 6mm thick flanges at each end facing inwards profiled to follow the engine shape with a minimum 1"/25mm gap to engine all

round for cooling. All turbine engines in excess of 1500 hp shall have 1/2"/12mm steel shrouding around the turbine wheel(s). Alternatively a shatter blanket made from Kevlar 29 or Twaron, 30 layers of 328 weave with 1mm of aluminium external and 1/2mm steel internal so mounted as to leave a 1"/25mm cooling gap and to cover the same dimensions as for steel shroud, securely fastened together using many bolts or rivets.

- f) If a return shaft turbine (turbo prop type) is used additionally 4 x 1/2" (12mm) steel cables are to extend the full length of the engine and be securely attached to front and rear frames. Cables must have crimp ends and are to stop the engine coming apart in case of explosive failure.
- g) A log book showing running hours is to be kept and the Scrutineering Team must be allowed to see this on request. The log book should also record servicing, repairs and failures. Any request by the Scrutineering Team as to the technical safety of a turbine must be explained as fully as possible with reference to maintenance schedules and drawings or diagrams.

SCRUTINEERS RESERVE THE RIGHT NOT TO ALLOW A TURBINE TO RUN IF THE DRIVER/MECHANIC CANNOT DEMONSTRATE COMPLETE THEORETICAL SAFETY.

All turbine maintenance must be carried out by competent personnel.

11.

- h) Exhaust stack diameter to be no smaller than 1"/25mm of the engine outlet.
- i) Two overspeed protection devices for power turbine wheel(s) are required.
- j) Governor setting not to exceed manufacturers maximum specifications. One Overspeed shutdown consisting of speed monitor

activating a normally closed valve located between fuel control and fuel manifold is required.

k) No home-made turbine engines are allowed.

EXHAUST SYSTEMS

- a) All exhaust pipes must discharge vertically. Height to be a minimum of 1'30.5cm above the bend in the pipe which discharges vertically measured from the top of the pipe to the bottom of the bend. All exhaust pipes must be securely attached. Vertical is defined as being within 10° in any direction of being in plumb. Rain caps may not be used. No megaphone pipes are allowed. Venturi type headers are acceptable.
- b) Turbocharged engines must have 2 x 3/8"/M10 grade 8.8 bolts in vertical portion of exhaust pipe(s). Bolts to be installed 90° to each other within 1"/25mm of each other.

FUEL AND FUEL CONTAINERS

- a) All forms of free oxygen accelerators are illegal as a fuel or fuel additive for power pulling. (including nitrous oxides)

Legal fuels are alcohol, water, diesel fuel, petrol, aircraft and turbine fuel and methylalcohol or designer alcohol (eg VP fuel). Oxygen carriers and combustion accelerators are illegal.

12.

PPA Officials or officials from affiliated organisations can check fuel at any time on any event.

- b) No pressurised fuels or containers allowed.
- c) If fuel tank is near to driver it is recommended that 2mm shielding is fitted.

DRIVELINE AREA

CLUTCHES, FLYWHEELS AND AUTOMATICS

- a) The use of torque converters, automatic shifts will be permitted.
- b) All automatic transmissions must be 360° enclosed with steel 1/8"/3mm thick or aluminium 3/16"/5mm thick. The enclosure around the torque converter must cover the total width of the converter and must be steel at least 3/16"/5mm thick or aluminium 3/8"/10mm thick or a PPA or ETPC approved blanket with the following minimum specifications : 10 ply ballistic nylon D511 or 15 ply ballistic nylon D310. Cover or blanket is to extend from rear of engine block to front of tailhousing. Blanket must be fastened forward securely with two straps on each side, one above crankshaft centreline and one below crankshaft centreline. Blanket should have 6"/15cm of overlap. Straps must be 2"/5cm wide with no more than 1"/25mm spacing between each strap. Metal covers maybe sandwich or composite but must be securely joined so that they behave as a single layer,
- c) All pulling vehicles using an automatic transmission must be equipped with positive lever positions for all selections (lock, ratchet or detent).

13.

- d) All pulling vehicles using a clutch will be required to have a **steel plate insert or steel billet** flywheel. The steel insert or flywheel and clutch must have the following mechanical properties.

