

2023-2024 SEASON



TRACTOR PULLING INFORMATION & COMPETITION RULES

www.downundermtpa.com.au

 @DownunderMTPA

 Downunderpullers

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Down Under Modified Tractor Pulling Association Inc.

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All enquiries should be addressed to the **Down Under MTPA** Secretary
(Details in Appendix B of this document).

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While every effort has been made to ensure complete accuracy, the **Down Under MTPA** cannot be held responsible for any error and / or omissions. The **Down Under MTPA** is strongly focused on safety within the sport of Tractor Pulling and trust that in all cases common sense will prevail.

This document will change from time to time and the **Down Under MTPA** will make all alterations / updates available via the **Down Under MTPA** Secretary.

THIS IS A CONTROLLED DOCUMENT

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1 INTRODUCTION – The Down Under MTPA

The **Down Under Modified Tractor Pulling Association** Incorporated (**Down Under MTPA**) is an organisation of competitors and members, working together to promote & direct tractor pulling through the regulation of competition classes, safety specifications and rules of conduct for the sport of tractor pulling in Australia.

The **Down Under MTPA** continuously reviews & updates these rules and policies to ensure the ongoing safety and evolution of tractor pulling.

1.1 Disclaimer

No guarantee is implied as to the effectiveness of these rules, nor their validity. For it is the manner of their application by the competitors, the builders, crew members and track personnel to keep the sport safe and to ensure competitiveness.

Application of rules relating to the safety of equipment is the responsibility of each driver / tractor owner who participates in the sport of tractor pulling and agrees to abide by these rules. No express, or implied, warranty of safety is intended, nor may be inferred from the publication of these rules or the compliance within. Nothing herein should be construed as a guarantee against injury or death to the participants or spectators.

Specifications and rules set forth in this document are based upon the experiences of the **Down Under MTPA**, tractor pullers, & event co-ordinators. All additions / changes / deletions must be documented and presented for consideration to the **Down Under MTPA** and its members. These proposals must be made at the Annual General Meeting of the **Down Under MTPA**, unless the proposal relates to a safety consideration. In this case the **Down Under MTPA** Executive must be notified immediately.

The **Down Under MTPA** specifically states that it has not tested any equipment that is referred to in these rules, and makes no warranty either specific or implied with regard thereto, and any use thereof must look to the manufacturer with regard to said warranty.

Please note that it is the responsibility of the individual to ensure that this document is maintained and has all current updates. **The Down Under MTPA** will make available all updates to this document via the official **Down Under MTPA Web Site** (www.DUMTPA.com.au) and also on request to the **Down Under MTPA** Secretary. All financial members of the **Down Under MTPA** will be advised of updates as and when they become approved and available.

MOTOR SPORT IS DANGEROUS

There is an element of danger in motor sport and you participate entirely at your own risk. All participants in **Down Under MTPA** sanctioned events must assume liability for damage or loss caused by their equipment and its use.

1.2 The Down Under MTPA Rule Book

A single copy of this Rule Book is supplied to all tractor and truck owners upon request to the Secretary and supplied by email only.

1.3 Interpretation of Rules

No express or implied warranty of safety shall result from publication of, or compliance with these rules and regulations. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to spectator or participants.

1.4 Safety

Safety is everyone's responsibility at a tractor pull event.

2 MEMBERSHIP

2 DOWN UNDER MTPA MEMBERSHIP

Membership is open to any person that is actively interested in participating in the sport of Tractor Pulling and has applied for membership via nomination form and fee, be approved by the executive board.

Then pay the appropriate yearly membership fees for the current year.

Member / Driver Privileges

All financial members of the **Down Under MTPA** shall be provided with official membership badge for that financial year and receive **Down Under MTPA** correspondence and invitations to the **Down Under MTPA** Annual General Meeting. This includes all scrutineers, promotion officers, tractor owners, drivers and sled operators.

Driver membership allows you to drive a registered **Down Under MTPA** vehicle at any **Down Under MTPA** sanctioned event. They may also nominate and be elected to hold office within the **Down Under MTPA**.

Associate Membership

Associate members are persons who are interested in tractor pulling, but not being an Event Co-ordinator, owner or driver competing for points. Have no voting rights at all **Down Under MTPA** meetings.

Membership guidelines

Should a member not comply with a code of practice or membership criteria approved by the association or in the opinion of the association, by the members actions, the member is unsuitable to hold membership, the association shall have the power to cancel his/her membership by resolution carried at a general meeting, provided that the member concerned shall have first been given the opportunity to give the association an explanation in defence, either in person or in writing.

The executive Committee reserves the right to refuse or terminate the membership of any person or group deemed by the executive Committee to be unsuitable

Delegates

Tractor and truck owners are further represented throughout each season by a Delegate that is nominated and elected to be on the executive.

2.1 Code of Conduct

Please refer to Appendix 19 - **Down Under MTPA Members Code of Conduct** (page 227).

2.2 Event Co-ordinator Fees

The Event Co-ordinator Fee comprises of public liability insurance, participation insurance for **Down Under MTPA** only and required safety equipment for members to compete.

Each tractor pull event must be sanctioned by the **Down Under MTPA**. Event Co-ordinators must pay the quoted fee at least 2 weeks prior to the event to allow time to get permit so it can be issued by AASA insurance. After the event and invoice will be issued and payable within 7 days.

2.3 Sanctioning of tractor pulls

Any person or organisation that intends to run a tractor pull event is required to request sanctioning of that event by the **Down Under MTPA**. The purpose of sanctioning is to insure the event for Public Liability under the **Down Under MTPA's** insurance policy and to have the event included in all **Down Under MTPA** correspondence and advertising.

All requests for sanctioning are required to be lodged with the **Down Under MTPA** in time to be addressed by the members of the **Down Under MTPA** at their Annual General Meeting each year or at an executive meeting and notified in writing of the **Down Under MTPA's** decision.

- Pull centres are not required to pay prize money and provide trophies, the decision is up to the Event Co-ordinator.

3 GENERAL INFORMATION AND RULES

3.1 Pulling Classes

- Pro-Stock Open Tractors (A)
- Pro-Stock Tractors (B)
- Open Modified Tractors
- Super Modified Tractors
- Limited Modified Tractors
- 2WD Trucks
- 2WD Outlaw Trucks
- Mini Modified Tractors
- Super Mini Modified Tractors
- Open Mini Modified Tractors (previously B)
- Outlaw Mini Modified Tractors (previously A)

3.2 Pulling (Order) Positions

Pulling positions (or pulling order) are picked at random.

3.3 Test Puller

At the beginning of the class the first tractor to hook will be considered to be the test puller. The test puller makes a test run down the track and based on the distance achieved the officials decide if the sled is to be set.

If the sled is set, the test puller will have the option of taking the distance achieved as their official pull, or to re-pull later in the class. The test puller must notify the test pull co-ordinator prior to leaving the track of their decision. They may elect to pull immediately or in third position or at the end of the field.

If the sled is not set, the sled will be readjusted and the next puller will make a test pull. This second puller will have the same option as the first test puller, which is to take the pull or re-pull later. If when making a test pull a tractor runs off the track it is not disqualified by virtue of being the test puller and is able to take its second and official pull.

During the pull, each puller hooks to the sled one at a time in order of the running order and has two attempts to make a pull. If a puller wishes to make a second attempt, he/she must be ATTEMPTING to stop before the sled has passed the 25 metre mark on the track. The sled will be returned to the start line and the puller may make his / her second and final attempt.

3.4 Finish Line / Floating Finish

If two or more tractors make a Pull past 115 meters, a floating finish will determine the winner (Longest distance).

3.5 Rookie Run

1. The driver is required to sign a idemnity form applicable to state event is held
2. Driver will be required to wear safety gear, as specified in rule book as required for each class.
eg. Driver suit, helmet, gloves & boots
3. Complete a competency test, overseen by the scrutineers
4. Once only opportunity - without entire licence or with extreme licence competitor can run at multiple events
5. Always to have an experinenced driver member with them all times
6. Driver alcohol level to be 0.00 (zero)
7. Expression of interest to drive, to be received by the secretary before the event starts or before lunch time on the day
8. Cost \$20.00 per person per day
9. Needs to be included in permit regulations
10. Minimum age to drive is 16 years of age

4 DEFINITION OF SEASONAL AWARDS

4 DEFINITION OF SEASONAL AWARDS

Over the course of each tractor pulling season, the competitors accrue points at each event.

a) Puller of the Year

Over the course of each **Down Under MTPA** season all competitors accrue points based on their placing in each event at each tractor pull. These points are totalled and the overall highest point's scorers in each tractor or truck category are awarded the Puller of the Year.

b) Hooker of the Year

There is also a special award for the competitors who attends each tractor pull and have their tractor or truck compete (hook up to the sled) in each event for that vehicle. Each time a vehicle competes in an event, that vehicle is awarded one hook point, except in a test pull and / or pull off. This award is known as Hooker of the Year.

c) Best Presented Awards.

All official pull centres are to nominate a tractor and truck for Best Presented for each class of pulling vehicle on forms supplied by **Down Under MTPA** and filled out by event coordinator. At the end of the season, all results are totalled, and Best Presented trophies are awarded at the Annual Dinner.

4.1 Scoring

Two independent sets of recorded scores are to be kept on the day of the pull. Both scorers must be equipped with a two-way radio, so that they can independently receive each measurement directly from the operator of the measuring device (laser or measuring wheel, supplied by **Down Under MTPA**).

Scorers should be in the location of the measuring device.

- a) Each result must be checked between the two recorders before deemed correct and then provided to the commentator.
- b) Distance to be recorded to a third decimal place, (e.g. 87.621 meters) as competitors are often separated by less than a centimetre.
- c) All measurable pull results (ten centimetres or greater) will be recorded, including:
 - first and second attempts,
 - ALL test pulls,
 - any disqualifications, and

Are to be recorded on official **Down Under MTPA** sheets.

- **Scorekeepers** – the **Down Under MTPA** requests Event Co-ordinators to nominate scorers at each event, these scorers must be approved by **Down Under MTPA** at that event. The **Down Under MTPA** nominates scorers at its Annual General Meeting to assist Event Co-ordinator's scorers if required. Scorers are responsible for keeping results on the day of the pull and must supply a copy of the results and weighbridge sheets to the point's scrutineer immediately following a pull.
- **Points Scrutineer** – is nominated at the Annual General Meeting and has overall responsibility for the collation of points awarded for Puller and Hooker of the Year. These results are to be tabled at the Annual General Meeting for the purpose of determining the overall placing of all competitors for the preceding season's competition.
- Following each event during the Associations competition season, the results of that event are to be provided to the Media officer for inclusion in the Associations web site.

4.2 Points Distribution

Pull Centres

Placing	Points	Placing	Points
1st	20	5th	12
2nd	18	6th	10
3rd	16	7th	8
4th	14	8th	6
All other contestants receive 4 points.			

4.3 Points Scoring

The following information defines the method and rules relating to how points are to be allocated to the place getters in each event. Please refer to Appendix F - Scoring Method.

4.3.1 Puller and Hooker of the Year Awards

1. One hook point is awarded for each event that a tractor / truck hooks to the sled (not including test pulls and / or pull offs). The vehicle must hook to the sled and make a measurable pull of 100mm or greater and meet the weight requirements of that class. (Towards the Hooker of the Year Award, not Championship points).
2. If a tractor breaks down or is disqualified (out of bounds) during a pull off, the tractor is entitled to all puller points already received, e.g.: if the tractor is holding third place and pulling for second then the tractor gains third place if beaten in a pull off due to breakdown or disqualification. (Out of bounds ONLY).
3. A tractor / truck that breaks down and is unable to compete in a pull off, holds points for whatever position he/she is relegated to by the pull off.
4. If when making a test pull, a tractor runs off the track, it is NOT disqualified by virtue of being the test puller. The tractor / truck is then able to take its second and official pull which relevant Puller and Hooker points will be awarded.
5. In the event of a tractor / truck being disqualified (Out of Bounds ONLY), the tractor receives hook points,
6. **In the case of a sled breakdown during competition, one hook point will be awarded for that event.**

4.4 Disqualifications / Loss of Points

The following describes the scenarios for disqualification and / or loss of points:

1. Any ballast lost while hooked to the sled will be cause for disqualification. If weights touch the ground, although they may still be attached to the pulling vehicle, the pull will be disqualified. (Internal breakage excepted)
2. Loss of safety equipment or malfunction of safety equipment.
3. Use of illegal fuel not specified for that class.
4. Unsafe operation of pulling vehicle, tow back vehicles and pit crew and vehicles (Drivers must adhere to walking pace in tractor pull complex and when moving vehicle to/from track, positively no riders on vehicles)
5. Driving whilst intoxicated or under the influence of drugs.
6. Illegal equipment.
7. Leaving the start line before being told to do so, ignoring the Flag Marshall.

4 DEFINITION OF SEASONAL AWARDS

8. Unsportsmanlike conduct by driver or crew.
9. Officials can bar any tractor / truck from competition, at any event, any vehicle if they believe that the vehicle has a potential safety problem.
10. In the event of a tractor/ truck being disqualified (Out of Bounds ONLY), the tractor receives hook points.

4.4.1 Loss of Points

Disqualification under rule numbers 4, 5, 6, 7, 8, 9 and 10 will incur loss of HOOKER and PULLER points.

Disqualification under rule numbers 1, 2, and 3 will incur loss of PULLER points only.

All decisions relating to the above are to be made at the Clerk of the Course's discretion.

4.4.2 Recording of distance pulled for disqualified pulls

ALL measurable pulls (10 cm or greater) which have been disqualified will be recorded and noted as having been disqualified.

5 RULES FOR CONDUCT OF TRACTOR PULLS

5.1 Competitor Entry

1. All contestants competing in any tractor pulling contest sanctioned by the **Down Under MTPA** Inc. must have a current financial driver's membership in the **Down Under MTPA** and the pulling vehicle must be registered with the **Down Under MTPA**. Junior Contestants must be at least 14 to 16 years of age and hold a current AASA licence. They must fill out successfully theory and do a practical driving test (See Appendix 15 at the back of rule book). 14 to 15-year-old may only drive a Limited Modified or limited Mini, after 15 can drive any class of tractor. If you hold a learner permit or full license, competency test doesn't apply.
2. At a **Down Under MTPA** sanctioned event, any driver who is not a current financial **Down Under MTPA** member or a vehicle driven by a non-**Down Under MTPA** member will be barred from competition at all **Down Under MTPA** sanctioned events for one year and 10 days.
3. All tractor pull events must be sanctioned by the **Down Under MTPA**.
4. Only tractors that have been self-scrutinised, sign scrutineering declaration form and log book signed off by the official **Down Under MTPA** Scrutineers are allowed to compete.
5. A knowing breach of the rules affecting safety and / or performance means disqualification of the offending pulling vehicle for the meeting and loss of accumulated points.
6. Any late entry must pull at the end of the draw in all events of the day.
7. The commencement of scrutineering is 2.5 hours prior to the advertised starting time of modified tractor pulling. All pulling vehicles are to be available for scrutineering no later than 1.5 hours prior to the advertised time and it is the responsibility of the pulling vehicle owner or driver to be ready to have their vehicle scrutineered when scrutineers call to do so. The scrutineering window is to be 2 hours. This allows a half hour prior to the advertised starting time for the drivers briefing and allocation of other jobs. A scrutineering bay will be located in the pit area for this purpose.
 - Each tractor may only compete in three events; these events must be indicated on their entry form. All tractor drivers to present tractors for scrutineering seated in the tractor at all times unless instructed otherwise by the scrutineering panel.
8. Each tractor is entitled to pull in extra special events (i.e.: Rookie Run). See Rookie Run (Page 11 - Section 3.5).
9. The puller is entitled to any appearance money offered and any prize money won prior to the breakdown.

10. If a vehicle breaks down in an event, that vehicle may pull last in the next event, if they cannot make the running order as drawn.
11. All pulling vehicles must be weighed and draw bar checked at a reasonable time before an event. Once the pulling vehicle has officially weighed in for a particular class it must not return to the pit area. If the vehicle returns to the pit area, it must be re-weighed and draw bar checked prior to competing.

If the weighbridge operator is not present the vehicle can be weighed and the weight recorded on the weight sheet and signed off by a fellow competitor
12. At most events, the pit area is usually opened to the general public at the discretion of the clerk of the course. This is to allow the spectators to interact with the owners and drivers of the tractors.
13. In the event that a driver relocates more than 100kg of tractor weight forward from the rear of the tractor after his / her first attempt, then the drawbar height must be remeasured before pulling again.
14. Pulling vehicle must be at least 75% of the weight class in which they are competing.
15. If a competition Tractor is hooked to the sled to test the track, then a competing driver for that class of Tractor must not drive for the track test.
16. All fuel containers shall be tagged and of an approved type for the fuel being used and with an approved pump for the containers over a capacity of 20 litres.

5.2 Pulling Vehicle Registration

Each pulling vehicle must be uniquely identified with a registered name. This name is used in all points calculations and promotional activities.

1. The name must not be offensive or lewd.
2. Tractor Registration refers to identifying your tractor with a registered name for point's calculation.
 - a. Each tractor must be re-registered each pulling season in order to be eligible to compete.
 - b. No duplicate tractor Names will be permitted.
 - c. A tractor owner can sell everything relating to the tractor including the name. Any points accrued by the tractor are transferred with the tractor to the new owner.
 - d. If two or more members own a pulling vehicle together, they must use the same **Down Under MTPA** pulling vehicle name. Each must have a competing membership of the **Down Under MTPA**.
 - e. All changes of ownership during a pulling year must be notified to the **Down Under MTPA** in writing after the sale and before the tractor is entered for the next tractor pull event.
 - f. The Name of the pulling vehicle must be prominently displayed.

5.2.1 Notice

Competitors are required to contact the **Down Under MTPA** Executive Board or **Down Under MTPA** Scrutineering Panel should they be planning to build a competition vehicle employing new or unique processes or techniques, or are seeking to alter, change or modify existing competition vehicles, where such processes, techniques or modifications could raise questions of legality in terms of the rules regarding construction and/or safety.

Competitors must submit drawings and/or photographs along with written plans for the construction or modification of the vehicle to the **Down Under MTPA** Executive Board or **Down Under MTPA** Scrutineering Panel, seeking approval. Such documents should show that the vehicle or modification/s does not infringe existing rules. Any change in rules interpretation will have 30 days written prior notice to **Down Under MTPA** member state associations and **Down Under MTPA** competing members at the time of the change. This refers only to rule interpretation, not new rules.

5 RULES FOR CONDUCT OF TRACTOR PULLS

5.2.2 Registered Pulling Vehicle Log Book

All pulling vehicles registered with the **Down Under MTPA** are required to maintain a Log Book and self-scrutineering form. The log book is assigned to each tractor and must be presented at each **Down Under MTPA** sanctioned event for scrutineering. **Down Under MTPA** Scrutineers will record the event details, date, scrutineers name and any infringement to the **Down Under MTPA** rules regarding pulling vehicle requirements. The **Down Under MTPA** Scrutineers will then sign-off that the pulling vehicle is OK to compete (or not as the case may be).

The log book (passport) will be issued from AASA once the applicable fee and paper work has been filled out

Any disputes are to be referred to the **Down Under MTPA** Scrutineering Panel for clarification and decision.

The Log Book will remain with the pulling vehicle, if possible, for its competing life even if the pulling vehicle ownership and/or competing name also changes.

The **Down Under MTPA** Secretary shall maintain a register of all competing pulling vehicles names and the log book allocated to the current owner of the pulling vehicle and provides a current list to the **Down Under MTPA** Scrutineering Panel.

The Log Book and self-scrutineering form must be presented as scrutineering commences on the pulling vehicle being scrutineered. If the Log Book and self-scrutineering form are not presented at the time of scrutineering, the pulling vehicle will not be allowed to compete under any circumstances.

5.3 Competitor Conduct

1. Pulling vehicles must be operated in a safe manner at all times within the confines of pits and staging areas. Maximum speed in these areas is not to exceed walking pace. Officials, Marshalls and organisers have the right to stop, warn or disqualify any vehicle that is not considered to be operated in a safe manner or persons showing signs of impairment. The speed limit in this rule does not apply whilst a pulling vehicle is hooked to the sled and competing.
2. Operators must remain seated at all times and must have complete control of the vehicle.
3. Only **Down Under MTPA** registered drivers are allowed to drive during pulls.
4. Tractor drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking and unhooking and operate brake if required with the exception of Pro-Stock.
5. Any driver or any of their crew suspected by the officials, Marshalls and organisers to be affected by alcohol or illicit drugs during the conduct of a pull or in the pit area will have their vehicle disqualified and will be banned forever.

******THIS MEANS LOADING OF EQUIPMENT AS WELL*****

6. All drivers and officials must attend the drivers meetings and sign the register.
7. At a **Down Under MTPA** sanctioned event, if a vehicle is driven by a person who is not a current financial **Down Under MTPA** member, the vehicle and driver will be barred forever from competition at all **Down Under MTPA** sanctioned events.
8. Contestants are requested to attend the presentations thirty minutes after the last Tractor has completed it's pull unless otherwise notified.

5.4 Rain Out or Sled Breakdown

1. During a pull any weight class event not completed because of rain, noise / time restraints, lighting failure or sled breakdown shall be treated as a rain out.
2. If a class is 'rained out' after two thirds of those entered have pulled then the event is deemed to be concluded and prize money and points allocated with the remainder of contestants receives points and travel money.

3. If the Event Co-ordinator refunds the gate, or offers rain checks, no prize monies shall be payable. If the Event Co-ordinator does NOT return the gate or offer rain checks then the Event Co-ordinator must pay prize money to those completed classes prior to cancellation.
4. An event can be called completed if half of the advertised events have been run.
5. The **Down Under MTPA** and Event Co-ordinator have the right to reschedule rained out events and classes.
6. Rescheduling can only be done if Event Co-ordinator, sled operator and **Down Under MTPA** agree.
7. In the event of a Rain Out or Sled Breakdown, the Event Co-ordinator shall pay the applicable travel costs for equipment hire, not the hire fee.

5.5 Pulling Test

1. A Clerk of the Course will be appointed by the **Down Under MTPA** and have knowledge of applicable **Down Under MTPA** rules as set out in the Clerk of the Course training document. He / She must be on the track or in radio contact during the running of all events.
2. All sanctioned **Down Under MTPA** Tractor Pulls shall be conducted so that the weight transfer device (Sled) is started from a standard starting point marked across the track and the contest be decided by measurement of the distance travelled by the sled from the starting point, measured in metres and millimetres.
3. All classes will pull to a distance of 115 meters (provided that the safety buffer of 50 metres is still maintained) A floating finish past 115 metres will be used if more than one tractor goes past 115 meters. This has been implemented to prevent multiple pull off situations occurring, which would result in damage to vehicles and also an extended program.
4. The first puller (Number one (1) in each event will be the test puller and following his / her initial run, may elect to take his/her first pull result if the sled is deemed set, or may elect to pull again. He / She may take his/her second pull immediately or may pull in third or last position. The Sled Operator shall determine if the sled is set for the event, if the sled needs to be altered further then Number Two (2) puller, pulls as number One (1) (Test Puller), with number one pulling next.
5. If the sled needs further adjustment, the first puller after each adjustment will be treated as Number One (1) or test puller, with those who pulled before, competing immediately the sled is declared set.
6. If a class is restarted all contestants having previously pulled must pull again in order of original draw.
7. All decisions on re-pulls are to be made and notified to the scorers before the sled is returned to the start and the next competitor called up.
8. On any re-pull caused by sled malfunction the puller has the option of pulling down three positions.
9. Any disqualification on a first attempt bars a second attempt. Contestants MUST be ready to pull within three minutes of the time that the sled is deemed ready. If the failure to be ready is due to circumstances out of the control of the puller, e.g: tampering by spectators, then the puller may enter the field later.
10. All circumstances under the control of the puller equal disqualification; (except when the Clerk of the Course deems that allowing the puller to pull is in the interest of the event) in this case the puller forfeits Hooker and Puller points.
11. During a class a puller may have two attempts to make a successful pull. If a puller wishes to make a second attempt he / she must be attempting to stop before the sled has travelled 25 metres. The sled will be towed back to the starting line and the puller will have three minutes to make any adjustments before making his / her second and final attempt.

5 RULES FOR CONDUCT OF TRACTOR PULLS

12. When vehicle experiences mechanical problems during a test pull (before his first official pull) he / she has the option of pulling third or last.
13. A puller can drop three places or to last if a breakage occurs on his / her first attempt he / she must have attempted to stop by 25 metres, he / she will get a total of two chances.
14. If a puller breaks down in a pull off then he / she is entitled to Puller points already received e.g: holding third and pulling for second then he / she gains third place if beaten in pull off due to breakdown.
15. A puller who breaks down and is unable to compete in a pull off or is disqualified for out of bounds, holds points for whatever position he / she is relegated to by the pull off.
16. The sled must be adjusted so that the test puller is stopped within the confines of the 115-metre track and should exceed a 75 metre pull.
17. Sled must be readjusted if the contestant fails to reach 75m.
18. If the pull is not made under the same track conditions as the first pull then number one puller has the option of a second pull in No.3 position. The second pull only to be scored.
19. All pulls must start with a tight hitch, on hook up to the sled the slack in the chain must be taken up. No jerking is permitted. Contestants are allowed a total of two attempts to gain a measurable pull.
20. Each contestant has the privilege of and the responsibility to spot the sled for his attempt anywhere across the track. The pullback tractor operator must be notified of where the contestant wishes the sled to be placed when the previous contestant unhooks from the sled. The sled may not be re spotted for a second attempt.
21. Starting line position may be altered at the discretion of the Clerk of the Course.
22. All pulls are to be started with sled in gear and clutch released with the green light operating.
23. An attempt is defined as moving the sled 100mm or greater.
24. All pulls greater than 100mm made during a contest are to be recorded.
25. The pulling vehicle must remain within the boundaries of the defined track during the pull or the contestant will be disqualified, the sled may go out. Sled pan must be within the boundaries at the beginning of the pull.
26. If a pulling vehicle goes out of bounds on a test pull it is not deemed as a disqualification, and the vehicle may re-pull.

5.6 Protests

Any contestant who feels that another contestant's vehicle is illegal may protest against that vehicle.

Protests are to be made directly to the Clerk of the Course if they are in relation to the conduct of the puller's vehicle, and to the Clerk of the Course or Scrutineering Panel if they are to do with the safety or equipment of the puller's vehicle.

All protests and disputes are only to be raised on the day of the event.

A \$150 deposit must be lodged with **Down Under MTPA** (Treasurer) by the protester.

If the protest is up-held then the protester is refunded his / her money.

If the protest is not up-held then the protester forfeits his / her money. Any cost incurred in verifying the complainant shall be borne by the loser of the protest.



Illegal Fuel Protest

A sum of \$150 must be paid by a protesting competitor (to the **Down Under MTPA** Treasurer) to have checked any other competitor for use of illegal fuels. If the fuel is proved illegal for the class of pulling vehicle, the fee will be returned to the protesting puller. Penalty for illegal use is loss of points and suspension of membership. If proved not illegal, the tractor owner will collect fee.

