



South West Tractor Pullers Association Rulebook

January 2010

Revision Issues

Issue 1	April 2008	New Issue
Issue 2	January 2009	Added safety items <ul style="list-style-type: none">◆ Increase cross bolts in vertical section of turbo exhaust.◆ Add 2 x 50mm x 6mm metal straps to back of seat super farm.
Issue 3	January 2010	Mandatory items 2010 season on <ul style="list-style-type: none">◆ Shatter blankets for all tractors except super farm class.◆ A full ROPS cage fitted for all tractors except super farm class.

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Disclaimer: This Rulebook is intended as a guideline for Tractor Pulling Teams taking part at South West Tractor Pullers Association events ONLY. No expressed or implied warranty of safety is intended, nor may it be inferred from the publication of neither these guidelines, nor the compliance therewith. Nothing in these guidelines should be construed as a guarantee against injury or loss of life to participants, bystanders or spectators.

Eligibility of Competitors & Operation of Contest.

- ◆ In order that the SWTPA knows who is on site, teams must first sign in on arrival. Once signed in they will be issued with wrist bands in two categories; one will cover pits and camping area, the other will cover the closed pits and track-side (*further explained in pit parking & camping area*).
- ◆ All competitors/teams and helpers participating in a SWTPA pulling event must have a valid SWTPA non competing membership for team members and helpers. All competing drivers must hold a valid SWTPA competing membership along with a currant IOPD licence. Competitors must be 18 years old or 16 years with written consent from a parent or guardian.
- ◆ Competitors must be able to competently operate their pulling vehicle(s) in a safe manner at all times. Officials reserve the right to stop any vehicle being operated in an unsafe manner.
- ◆ Competitors must remain seated in the vehicle at all times while the engine(s) are running at the event, no driving of the vehicle under its own power outside the track/closed pit area is permitted. Once the vehicle has completed its pull, a tow back tractor will then tow the pulling vehicle from its 'point of rest' back to the pit area.
- ◆ Only one person will be allowed on the pulling vehicle when it is being towed or driven at an event. (Except for vehicles which provide the same protection for passenger as the driver. (e.g. trucks).
- ◆ Competitors must be ready to come to the pull start line from the closed pits when signalled to by the first flag man.
- ◆ A maximum of two helpers (must be at least non competing members) will be allowed track-side to assist the driver; no running up along the track-side is permitted when the vehicle is in operation under a green flag condition. Helpers must stay between the metre distance marker boards and the crowd fence
- ◆ Competitors, crew and track officials who appear to be under the influence of alcohol or drugs, in the opinion of the events organiser, will be excluded from the competition that day.
- ◆ Competitors, crew or helpers found behaving in an unsportsmanlike manner, using abusive language or physical action will be asked to leave the event.

Pulling Vehicle Registration.

Competitors will be required to register their pulling vehicle with the SWTPA as per the registration form (Appendix A)

The SWTPA will then issue the pulling vehicle with a registration number which must be clearly visible on the pulling vehicle. (e.g. on top of the roll protection)

- ◆ **Note;** This hand book / maintenance record must be taken with the pulling vehicle to all pulling events as it is required in Scrutineering at SWTPA events.

An annual clutch inspection must have been carried out by a scrutineer if the vehicle is running outside of its original manufacturer's specification.

- ◆ **Note:** Inspection documents must be taken to each pulling event, and presented as part of the Scrutineering process which is required before the vehicle can take part. (BTPA/ETPC clutch inspections are recognised provided authenticated inspection documents are produced).

Pulling vehicle(s) will be subject to Scrutineering checks at every event. After compliant Scrutineering has taken place, the pulling vehicle will be issued with a check form (Appendix B) and taken to the closed pit area.

Pit / Parking & Camping Area

On arrival, you will report to the gate staff to receive details of site safety & emergency procedures and sign in. Once the details have been read and understood the gate staff will then advise on where to park, they will issue the appropriate wrist bands, as restricted access to the closed pit area for drivers plus two helpers, track staff, commentator and approved media workers will be strictly enforced. Persons not having the correct wrist bands will be asked to leave the area.

Two types of wrist band will be issued.

TYPE 1: all areas, open & closed pits, track-side when competing or performing track-side duties.

TYPE 2: open pit area only, camping and access to vehicle transporters.

Open pit to consist of sectioned off area from the public providing adequate camping, parking & facilities (rubbish bins, toilets and fresh water) for pulling vehicle transporters and event organisers camping.