- Tensile strength 60.000 psi/414N/mm²
- Yield strength 40.000 psi/275N/mm²
- Any aluminium flywheel that meets or exceeds former SEMA standards 1-1 will be acceptable.

POSITIVELY NO GREY CAST IRON

e) Photographs of clutches and flywheels showing any identifying marks (serial no., BTPA stamp etc) are to be sent to the PPA Scrutineer for PPA records.

f) Modified tractors and minipullers are to have a complete closed flywheel/clutch protection as in one of the categories below:

i) A standard automotive bellhousing with no holes or inspection hatches, covered by a PPA approved shatter blanket, or 10mm steel plate at least 150mm wide.

ii) A 10mm (minimum) thick home-made steel bellhousing with the main body being one piece rolled plate. No inspection or maintenance hole or opening is allowed. The body covering the rotating part of clutch and flywheel shall be seamless and smooth on the inside.

iii) An SFI approved scattershield type bellhousing (eg Lakewood or McLeod) with inspection slot as in (g).

g) The inspection/maintenance hole in the protection shall not extend further forwards at its top edge than flush with the cross shafthole. The length of the inspection hole shall be no more than 8½"/21cm long and not more than 4"/10cm wide (measured in a straight line) and the hole shall be smoothly and fully radiused to produce an oval shape.

14.

h) There shall be 12 x 5/16"/M8 grade 8.8 bolts or capscrews securing the cover to the protection/bellhousing. The cover must have a plate or fillet that fits flush inside the housing. The cover and fillet must be steel. The fillet must be flush to the inside.

i) All projections on bellhousing must be flush on the inside surface.

j) Inspection holes in protections other than bell housings are only allowed at the bottom part of the protection.

k) No chemical milling allowed.

l) PPA recommends no opening in protection or bellhousing.

m) All automotive type engines with bellhousing and clutch will run a full block plate either a commercially available unit or minimum 3/16"/5mm steel or minimum ¼"/6mm aluminium with 5 x 3/8"/M10 grade 8.8 bolts and nuts between existing bolts on top half of bellhousing to fasten the bellhousing to block saver plate.

n) Bell housings meeting former SEMA standards 6-1 with stand adjustment slot are acceptable.

o) Titanium approved for bellhousing.

p) Modified tractors which are using a combination with the motor/clutch and gearbox behind each other without using a connecting shaft are, under certain conditions, allowed to make the protection in two parts.

The following conditions apply :

1. No inspection holes.

15

- The top part of the protection must be securely fastened to the frame.

- The bottom part of the protection must be securely fastened to the top part with M12 grade 8.8 bolts with a maximum spacing of 2"/5cm.

- The connection must be flush on the inside surface.

- Any other alterations must be approved by the PPA or affiliated organisation.

q) Clutch protections which are protected by a shatter blanket need to be round and closed on the front and back side.

- r) Modified tractors with 2 or more motors and using a Rootes blower in front of one clutch are required to have a liner in the bellhousing.
- s) Fixes and/or changes, in whatever form, to shatter blankets may only be done by the manufacturer of the blanket.

BRAKES

All competing vehicles must be equipped with working rear brakes.

- a) Tyres are limited to nothing larger than a factory manufactured 18.4 x 16.1 tyre with wheels to suit.

SAFETY EQUIPMENT

Kill Switches

- a) All kill switches must be mounted independently of drawbar and/or wheelie bars.

16.

- b) All pulling vehicles must have an automatic ignition kill switch and/or air shut off in working order at all times. Track judge and/or track inspector have the option of checking kill switches as many times as they feel is adequate at any event. Switch must be checked with engine running or with buzz box (supplied by puller). The scrutineer must be satisfied that the buzz box tests the ignition circuit
- c) On minipullers the kill switch must be in the rear centre (maximum 6"/15cm off centre in any direction) 18"/45cm above the point of the hook.

- d) On spark ignition engine(s) the kill switch must break or ground the ignition circuit. On vehicles equipped with spark ignition engines and electric fuel pump(s) the kill switch must also break current to the fuel pump(s).
- e) If the kill switch on spark ignition engines is a 7 pin trailer plug and socket the plug pins should be shorted as follows :

Pin 1 to 2 Pin 3 to 4

Pin 5 to 6 to 7

On a diesel the kill switch must activate the air shut off required on all diesel engines. A cable may be used for this purpose but must have a spring loaded closing mechanism.