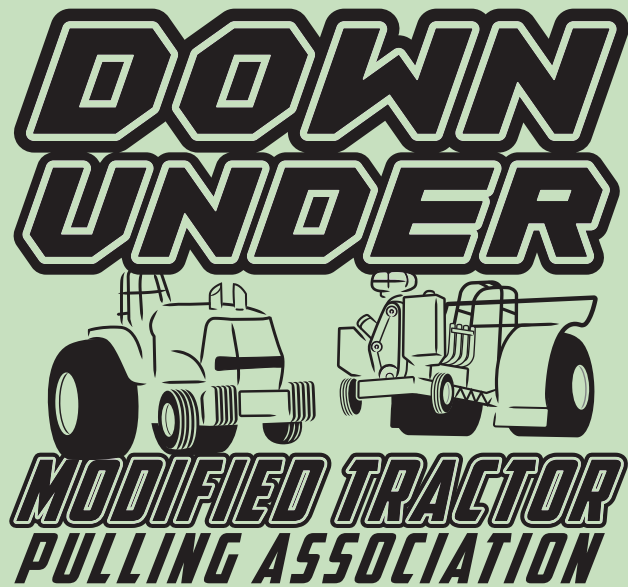
5.7 Disputes Committee

In the case of a dispute, the Pull Co-ordinator will be the first point of contact and shall direct the proceedings.

The disputes committee shall be made up of three (3) **Down Under MTPA** members and one (1) Chairperson.

The disputes committee shall resolve any dispute arising from a pull on the day of the event.





6. RULES FOR MINI MODIFIED TRACTORS

6 DOWN UNDER MTPA RULES FOR MINI MODIFIED TRACTORS

1. Mini Modified Tractors are those using engine(s) up to a maximum capacity of 375 cubic inch
2. The engine may employ a roller camshaft and be Naturally Aspirated with a maximum of one venturi per cylinder (i.e: dual 4 barrel carburetors are allowed), no blowers or turbo charging. All engines are limited to two valves, one spark plug per cylinder.
3. All LS series engines must use OEM cylinder heads and thermoplastic inlet manifolds with either one of the following casting numbers showing:
 - #12590123
 - #12573572
 - #12590124
 - #88894339
 - #12589181
 - #12602477

Must use factory electronic fuel injection and fuel injection system and fuel injectors.

4. Transmissions and Differentials must be derived from passenger cars or trucks. No planetary racing transmissions, slider clutches, quick change differentials are permitted.
5. Weight class is: **900kg**, including driver and safety apparel.
6. No portion of a mini modified tractor may exceed 2440mm forward of the centre of the rear wheel, including removable ballast.
7. No portion of the tractor shall exceed 1930mm in width.
8. A battery **MUST** be carried on all mini modified tractors. This battery is to be of sufficient capacity to restart the engine if stalling occurs, unless the tractor has been given instruction to shut down by an official, in this case, if the tractor can't start under its own power the tractor may be jumped started on the start line.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, **a larger size must be used.**
- d. The following approved safety equipment may be used SFI / FIA.

6.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.)

That all fire extinguishers be tagged and tested and in date before tractors are allowed to compete.

2. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.

6 RULES FOR MINI MODIFIED TRACTORS

3. All mini modified tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following;
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

6.2 Legal Fuels

Legal fuels are restricted to Unleaded Petrol, Premium (ULP), E85 (pump only) and up to 105 octane unleaded race fuel, upper cylinder lube may be added but no performance additives. (**NO AVGAS**, banned from 30 June 2019)

6.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.
2. No fuel tanks or containers are to be located behind the centre line of the rear axle.

6.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc).

6.3 Chassis

1. All mini modified tractors shall have wide front axle. Front wheels shall track within the rear wheels.
2. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractor's weight. Hook to be fitted so as to prevent tow strap falling off.

6.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

6.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.
3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per foot of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.

4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

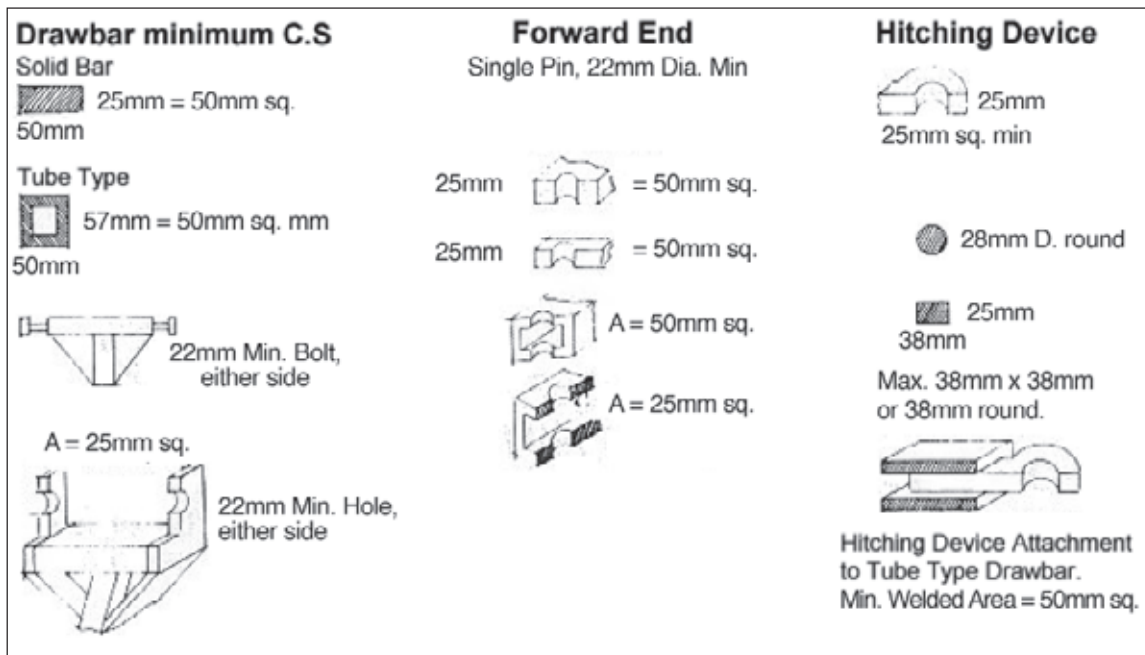
6.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

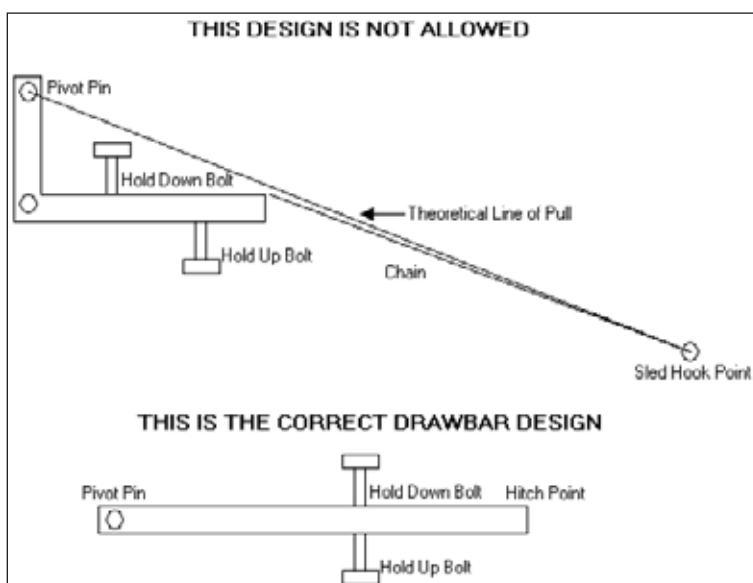
CLASS	MAX HEIGHT	MIN LENGTH
Mini	330mm	150mm

6.5.2 Diagram One: Drawbar Materials & Size



6 RULES FOR MINI MODIFIED TRACTORS

6.5.3 Diagram Two: Drawbar Design



- Minimum length is 150mm from centre of back axle to the hitch point
- Drawbar and hitching device to be one piece construction with a minimum of 25mm solid steel material, or equivalent cross section.
- Front part of drawbar to have a minimum of 12mm cross sectional thickness remaining in front of the hole drilled through the drawbar.
- Minimum of 12mm bolt (Minimum Grade 5)
- Drawbar must be equipped with a hitching device not more than 19mm thick and must have a minimum of a 50mm round hole (maximum 56mm)
- Pulling point may not be more than 19mm from back edge of hitching device with a cross-sectional area of 19mm square steel or equivalent.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbar supports to be securely attached to tractor frame.
- Drawbar tongue must be able to slide free of tractor, in the event of adjustment device breakage.

6.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. This device is to have wheels or a skid plate. Wheels are to be at least 25mm wide and 125mm in diameter.
4. Skid pads to be at least 75mm x 75mm at the ground contact point. Wheels or skid pads must be no less than 125mm of the centre, behind the plumb line of the rear of the rear tyres and not more than 125mm above the ground.
5. One skid pad or wheel is to be on each side of tractor.

6.7 Roll Cages

Roll Cage Construction (Minimum Specifications)

6.7.1 Driver Roll Cage for Mini Modified Tractors:

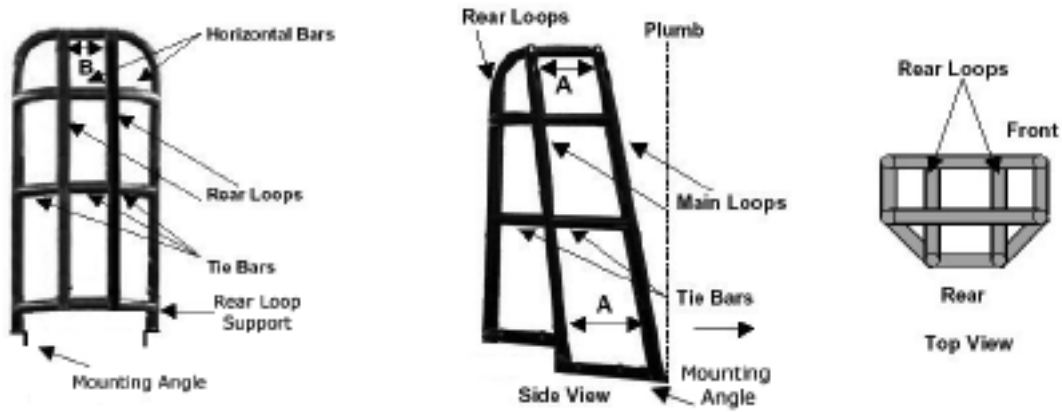


Figure A.

Figure B.

Figure C.

1. Structural Material:
 - a. Chrome molybdenum seamless steel tubing: 1.65mm minimum wall thickness and 38mm minimum tube diameter,
 - OR**
 - b. TDW Seamless steel tubing 2.59mm minimum wall thickness and 44mm minimum tube diameter.
 - c. Angle at base to attach roll cage to be minimum of 50mm x 50mm x 5 mm in section.
2. Two main vertical loops (side to side)
3. Two vertical loops (off top of main loops)
4. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)
5. Front main vertical loop of the roll cage is to positioned such that when the driver is strapped in the driver's seat the body is within the roll cage, only arms and legs may protrude forward through the front of the rollcage.
6. If the front vertical loop exceeds 940mm measured between the top of the chassis and the top of the roll cage (outside) then two (2) horizontal loops are required, one to be fitted at shoulder height and the second to be evenly spaced between the top horizontal loop and the top of the mini tractor chassis. If the front vertical loop measures less than 940mm as described above, only one (1) horizontal loop is required at shoulder height.
7. The two (2) rear loops must be attached to the rear loop support tube which is attached to the lower portion of the rear vertical loop (refer to diagram).
8. The seat frame must be attached to the roll cage structure, harness, mud guards and seat mount points are to be attached to tags or plates welded to the roll cage. The harness must not be attached to the mini tractor chassis. In the event that the roll cage breaks away from the chassis (bolt type), the seat and harness must be part of the roll cage and detach as one unit. For bolt on roll cages **NO** ballast is to be attached to the roll cage.

6 RULES FOR MINI MODIFIED TRACTORS

6.7.1.1 Roll Cage Mounting to Mini Tractor Chassis

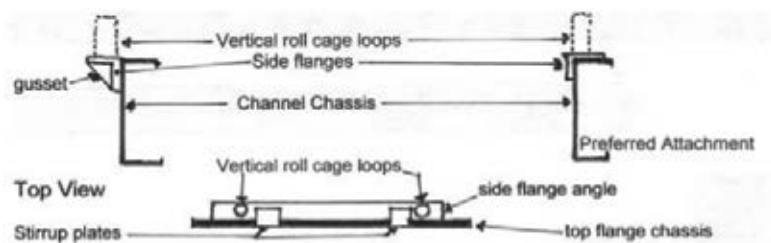
- Fastener Diameter – 12mm Grade 8 UNC as a minimum
- Grade must be clearly visible on head of bolt
- Number of fasteners on each side of mounting angle is to be a minimum of five (5) per side.

6.7.1.1.1 OPTION 1 - Removable

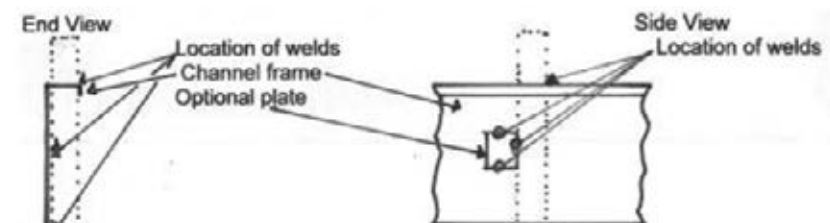
Using an outside angle mount to the chassis rail where the thickness of the rail is less than 4mm requires a plate of 3mm thick, with an area of 50mm square, on the inside of the chassis rail. Bolt holes in the plate may be off-centre to fit the chassis.

An angle gusset must be welded to the underside of the angle directly below the ends of the main vertical loops (see diagram below). Gussets are to be a minimum of 4mm thick and welded on both sides.

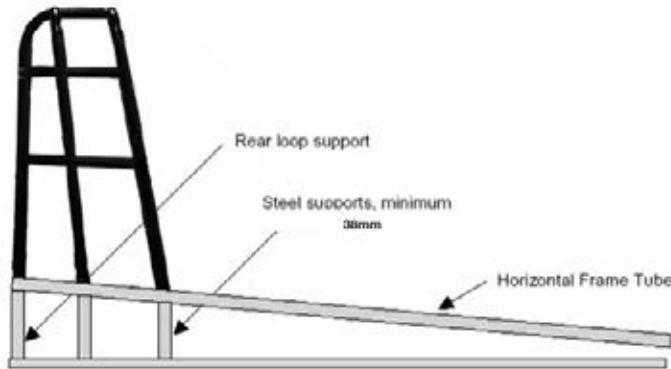
Two stirrups 50 x 50 x 5mm plate to be welded to the top side of angle (2 per side) and protrude at least 25mm over the vertical of the angle to form a 'T' when viewed from the end of the angle (see diagram).



6.7.1.1.2 OPTION 2 – Permanent



6.7.1.3 OPTION 3 – Permanent attachment to Chassis



The following profiles are acceptable for Main Loops (side-to-side);



Tube diameter MUST NOT be reduced or flattened at intersection of join must be notched and mated (see diagram).



Note: All structural (T.I.G) welds on roll cage must be carried out by competent welder skilled in operation of T.I.G equipment, appropriate filler wire must be used in all welds. No holes are permitted to be drilled in roll cage except for weld (venting).

6.8 Driver’s Seats & Wheel Fenders

1. All mini tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
2. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver’s body.
3. All seats must have a substantial backrest no more than 50mm behind rear of seat. The backrest must be made of 12mm cross section steel or material equal in strength with a minimum 100mm wide and 150mm long pad firmly attached.

OR

A manufactured seat equalled in strength. The back of the seat shall have a steel plate of not less than 16g steel being not less than 300mm wide and 450mm high.

4. Fenders are to consist of barrier between driver and the tyre. Fenders are to be a minimum of 25mm over height of tyre, fender to curl 100mm horizontally from vertical edge over the tyre, in the same configuration as the tyre. Minimum length of 450mm at the top of the fender.

6 RULES FOR MINI MODIFIED TRACTORS

6.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (**Refer to Appendix D**)

6.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- **35 psi** cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. Wheel studs must protrude the distance equal to the stud diameter past the outside face of the wheel nut when the wheel is fitted to the hub or axle flange.
2. The tractor pull contest is open to pulling tractors with rubber tyres.
3. No dual tyres, tyre studs, or chains permitted.
4. All power must be transmitted through the wheels.
5. Positive mechanical means of retaining the rear wheels in the event of axle or wheel stud(s) breakage. The wheel retainers cover more than 50% of the axle circle and must prevent the wheel leaving the tractor in any direction.
6. Tyres are limited to 18" rim width and 16.1" rim diameter.
7. Maximum width of lugs to be no wider than that of factory manufactured 18.4" x 16.1" tyres.

6.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. The hook must not extend more than 150mm beyond the foremost point of the tractor.
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

6.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.

4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

6.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.
5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. Two return springs per carburettor.
8. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and throttle shaft arm(s) on carburettor(s).

6.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - b. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
 - c. The kill switch will be in the rear centre (maximum of 75mm off centre in either direction), 787mm above the ground.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All mini modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.

6.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.

6 RULES FOR MINI MODIFIED TRACTORS

3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Starter motors and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.

6.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

6.17 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.
2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance, or,
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

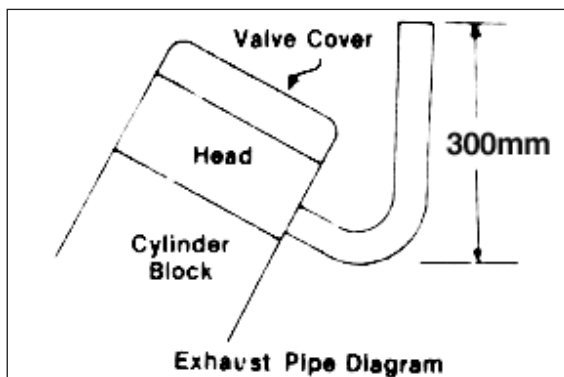
6.18 Automotive Engines

1. All mini modified tractors using automotive engines must have flywheels, clutches and related components mounted to engine (or block plate).
2. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

6.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.

6.19.1 Diagram Three: Exhaust Pipe Design



6.20 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Mini Modified Tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **ANDRA APPROVED** or equivalent shielding. The opening at the bottom of the transmission / torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' or an ANDRA or SFI approved shifter.
4. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

5. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
6. All automotive engines will be required to have a **STEEL PLATE** or a **STEEL BILLET** flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.

6 RULES FOR MINI MODIFIED TRACTORS

8. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
9. Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **ANDRA** specifications.
A shield must cover ring gear with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

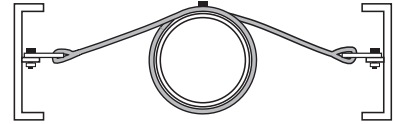
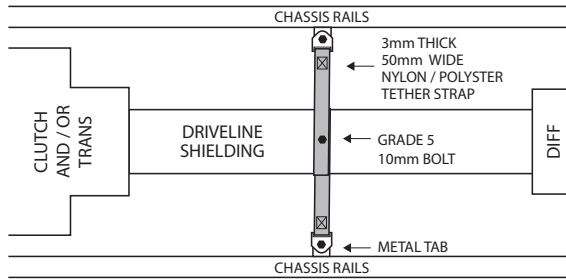
6.21 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 10mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose. 10mm aluminium with 3mm steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. A differential scatter shield of at least 3mm plate is required. This plate must cover the diameter of the crown wheel.
6. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 10mm grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

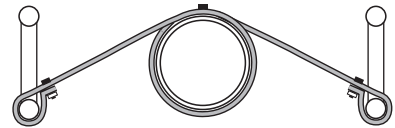
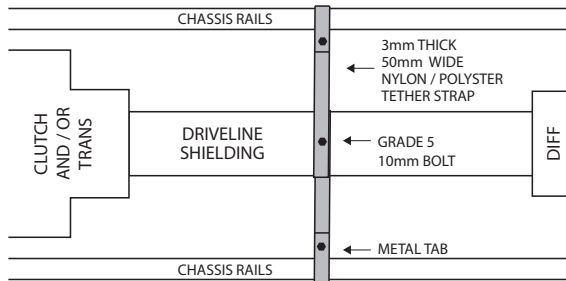
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

6.21 Diagram Six: Driveline Shielding Tether

ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS



6 RULES FOR MINI MODIFIED TRACTORS

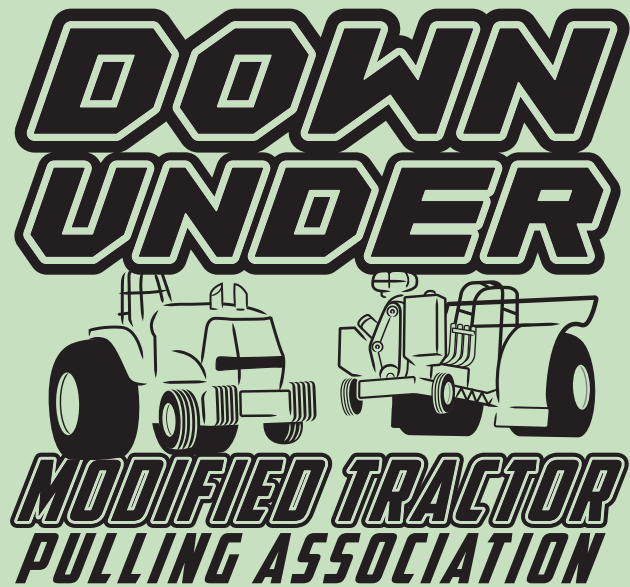




RULES FOR MINI MODIFIED TRACTORS 6

6 RULES FOR MINI MODIFIED TRACTORS





7. RULES FOR SUPER MINI MODIFIED TRACTORS

7 DOWN UNDER MTPA RULES FOR SUPER MINI MODIFIED TRACTORS

1. Super Mini Modified Tractors are those using engine(s) up to a maximum capacity of 450ci small block naturally aspirated. The engine(s) may employ a roller cam shaft.

Mechanical fuel injection or electronic fuel injection is allowed.

2. Transmissions and Differentials must be derived from passenger cars or trucks. No planetary racing transmissions, slider clutches, quick change differentials are permitted.
3. Weight class is: **920kg**, including driver and safety apparel.
4. No portion of a Super Mini Modified tractor may exceed 2440mm forward of the centre of the rear wheel, including removable ballast.
5. No portion of the tractor shall exceed 1930mm in width.
6. A battery MUST be carried on all mini modified tractors. This battery is to be of sufficient capacity to restart the engine if stalling occurs, unless the tractor has been given instruction to shut down by an official, in this case, if the tractor can't start under its own power the tractor may be jumped started on the start line.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, **a larger size must be used**.
- d. The following approved safety equipment may be used SFI / FIA.

7.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. (The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.)

That all fire extinguishers be tagged and tested and in date before tractors are allowed to compete.

2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. **(Refer to Appendix C - SFI / FIA Driving Apparel requirements)**.
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. **(Refer to Appendix D - SFI / FIA Selt Belt requirements)**.
4. A competent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.
6. All Super Mini Modified tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following;
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor.

7 RULES FOR SUPER MINI MODIFIED TRACTORS

- b. A light in the driver's compartment must operate off the same circuit.
- c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

7.2 Legal Fuels

Legal fuels are restricted to Unleaded Petrol, Premium (ULP), E85 (pump only) and up to 105 octane unleaded race fuel, upper cylinder lube may be added but no performance additives. and Methanol is allowed. (NO AVGAS, banned from 30 June 2019) NO Nitro is allowed.

7.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.
2. No fuel tanks or containers are to be located behind the centre line of the rear axle.

7.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc).

7.3 Chassis

1. All Super Mini Modified tractors shall have wide front axle. Front wheels shall track within the rear wheels.
2. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractors weight. Hook to be fitted so as to prevent tow strap falling off.

7.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

7.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.
3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per foot of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.

6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

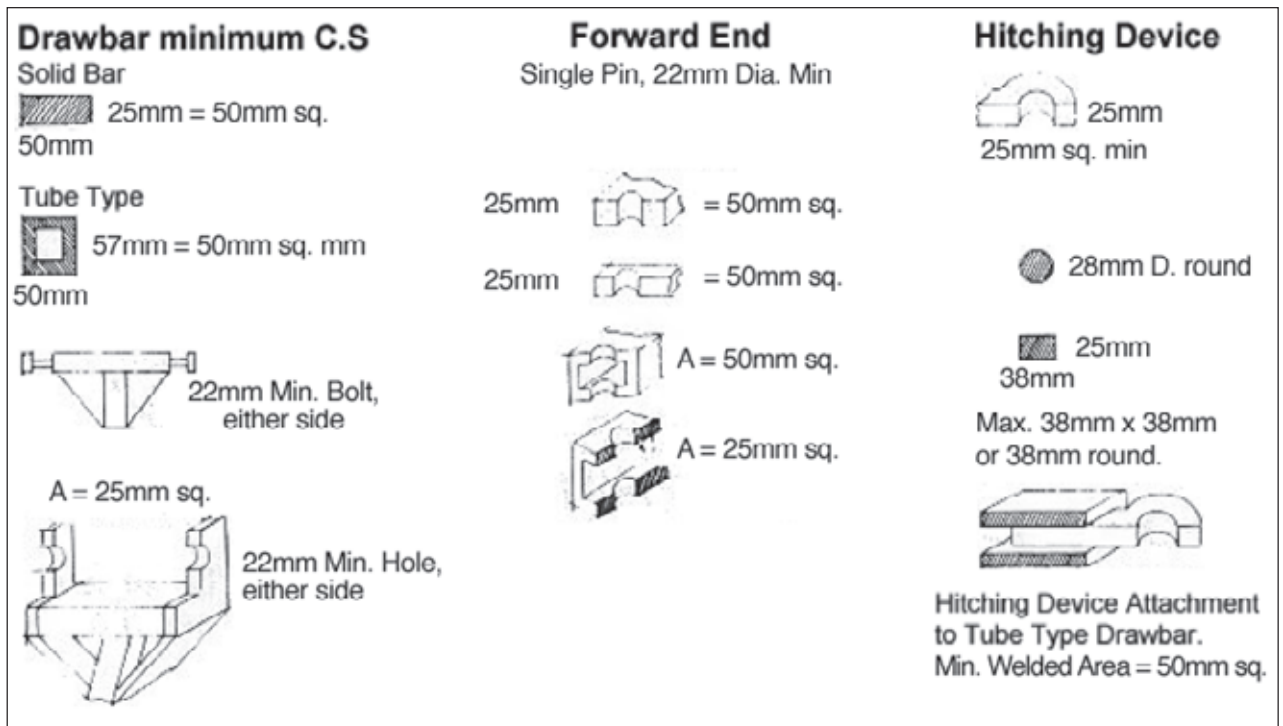
7.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

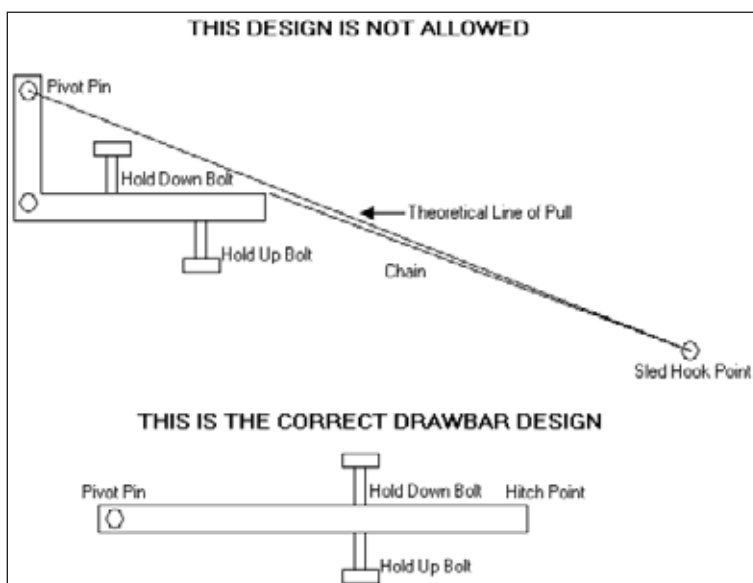
CLASS	MAX HEIGHT	MIN LENGTH
Super Mini	330mm	150mm

7.5.2 Diagram One: Drawbar Materials & Size



7 RULES FOR SUPER MINI MODIFIED TRACTORS

7.5.3 Diagram Two: Drawbar Design



- Minimum length is 150mm from centre of back axle to the hitch point
- Drawbar and hitching device to be one piece construction with a minimum of 25mm solid steel material, or equivalent cross section.
- Front part of drawbar to have a minimum of 12mm cross sectional thickness remaining in front of the hole drilled through the drawbar.
- Minimum of 12mm bolt (Minimum Grade 5)
- Drawbar must be equipped with a hitching device not more than 19mm thick and must have a minimum of a 50mm round hole (maximum 56mm)
- Pulling point may not be more than 19mm from back edge of hitching device with a cross-sectional area of 19mm square steel or equivalent.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbar supports to be securely attached to tractor frame.
- Drawbar tongue must be able to slide free of tractor, in the event of adjustment device breakage.