Scrutineering area to be joining the 'open pits' to 'closed pit' area to ensure vehicles have been scrutinised & ready for the event. Both areas are to be sectioned off from the general public.

The Track

All track layouts will consist of a minimum area of 30 metres by 150 metres to be partitioned off from the general public with fencing. This will give a track of 10 metres wide defined with white lines, with a 10 metre safety area either side. The length of the track will be 100 metres, with distance markers at every 10 metres. At a distance of two metres outside the white track boundary line, fire extinguishers are to be placed every 20 metres, and water butts at 20, 50 and 80 metres each side of the track with 10 litre buckets. There will be a 30 metre run-off area with an earthen bank at the end of the track. This will leave a 20 metre area before the start line to allow for the sledge, tow back tractor and track maintenance equipment.

Track Side Personnel

Head Track Marshal

The head track marshal will oversee the maintenance and condition of the track, controlling the roller and grader drivers and liaise between the track/flag marshals, sledge team, measuring tower, and commentator and tow back tractors. The head track marshal may have control of a row of traffic lights at the far end of the pulling track he will operate these in conjunction with the flagmen and sledge operator.

The First Flag Marshal

He will be situated at the start of the track, and will signal to the driver of the next vehicle to pull. He will then oversee the vehicle onto the track; he will back the pulling tractor up ready for coupling to the sledge (hooking via the tractor hitch and the sled chain and attaching the kill switch is carried out by the hitch man part of the sledge team). He will ensure all slack is taken out of the coupling chain, when happy that all is satisfactory he will check with the lights on the sledge and second flagman before showing a green flag to the driver to proceed with his pull. He will oversee the first part of the pull making sure the vehicle stays within the white lines (see Track/pits section). If for any reason the pull needs to be stopped, he will signal to the driver by lowering the green flag and waving a red flag (the second flag man will follow as his signals mimic the first flag man).

Second Flag Marshal

He will work in conjunction with the first flag man; at the start of the pull he will check the lights on the sledge, and the first flag man before signalling a green flag (mimicking the first flag man). Once the tractor is past the first flag man he will oversee the rest of the pull, making sure the vehicle stays within the white lines. If for any reason the pull has to be stopped he will lower the green flag and wave a red one. A red flag will be shown when the vehicle has passed the finish line or ceases to make progress down the track. He will then oversee the uncoupling of the vehicle from the sledge (backing the tractor up to the sledge to facilitate the unhooking of the chain and kill switch) and signal for a tow back tractor.

Track Staff

These consist of grader, roller, and tow back drivers, also other persons assisting in maintaining the track; these persons are also tasked with dealing with track-side occurrences and track repair to ensure the smooth running of the event.

Note: All persons operating equipment must be able to do so in a competent manner or hold relevant qualifications.

Scrutineer

A team of scrutinisers will carry out checks on pulling vehicles as per 'Inspection Form' (Appendix B) to check that they comply with the SWTPA rules. Also included within the Scrutineering is a weighbridge/hitch height check.

Pulling Vehicle Guidelines

Brakes

All pulling vehicles must be equipped with adequate rear brakes.

Tow Hitch

All pulling vehicles must be equipped with a towing point on the front of the tractor, preferably a 75 mm hole in the horizontal plane, capable of pulling and pushing the tractor about in its heaviest configuration.

Draw Bars

All draw bars/draw bar fixtures must not be attached above the centre of the rear axle.

Draw bars to have a 1900mm² cross section with a 75mm round hole, and be made of substantial construction to withstand the forces applied during the pull (preferably as per ETPC specification).

Draw bars must also be able to be adjusted for height:

- ◆ 500mm Max for tractors (modified and stocks)
- ◆ 1170mm Max for pulling trucks
- ◆ 760mm Max for two wheel drive

Wheelie Bars

Pulling vehicles are required to have wheelie bars to prevent the vehicle from rearing up to far. These bars should be connected to the main structure of the vehicle, and extend a minimum of 810mm from the centre of the rear axle. The pads on the bottom of the bars should be a minimum of 100mm x 150mm. They must be a maximum of 250mm above the ground.

Engine Guards

All pulling vehicles must be fitted engine guards consisting of 3mm aluminium or 2mm steel or a 2mm combination of steel and aluminium.