System to be deemed acceptable must at least prevent building of boost. It is recommended that a gasket/seal arrangement be used to more effectively shut off air flow. The driver must be able to operate this air shut off and a valve, which should be placed in the fuel delivery line, from the drivers seat.

17.

The kill switch on a turbine engine must shut off the high pressure cock so as to stop the engine without overheating.

- f) The break away kill switches must have attached to them a minimum of a 2"/5cm diameter ring. The cable from the sledge will be attached to this ring.
- g) At some competitions the kill switch may be secured by a nylon tie wrap (1/8"). The tie wrap must be broken to qualify for a re-pull. All pullers must have provision for the fitting of a tie wrap. PPA and affiliated organisations will supply and fit tie wraps if required.

- h) If a vehicle has a kill switch or shut off in legal position and during the pull it is pulled and the nylon tie wrap is broken and the presiding judge inspects and finds the switch capable of operating properly under normal conditions the vehicle will be allowed to repull immediately or drop six positions. The decision to drop must be made before the vehicle leaves the track.

It is the pullers responsibility to see that the kill switch is working.

- i) The force which is necessary to pull the kill switch must not be more than 5 kilogrammes/11 lbs. (with tie wrap fitted)
- j) All ignition engines must have bar type master shut off switch for all motors in working order within easy reach of the driver.
- k) All diesel engines must have a fuel shut off valve control within easy reach of the driver (your normal 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 utilised from the drivers seat.

18.

- l) All pullers must have available a line that can be attached to the kill switch and a fixed point when testing or tuning engines in the pits. (This is to prevent inadvertant runaway).

SAFETY EQUIPMENT AND FIRE PROTECTION

- a) If track judge and/or technical official feels a vehicle is unsafe they have the right not to allow the vehicle to pull.
- b) All pulling vehicles must be equipped with a minimum of one 1 kg/0.9 litre AFFF fire extinguisher, fully charged in working order and within easy reach of the driver and track marshalls. A means of indicating charge state is required.

- c) All driver in all classes must wear full face helmets with a recognised safety marking CE or BS code and be in sound condition.

- d) The use of a fire suit (overall or 2 piece), gloves, headsock and leather boots/shoes is mandatory for all drivers. If fire suit is labelled FIA approved it must carry a current BSI number. Industrial style fire suits must be labelled Nomex. **NOTE** : If the boots/shoes do not cover the elasticated bottom of the fire suit then fire retardant socks are required.

- e) Fire suits for 950kg classes must meet the following standards :

- A minimum of one layer fire suit of Nomex 3 or equivalent.
- Single layer Nomex boiler suits are approved if they can be suitably fastened and leave no gaps at neck or wrist.
- Nomex or equivalent fabric underwear is highly recommended with the use of any fire suit.

19.

- f) Officials can ban from competition at any event any vehicle if they believe the vehicle has a potential safety problem.

- g) PPA requires the use of technical inspection stickers on all tractors. Recommended position for stickers is on rear of seat in killswitch/lights area.

- h) Driver must be seated on the vehicle when the engines are being started and running, including when in the pits or repair areas and have complete control of the vehicle at all times.

- i) Reverse safety light system is required on all pulling vehicles fitted with reverse gear. Reverse gear is not mandatory on mini pullers. A white light minimum 2".5cm in diameter must be mounted directly above or below the safety kill switch at the rear of the vehicle. A light in the drivers compartment must be operated off the same system. Both

lights are to be activated by shift lever in such a way that they will only be lit when the vehicle is in reverse.

j) A green neutral indicator light is to be fitted near to the reverse light, if fitted, at the rear of the vehicle. This light is to be on when the vehicle is in true neutral. A warning light on the dashboard is required. Light dimensions as for reverse light.

k) All pulling vehicles must be equipped with a starter interrupter switch in gearshift which will allow starter engagement only in neutral position.

l) All safety equipment (firesuits, gloves, helmets, shatterblankets etc) will be maintained and replaced in accordance with manufacturers instructions/recommendations. Safety equipment will be presented in a clean, serviceable condition. ie No Fire suits soaked in oil.

20.

MISCELLANEOUS RULES

Exhibition Vehicles

All vehicles participating or exhibiting at any PPA or affiliated organisations sanctioned event and hooking to a sledge or sledges must meet all PPA safety requirements applicable, or be passed as safe by Scrutineering Team.