7.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. This device is to have wheels or a skid plate. Wheels are to be at least 25mm wide and 125mm in diameter.
4. Skid pads to be at least 75mm x 75mm at the ground contact point. Wheels or skid pads must be no less than 125mm of the centre, behind the plumb line of the rear of the rear tyres and not more than 125mm above the ground.
5. One skid pad or wheel is to be on each side of tractor.

7.7 Roll Cages

Roll Cage Construction (Minimum Specifications)

7.7.1 Driver Roll Cage for Super Mini Modified Tractors:

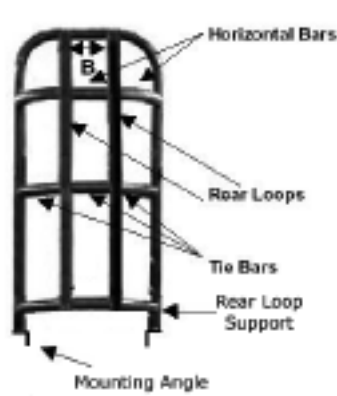


Figure A.

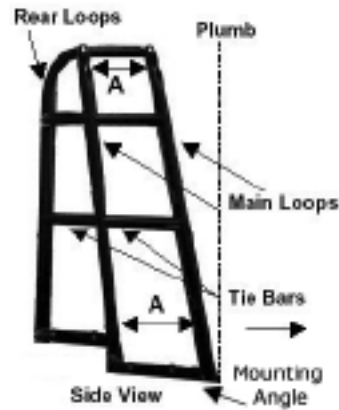


Figure B.

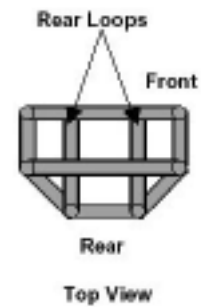


Figure C.

1. Structural Material:

- a. Chrome molybdenum seamless steel tubing: 1.65mm minimum wall thickness and 38mm minimum tube diameter,

OR

- b. TDW Seamless steel tubing 2.59mm minimum wall thickness and 44mm minimum tube diameter.
- c. Angle at base to attach roll cage to be minimum of 50mm x 50mm x 5 mm in section.

2. Two main vertical loops (side to side)

3. Two vertical loops (off top of main loops)

4. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)

5. Front main vertical loop of the roll cage is to positioned such that when the driver is strapped in the driver's seat the body is within the roll cage, only arms and legs may protrude forward through the front of the rollcage.

6. If the front vertical loop exceeds 940mm measured between the top of the chassis and the top of the roll cage (outside) then two (2) horizontal loops are required, one to be fitted at shoulder height and the second to be evenly spaced between the top horizontal loop and the top of the mini tractor chassis. If the front vertical loop measures less than 940mm as described above, only one (1) horizontal loop is required at shoulder height.

7. The two (2) rear loops must be attached to the rear loop support tube which is attached to the lower portion of the rear vertical loop (refer to diagram).

8. The seat frame must be attached to the roll cage structure, harness, mud guards and seat mount points are to be attached to tags or plates welded to the roll cage. The harness must not be attached to the mini tractor chassis. In the event that the roll cage breaks away from the chassis (bolt type), the seat and harness must be part of the roll cage and detach as one unit. For bolt on roll cages **NO** ballast is to be attached to the roll cage.

7.7.1.1 Roll Cage Mounting to Mini Tractor Chassis

- Fastener Diameter – 12mm Grade 8 UNC as a minimum
- Grade must be clearly visible on head of bolt
- Number of fasteners on each side of mounting angle is to be a minimum of five (5) per side.

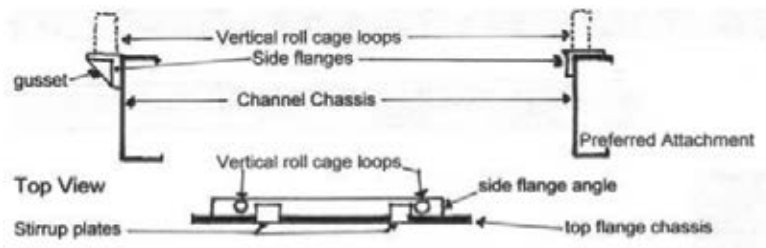
7 RULES FOR SUPER MINI MODIFIED TRACTORS

7.7.1.1 OPTION 1 - Removable

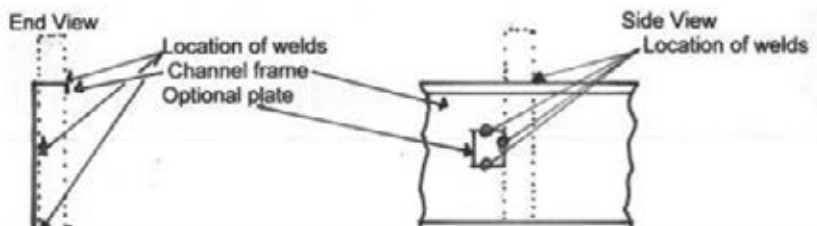
Using an outside angle mount to the chassis rail where the thickness of the rail is less than 4mm requires a plate of 3mm thick, with an area of 50mm square, on the inside of the chassis rail. Bolt holes in the plate may be off-centre to fit the chassis.

An angle gusset must be welded to the underside of the angle directly below the ends of the main vertical loops (see diagram below). Gussets are to be a minimum of 4mm thick and welded on both sides.

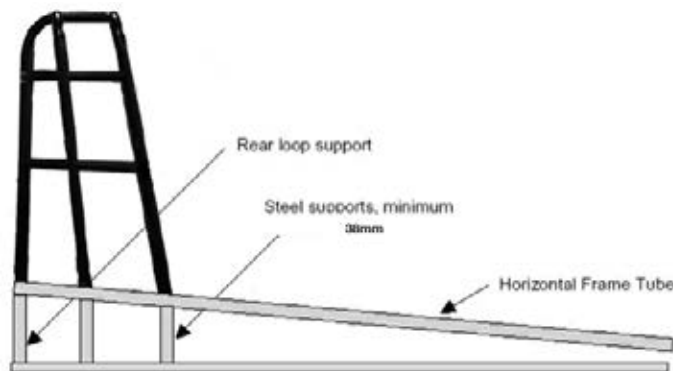
Two stirrups 50 x 50 x 5mm plate to be welded to the top side of angle (2 per side) and protrude at least 25mm over the vertical of the angle to form a 'T' when viewed from the end of the angle (see diagram).



7.7.1.2 OPTION 2 – Permanent



7.7.1.3 OPTION 3 – Permanent attachment to Chassis



The following profiles are acceptable for Main Loops (side-to-side);



Tube diameter MUST NOT be reduced or flattened at intersection of join must be notched and mated (see diagram).



Note: All structural (T.I.G) welds on roll cage must be carried out by competent welder skilled in operation of T.I.G equipment, appropriate filler wire must be used in all welds. No holes are permitted to be drilled in roll cage except for weld (venting).

7.8 Driver's Seats & Wheel Fenders

1. All mini tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
2. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.
3. All seats must have a substantial backrest no more than 50mm behind rear of seat. The backrest must be made of 12mm cross section steel or material equal in strength with a minimum 100mm wide and 150mm long pad firmly attached.

OR

A manufactured seat equalled in strength. The back of the seat shall have a steel plate of not less than 16g steel being not less than 300mm wide and 450mm high.

4. Fenders are to consist of barrier between driver and the tyre. Fenders are to be a minimum of 25mm over height of tyre, fender to curl 100mm horizontally from vertical edge over the tyre, in the same configuration as the tyre. Minimum length of 450mm at the top of the fender.

7.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (**Refer to Appendix D**)

7.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- 35 psi cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

7 RULES FOR SUPER MINI MODIFIED TRACTORS

1. Wheel studs must protrude the distance equal to the stud diameter past the outside face of the wheel nut when the wheel is fitted to the hub or axle flange.
2. The tractor pull contest is open to pulling tractors with rubber tyres.
3. No dual tyres, tyre studs, or chains permitted.
4. All power must be transmitted through the wheels.
5. Positive mechanical means of retaining the rear wheels in the event of axle or wheel stud(s) breakage. The wheel retainers cover more than 50% of the axle circle and must prevent the wheel leaving the tractor in any direction.
6. Tyres are limited to 18" rim width and 16.1 "rim diameter.
7. Maximum width of lugs to be no wider than that of factory manufactured 18.4" x 16.1" tyres.

7.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. **The hook must not extend more than 150mm beyond the foremost point of the tractor.**
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

7.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

7.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.
5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. Two return springs per carburettor.
8. All injection or butterfly shafts on engines must have dual return to idle arms and springs.
9. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and throttle shaft arm(s) on carburettor(s).

7.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - b. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
 - c. The kill switch will be in the rear centre (maximum of 75mm off centre in either direction), 787mm above the ground.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All Super mini modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.

7.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Starter motors and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.

7.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.

7 RULES FOR SUPER MINI MODIFIED TRACTORS

2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

7.17 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.
2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance, or,
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

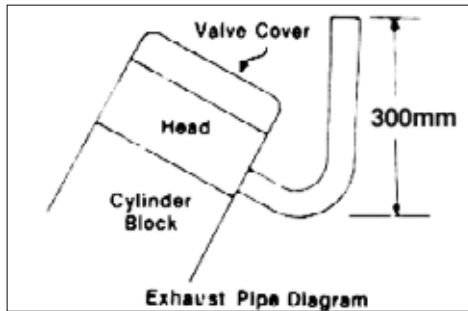
7.18 Automotive Engines

1. All Super mini modified tractors using automotive engines must have flywheels, clutches and related components mounted to engine (or block plate).
2. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

7.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.

7.19.1 Diagram Three: Exhaust Pipe Design



7.20 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Mini Modified Tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **ANDRA APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' or an ANDRA or SFI approved shifter.
4. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

5. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
6. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
8. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
9. Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **ANDRA** specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

7 RULES FOR SUPER MINI MODIFIED TRACTORS

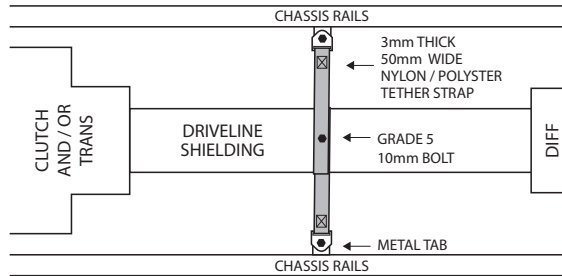
7.21 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 10mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose. 10mm aluminium with 3mm steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. A differential scatter shield of at least 3mm plate is required. This plate must cover the diameter of the crown wheel.
6. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 10mm grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

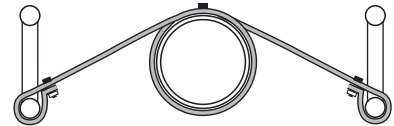
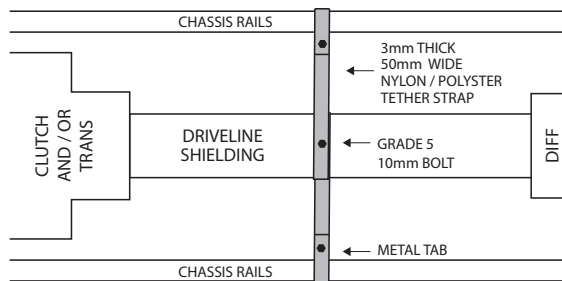
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

7.21.1 Diagram Six: Driveline Shielding Tether

ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS

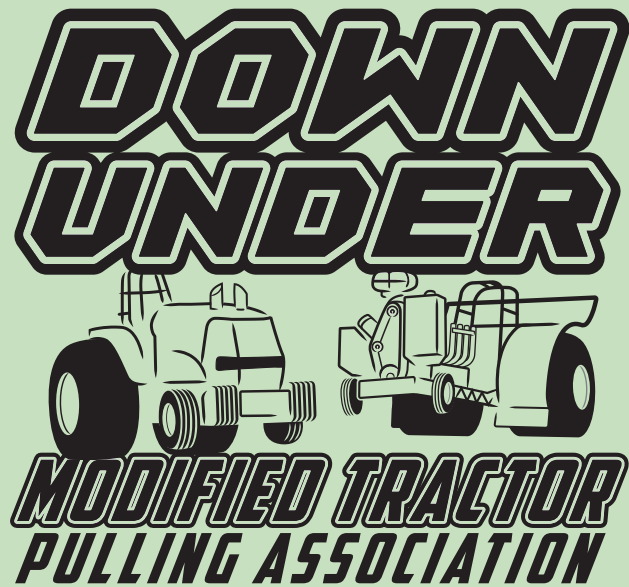


ONE STRAP WRAPPED AROUND TUBE CHASSIS



7 RULES FOR SUPER MINI MODIFIED TRACTORS





**8. RULES FOR
OPEN MINI MODIFIED TRACTORS &
OUTLAW MINI MODIFIED TRACTORS**

8 DOWN UNDER MTPA RULES FOR OPEN MINI & OUTLAW MINI MODIFIED TRACTORS

1. (a) Open Mini Modified tractors are those using any small block v8 up to 410ci plus 60 thou utilising a blower, turbo(s), and / or EFI & mechanical injection. All race / pump fuels allowed. (No Avgas or Nitrous injection).
- (b) Alternative engine combo is a single v8 big block up to 540ci plus 60 thou must be naturally aspirated. No blowers, turbos, NOS. Multiple carbies, EFI & mechanical injection allowed. All race / pump fuels allowed (No Avgas or Nitrous injection).
- (c) Outlaw Mini Tractors are all other engine v8 combos / size, turbine, radial (aeroplane) unlimited. All fuels allowed, race, pump, methanol, nitrous injection allowed (No Avgas).
2. Open Mini and Outlaw Open Mini Tractors are permitted the use of Engine Management Systems.
3. Weight class is: **950kg**, including driver & safety apparel.
4. No portion of an Open Mini Modified or Outlaw Mini Tractors may exceed 2440mm forward of the centre of the rear wheel, including removable ballast.
5. No portion of the tractor shall exceed 1930mm in width.
6. Auxilliary Starting Motors are permitted, operating through the neutral start and ignition mechanism by a competent operator.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, **a larger size must be used**.
- d. The following approved safety equipment may be used SFI / FIA.

8.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. (The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.)

That all fire extinguishers be tagged and tested and in date before tractors are allowed to compete.

2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. (**Refer to Appendix C - SFI / FIA Driving Apparel requirements**).
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. (**Refer to Appendix D - SFI / FIA Selt Belt requirements**).
4. A competent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.

RULES FOR OPEN MINI MODIFIED TRACTORS

8 & OUTLAW MINI MODIFIED TRACTORS



6. All Open Mini Modified or Outlaw Mini tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following;
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

8.2 Legal Fuels

Legal fuels are restricted to Unleaded Petrol, Premium (ULP), E85 (pump only) and up to 105 octane unleaded race fuel, upper cylinder lube may be added but no performance additives. **(NO AVGAS, banned from 30 June 2019)**

8.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.
2. No fuel tanks or containers are to be located behind the centre line of the rear axle with an exception to Turbine powered open minis using kerosene-based fuel, fitted with a protective structure made from **Down Under MTPA** approved roll cage materials and having a manual shut off valve fitted to the service line.

8.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc).

8.3 Chassis

1. All Open / Outlaw mini modified tractors shall have wide front axle. Front wheels shall track within the rear wheels.
2. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractors weight. Hook to be fitted so as to prevent tow strap falling off.

8.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

8.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.

3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per foot of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

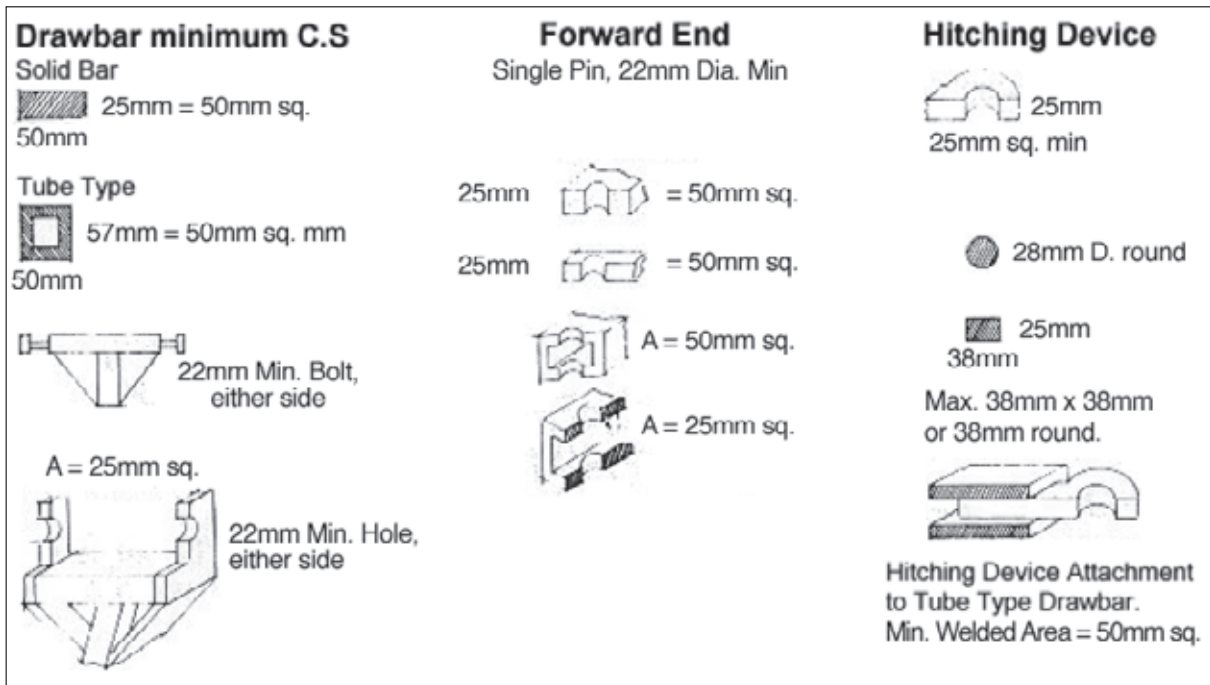
8.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

CLASS	MAX HEIGHT	MIN LENGTH
Open / Outlaw Mini	330mm	150mm

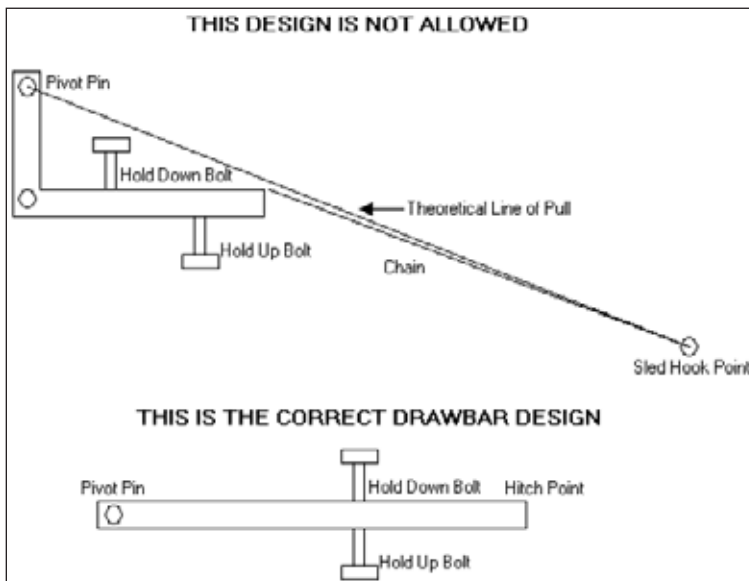
8.5.2 Diagram One: Drawbar Materials & Size



RULES FOR OPEN MINI MODIFIED TRACTORS 8 & OUTLAW MINI MODIFIED TRACTORS



8.5.3 Diagram Two: Drawbar Design



- Minimum length is 150mm from centre of back axle to the hitch point
- Drawbar and hitching device to be one piece construction with a minimum of 25mm solid steel material, or equivalent cross section.
- Front part of drawbar to have a minimum of 12mm cross sectional thickness remaining in front of the hole drilled through the drawbar.
- Minimum of 12mm bolt (Minimum Grade 5)
- Drawbar must be equipped with a hitching device not more than 19mm thick and must have a minimum of a 50mm round hole (maximum 56mm)
- Pulling point may not be more than 19mm from back edge of hitching device with a cross-sectional area of 19mm square steel or equivalent.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbar supports to be securely attached to tractor frame.
- Drawbar tongue must be able to slide free of tractor, in the event of adjustment device breakage.

8.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. This device is to have wheels or a skid plate. Wheels are to be at least 25mm wide and 125mm in diameter.
4. Skid pads to be at least 75mm x 75mm at the ground contact point. Wheels or skid pads must be no less than 125mm of the centre, behind the plumb line of the rear of the rear tyres and not more than 125mm above the ground.
5. One skid pad or wheel is to be on each side of tractor.

8.7 Roll Cages

Roll Cage Construction (Minimum Specifications)

8.7.1 Driver Roll Cage for Super Mini Modified Tractors:

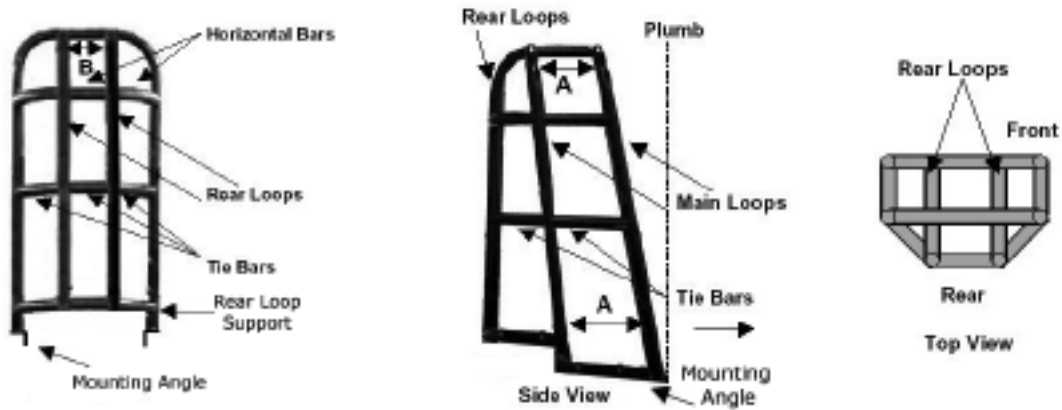


Figure A.

Figure B.

Figure C.

1. Structural Material:

- a. Chrome molybdenum seamless steel tubing: 1.65mm minimum wall thickness and 38mm minimum tube diameter,

OR

- b. TDW Seamless steel tubing 2.59mm minimum wall thickness and 44mm minimum tube diameter.
- c. Angle at base to attach roll cage to be minimum of 50mm x 50mm x 5 mm in section.

2. Two main vertical loops (side to side)
3. Two vertical loops (off top of main loops)
4. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)
5. Front main vertical loop of the roll cage is to positioned such that when the driver is strapped in the driver's seat the body is within the roll cage, only arms and legs may protrude.
6. If the front vertical loop exceeds 940mm measured between the top of the chassis and the top of the roll cage (outside) then two (2) horizontal loops are required, one to be fitted at shoulder height and the second to be evenly spaced between the top horizontal loop and the top of the mini tractor chassis. If the front vertical loop measures less than 940mm as described above, only one (1) horizontal loop is required at shoulder height.
7. The two (2) rear loops must be attached to the rear loop support tube which is attached to the lower portion of the rear vertical loop (refer to diagram).
8. The seat frame must be attached to the roll cage structure, harness, mud guards and seat mount points are to be attached to tags or plates welded to the roll cage. The harness must not be attached to the mini tractor chassis. In the event that the roll cage breaks away from the chassis (bolt type), the seat and harness must be part of the roll cage and detach as one unit. For bolt on roll cages **NO** ballast is to be attached to the roll cage.

8.7.1.1 Roll Cage Mounting to Mini Tractor Chassis

- Fastener Diameter – 12mm Grade 8 UNC as a minimum
- Grade must be clearly visible on head of bolt
- Number of fasteners on each side of mounting angle is to be a minimum of five (5) per side.

RULES FOR OPEN MINI MODIFIED TRACTORS 8 & OUTLAW MINI MODIFIED TRACTORS

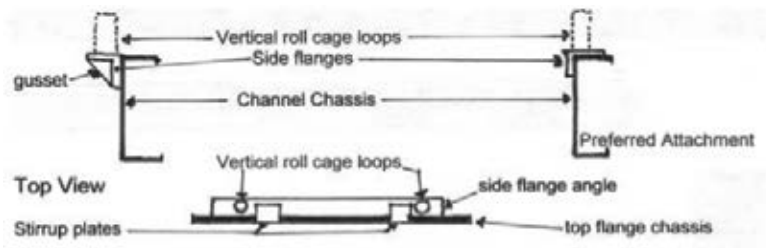


87.1.1.1 OPTION 1 - Removable

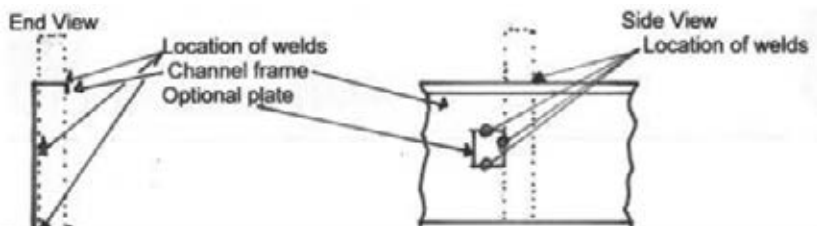
Using an outside angle mount to the chassis rail where the thickness of the rail is less than 4mm requires a plate of 3mm thick, with an area of 50mm square, on the inside of the chassis rail. Bolt holes in the plate may be off-centre to fit the chassis.

An angle gusset must be welded to the underside of the angle directly below the ends of the main vertical loops (see diagram below). Gussets are to be a minimum of 4mm thick and welded on both sides.

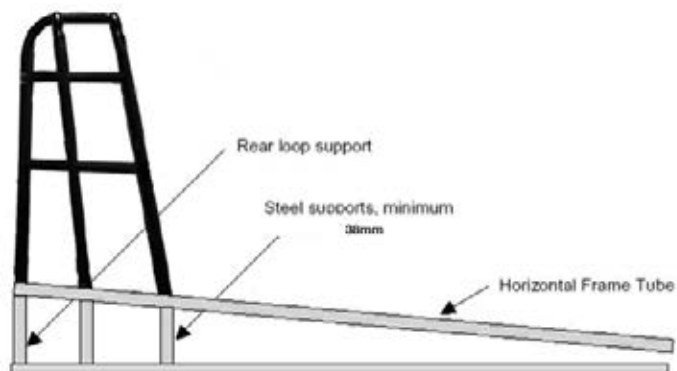
Two stirrups 50 x 50 x 5mm plate to be welded to the top side of angle (2 per side) and protrude at least 25mm over the vertical of the angle to form a 'T' when viewed from the end of the angle (see diagram).