- ◆ **Note:** Engines using turbochargers, must also shield the turbo unit if it is outside the engine guards with the same thickness requirements. The exhaust system is also required to have a cross of four M10 grade 8.8 bolts in the vertical portion of the system.
- ◆ **Note:** Compression ignition engines using forced induction, are required to have a wire cable surrounding the engine block and cylinder head. This must be positioned between number one and two cylinders, and passing between the exhaust ports in the manifold. The cable must be 10mm in thickness or 8mm with a certificate from the manufacturer with a 600kg minimum breaking force.

Clutch Assemblies/Flywheels & Drive Lines

- ◆ All pulling vehicles must have an annual clutch inspection unless they are running to **Original Equipment Manufacturer specification (OEM)**.
- ◆ All annual clutch inspections must be carried out by a scrutineer or ETPC accredited inspector.
- ◆ All pulling vehicles running to OEM must run the same rpm that the vehicle was designed to do. (2800 MAX).
- ◆ All clutches that are not OEM will be required to have a shatter blanket (mandatory for 2010 season onwards). Tractors that have an approved bell housing i.e. Cima can be used without a shatter blanket.
- ◆ All super farm tractors that are limited will require shielding with a minimum of 10mm steel around the bell housing.
- ◆ All clutches must not exceed a maximum working peripheral speed of 160 metres per second, and a design peripheral speed of 200 metres per second to allow 25% engine over speed.

Drive Lines

- ◆ All drive lines must be shielded with 8mm steel guard or 10mm aluminium.
- ◆ All universal joints must be shielded 360 degrees with a minimum of 8mm steel or 10mm aluminium.
- ◆ All drive lines over 1270mm in length must be fitted with safety loops made from 8mm steel or 10mm aluminium.

Driver PPE, Seating & Controls

Seat: The pulling vehicle is required to have a substantial seat securely fastened; the driver is also required to have an adequate restraint system fastened to the roll over protection cage, preferably with a fast release type buckle, to hold him in the seat whilst pulling (recommend a 4 point harness). Farm class tractors may still use OEM roll frames. To prevent seats breaking free and tipping the driver out the back 2 x 50mm x 6mm steel straps, each attached to the roll bars, which pass behind the driver's seat must be fitted.

Driver PPE: Drivers of pulling vehicles that use diesel fuel are required to wear a fire retardant overall. Nomex fire suits with gloves and head socks must be worn when using petrol, aviation gas or methanol fuels. A minimum 1.5 kg fire extinguisher with current test sticker (recommend 2 kg), crash helmet and safety boots are mandatory.

Driver Controls: All pulling vehicles must be equipped with a "dead man's" throttle which is spring loaded to return to idle when released. The throttle must be pushed foreword to increase engine speed, and spring loaded to return to the rear of the tractor and the idle position.

Roll Over Protection System

All pulling vehicles must be equipped with a ROPS cage as specified by the ETPC rule book (mandatory 2010 onwards). Super farm tractors may still use OEM roll bars, but should fit 2 x 50mm x 6mm steel straps, each attached to the roll bars, which pass behind the driver's seat.

Kill Switch & Emergency Shut-down

- ◆ All vehicles must be fitted with a kill switch/emergency shut down system.
- ◆ The switch should be located in the centre rear (within 150mm off centre in either direction), no more than 1700mm above the ground. The breakaway switch should have a minimum of a 50mm metal ring to allow it to be coupled to the sledge. The force required to activate this device must be less than 10 kilos.

Spark Ignition Engines

The kill system is required to do the following:

- ◆ **Points system:** it is required to put the switching terminal of the points to earth/ground thus taking away the switching; the driver must also have a master isolator within easy reach in case he is required to shut down.
- ◆ **Electronic system:** it is required to remove the live power supply from the ignition system stopping the system from working; the driver must also have a master isolator within easy reach in case he is required to shut down.

Compression Ignition

The system must be of the fail-safe nature and use a device that will seal off the air intake to the engine. The driver must be able to activate it, and there must be a fuel shut off valve within easy reach of the driver.

Note: a 25mm hole is permitted in the kill flap to help reduce engine damage in the event of the system being activated.

Starter Inhibiter

All pulling vehicles must be equipped with an inhibitor to prevent the vehicle being started in gear. To work either by using the neutral position on the gear box, or a clutch depression switch to inhibit the starter operator feed by passing it through the switch.

Reverse Lamp

All pulling vehicles must be equipped with a reverse lamp switch, with a clear illumination to the driver and at the rear of the vehicle to warn persons behind.