Import Tractors

a) Any minipuller imported from outside Europe is not allowed to pull at a PPA or affiliated organisation sanctioned European Championship pull if this is within one year after the first pull made in Europe,

b) Any minipuller imported from outside Europe is not allowed to pull without the written approval from the PPA or affiliated organisation.

c) The definition of an import tractor is :

An import tractor is any tractor not built in the United Kingdom or Europe as a chassis, engines, rear axle and transmission completely fitted together or a registered chassis or its pure replica. In case of doubt the competitor has to prove the legality of the entry. The PPA retains the right to decide the legality of any entry.

21.

1050 KILOGRAM CLASS

This class was introduced to vary the pulling of the tractors and Provide a change in the conditions for interest.

The class also has a handicap system in that the first three tractors in the preceding 950kg class are not allowed to weigh up.

The running of the 1050 class is at the discretion of the club officers on any pull day and is of course dependent on a 950 kg class having been run.

1050kg class pulls are points pulls and count towards the 1050kg championship.

The 1050kg class is scored as individual pulls for points purposes but are aggregated for the total score at any pull for trophy purposes.

A tractor entered in the 1050 class must be able to hook at 950kg at the pull in question but not necessarily with the same driver.

If the tractor has not hooked in the preceding 950kg class he may only weigh up to 1000kg maximum.

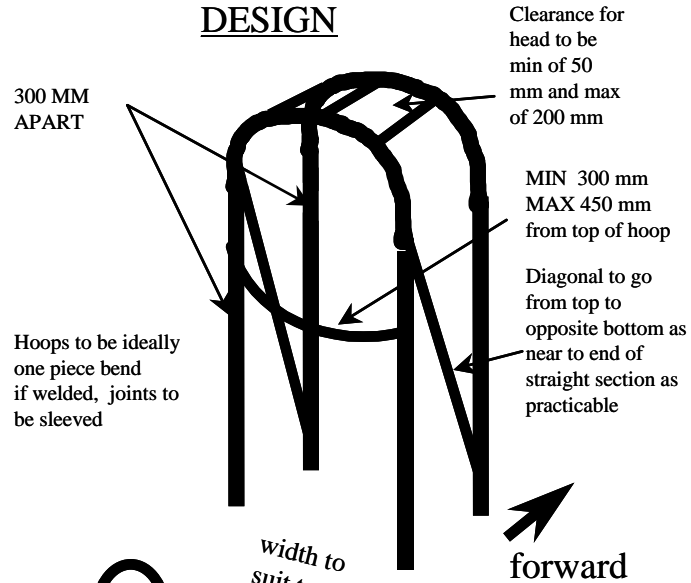
22.
B CLASS

The B class was instated to replace the previous Formula class.
The B Class is identical in every way to the A class apart from certain engine restrictions which are detailed below.

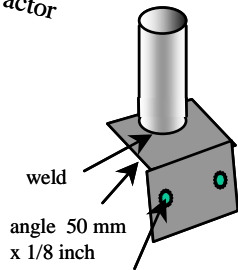
1. Total engine capacity is limited to 600 cu in.
2. Superchargers are limited to 8, 71 capacity, (568 cu in) total.
3. Super charged engines must use 1 carburettor max. no injection.
4. Turbo charged engines are limited to 1 turbo, 1 carburettor max no injection.
5. Rules 2,3 and 4 do not apply to Diesels.
6. No turbine engines.
7. Tractors outside these rules may be allowed to compete in this class by agreement with the other pullers. If in doubt ask.
8. B class tractors may compete in A class but must register at the beginning of the season.

23.

PPA ROLL CAGE DESIGN



Alternative hoop top shapes



2 x bolts 8 mm grade 8.8 min

suggested attachment per leg for plate chassis or weld direct for tube chassis

Alternatively use current ETPC spec roll cage

MINIMUM MATERIAL SPEC

		Main hoop	Other
Seamless mild steel	2.5 mm wall	42 mm	38 mm
Chrome moly steel	2 mm wall	42 mm	38 mm
Food grade stainless steel	2mm wall	42 mm	38 mm
Note 42 mm = 1 5/8 in		38 mm = 1 1/2 in	