8.7.1.1.2 OPTION 2 – Permanent



8.7.1.1.3 OPTION 3 – Permanent attachment to Chassis



The following profiles are acceptable for Main Loops (side-to-side);



Tube diameter MUST NOT be reduced or flattened at intersection of join must be notched and mated (see diagram).



Note: All structural (T.I.G) welds on roll cage must be carried out by competent welder skilled in operation of T.I.G equipment, appropriate filler wire must be used in all welds. No holes are permitted to be drilled in roll cage except for weld (venting).

8.8 Driver's Seats & Wheel Fenders

1. All mini tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
2. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.
3. All seats must have a substantial backrest no more than 50mm behind rear of seat. The backrest must be made of 12mm cross section steel or material equal in strength with a minimum 100mm wide and 150mm long pad firmly attached.

OR

A manufactured seat equalled in strength. The back of the seat shall have a steel plate of not less than 16g steel being not less than 300mm wide and 450mm high.

4. Fenders are to consist of barrier between driver and the tyre. Fenders are to be a minimum of 25mm over height of tyre, fender to curl 100mm horizontally from vertical edge over the tyre, in the same configuration as the tyre. Minimum length of 450mm at the top of the fender.

8.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (**Refer to Appendix D**)

RULES FOR OPEN MINI MODIFIED TRACTORS 8 & OUTLAW MINI MODIFIED TRACTORS



8.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- 35 psi cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. Wheel studs must protrude the distance equal to the stud diameter past the outside face of the wheel nut when the wheel is fitted to the hub or axle flange.
2. The tractor pull contest is open to pulling tractors with rubber tyres.
3. No dual tyres, tyre studs, or chains permitted.
4. All power must be transmitted through the wheels.
5. Positive mechanical means of retaining the rear wheels in the event of axle or wheel stud(s) breakage. The wheel retainers cover more than 50% of the axle circle and must prevent the wheel leaving the tractor in any direction.
6. Tyres are limited to 18" rim width and 16.1" rim diameter.
7. Maximum width of lugs to be no wider than that of factory manufactured 18.4" x 16.1" tyres.

8.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. **The hook must not extend more than 150mm beyond the foremost point of the tractor.**
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

8.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

8.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.

3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.
5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. Two return springs per carburettor.
8. All injection or butterfly shafts on engines must have dual return-to-idle arms and springs. Each metering block is also to have a separate return-to-idle arm and spring.
9. All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm.
10. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and throttle shaft arm(s) on injection or butterfly shafts.

8.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - b. 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.
 - c. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
 - d. The kill switch will be in the rear centre (maximum of 75mm off centre in either direction), 787mm above the ground.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All diesel and fuel injected ignition engines must have a fuel shut off valve control within easy reach of the driver.
4. All diesel engines will be equipped with an emergency shutdown air shut off at the air intake, which can be utilised from the tractor seat.
5. All Open / Outlaw mini modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.
6. Tractors fitted with a jet turbine or other high kinetic energy are required to supply a chain attached to the chassis and of sufficient length to attach to the sled pan and that sleds have provision for attachment. The chain is to be of sufficient strength to stop a tractor in a jerk breakaway situation

RULES FOR OPEN MINI MODIFIED TRACTORS

8 & OUTLAW MINI MODIFIED TRACTORS



8.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Starter motors and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.
 - a. No turbine engine will be operated beyond military temperature and RPM limits.
 - b. All turbine air intakes shall be screened with metal screen having openings no larger than 4mm..
 - c. All turbine engines must have a 360 degree cover, extending from the location of the turbine wheel for a minimum distance of 250mm in the direction of gas flow. Shield must be made of 10mm steel with all joints securely fastened.
 - d. All turbine engines with horsepower in excess of 1500 horsepower (Government Rating) shall have 12mm stainless steel shrouding around the turbine wheel(s).
 - e. Exhaust stack diameter to be no smaller than 25mm of engine outlet.

8.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer.

The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

8.17 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.

2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

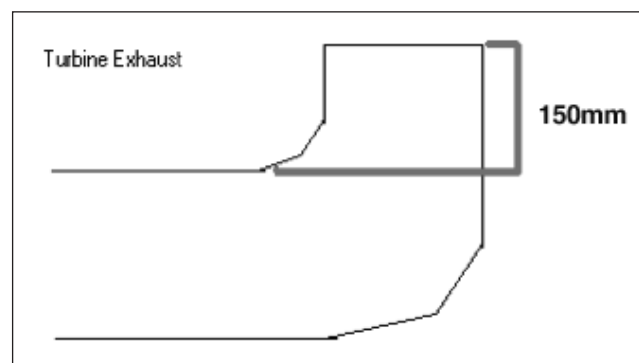
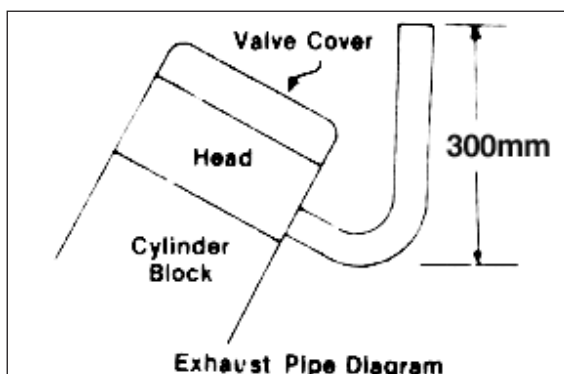
8.18 Automotive Engines

1. All Open / Outlaw mini modified tractors using automotive engines must have flywheels, clutches and related components mounted to engine (or block plate).
2. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

8.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.
7. Turbocharged engines must have two 10mm (Grade 5) bolts in vertical portion of exhaust pipes. Bolts are to be installed at 90 degrees to each other, within 25mm of each other.

8.19.1 Diagram Three: Exhaust Pipe Design



8.20 Superchargers & Turbochargers

1. All turbochargers and centrifugal belt driven superchargers not bolted to the intake manifold, that are NOT under hood, must be completely shrouded, except for inlet and exhaust pipes, with steel 1.5mm or thicker.

RULES FOR OPEN MINI MODIFIED TRACTORS 8 & OUTLAW MINI MODIFIED TRACTORS



2. All supercharger drive components must be shrouded on the top and sides with 1.5mm steel, the shield to be wider than the drive belt or chain and securely mounted.
3. All Centrifugal superchargers must be shielded with 10mm steel on the top sides, 150mm side fastened securely with grade 8 or better 10mm bolts every 50mm where fastened.
4. All superchargers to be mounted to the intake manifold using aluminium studs.

NO STEEL STUDS ALLOWED

5. A supercharger restraint system is mandatory (and fit for purpose - **Refer to Appendix D**) and shall meet a **minimum of SFI 14.1**, consisting of four separate straps securely fastened to the engine by means of its own attachment bracket. The top attachment bracket to be sandwiched between the lower surface of the injector body and the upper surface of the supercharger case. The bottom attachment bracket for each strap shall be connected to the engine by a minimum of two 10mm bolts or studs, Grade 5 or better. Blower restraints must be in sound condition with no tears, oil stains or signs of fatigue / fraying. If a blower strap has been used (eg. blower has lifted) blower restraints must be replaced before passing scrutineering at the next event. **When over 20% nitro methane is used, you must use an approved SFI 14.3 blanket on blower.**
6. All carburetted or injected Allison, Packard, Rolls Royce, Industrial or Marine engines using a centrifugal supercharger must be shielded.
 - Shielding will be same on each side of supercharger.
 - Shield to start at the centre line of supercharger housing and extend 125mm rearward, only allowing notching to fit around accessory components.
 - Shield to extend 200mm forward of centre line of blower housing and notched only for accessory components (such as air boxes).
 - On the front edge of the shield there will be a rolled lip extending inward 25mm. Shields will be 10mm steel bolted every 50mm or closer, 10mm bolts or larger, Grade 5 or better.
 - Shield to start at bottom of blower housing, up the side, over the top and down the other side to bottom of blower housing.
 - Holes or notches allowed only for accessory components.
 - The Shield must maintain its integrity.
7. On all pulling tractors the tubing on the pressure side of a turbocharger to the intake must be under the hood, side shields, be bolted and / or strapped securely.

8.21 Clutches Flywheels and Automatic Transmissions

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Open / Outlaw Mini Modified Tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **SFI APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' or SFI approved shifter.
4. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1 or SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

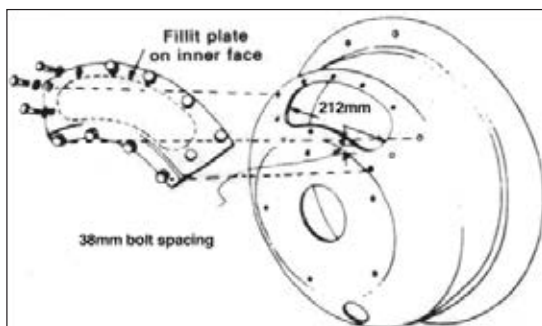
5. A signed affidavit (and proof of purchase) must be provided to the **Down Under Modified Tractor Pulling Association**, upon request, stating that the proper clutch and flywheel components are installed.

6. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
8. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
9. Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per SFI specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

8.22 Bell Housings

1. Bell housing must originally be purchased and installed as SFI 6.2 bell housing with sticker visible for inspection.
2. The inspection / maintenance hole (i/m) in the bell housing shall not extend further forward at its top edge than flush with the cross shaft hole, or further down ward at its bottom edge than 12mm from the fastening bolts in both the bell housing, the i/m cover and the vertical surface at the rear of the bell housing.

8.22.1 Diagram Four: Bell Housing



3. The length of the inspection hole shall be no more than 212mm measured in a straight line. The ends of the hole shall be smooth and fully radiused to produce an oval shape.
4. The bell housing cover:
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
 - c. The Cover and fillet must be steel.
 - d. The fillet must be welded to the cover.
 - e. All bolts must be flush on the inside.
5. There must be a minimum of six bolts (10mm diameter minimum) used to secure the transmission to the bell housing.
6. All automotive type engines with bell housings and clutch will run a full block plate, which can be either a commercially produced unit or 5mm steel with six 10mm diameter bolts evenly spaced on the bottom of the bell housing.

RULES FOR OPEN MINI MODIFIED TRACTORS

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7. SFI certified bell housings with Crower stand adjustment slots are acceptable.
8. Block saver plate must have no additional holes.
 - a. Add four additional bolts to fasten bell housing to block saver plate.
 - b. These bolts are to be 10mm (grade 5) and be between existing bolts on top half of bell housing, along with six evenly spaced bolts between block saver and bell housing on lower half.
9. No lightening holes allowed on the transmission face of the bell housing, one cooling hole allowed, maximum 25mm in diameter on the face of bell housing.
10. No chemical milling.
11. Bell housings with lightening holes on the transmission face MAY NOT be welded up and reused.
12. Clutch maintenance holes MAY NOT be welded up if the original hole in the housing was over 266mm in length or 85mm wide. All bell housings must be flush on the inside surface face.

8.22.2 Aviation, Marine & Industrial Engines

The following items provide specifications for different clutch applications on aviation, marine and industrial engines.

8.22.2.1 Clutch Application One

1. On aviation, marine and industrial engines in tractor pulling applications where a gear box is used between the engine crankshaft and the clutch, the gear box output shaft **must not exceed** one and one half times (1.5:1) the speed of the crankshaft.
2. No torque converters are allowed behind the gearbox.
3. The shaft that accepts the flywheel must be made of solid billet steel and of 56mm minimum diameter, to be heat treated 4140 steel, 30 to 38 Rockwell.
4. All clutch assemblies used in this application must be **SFI** approved.
5. Clutches are limited to a maximum diameter of 279mm.
6. Bell housing to be bolted to a 6mm steel plate or greater with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around bell housing. The 6mm plate to which the bell housing is bolted must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.
7. The gearbox must be securely fastened to the frame by a 10mm steel plate, or securely attached to the rear of the engine. The gearbox will be mounted and secured to the tractor sub frame in such a manner to withstand lifting the entire tractor weighted for the lightest class it can legally enter.
8. The gearbox must be constructed of 10mm steel or 19mm aluminium or greater. Owners of tractors using this type of arrangement **MUST** provide scrutineering panel with **POSITIVE PROOF** of gear box speed.

ANY ALTERATIONS MUST BE DOWNUNDER MODIFIED TRACTOR PULLING SCRUTINEERING PANEL APPROVED

8.22.2.2 Clutch Application Two

1. On aviation, marine and industrial engines in pulling tractor applications with the clutch mounted on the crankshaft or on a shaft connected to the crankshaft, the shaft or adaptor which accepts the flywheel must be made of solid billet steel, and of 56mm minimum diameter, to be heat treated (4140) steel, 30 to 38 Rockwell.

ALL CLUTCH ASSEMBLIES USED IN THIS APPLICATION MUST BE SFI APPROVED

2. The diameter is limited to 279mm.
3. Bell housing to be bolted to an engine plate with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around the bell housing.

4. Engine plate to be 6mm steel plate or greater, or 10mm aluminium plate or greater.
5. The plate to which the bell housing is bolted must be securely fastened to the engine or frame by at least eight 10mm (Grade 5) bolts. Four on each side of the frame.
6. If using a single rail design, the 6mm plate on the front of the bell housing must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.

8.22.2.3 Clutch Application Three

1. On aviation, marine and industrial engines used in tractor pulling applications with clutch or torque converter mounted on crankshaft.
2. All clutch components shall be required to have all steel, aluminium or ductile iron components, and be **SFI** approved.
3. Maximum diameter to be 356mm.

POSITIVELY NO GREY CAST IRON

4. Tractor shall be required to have entire clutch or torque converter area enclosed, front and rear, 360 degree coverage, with 10mm minimum thickness steel, 12mm distance from rotating mass, maximum centring on rotating mass.
5. Entire shield to be covered with **SFI** approved scatter blanket, 360 degrees.
6. Blanket to centre on rotating mass, minimum 300mm wide, and cover the clutch and all components.

8.22.3 Turbine Engines

Any turbine engine that exceeds 8,000 rpm on the output shaft shall not be allowed to use a clutch / flywheel assembly, or an automatic transmission.

8.23 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 3mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose. 10mm aluminium with 3mm steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. A differential scatter shield of at least 3mm plate is required. This plate must cover the diameter of the crown wheel.
6. All tractors with planetary transmission must be shielded. Minis with Planetary rear axles must shield the transmission with a minimum of 3mm steel or titanium. Shield must cover the full width of the transmission (minus the reverser) top and both sides while open at the bottom in a 'U' shaped over the transmission. Shield not to exceed 25mm air gap between shield and transmission. Shield must be attached at the top

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forward to the engine plate or engine and at the bottom to each side of the chassis.

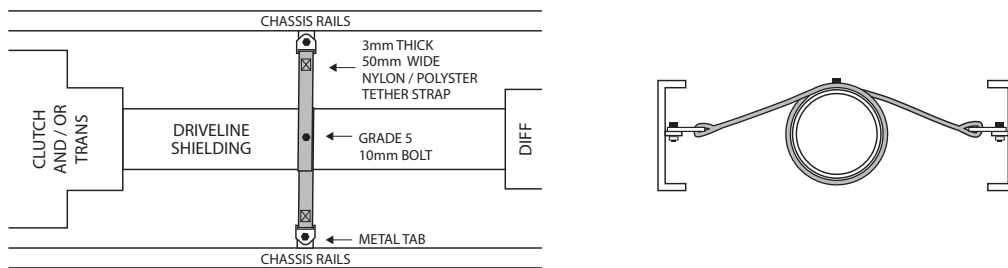
Or be allowed a transmission blanket consisting of 15 layers of Kevlar or 20 layers of ballistic nylon attached in the same fashion

7. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 10mm grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

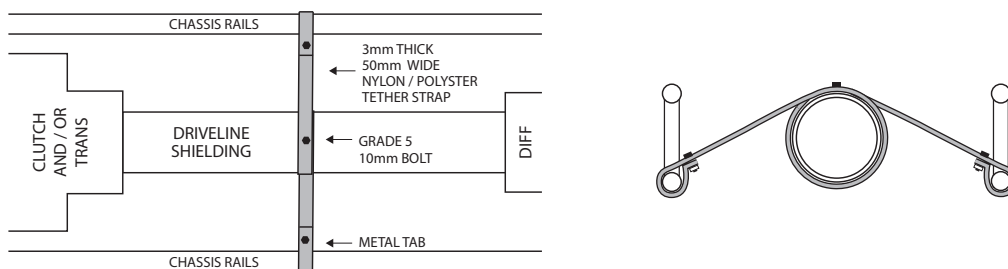
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

8.23.1 Diagram Six: Driveline Shielding Tether

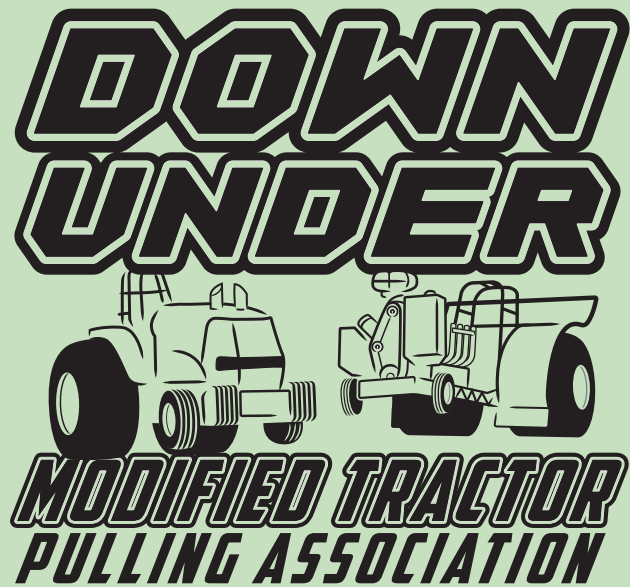
ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS







9. RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS

9 DOWN UNDER MTPA RULES FOR 2WD TRUCKS & 2WD OUTLAW TRUCKS

1. (a) All 2WD trucks are allowed one naturally aspirated v8 automotive engine up to 540ci plus 60 thou, mechanical injection allowed. All race / pump fuels allowed (No Nitro). Alternately can have a forced induction engine up to 410ci plus 60 thou with a maximum blower size of 8/71 and 30% overdrive. (**NO AVGAS** allowed)
- (b) 2WD Outlaw Trucks are all those using any combination of Automotive, Marine, Aircraft or Turbine engines(s) Transmissions and final drives. There is no limit to the capacity, Blowers and turbo charging are permitted. And all fuels allowed (**NO AVGAS**).
2. Weight class is: **2700kg**, including driver, passenger & safety apparel.
3. The maximum length of the truck is to be 4572mm from centre line of rear axle to forward most portion of truck, including weight racks, etc.
4. Maximum width is to be 2440mm wide at its widest point.

NOTE:

- a. All measurements are shown in imperial measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, a larger size must be used.
- d. The following approved safety equipment may be used SFI / FIA.

9.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.

That all fire extinguishers be tagged and tested and in date before tractors are allowed to compete.

2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. (**Refer to Appendix C - SFI / FIA Driving Apparel requirements**).
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. (**Refer to Appendix D - SFI / FIA Selt Belt requirements**).
4. A competent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.
6. All 2WD trucks with an accessible reverse gear are required to have a reverse light. The system must conform to the following:
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



9.2 Legal Fuels

2WD TRUCKS

Legal fuels are Alcohol including methanol, Water, E85 (pump only), 110 octane unleaded race fuel, Diesel, Kerosene, ULP and Premium Unleaded. **(NO AVGAS).**

2WD OUTLAW TRUCKS

Legal fuels are Alcohol including methanol, Water, E85 (pump only), 110 octane unleaded race fuel, Diesel, Kerosene, ULP and Premium Unleaded, 20% Nitro-Methane & Nitrous **(NO AVGAS).**

9.2.1 Fuel Containers / Tanks

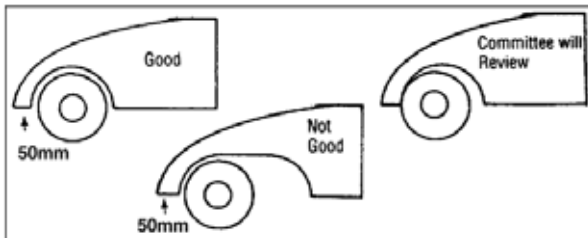
1. Fuel tanks must be located in an open area.
2. No fuel tanks or containers are to be located behind the centre line of the rear axle.

9.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of the blower belt (where fitted) and any moving engine component (alternators, water pumps, harmonic balancers, etc.).

9.3 Body / Chassis

9.3.1 Diagram Five: Bell housing Cover Plate



1. Any wheelbase is permitted.
2. Front wheels and axle to remain centred in front wheel well
3. Any factory production motor body truck or van can be used including passenger cars.
4. Funny car type body and / or fibreglass type body must have escape hatch or doors in top or back of body.
5. Truck must have a presentable van/pickup bed with cover or flatbed in place.
6. Chassis (frame) may be truck frame or fabricated frame like a modified tractor.
7. Truck must have hood grille and fenders in place as intended by the manufacturer.

9.3.1 Truck Appearance

1. Fibreglass scoops, spoilers, fenders, flares are allowed. The 2WD Truck class is allowed to use stock appearing pickup trucks, vans and cars manufactured from fibreglass.
2. Driver must be in original driver's compartment.
3. Side doors must be fitted and closed if truck was manufactured with doors.

4. Truck doors must have a single latch design allowing the door to be opened from both inside and out.
5. Flip top body type trucks, and the trucks that do not have two working doors must have glass lowered or removed while under the green flag.
6. Trucks that have smaller than stock size windows must have an escape hatch with a minimum size of 425mm x 450mm or be large enough for the driver to exit quickly.
7. Air shockers are allowable as long as no lines or controls go to or from them.
8. Trucks must have safety or flexi-glass in front and rear windows.
9. Trucks in this class must have a rear mounted vertical bumper a minimum of 600mm from the ground. The bumper is to extend for a minimum of 200mm vertically and must be rigid.
10. Hood line should be original with speed equipment and exhaust protrusions allowable.
11. All trucks must have a complete firewall (no holes). If the driver compartment is not completely sealed from engine compartment, the driver must have an on-board commercially approved Fire Suppression System with a minimum 3 nozzles, with 2 nozzles pointing at the engine and to suit fuel used. Third / fourth nozzle/s to be placed at the owners discretion, potential ignition sources i.e. battery, wiring, fuel tank etc. or as per the manufactures specifications. Vehicle can only have the amount of nozzles the Fire Suppression System is designed for, i.e. if you want 3 nozzles you buy a 3 nozzles system, if you want 4 nozzles you buy a 4 nozzle system.
12. All trucks shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the truck's weight. Hook to be fitted so as to prevent tow strap falling off.

9.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

9.5 Drawbars

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle

1. Any competing truck which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e.: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up / hold down devices.
2. Drawbars must have the pivot pin in the same plane as the hitch point within 37mm, plus or minus, per 300mm of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
3. Drawbar distance from the centre of the rear axle must not change during a pull.
4. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
5. No portion of truck may interfere with sled or sled hitch during a pull.
6. No 'trick' hitches - no 'cam type' rear ends.
7. Drawbar must be rigid in all directions.
8. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



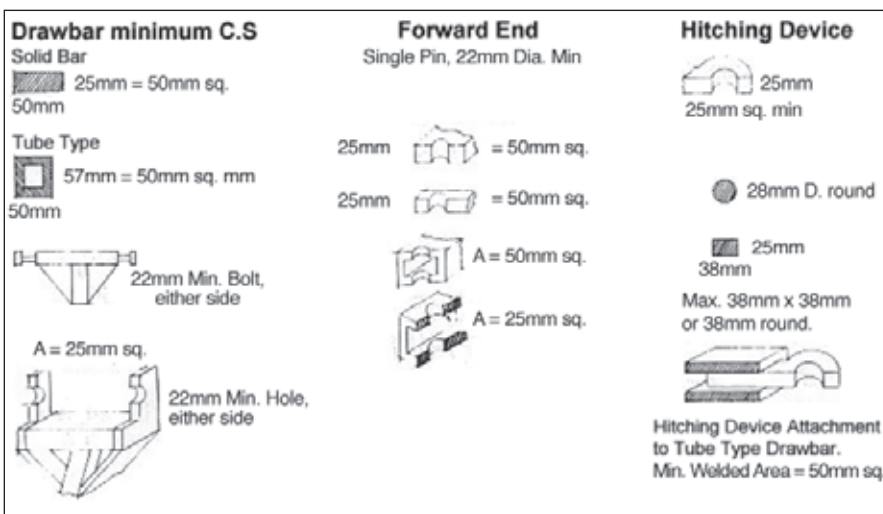
9.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

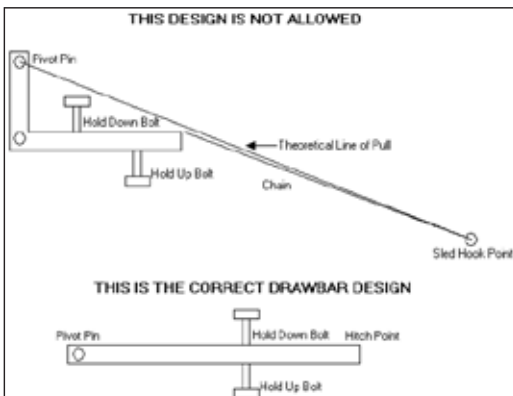
Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

CLASS	MAX HEIGHT	MIN LENGTH
2WD Trucks	750mm	450mm

9.5.2 Diagram One: Drawbar Materials & Size



6.5.3 Diagram Two: Drawbar Design



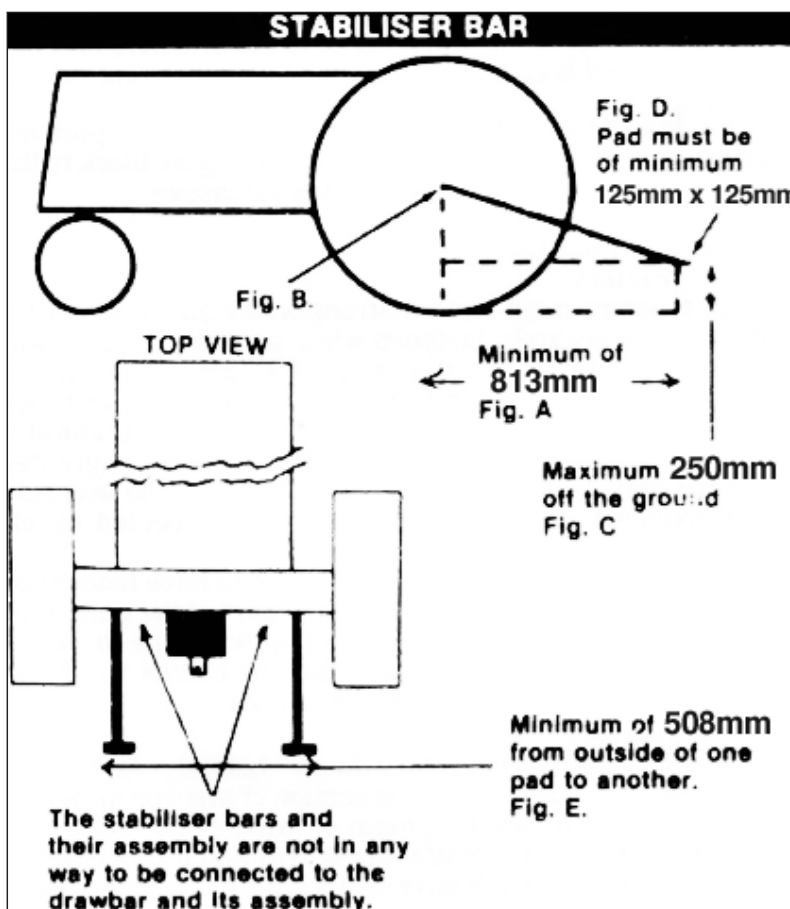
- Minimum drawbar length is 450mm from centre of rear wheel to point of hook, measured horizontally. Maximum length is 36% of wheel base.
- No drawbar pin is to be less than 22mm diameter.
- Drawbar must be equipped with a steel hitching device not more than 25mm thick and with a 75mm diameter opening. Cross-sectional thickness must be 22mm minimum for the entire length of the drawbar. Pulling point may not be more than 38mm from the back edge of hitching device.

9.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the 2WD truck. Jacking up the pads, so 2WD truck is completely off the ground will be a good test.
2. Stabiliser bars are required.

3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. (Refer to diagram)
4. The stabiliser bar will extend a minimum of 813mm behind a line (figure A) drawn from the centre of the wheel (figure B) to the ground. The stabiliser pad must not be more than 250mm off the ground (figure C).
5. The stabiliser pad must be a minimum of 125mm square (figure D).
6. A minimum of 508mm will be allowed from the outside of one to the other (figure E).
7. Wheels are allowed. Wheel size to be a minimum of 150mm diameter, by 125mm wide per wheel. 1 x Wheel must be fitted to each stabiliser bar.

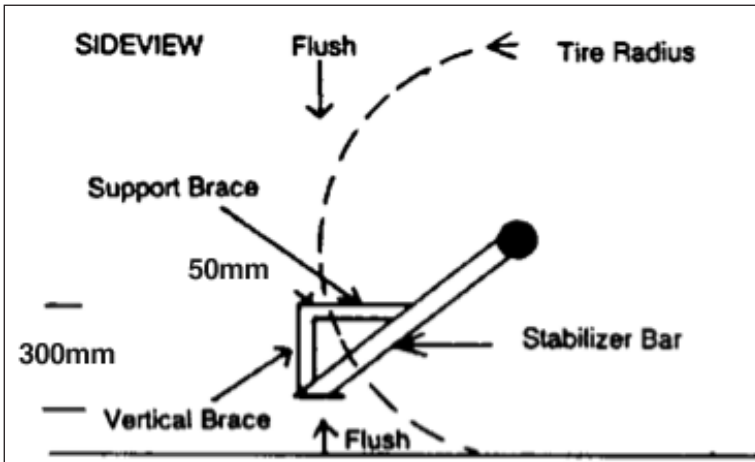
9.6.1 Diagram Four: Stabiliser (Wheelie) Bars



9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



9.6.2 Diagram Five: Stabiliser Design



9.7 Seat Belts / Safety Restraints

All 2WD trucks must have a strong and rigid seat.

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (Refer to Appendix D).

9.8 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- 35 psi cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. The tractor pull contest is open to pulling trucks with rubber tyres.
2. No dual tyres, tyre studs, or chains permitted.
3. All power must be transmitted through the wheels.
4. Tyres are limited to 18" rim width and 16.1" rim diameter.
5. Maximum width of lugs to be no wider than that of factory manufactured 18.4" x 16.1" tyres.
6. Dispensation to 2WD trucks to use 16.1" x 21.1" non puller tyres.

9.9 Tow Hooks

1. Competing trucks are required to have a tow hook on the front of the truck.
2. **The hook must not extend more than 150mm beyond the foremost point of the truck.**
3. The hook will not be included when measuring the length of the truck.
4. The hook is not to be used for any other purpose than towing the truck.
5. The tow hook colour must be in contrast to the colour of the pulling truck.

9.10 Weights (Ballast)

1. All weights must be securely fastened anywhere on the truck.
2. Any ballast lost while hooked to the sled will be cause for disqualification.
3. If weights touch the ground although they may still be attached to the pulling truck, the pull will be disqualified.
4. Weights must not interfere with the operation of the kill switch and drawbar.
5. **Weights are not to exceed forward of 4572mm from the centre line of the rear axle or rearward for more than 300mm from hitching point and must not to interfere with hitching and unhitching of truck.**

9.11 Engines

1. All 2WD trucks with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling trucks must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.
5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. All injection or butterfly shafts on engines must have dual return-to-idle arms and springs.
8. All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and pump throttle arm(s).
9. Two return springs per carburettor.
10. **All engine fans must be shrouded with steel 1.5mm or thicker 360 degrees. (Electric Fans Excluded)**
11. Return springs to be fastened between fixed mounting bracket which is securely attached and throttle shaft arm(s) on injection or butterfly shafts.

9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



9.12 Kill Switches

1. All pulling trucks must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. The kill switch must be located in the rear centre of the truck (maximum of 150mm off centre in all directions) 1200mm above the ground.
 - b. On a spark ignition engine, the kill switch must break or ground the ignition circuit.
 - c. 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.
 - d. On trucks equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - e. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
2. If truck has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, truck can be allowed to re-pull at the Clerk of the Course's discretion.
3. All diesel and fuel injected ignition engines must have a fuel shut off valve control within easy reach of the driver.
4. All diesel engines will be equipped with an emergency shutdown air shut off at the air intake, which can be utilised from the truck seat.
5. All 2WD trucks will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.

9.13 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Shielding on all in line engines will be from sheet metal (hood) to 50mm below bottom centre of crankshaft throw, and be securely fastened.
5. Starter motors and fuel injection pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
6. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
7. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.

9.14 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

9.15 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.
2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance, or,
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

9.15 Automotive Engines

1. 2WD Trucks must use a SFI approved bell housing or a 10mm thick steel safety shield. It must be a ONE PIECE 360 degree circle, separately constructed from the chassis and securely attached to the truck, starting 25mm ahead of the flywheel or against the engine block and be a minimum of 150mm wide. The shield must not be over 75mm away from the flywheel at any point and must be fully enclosed except for clutch control mechanism. The shield is to be bolted together with three 12mm bolts (grade 5 or better) at each seam, or butt and seam welded, or if unable to comply with this requirement an SFI scatter blanket is to be used.
2. All pulling trucks using automotive engines must have flywheels, clutches, and related components mounted to engine (or block plate).
3. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

9.16 Exhaust Systems

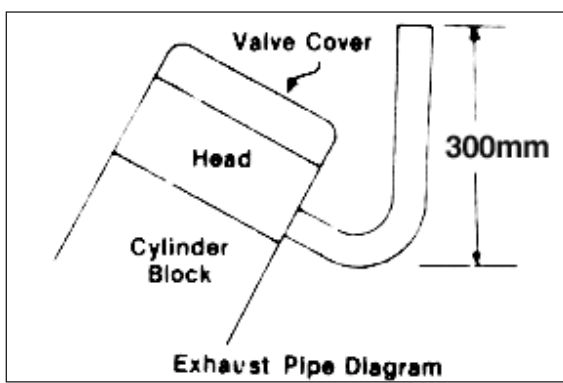
1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.

9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.
7. Turbocharged engines must have two 12mm (Grade 5) bolts in vertical portion of exhaust pipes. Bolts are to be installed at 90 degrees to each other, within 25mm of each other.

9.16.1 Diagram Six: Exhaust Pipe Design



9.17 Superchargers & Turbochargers

1. All turbochargers and centrifugal belt driven superchargers not bolted to the intake manifold, that are NOT under hood, must be completely shrouded, except for inlet and exhaust pipes, with steel 1.5mm or thicker.
2. All supercharger drive components must be shrouded on the top and sides with 1.5mm steel, the shield to be wider than the drive belt or chain and securely mounted.
3. All Centrifugal superchargers must be shielded with 10mm steel on the top sides, 150mm side fastened securely with grade 8 or better 10mm bolts every 50mm where fastened.
4. All superchargers to be mounted to the intake manifold using aluminium studs.

NO STEEL STUDS ALLOWED

5. A supercharger restraint system is mandatory (and fit for purpose - Refer to Appendix D) and shall meet a **minimum of SFI 14.1**, consisting of four separate straps securely fastened to the engine by means of its own attachment bracket. The top attachment bracket to be sandwiched between the lower surface of the injector body and the upper surface of the supercharger case. The bottom attachment bracket for each strap shall be connected to the engine by a minimum of two 10mm bolts or studs, Grade 5 or better. Blower restraints must be in sound condition with no tears, oil stains or signs of fatigue / fraying. If a blower strap has been used (eg. blower has lifted) blower restraints must be replaced before passing scrutineering at the next event. **When over 20% nitro methane is used, you must use an approved SFI 14.3 blanket on blower.**

On all 2WD trucks the tubing on the pressure side of a turbocharger to the intake must be under the hood, side shields, be bolted and / or strapped securely.

9.18 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All 2WD Trucks using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **SFI APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All 2WD Trucks fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse “lock out” SFI approved shifter.
4. All trucks using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

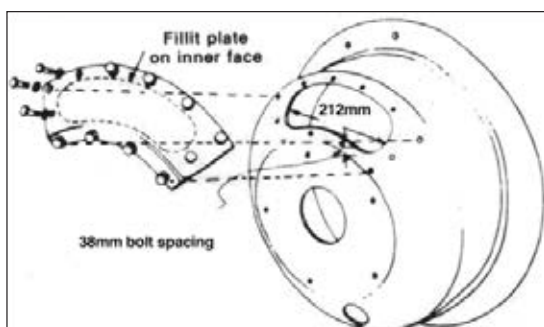
5. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA SCRUTINEERING PANEL**, upon request, stating that the proper clutch and flywheel components are installed.
6. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
8. All Lenco type planetary transmissions must be covered with an approved scatter blanket.
9. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
10. Trucks are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **SFI** specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

9.19 Bell Housings

1. Bell housing must originally be purchased and installed as SFI 6.2 bell housing with sticker visible for inspection.
2. The inspection / maintenance hole (i/m) in the bell housing shall not extend further forward at its top edge than flush with the cross shaft hole, or further down ward at its bottom edge than 50mm from the fastening bolts in both the bell housing, the i/m cover and the vertical surface at the rear of the bell housing.

9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS

9.19.1 Diagram Seven: Bell Housing



3. The length of the inspection hole shall be no more than 212mm measured in a straight line. The ends of the hole shall be smooth and fully radiused to produce an oval shape.
4. The bell housing cover:
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
 - c. The cover and fillet must be steel.
 - d. The fillet must be welded to the cover.
 - e. All bolts must be flush on the inside.
5. 2WD trucks may have a minimum of four bolts (12mm minimum) used to secure the transmission to the bell housing.
6. All automotive type engines with bell housings and clutch will run a full block plate, which can be either a commercially produced unit or 4mm steel with six 10mm diameter bolts evenly spaced on the bottom of the bell housing.
7. SFI certified bell housings with Crower stand adjustment slots are acceptable.
8. Block saver plate must have no additional holes.
 - a. Add four additional bolts to fasten bell housing to block saver plate.
 - b. These bolts are to be 10mm (grade 5) and be between existing bolts on top half of bell housing, along with six evenly spaced bolts between block saver and bell housing on lower half.
9. No lightening holes allowed on the transmission face of the bell housing, one cooling hole allowed, maximum 25mm in diameter on the face of bell housing.
10. No chemical milling.
11. Bell housings with lightening holes on the transmission face MAY NOT be welded up and reused.
12. Clutch maintenance holes MAY NOT be welded up if the original hole in the housing was over 262mm in length or 87mm wide. All bell housings must be flush on the inside surface face.

9.20 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 3mm steel or greater.
2. All remaining drive train, excluding any additional manual transmissions, must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and is securely mounted to truck frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose.

3. 2WD truck with exposed drive shaft. No more than 6mm of drive line shall be visible with drive line shielding in place.

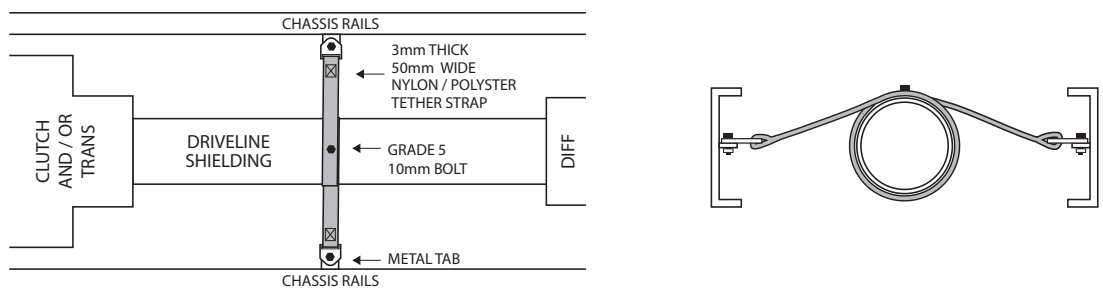
NOTE: If 'U' joints are used in any drive shaft application, the shielding must be 8mm steel or 10mm aluminium with 3mm steel insert in the aluminium. The insert must be 150mm wide and over the 'U' joint.

4. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 10mm grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

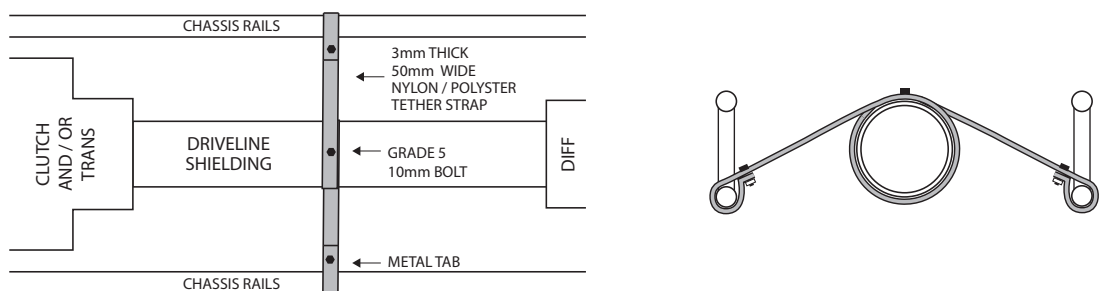
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

9.20.1 Diagram Nine: Driveline Tether

ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS



9 RULES FOR 2WD TRUCKS & OUTLAW 2WD TRUCKS



9.20.2.1 If planetary rear end is NOT used

1. All trucks must have three metal loops shielding on each drive shaft (two piece drive shaft will have six metal loops).
 - a. 360 degree loop must be a minimum of 8mm thick, 19mm wide (or larger) and no more than 50mm from the shaft in any direction.
 - b. End loops to be placed not more than 150mm from universal joints, with third loop in centre of shaft.
 - c. May use a solid tube (10mm sidewall thickness) meeting the above requirements

9.20.2.2 With planetary rear end

1. If planetary reduction hubs are used the following shielding criteria will apply.

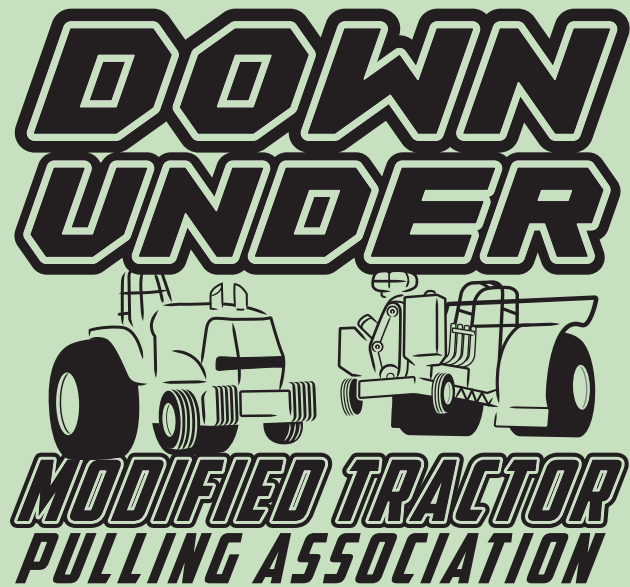
NO CAST METAL

- a. All remaining drive train, excluding additional manual transmission, must be enclosed in 8mm minimum steel or 10mm aluminium, round in profile, with a diameter not exceeding 50mm more than the diameter of the largest universal joint. To be fastened every 150mm or less with 10mm or larger bolts, or butt and seam welded, and securely mounted to the trucks frame.

This applies to all trucks with exposed drive shafts.

Not more than 6mm of driveline should be visible with the shielding in place.

2. Axle and hub bolt shield required, except where planetary final drives are used.
 - a. To be a minimum 1.5mm thick.
 - b. Minimum diameter of axle end or hub bolts to be covered on rear axles.
 - c. Mounting shield cannot be mounted to axle end or to the hub bolts.
 - d. A hole may be installed in centre of front shield so lock can be operated, so long as hub end or axle bolts are covered.
3. No counter balancers permitted on drivelines.



10. RULES FOR LIMITED MODIFIED TRACTORS

10 DOWN UNDER MTPA RULES FOR LIMITED MODIFIED TRACTORS

1. Limited Modified Tractors are those using engine(s) up to a maximum capacity of 375 cubic inch.
2. The engine may employ a roller camshaft and be naturally Aspirated with a maximum of one venturi per cylinder (i.e: dual 4 barrel carburetors are allowed), no blowers or turbo charging. All engines are limited to two valves, one spark plug per cylinder.
3. All LS series engines must use OEM cylinder heads and thermoplastic inlet manifolds with either one of the following casting numbers showing.
 - #12590123
 - #12573572
 - #12590124
 - #88894339
 - #12589181
 - #12602477

Must use factory electronic fuel injection and fuel injection system and fuel injectors.

4. Weight class is: **3400kg**, including driver & safety apparel.
5. No portion of a limited modified tractor may exceed 4267mm forward of the centre of the rear wheel, including removable ballast.
6. Maximum width of vehicle is to be 2440mm at its widest point including ballast.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, a larger size must be used.
- d. The following approved safety equipment may be used SFI / FIA.

10.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.

That all fire extinguishers be tagged and tested and in date before tractors are allowed to compete.

2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. (**Refer to Appendix C - SFI / FIA Driving Apparel requirements**).
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. (**Refer to Appendix D - SFI / FIA Selt Belt requirements**).
4. A qualified driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.

10 RULES FOR LIMITED MODIFIED TRACTORS

6. All Limited Modified Tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following:
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor. Also a white light on both sides of the tractor that is visible in day light at 4 metres from the rear side of the tractor, it must be behind the centre of the rear axle.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

10.2 Legal Fuels

Legal fuels are restricted to Unleaded Petrol, Premium (ULP), E85 (pump only) and up to 105 octane unleaded race fuel, upper cylinder lube may be added but no performance additives. **(NO AVGAS)**.

10.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.

10.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc.) component (alternators, water pumps, harmonic balancers, etc).

10.3 Chassis

1. Limited Modified tractors with frame bolted to transmission shall also be bolted to axle housing to prevent splitting of tractor. Must be of sufficient strength to support the weight of the tractor in the heaviest class being entered with bolts removed from plate of transmission or rear end.
2. All tractors shall have wide front axles. Front wheels shall track within the rear wheels.
3. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractor's weight. Hook to be fitted so as to prevent tow strap falling off.

10.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

10.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle.

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up / hold down devices.

3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, 300mm of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

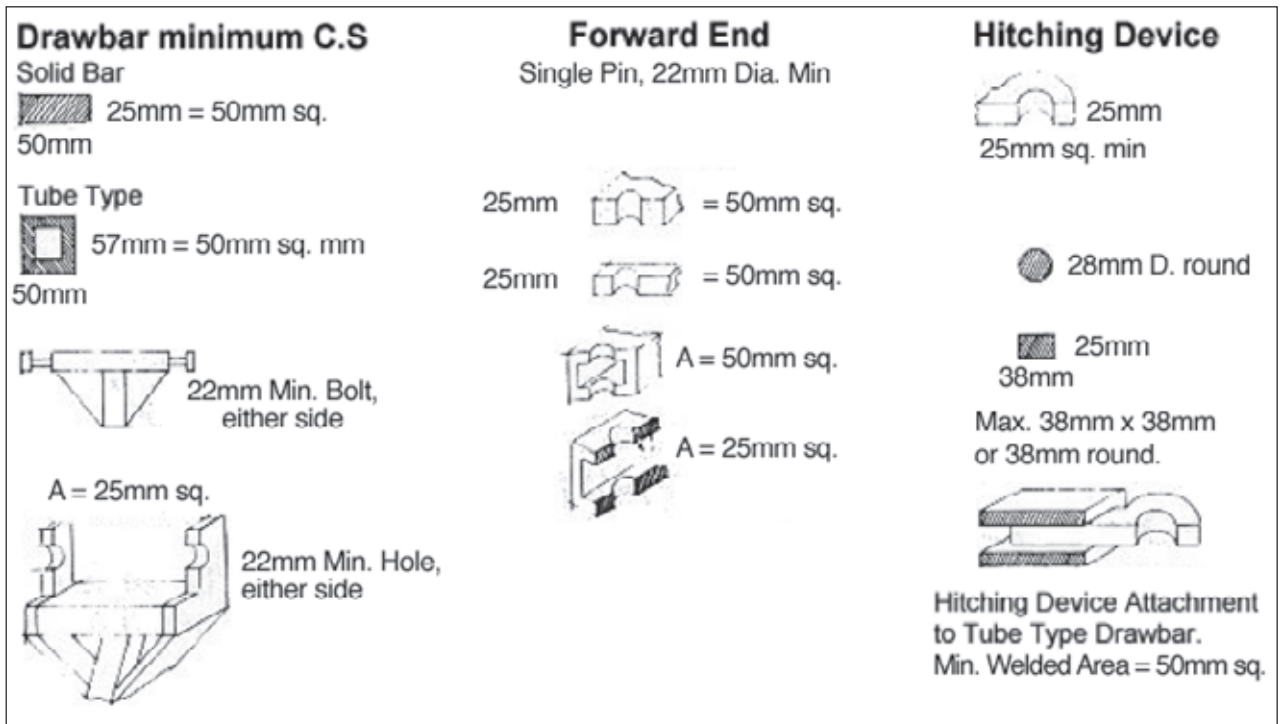
10.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

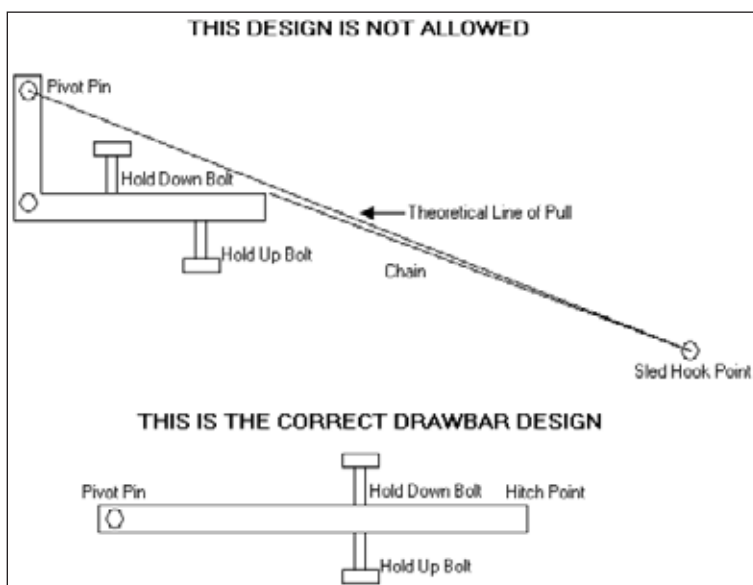
CLASS	MAX HEIGHT	MIN LENGTH
Limited Modifieds	508mm	450mm

10.5.2 Diagram One: Drawbar Materials & Size



10.5.3 Diagram Two: Drawbar Design

10 RULES FOR LIMITED MODIFIED TRACTORS

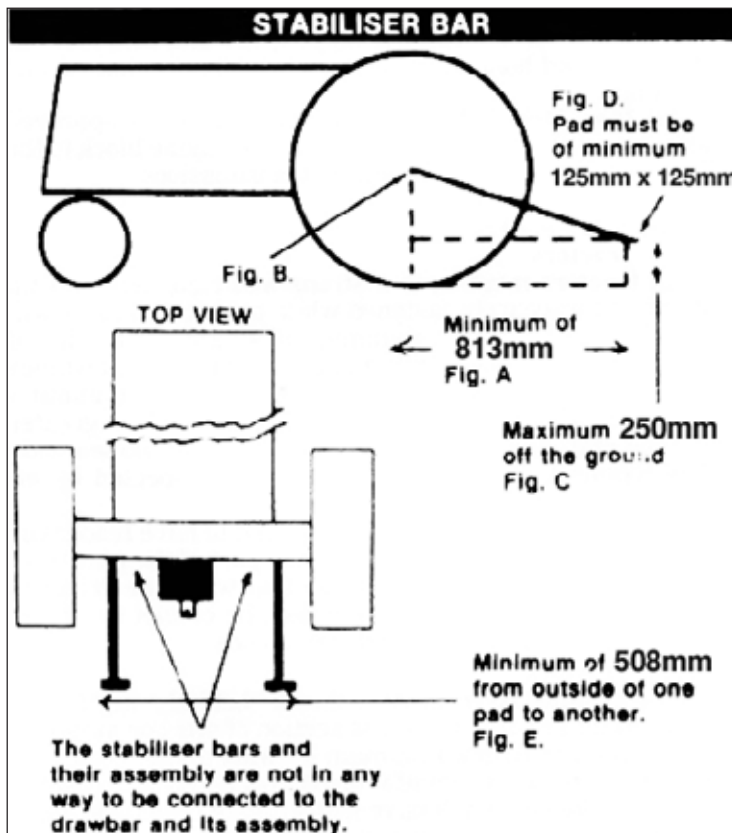


- Drawbar must be a minimum of 50mm x 50mm in total material (steel) at any point. This includes the area of the pin with the pin removed.
- No drawbar pin is to be less than 22mm diameter.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbars must be equipped with a steel hitching device not more than 37mm x 37mm square (37mm round stock) nor less than 50mm x 50mm square (28.5mm round stock) with a 75mm round hole (maximum of 87mm round hole).

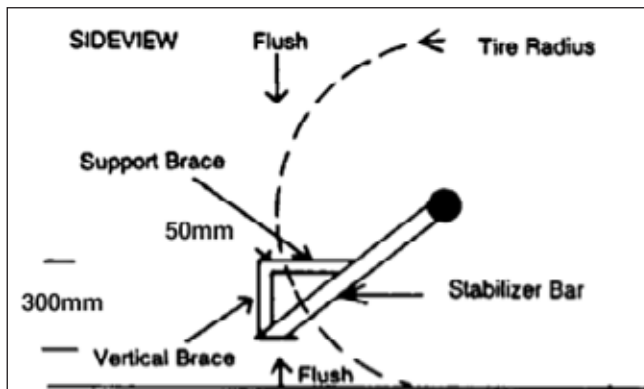
10.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. (Refer to Diagram Three below)
4. The stabiliser bar will extend a minimum of 813mm behind a line (Figure A) drawn from the centre of the wheel (Figure B) to the ground. The stabiliser pad must not be more than 250mm off the ground (Figure C).
5. The stabiliser pad must be a minimum of 125mm x 125mm (Figure D).
6. A minimum of 508mm will be allowed from the outside of one pad to the other (Figure E).

10.6.1 Diagram Three: Stabiliser (Wheelie) Bars



10.6.2 Diagram Four: Stabiliser Design



10 RULES FOR LIMITED MODIFIED TRACTORS

10.7 Roll Cages

Driver Roll Cage

10.7.1 Driver Roll Cage for Limited Modified Tractors:



Figure A.

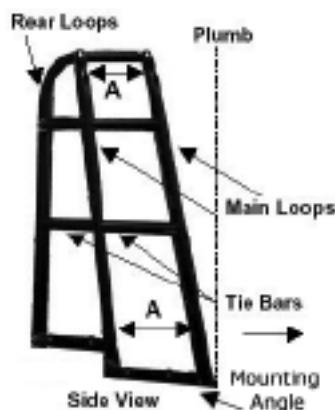


Figure B.

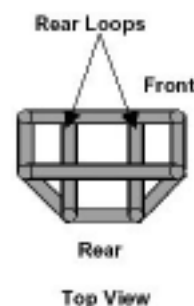


Figure C.

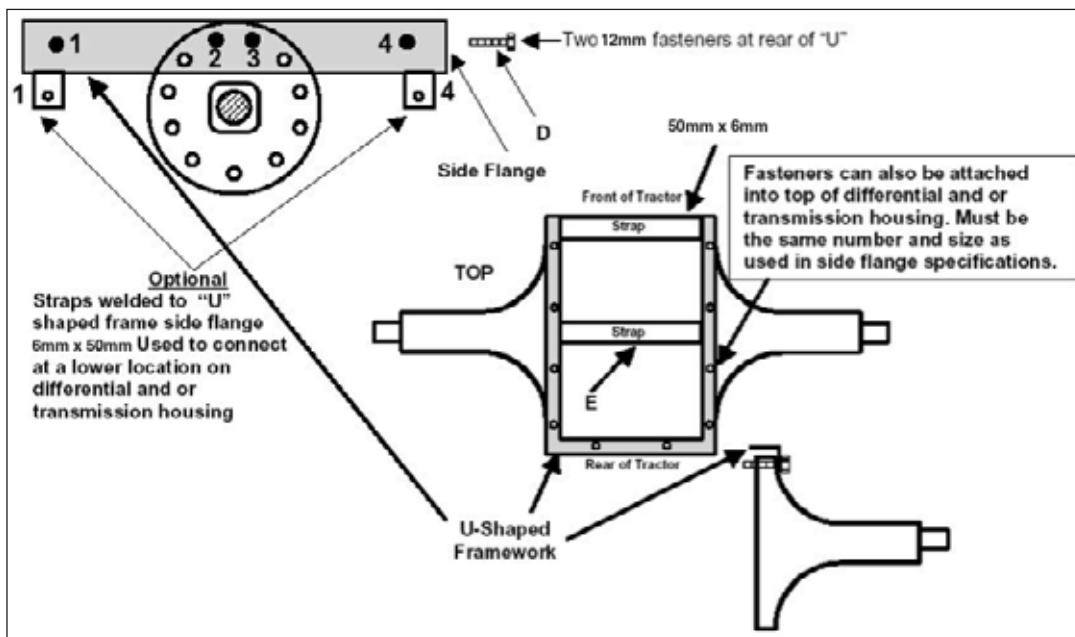
1. Structural Material:
 - a. Chrome molybdenum seamless steel tubing: 2.4mm minimum wall thickness and 50mm minimum tube diameter
 - b. Carbon mechanical seamless tubing (mild steel) or (DOM): 3mm minimum wall thickness and 50mm minimum tube diameter.
2. Six-point connection at differential housing using following options: 'U' flange, tube chassis, or channel chassis.
3. Two main vertical loops (side to side)
4. Two rear vertical loops (off top of main loops)
5. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)
6. Main vertical loop spacing at top is 200mm minimum to 350mm maximum (centre to centre) Fig. A
7. Main vertical loops must be no more than 10-degrees from plumb (forward or backwards)
8. Rear loop spacing at top and bottom is 200mm minimum (centre to centre) Fig. B
9. Maximum width of main vertical loops is 860mm (inside to inside) Fig. C
10. Horizontal bars, minimum of two on top, minimum of two per side tied to rear loops
11. Harness must be attached to the roll cage - weld hardware to tube and do not drill holes in tube.
12. Use attaching specifications that are located in roll cage mounting section
 - a. Tractor transmission and differential housing
 - b. Tractor tube chassis
 - c. Tractor channel chassis

10.7.2 Roll Cage Mounting

10.7.2.1 Mounting to Tractor Transmission and / or Differential Housing

10.7.2.1.1 OPTION 1

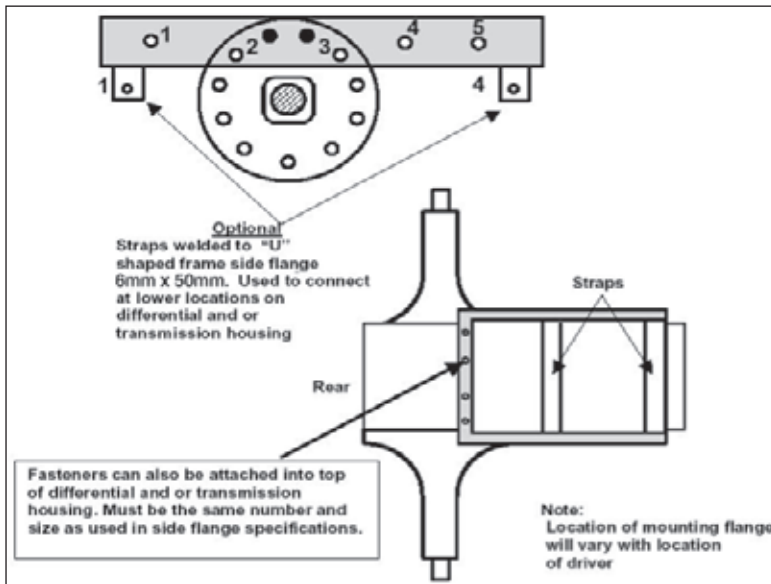
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of two axle-housing fasteners per side. Two additional fasteners must be attached to the vertical flange, one before and one after the axle housing. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. The rear attaching flange must be constructed as to attach to a minimum of two threaded holes in the differential housing that are 12mm or larger (Fig. D). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
3. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (Fig. E)
4. Each flange configuration requires a minimum of ten fasteners.



10.7.2.1.2 OPTION 2

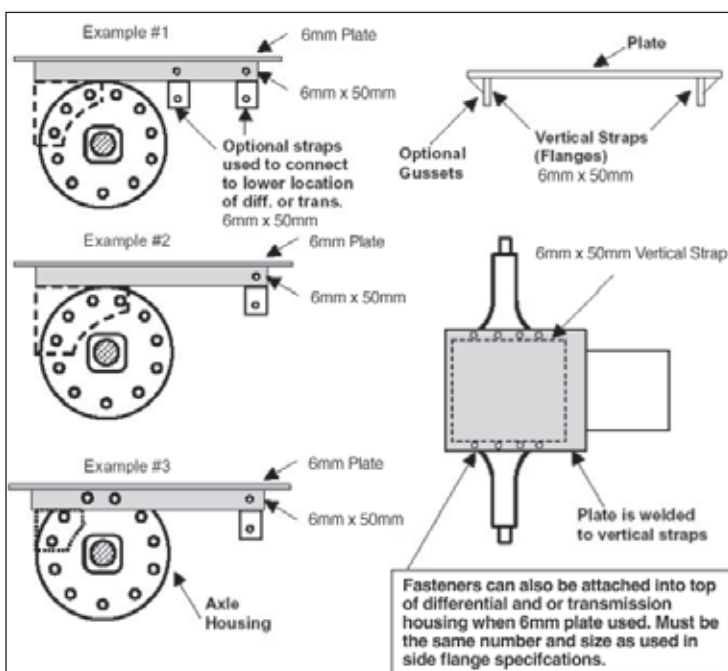
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of five fasteners per side (total 10) to vertical or horizontal sides. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. When five fasteners per side are used the rear attaching flange does not have to attach to the threaded holes in the differential housing. Some models will have the rear flange positioned and connected forward of the rear of the differential housing. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (illustration shown on **OPTION 1**)

10 RULES FOR LIMITED MODIFIED TRACTORS



10.7.2.1.3 OPTION 3

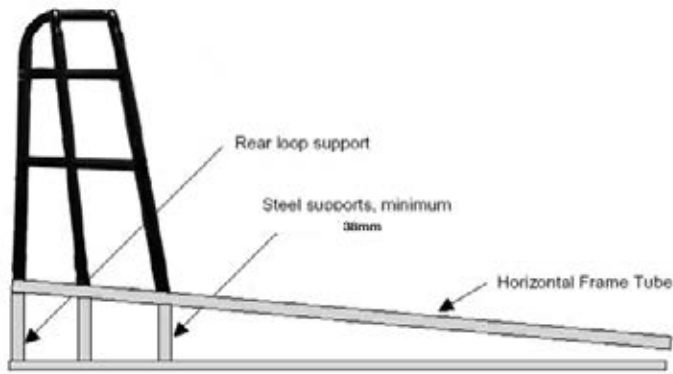
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of strap steel with minimum dimension of 6mm x 50mm will be attached to the differential housing. The straps are welded to a 6mm plate (dimensions dictated by size of operator area). Side flanges and or plate must be attached by a minimum of five fasteners per side (total 10) or four each side and two at the rear of differential housing. If needed, straps 6mm x 50mm can be welded to side straps (flanges) to fasten to a lower location of differential and transmission housing (examples below). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching strap is connected at the rear of the two side straps and an optional strap can connect across the front of the 6mm x 50mm plate. The rear and front strap is of the same dimension as the side straps. The rear and side straps when welded to the plate create a 'U' shape. When the rear, front and side straps are welded to the plate it creates a 'box' shape. When five fasteners per side are used the rear attaching strap (flange) does not have to attach to the threaded holes in the differential housing. Some models will connect the rear strap forward of the rear of the differential housing.



10.7.2.2 Mounting to Tube Type Chassis

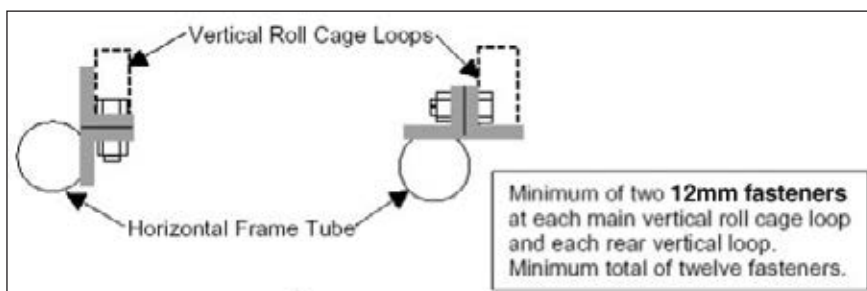
10.7.2.2.1 OPTION 1 – Permanent Attachment

1. Vertical roll cage loops to be fastened (welded) directly to horizontal type frame structure. When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube. Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure.



10.7.2.2.2 OPTION 2 – Removable

1. Vertical roll cage loops to be fastened to an angle iron with minimum dimension of 6mm x 50mm x 50mm which is fastened by 12mm fasteners to an angle iron. The angle iron minimum dimension is 6mm x 50mm x 50mm which is directly fastened to the horizontal type frame structure (examples below). When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube (same as **OPTION 1**). Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.

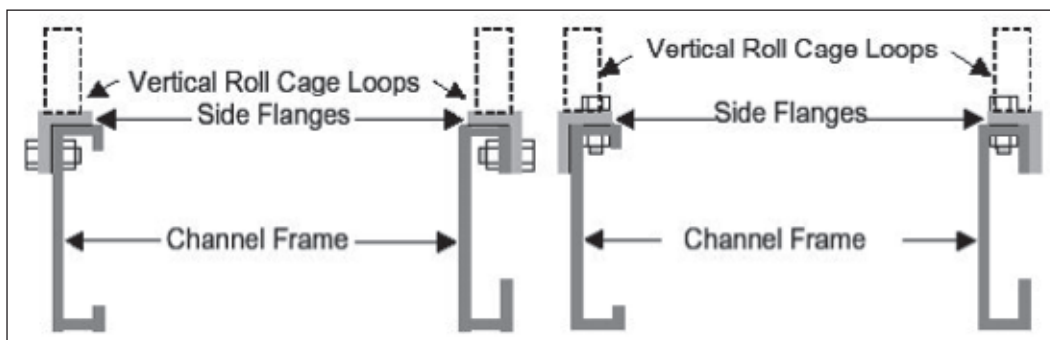


10.7.2.3 Mounting to Channel Type Chassis

10.7.2.3.1 OPTION 1 – Removable

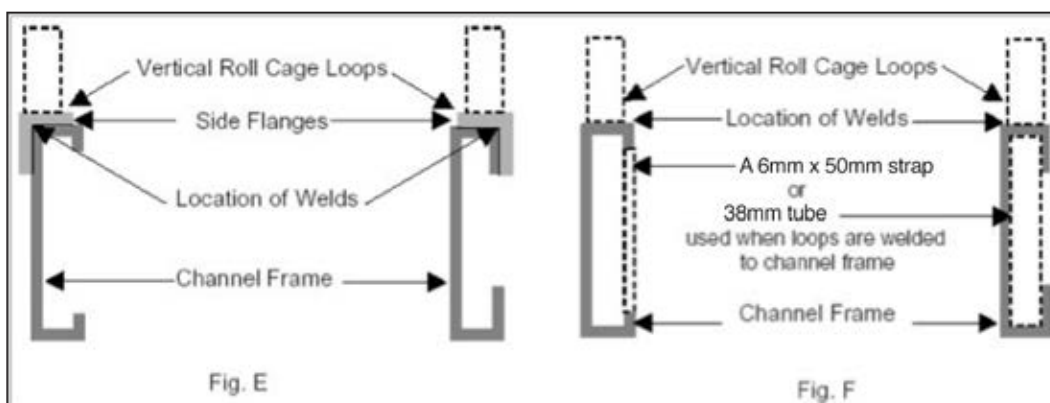
1. The vertical roll cage loops to be fastened to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron is permissible. Each side flange must be secured to the vertical or horizontal of the channel frame with a minimum of five 12mm fasteners. Rear roll cage attaching tubes to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 12mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.

10 RULES FOR LIMITED MODIFIED TRACTORS



10.7.2.3.2 OPTION 2 – Permanent

1. The vertical roll cage loops to be fastened (welded) to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron also can be used. Each side flange must be welded to the vertical of the channel frame (Fig. E). Also the vertical roll cage loops can be welded directly to the channel frame. A 6mm x 50mm strap or 38mm tube must be positioned directly below the vertical roll cage loops for support (Fig. F) Rear roll cage loops to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 6mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



10.8 Driver's Seats & Wheel Fenders

1. Limited Modified tractor must have a strong and rigid seat.
2. Limited Modified tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
3. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.

10.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (Refer to Appendix D)

10.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- **35 psi** cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. The tractor pull contest is open to pulling tractors with rubber tyres.
2. No dual tyres, tyre studs, or chains permitted.
3. All power must be transmitted through the wheels.
4. A limit of 30.5" is put on the width of tyres, rim diameter is limited to 32" on tyre widths over 24.5".

10.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. **The hook must not extend more than 150mm beyond the foremost point of the tractor.**
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

10.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

10.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.

10 RULES FOR LIMITED MODIFIED TRACTORS

5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. Two return springs per carburettor.
8. All engine fans must be shrouded with steel 1.5mm or thicker 360 degrees. (Electric Fans Excluded).
9. Return springs to be fastened between fixed bracket(s) which is securely attached and throttle shaft arm(s) on butterfly shafts.

10.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. The kill switch must be located in the rear centre of the tractor (maximum of 150mm off centre in all directions), 1200mm above the ground.
 - b. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - c. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All Limited Modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.

10.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency fire, run off, etc.
4. Starter motors and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.

10.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer.
The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

10.17 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.
2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance, or,
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

10.18 Automotive Engines

1. Limited Modified tractors must use a SFI approved bell housing or a 10mm thick steel safety shield. It must be a ONE PIECE 360 degree circle, separately constructed from the chassis and securely attached to the tractor, starting 25mm ahead of the flywheel or against the engine block and be a minimum of 150mm wide. The shield must not be over 75mm away from the flywheel at any point and must be fully enclosed except for clutch control mechanism. The shield is to be bolted together with three 12mm bolts (grade 5 or better) at each seam, or butt and seam welded, or if unable to comply with this requirement an SFI scatter blanket is to be used.
2. All Limited Modified tractors using automotive engines must have flywheels, clutches, and related components mounted to engine (or block plate).
3. Where gear box is used between engine and clutch, the shaft must be solid billet steel 38mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

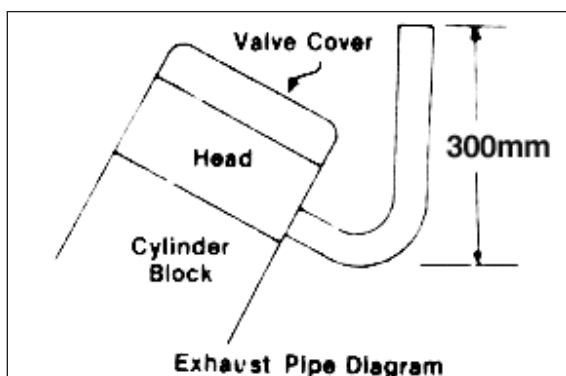
10.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.

10 RULES FOR LIMITED MODIFIED TRACTORS

3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.

10.19.1 Diagram Five: Exhaust Pipe Design



10.20 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Limited Modified tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **SFI APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All Limited Modified tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' or SFI approved shifter.
4. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

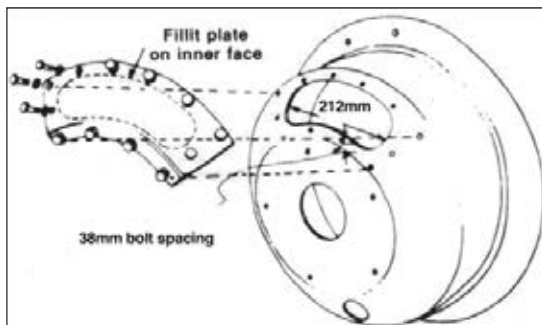
5. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
6. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
8. All Lenco type planetary transmissions must be covered with an approved scatter blanket.
9. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.

10. Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 10mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **SFI** specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

10.21 Bell Housings

1. Bell housing must originally be purchased and installed as SFI 6.2 bell housing with sticker visible for inspection.
2. The inspection / maintenance hole (i/m) in the bell housing shall not extend further forward at its top edge than flush with the cross shaft hole, or further down ward at its bottom edge than 12mm from the fastening bolts in both the bell housing, the i/m cover and the vertical surface at the rear of the bell housing.

10.21.1 Diagram Four: Bell Housing



3. The length of the inspection hole shall be no more than 212mm measured in a straight line.
4. The ends of the hole shall be smooth and fully radiused to produce an oval shape.
5. The bell housing cover:
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
 - c. The Cover and fillet must be steel.
 - d. The fillet must be welded to the cover.
 - e. All bolts must be flush on the inside.
6. There must be a minimum of six bolts (10mm diameter minimum) used to secure the transmission to the bell housing.
7. All automotive type engines with bell housings and clutch will run a full block plate, which can be either a commercially produced unit or 4mm steel with six 10mm diameter bolts evenly spaced on the bottom of the bell housing.
8. SFI certified bell housings with Crower stand adjustment slots are acceptable.
9. Block saver plate must have no additional holes.
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
10. No lightening holes allowed on the transmission face of the bell housing, one cooling hole allowed, maximum 25mm in diameter on the face of bell housing.

10 RULES FOR LIMITED MODIFIED TRACTORS

11. No chemical milling.
12. Bell housings with lightening holes on the transmission face MAY NOT be welded up and reused.
13. Clutch maintenance holes MAY NOT be welded up if the original hole in the housing was over 262mm in length or 87mm wide. All bell housings must be flush on the inside surface face.

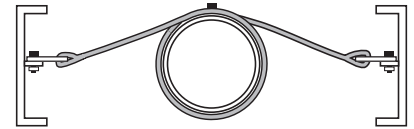
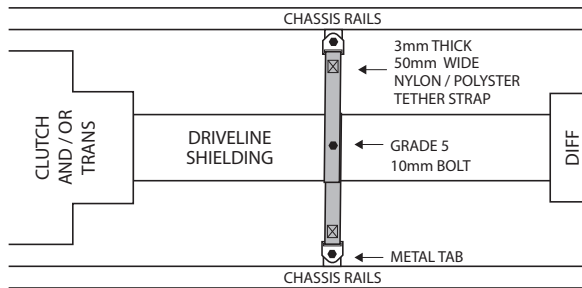
10.22 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 3mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 13mm may also be used for this purpose. 10mm aluminium with 3mm" steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. A differential scatter shield of at least 3mm plate is required. This plate must cover the diameter of the crown wheel.
6. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 16 inches in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 10mm grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

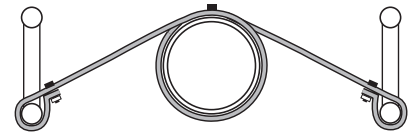
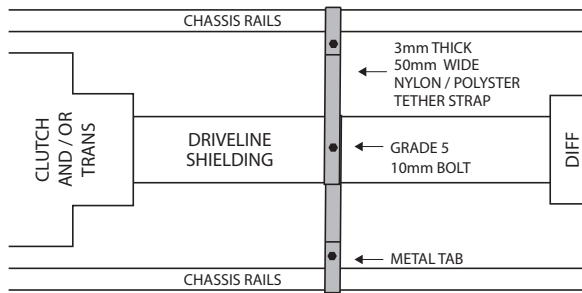
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

10.22.1 Diagram Nine: Driveline Tether

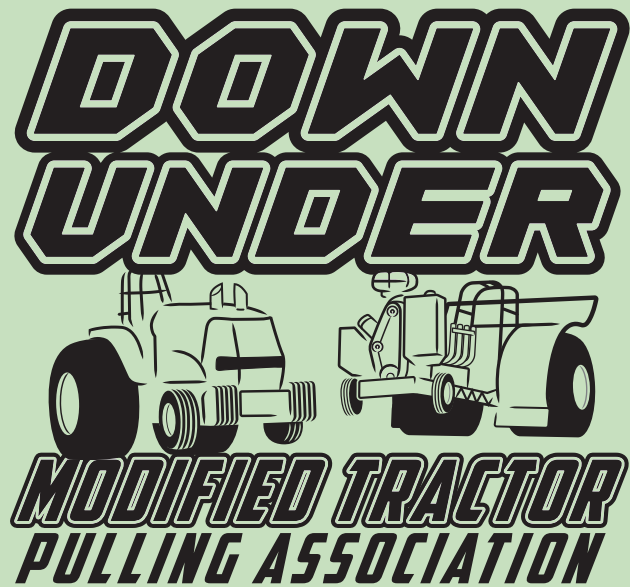
ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS







11. RULES FOR SUPER MODIFIED TRACTORS

11 DOWN UNDER MTPA RULES FOR SUPER MODIFIED TRACTORS

1. Super Modified Tractors are those using any combination of engine(s), transmission(s) and final drive, up to a limit of 540 cubic inch blown (supercharged & turbo charged) engines or 1080 cubic inch naturally aspirated engines. The engine(s) may be up to 60 thou rebored.
2. Mechanical and Electronic Fuel Injection is allowed.
3. Weight class is: **4300kg**, including driver & safety apparel.
4. No portion of a limited modified tractor may exceed 4267mm forward of the centre of the rear wheel, including removable ballast.
5. Maximum width of vehicle is to be 2440mm at its widest point including ballast.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, a larger size must be used.
- e. The following approved safety equipment may be used SFI / FIA.

11.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.
2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. **(Refer to Appendix C - SFI / FIA Driving Apparel requirements)**.
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. **(Refer to Appendix D - SFI / FIA Selt Belt requirements)**.
4. A competent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.
6. All Super Modified Tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following:
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor. Also a white light on both sides of the tractor that is visible in day light at 4 metres from the rear side of the tractor, it must be behind the centre of the rear axle.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

11 RULES FOR SUPER MODIFIED TRACTORS

11.2 Legal Fuels

Legal fuels are Alcohol including Methanol, Water, 110 Octane Race Fuel, Diesel, Kerosene, ULP, and Premium Unleaded. (**NO AVGAS** allowed).

11.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.

11.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc.) component (alternators, water pumps, harmonic balancers, etc).

11.3 Chassis

1. Super Modified tractors with frame bolted to transmission shall also be bolted to axle housing to prevent splitting of tractor. Must be of sufficient strength to support the weight of the tractor in the heaviest class being entered with bolts removed from plate of transmission or rear end.
2. All tractors shall have wide front axles. Front wheels shall track within the rear wheels.
3. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractor's weight. Hook to be fitted so as to prevent tow strap falling off.

11.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

11.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle.

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.
3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per foot of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.

8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

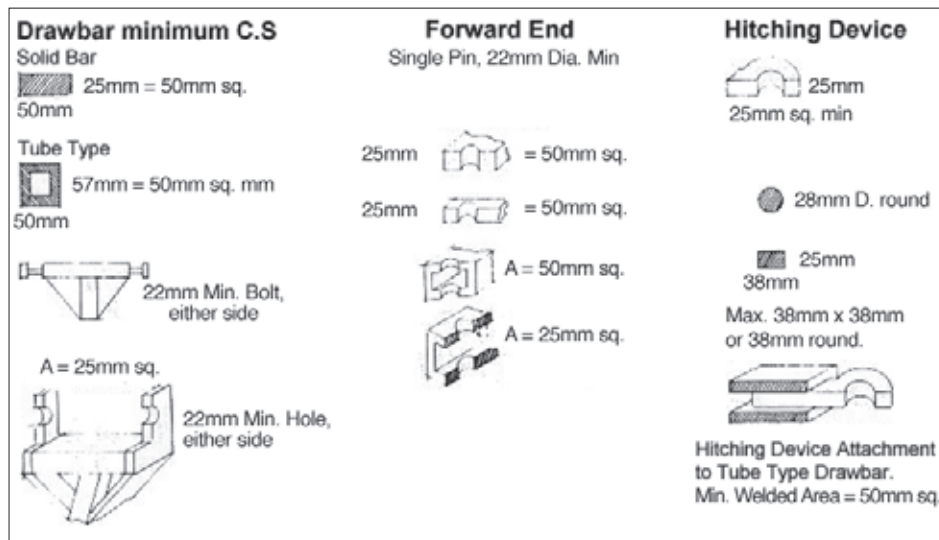
11.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

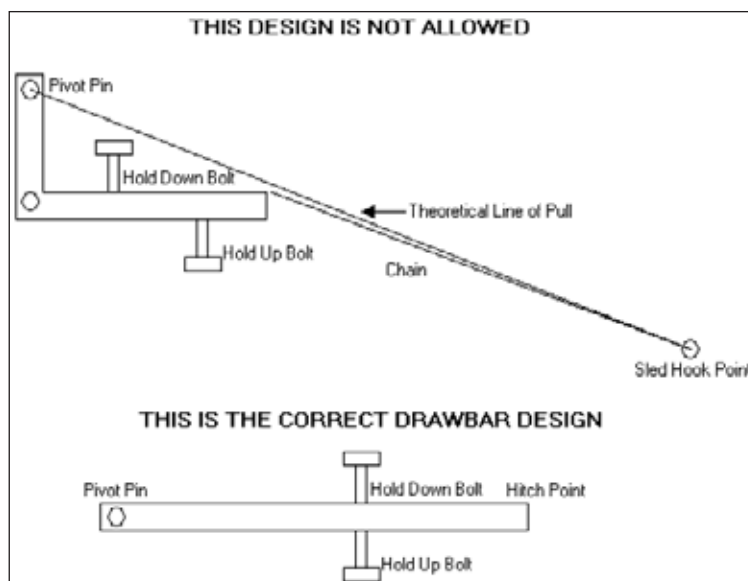
Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

CLASS	MAX HEIGHT	MIN LENGTH
Super Modifieds	508mm	450mm

11.5.2 Diagram One: Drawbar Materials & Size



11.5.3 Diagram Two: Drawbar Design



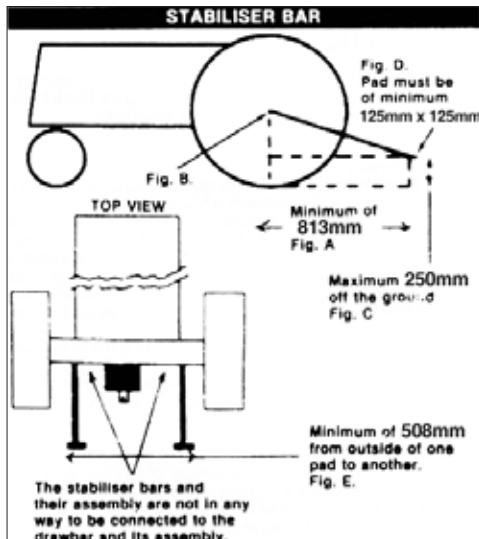
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- Drawbar must be a minimum of 50mm x 50mm square in total material (steel) at any point. This includes the area of the pin with the pin removed.
- No drawbar pin is to be less than 22mm diameter.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbars must be equipped with a steel hitching device not more than 38mm x 38mm square (38mm round stock) nor less than 25mm x 25mm square (28.5mm round stock) with a 75mm round hole (maximum of 87mm round hole).

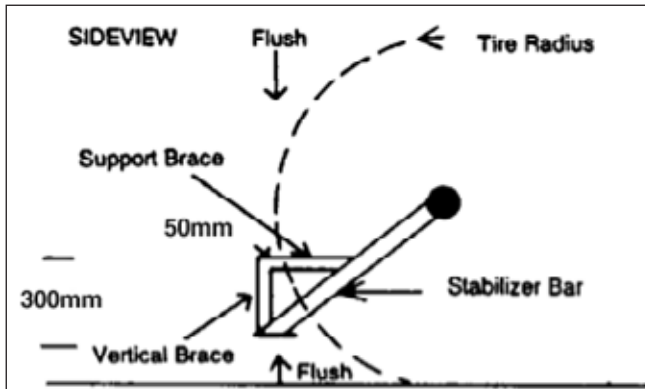
11.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. (Refer to Diagram Three overleaf)
4. The stabiliser bar will extend a minimum of 813mm behind a line (Figure A) drawn from the centre of the wheel (Figure B) to the ground. The stabiliser pad must not be more than 250mm off the ground (Figure C).
5. The stabiliser pad must be a minimum of 125mm x 125mm (Figure D).
6. A minimum of 508mm will be allowed from the outside of one pad to the other (Figure E).

11.6.1 Diagram Three: Stabiliser (Wheelie) Bars



11.6.2 Diagram Four: Stabiliser Design



11.7 Roll Cages

Driver Roll Cage

11.7.1 Driver Roll Cage for Super Modified Tractors:

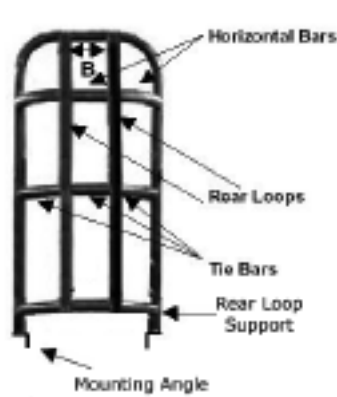


Figure A.

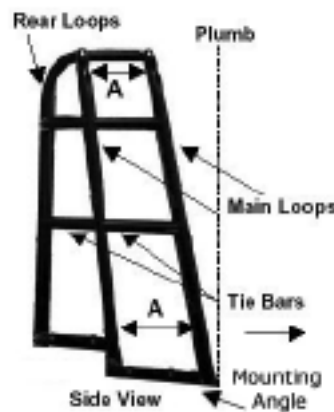


Figure B.

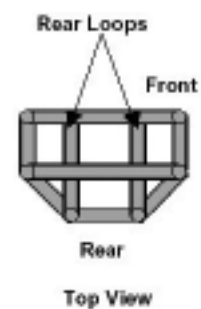


Figure C.

1. Structural Material:

- a. Chrome molybdenum seamless steel tubing: 2.4mm minimum wall thickness and 50mm minimum tube diameter
- b. Carbon mechanical seamless tubing (mild steel) or (DOM): 3mm minimum wall thickness and 50mm minimum tube diameter.

2. Six-point connection at differential housing using following options: 'U' flange, tube chassis, or channel chassis.

3. Two main vertical loops (side to side)

4. Two rear vertical loops (off top of main loops)

5. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)

6. Main vertical loop spacing at top is 200mm minimum to 350mm maximum (centre to centre) Fig. A

7. Main vertical loops must be no more than 10-degrees from plumb (forward or backwards)

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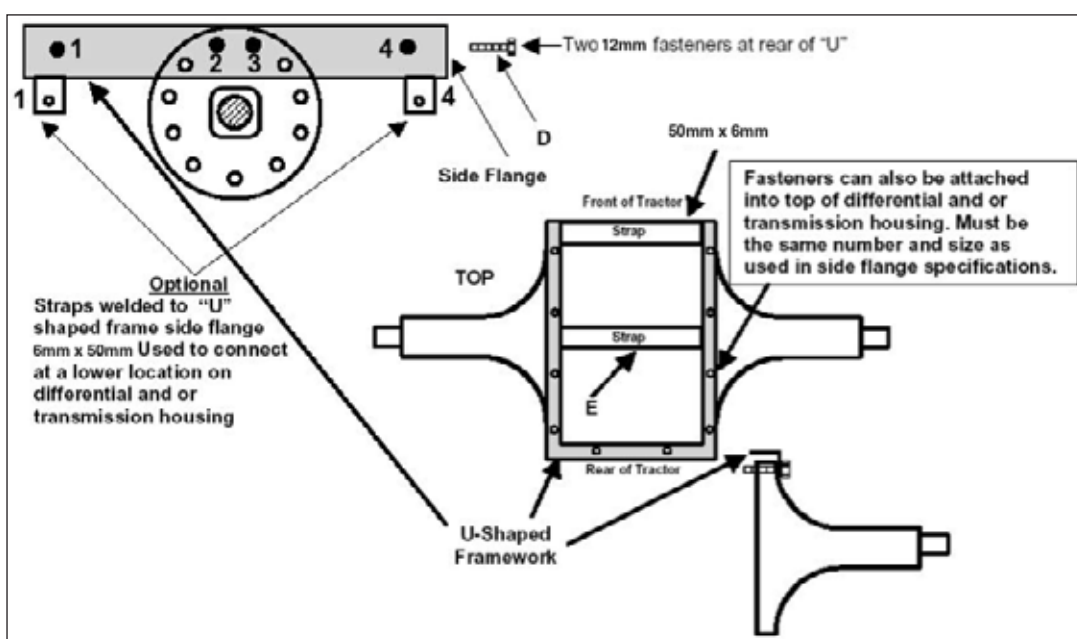
8. Rear loop spacing at top and bottom is 200mm minimum (centre to centre) Fig. B
9. Maximum width of main vertical loops is 860mm (inside to inside) Fig. C
10. Horizontal bars, minimum of two on top, minimum of two per side tied to rear loops
11. Harness must be attached to the roll cage - weld hardware to tube and do not drill holes in tube.
12. Use attaching specifications that are located in roll cage mounting section
 - a. Tractor transmission and differential housing
 - b. Tractor tube chassis
 - c. Tractor channel chassis

11.7.2 Roll Cage Mounting

11.7.2.1 Mounting to Tractor Transmission and / or Differential Housing

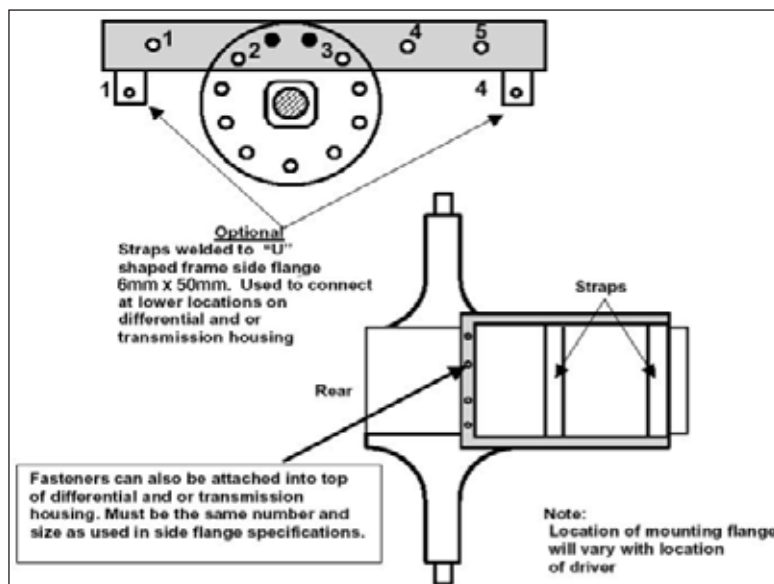
11.7.2.1.1 OPTION 1

1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of two axle-housing fasteners per side. Two additional fasteners must be attached to the vertical flange, one before and one after the axle housing. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. The rear attaching flange must be constructed as to attach to a minimum of two threaded holes in the differential housing that are 12mm or larger (Fig. D). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
3. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (Fig. E)
4. Each flange configuration requires a minimum of ten fasteners.



11.7.2.1.2 OPTION 2

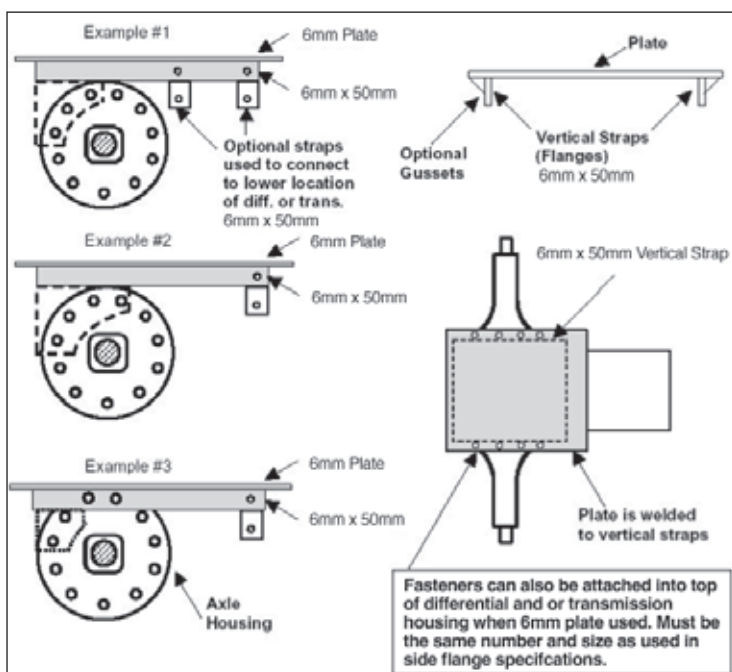
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of five fasteners per side (total 10) to vertical or horizontal sides. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. When five fasteners per side are used the rear attaching flange does not have to attach to the threaded holes in the differential housing. Some models will have the rear flange positioned and connected forward of the rear of the differential housing. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50m x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (illustration shown on **OPTION 1**)



11.7.2.1.3 OPTION 3

1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of strap steel with minimum dimension of 6mm x 50mm will be attached to the differential housing. The straps are welded to a 6mm plate (dimensions dictated by size of operator area). Side flanges and or plate must be attached by a minimum of five fasteners per side (total 10) or four each side and two at the rear of differential housing. If needed, straps 6mm x 50mm can be welded to side straps (flanges) to fasten to a lower location of differential and transmission housing (examples below). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching strap is connected at the rear of the two side straps and an optional strap can connect across the front of the 6mm x 50mm plate. The rear and front strap is of the same dimension as the side straps. The rear and side straps when welded to the plate create a 'U' shape. When the rear, front and side straps are welded to the plate it creates a 'box' shape. When five fasteners per side are used the rear attaching strap (flange) does not have to attach to the threaded holes in the differential housing. Some models will connect the rear strap forward of the rear of the differential housing.

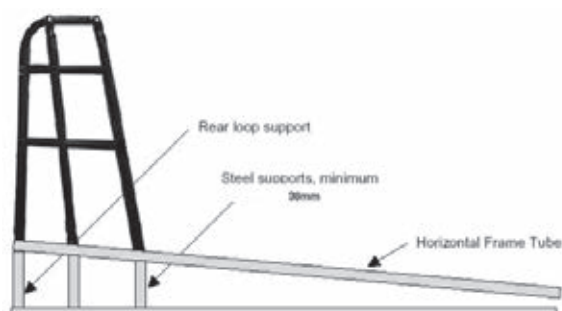
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11.7.2.2 Mounting to Tube Type Chassis

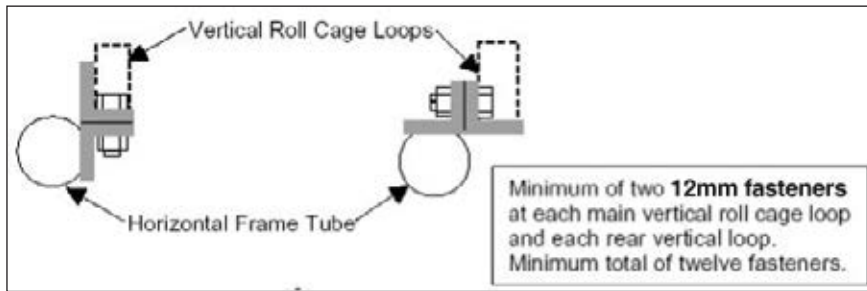
11.7.2.2.1 OPTION 1 – Permanent Attachment

1. Vertical roll cage loops to be fastened (welded) directly to horizontal type frame structure. When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube. Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure.



11.7.2.2.2 OPTION 2 – Removable

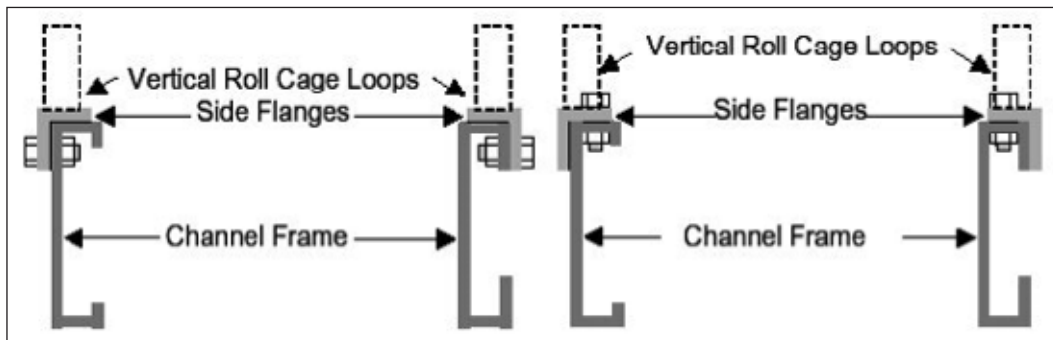
1. Vertical roll cage loops to be fastened to an angle iron with minimum dimension of 6mm x 50mm x 50mm which is fastened by 12mm fasteners to an angle iron. The angle iron minimum dimension is 6mm x 50mm x 50mm which is directly fastened to the horizontal type frame structure (examples below). When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube (same as **OPTION 1**). Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



11.7.2.3 Mounting to Channel Type Chassis

11.7.2.3.1 OPTION 1 – Removable

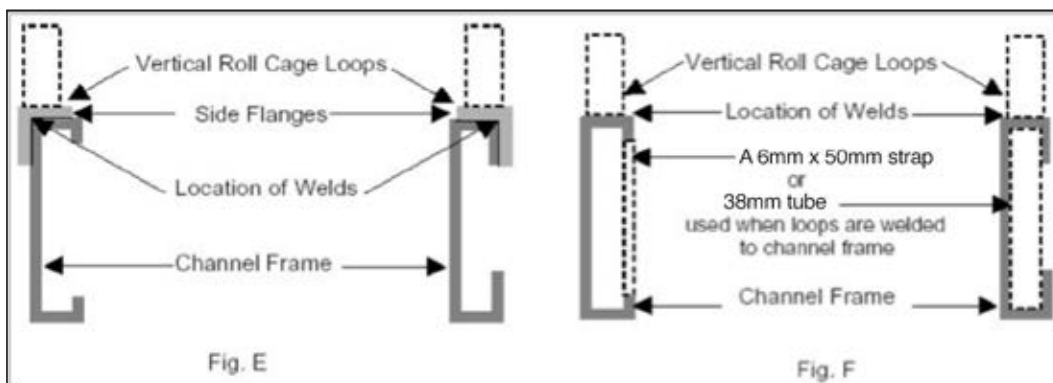
1. The vertical roll cage loops to be fastened to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron is permissible. Each side flange must be secured to the vertical or horizontal of the channel frame with a minimum of five 12mm fasteners. Rear roll cage attaching tubes to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 12m x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



11.7.2.3.2 OPTION 2 – Permanent

1. The vertical roll cage loops to be fastened (welded) to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron also can be used. Each side flange must be welded to the vertical of the channel frame (Fig. E). Also the vertical roll cage loops can be welded directly to the channel frame. A 6mm x 50mm strap or 38mm tube must be positioned directly below the vertical roll cage loops for support (Fig. F) Rear roll cage loops to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 6mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.

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11.8 Driver's Seats & Wheel Fenders

1. Super Modified tractor must have a strong and rigid seat.
2. Super Modified tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
3. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.

11.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (Refer to **Appendix D**)

11.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- 35 psi cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. The tractor pull contest is open to pulling tractors with rubber tyres.
2. No dual tyres, tyre studs, or chains permitted.
3. All power must be transmitted through the wheels.
4. A limit of 30.5" is put on the width of tyres, rim diameter is limited to 32" on tyre widths over 24.5".

11.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. The hook must not extend more than 150mm beyond the foremost point of the tractor.
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

11.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

11.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.
5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. All injection or butterfly shafts on engines must have dual return-to-idle arms and springs.
8. All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and pump throttle arm(s).
9. Two return springs per carburettor.
10. All engine fans must be shrouded with steel 1.5mm or thicker 360 degrees. (Electric Fans Excluded).

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11.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. The kill switch must be located in the rear centre of the tractor (maximum of 6" off centre in all directions), 1200mm above the ground.
 - b. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - c. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All diesel and fuel injected ignition engines must have a fuel shut off valve control within easy reach of the driver.
4. All diesel engines will be equipped with an emergency shutdown air shut off at the air intake, which can be utilised from the tractor seat.
5. All Super Modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.
6. Tractors fitted with a jet turbine or other high kinetic energy are required to supply a chain attached to the chassis and of sufficient length to attach to the sled pan and that sleds have provision for attachment. The chain is to be of sufficient strength to stop a tractor in a jerk breakaway situation.

11.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Starter motors, fuel injection pumps and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.

11.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.

2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

11.17 Engine Mounting

1. An automotive engine is any engine or its replica available in a passenger car. A replica engine must accept and swing a stock crankshaft in order to be legal.
2. Engines used in both automobiles and trucks by manufacturers are classed as automotive.
3. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance, or,
4. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

11.18 Automotive Engines

1. Super Modified tractors must use a SFI approved bell housing or a 10mm thick steel safety shield. It must be a ONE PIECE 360 degree circle, separately constructed from the chassis and securely attached to the tractor, starting 25mm ahead of the flywheel or against the engine block and be a minimum of 150mm wide. The shield must not be over 75mm away from the flywheel at any point and must be fully enclosed except for clutch control mechanism. The shield is to be bolted together with three 12mm bolts (grade 5 or better) at each seam, or butt and seam welded, or if unable to comply with this requirement an SFI scatter blanket is to be used.
2. All Super Modified tractors using automotive engines must have flywheels, clutches, and related components mounted to engine (or block plate).
3. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

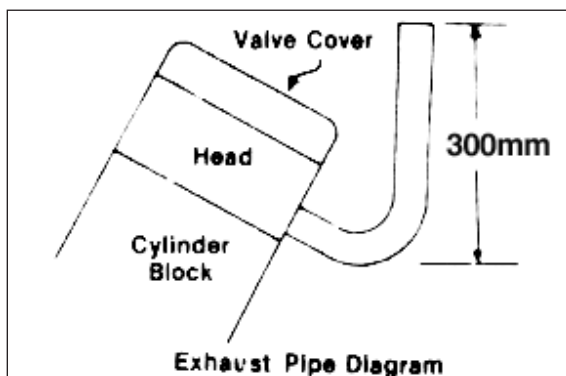
11.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.

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6. Venturi type headers acceptable.
7. Turbocharged engines must have two 10mm (Grade 5) bolts in vertical portion of exhaust pipes. Bolts are to be installed at 90 degrees to each other, within 25mm of each other.

11.19.1 Diagram Five: Exhaust Pipe Design



11.20 Superchargers & Turbochargers

1. All turbochargers and centrifugal belt driven superchargers not bolted to the intake manifold, that are NOT under hood, must be completely shrouded, except for inlet and exhaust pipes, with steel 1.5mm or thicker.
2. All supercharger drive components must be shrouded on the top and sides with 1.5mm steel, the shield to be wider than the drive belt or chain and securely mounted.
3. All Centrifugal superchargers must be shielded with 10mm steel on the top sides, 150mm side fastened securely with grade 8 or better 10mm bolts every 50mm where fastened.
4. All superchargers to be mounted to the intake manifold using aluminium studs.

NO STEEL STUDS ALLOWED

5. A supercharger restraint system is mandatory and shall meet **minimum of SFI 14.1 and must comply to manufacturers date**, consist of four separate straps securely fastened to the engine by means of its own attachment bracket. The top attachment bracket to be sandwiched between the lower surface of the injector body and the upper surface of the supercharger case. The bottom attachment bracket for each strap shall be connected to the engine by a minimum of two 10mm bolts or studs, Grade 5 or better. All carburetted or injected Allison, Packard, Rolls Royce, Industrial or Marine engines using a centrifugal supercharger must be shielded.
 - Shielding will be same on each side of supercharger.
 - Shield to start at the centre line of supercharger housing and extend 125mm rearward, only allowing notching to fit around accessory components.
 - Shield to extend 200mm forward of centre line of blower housing and notched only for accessory components (such as air boxes).
 - On the front edge of the shield there will be a rolled lip extending inward 25mm. Shields will be 10mm steel bolted every 25mm or closer, 10mm bolts or larger, Grade 5 or better.
 - Shield to start at bottom of blower housing, up the side, over the top and down the other side to bottom of blower housing.
 - Holes or notches allowed only for accessory components.
 - The Shield must maintain its integrity.

6. On all pulling tractors the tubing on the pressure side of a turbocharger to the intake must be under the hood, side shields, be bolted and / or strapped securely.

11.21 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Super Modified tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **SFI APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All Super Modified tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' or SFI approved shifter.
4. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

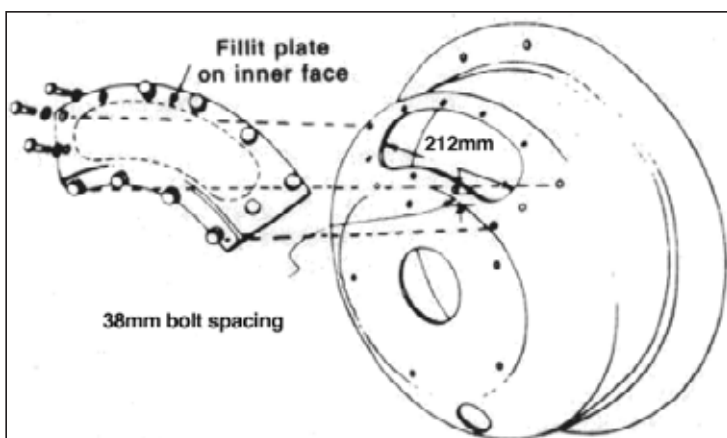
5. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
6. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
7. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
8. All Lenco type planetary transmissions must be covered with an approved scatter blanket.
9. Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
10. Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **SFI** specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

11.22 Bell Housings

1. Bell housing must originally be purchased and installed as SFI 6.2 bell housing with sticker visible for inspection.
2. The inspection / maintenance hole (i/m) in the bell housing shall not extend further forward at its top edge than flush with the cross shaft hole, or further down ward at its bottom edge than 12mm from the fastening bolts in both the bell housing, the i/m cover and the vertical surface at the rear of the bell housing.

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11.22.1 Diagram Six: Bell Housing



3. The length of the inspection hole shall be no more than 212mm measured in a straight line.
4. The bell housing cover:
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
 - c. The Cover and fillet must be steel.
 - d. The fillet must be welded to the cover.
 - e. All bolts must be flush on the inside.
5. There must be a minimum of six bolts (10mm diameter minimum) used to secure the transmission to the bell housing.
6. All automotive type engines with bell housings and clutch will run a full block plate, which can be either a commercially produced unit or 4mm steel with six 10mm diameter bolts evenly spaced on the bottom of the bell housing.
7. SFI certified bell housings with Crower stand adjustment slots are acceptable.
8. Block saver plate must have no additional holes.
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
9. No lightening holes allowed on the transmission face of the bell housing, one cooling hole allowed, maximum 25mm in diameter on the face of bell housing.
10. No chemical milling.
11. Bell housings with lightening holes on the transmission face MAY NOT be welded up and reused.
12. Clutch maintenance holes MAY NOT be welded up if the original hole in the housing was over 262mm in length or 87mm wide. All bell housings must be flush on the inside surface face.

11.22.2 Aviation, Marine & Industrial Engines

The following items provide specifications for different clutch applications on aviation, marine and industrial engines.

11.22.2.1 Clutch Application One

1. On aviation, marine and industrial engines in tractor pulling applications where a gear box is used between the engine crankshaft and the clutch, the gear box output shaft **must not exceed** one and one half times (1.5:1) the speed of the crankshaft.
2. No torque converters are allowed behind the gearbox.
3. The shaft that accepts the flywheel must be made of solid billet steel and of 56mm minimum diameter, to be heat treated 4140 steel, 30 to 38 Rockwell.
4. All clutch assemblies used in this application must be **SFI** approved.
5. Clutches are limited to a maximum diameter of 279mm.
6. Bell housing to be bolted to a 6mm steel plate or greater with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around bell housing. The 6mm plate to which the bell housing is bolted must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.
7. The gearbox must be securely fastened to the frame by a 10mm steel plate, or securely attached to the rear of the engine. The gearbox will be mounted and secured to the tractor sub frame in such a manner to withstand lifting the entire tractor weighted for the lightest class it can legally enter.
8. The gearbox must be constructed of 10mm steel or 19mm aluminium or greater. Owners of tractors using this type of arrangement **MUST** provide scrutineering panel with **POSITIVE PROOF** of gear box speed.

11.22.2.2 Clutch Application Two

1. On aviation, marine and industrial engines in pulling tractor applications with the clutch mounted on the crankshaft or on a shaft connected to the crankshaft, the shaft or adaptor which accepts the flywheel must be made of solid billet steel, and of 56mm minimum diameter, to be heat treated (4140) steel, 30 to 38 Rockwell.

ALL CLUTCH ASSEMBLIES USED IN THIS APPLICATION MUST BE SFI APPROVED

2. The diameter is limited to 279mm.
3. Bell housing to be bolted to an engine plate with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around the bell housing.
4. Engine plate to be 6mm steel plate or greater, or 10mm aluminium plate or greater.
5. The plate to which the bell housing is bolted must be securely fastened to the engine or frame by at least eight 10mm (Grade 5) bolts. Four on each side of the frame.
6. If using a single rail design, the 6mm plate on the front of the bell housing must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.

11.22.2.3 Clutch Application Three

1. On aviation, marine and industrial engines used in tractor pulling applications with clutch or torque converter mounted on crankshaft.
2. All clutch components shall be required to have all steel, aluminium or ductile iron components, and be **SFI** approved for this application.
3. **Maximum diameter to be 350mm.**

POSITIVELY NO GREY CAST IRON

11 RULES FOR SUPER MODIFIED TRACTORS

4. Tractor shall be required to have entire clutch or torque converter area enclosed, front and rear, 360 degree coverage, with 10mm minimum thickness steel, 12mm" distance from rotating mass, maximum centring on rotating mass.
5. Entire shield to be covered with **SFI** approved scatter blanket, 360 degrees.
6. Blanket to centre on rotating mass, minimum 300mm wide, and cover the clutch and all components.

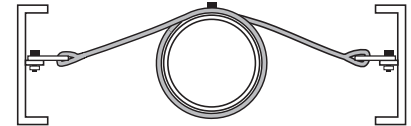
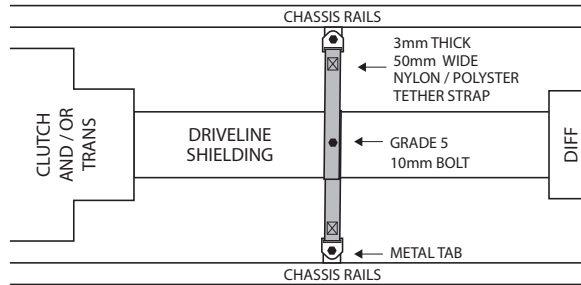
11.23 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 3mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose. 10mm aluminium with 3mm steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 3/8 grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

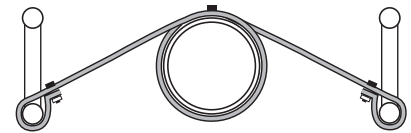
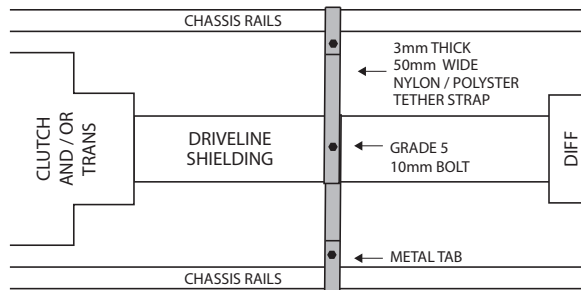
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

11.23.1 Diagram Eight: Driveline Tether

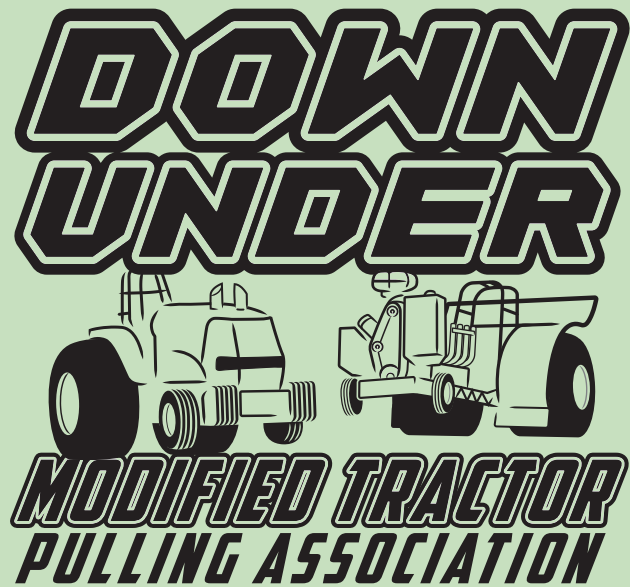
ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS







12. RULES FOR OPEN MODIFIED TRACTORS

12 DOWN UNDER MTPA RULES FOR OPEN MODIFIED TRACTORS

1. Open Modified tractors are those using any combination of Automotive, Marine, Aircraft or Turbine engine(s), transmission(s) and final drive. There is no limit to the capacity. Blowers and Turbo-charging is permitted.
2. Weight class is: **4000kg**, including driver & safety apparel.
3. No portion of a Open Modified tractor may exceed 4267mm forward of the centre of the rear wheel, including removable ballast.
4. Maximum width of vehicle is to be 2440mm at its widest point including ballast.

NOTE:

- a. All measurements are shown in **metric** measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, a larger size must be used.
- d. The following approved safety equipment may be used SFI / FIA.

12.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.
2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. **(Refer to Appendix C - SFI / FIA Driving Apparel requirements)**.
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. **(Refer to Appendix D - SFI / FIA Selt Belt requirements)**.
4. A compentent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. Drivers must disengage gears and hold feet flat on the floor and hold hands in the air while hooking up and unhooking. May operate foot brakes as necessary.
6. All Open Modified Tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following:
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor. Also a white light on both sides of the tractor that is visible in day light at 4 metres from the rear side of the tractor, it must be behind the centre of the rear axle.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

12.2 Legal Fuels

Legal fuels are Alcohol including Methanol, Water, E85, High octane unleaded, Diesel, Kerosene, ULP, Nitrous Oxide and Premium Unleaded. A maximum of 20% Nitro Methane is allowed as fuel additive. **(NO AVGAS** is allowed).

12 RULES FOR OPEN MODIFIED TRACTORS

12.2.1 Fuel Containers / Tanks

1. Fuel tanks must be located in an open area.

12.2.2 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc.) component (alternators, water pumps, harmonic balancers, etc).

12.3 Chassis

1. Open Modified tractors with frame bolted to transmission shall also be bolted to axle housing to prevent splitting of tractor. Must be of sufficient strength to support the weight of the tractor in the heaviest class being entered with bolts removed from plate of transmission or rear end.
2. All tractors shall have wide front axles. Front wheels shall track within the rear wheels.
3. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractor's weight. Hook to be fitted so as to prevent tow strap falling off.

12.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

12.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle.

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.
3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per 300mm of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

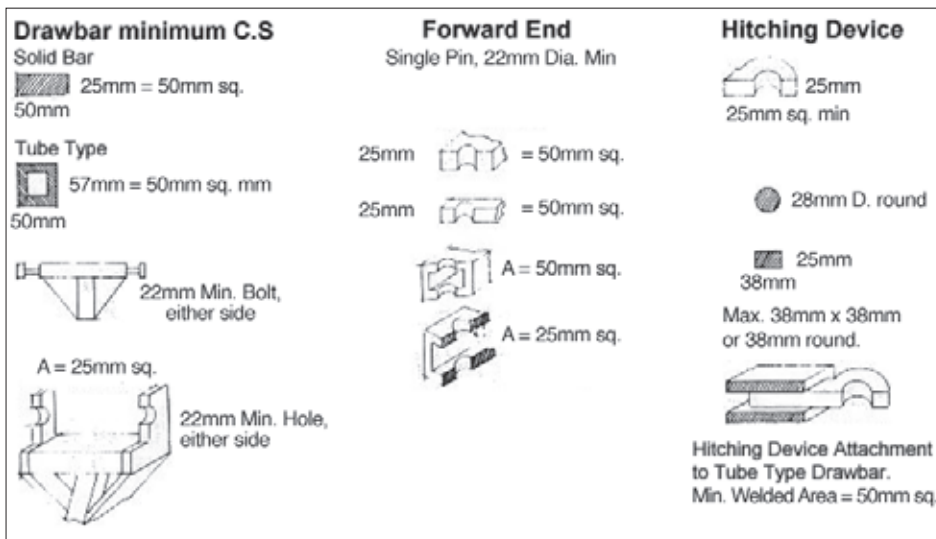
12.5.1 Drawbar Heights & Lengths

Drawbars cannot be shorter and / or higher than specifications listed below.

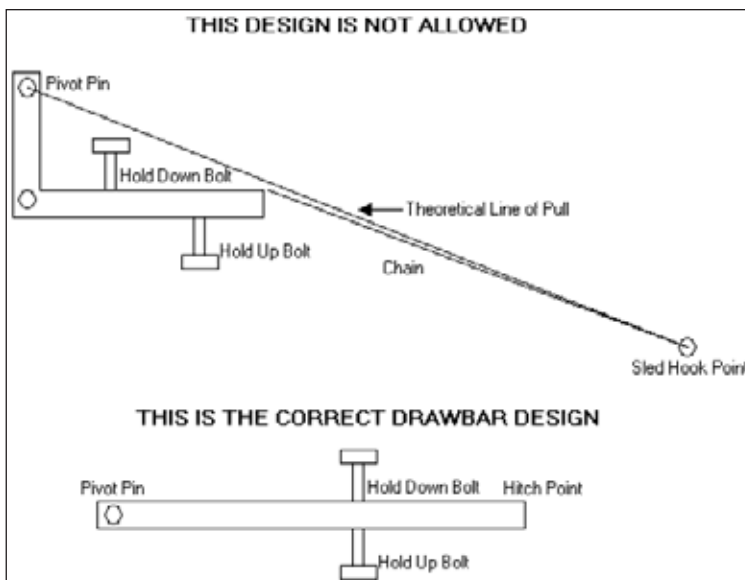
Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

CLASS	MAX HEIGHT	MIN LENGTH
Open Modifieds	508mm	450mm

12.5.2 Diagram One: Drawbar Materials & Size



12.5.3 Diagram Two: Drawbar Design



- Drawbar must be a minimum of 50mm x 50mm in total material (steel) at any point. This includes the area of the pin with the pin removed.
- No drawbar pin is to be less than 22mm diameter.

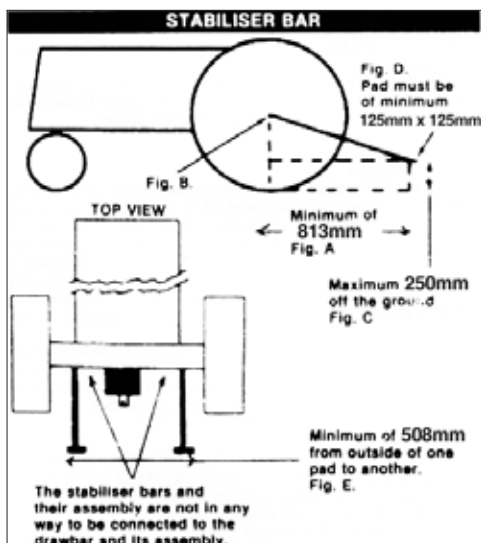
12 RULES FOR OPEN MODIFIED TRACTORS

- Drawbars must not extend rearward beyond the rear tyres.
- Drawbars must be equipped with a steel hitching device not more than 38mm x 38mm (38mm round stock) or less than 25mm x 25mm square (28.5mm round stock) with a 75mm round hole (maximum of 87mm round hole).

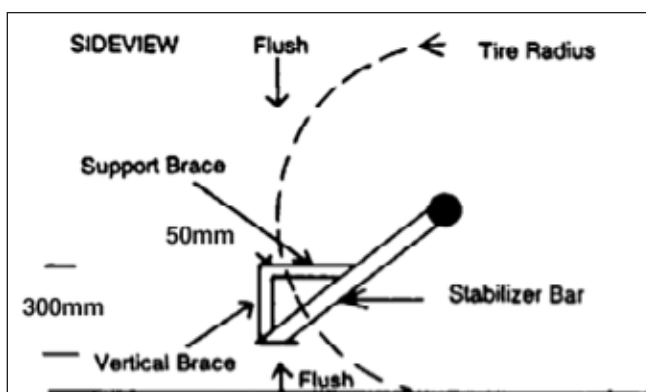
12.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. (Refer to Diagram Three below)
4. The stabiliser bar will extend a minimum of 813mm behind a line (Figure A) drawn from the centre of the wheel (Figure B) to the ground. The stabiliser pad must not be more than 250mm off the ground (Figure C).
5. The stabiliser pad must be a minimum of 125mm x 125mm square (Figure D).
6. A minimum of 508mm will be allowed from the outside of one pad to the other (Figure E).

12.6.1 Diagram Three: Stabiliser (Wheelie) Bars



12.6.2 Diagram Four: Stabiliser Design



12.7 Roll Cages

Driver Roll Cage

12.7.1 Driver Roll Cage for Open Modified Tractors:

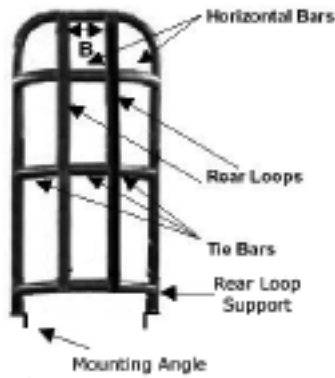


Figure A.

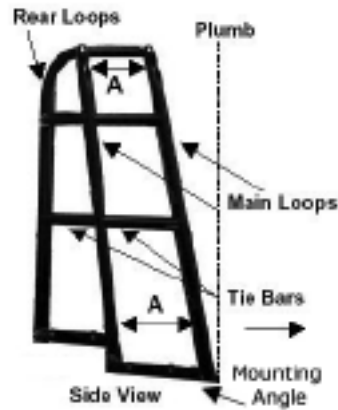


Figure B.

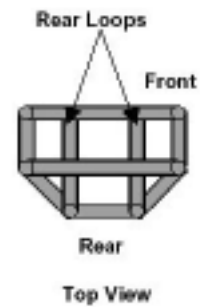


Figure C.

1. Structural Material:
 - a. Chrome molybdenum seamless steel tubing: 2.4mm minimum wall thickness and 50mm minimum tube diameter
 - b. Carbon mechanical seamless tubing (mild steel) or (DOM): 3mm minimum wall thickness and 50mm minimum tube diameter.
2. Six-point connection at differential housing using following options: 'U' flange, tube chassis, or channel chassis.
3. Two main vertical loops (side to side)
4. Two rear vertical loops (off top of main loops)
5. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)
6. Main vertical loop spacing at top is 200mm minimum to 350mm maximum (centre to centre) Fig. A
7. Main vertical loops must be no more than 10-degrees from plumb (forward or backwards)
8. Rear loop spacing at top and bottom is 200mm minimum (centre to centre) Fig. B
9. Maximum width of main vertical loops is 860mm (inside to inside) Fig. C
10. Horizontal bars, minimum of two on top, minimum of two per side tied to rear loops
11. Harness must be attached to the roll cage - weld hardware to tube and do not drill holes in tube.
12. Use attaching specifications that are located in roll cage mounting section
 - a. Tractor transmission and differential housing
 - b. Tractor tube chassis
 - c. Tractor channel chassis

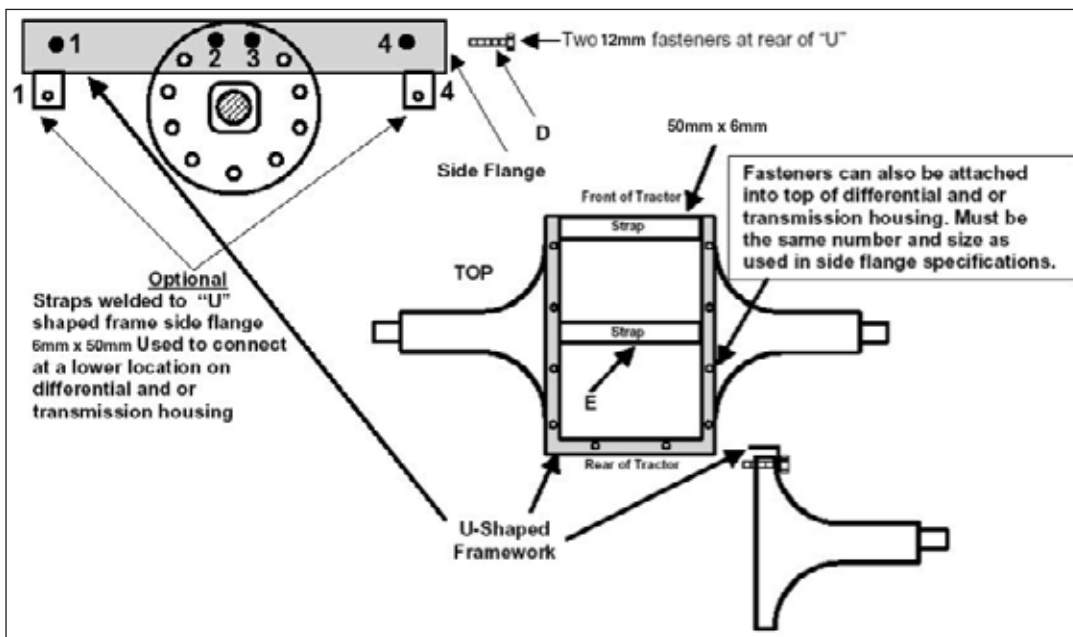
12 RULES FOR OPEN MODIFIED TRACTORS

12.7.2 Roll Cage Mounting

12.7.2.1 Mounting to Tractor Transmission and / or Differential Housing

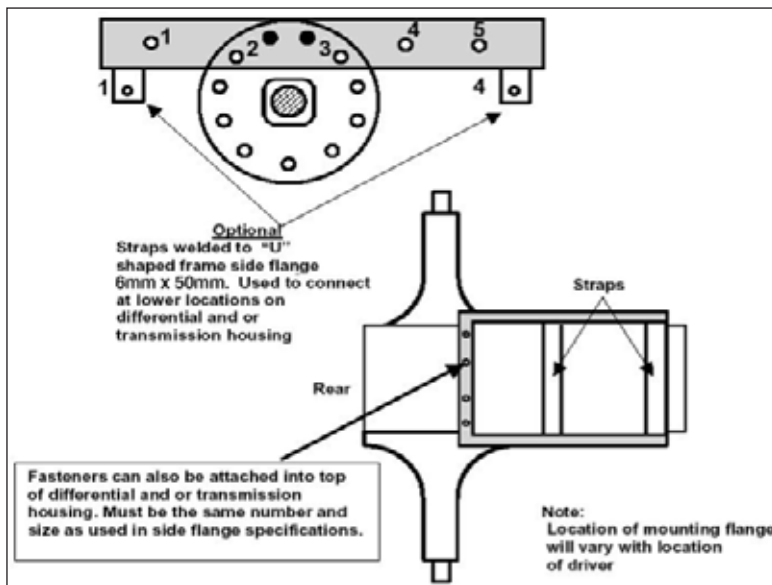
12.7.2.1.1 OPTION 1

1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of two axle-housing fasteners per side. Two additional fasteners must be attached to the vertical flange, one before and one after the axle housing. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. The rear attaching flange must be constructed as to attach to a minimum of two threaded holes in the differential housing that are 12mm or larger (Fig. D). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
3. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (Fig. E)
4. Each flange configuration requires a minimum of ten fasteners.



12.7.2.1.2 OPTION 2

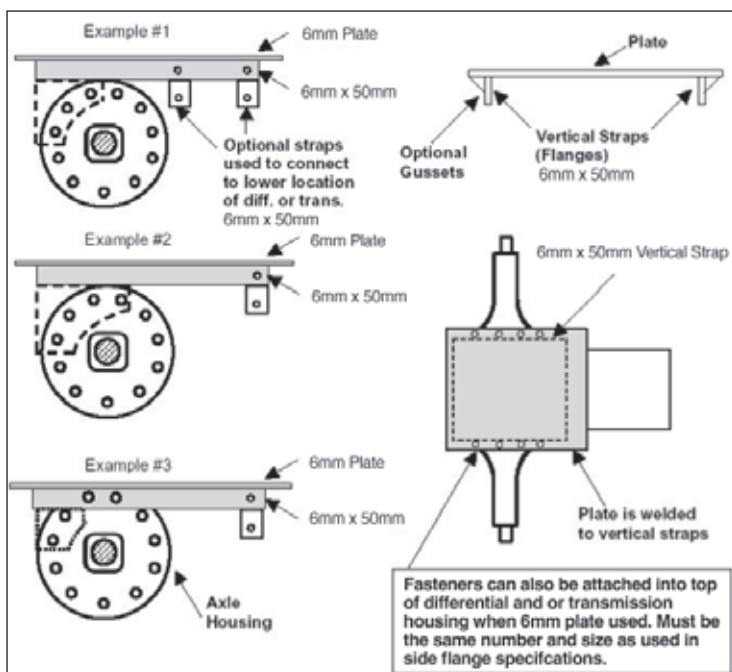
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of five fasteners per side (total 10) to vertical or horizontal sides. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. When five fasteners per side are used the rear attaching flange does not have to attach to the threaded holes in the differential housing. Some models will have the rear flange positioned and connected forward of the rear of the differential housing. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50m x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (illustration shown on **OPTION 1**)



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12.7.2.1.3 OPTION 3

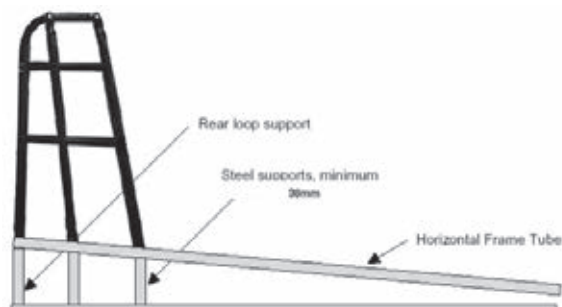
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of strap steel with minimum dimension of 6mm x 50mm will be attached to the differential housing. The straps are welded to a 6mm plate (dimensions dictated by size of operator area). Side flanges and or plate must be attached by a minimum of five fasteners per side (total 10) or four each side and two at the rear of differential housing. If needed, straps 6mm x 50mm can be welded to side straps (flanges) to fasten to a lower location of differential and transmission housing (examples below). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching strap is connected at the rear of the two side straps and an optional strap can connect across the front of the 6mm x 50mm plate. The rear and front strap is of the same dimension as the side straps. The rear and side straps when welded to the plate create a 'U' shape. When the rear, front and side straps are welded to the plate it creates a 'box' shape. When five fasteners per side are used the rear attaching strap (flange) does not have to attach to the threaded holes in the differential housing. Some models will connect the rear strap forward of the rear of the differential housing.



12.7.2.2 Mounting to Tube Type Chassis

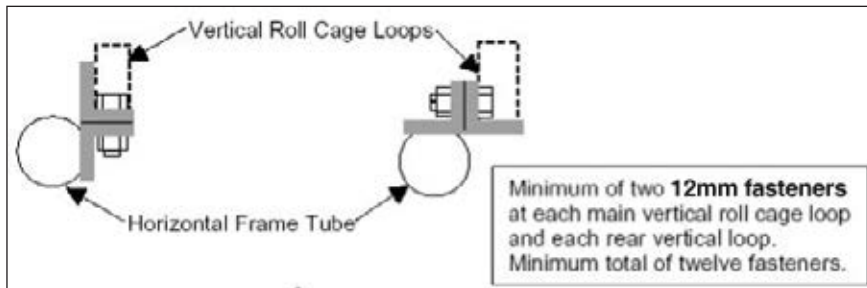
12.7.2.2.1 OPTION 1 – Permanent Attachment

1. Vertical roll cage loops to be fastened (welded) directly to horizontal type frame structure. When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube. Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure.



12.7.2.2.2 OPTION 2 – Removable

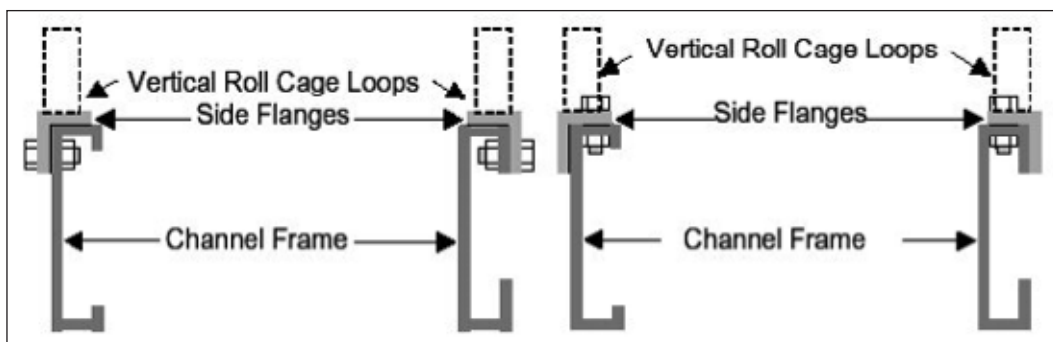
1. Vertical roll cage loops to be fastened to an angle iron with minimum dimension of 6mm x 50mm x 50mm which is fastened by 12mm fasteners to an angle iron. The angle iron minimum dimension is 6mm x 50mm x 50mm which is directly fastened to the horizontal type frame structure (examples below). When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube (same as **OPTION 1**). Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



12.7.2.3 Mounting to Channel Type Chassis

12.7.2.3.1 OPTION 1 – Removable

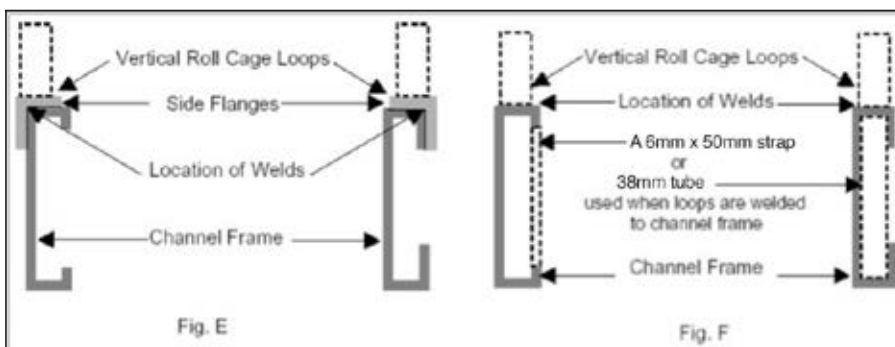
1. The vertical roll cage loops to be fastened to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron is permissible. Each side flange must be secured to the vertical or horizontal of the channel frame with a minimum of five 12mm fasteners. Rear roll cage attaching tubes to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 12m x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



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11.7.2.3.2 OPTION 2 – Permanent

1. The vertical roll cage loops to be fastened (welded) to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron also can be used. Each side flange must be welded to the vertical of the channel frame (Fig. E). Also the vertical roll cage loops can be welded directly to the channel frame. A 6mm x 50mm strap or 38mm tube must be positioned directly below the vertical roll cage loops for support (Fig. F) Rear roll cage loops to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 6mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



12.8 Driver's Seats & Wheel Fenders

1. Open Modified tractor must have a strong and rigid seat.
2. Open Modified tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
3. Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.

12.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (Refer to Appendix D)

12.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- **35 psi** cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. The tractor pull contest is open to pulling tractors with rubber tyres.
2. No dual tyres, tyre studs, or chains permitted.
3. All power must be transmitted through the wheels.
4. A limit of 30.5" is put on the width of tyres, rim diameter is limited to 32" on tyre widths over 24.5".

12.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. **The hook must not extend more than 150mm beyond the foremost point of the tractor.**
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

12.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

12.13 Engines

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.

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5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. All injection or butterfly shafts on engines must have dual return-to-idle arms and springs.
8. All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and pump throttle arm(s).
9. Two return springs per carburettor.
10. All engine fans must be shrouded with steel 1.5mm or thicker 360 degrees. (Electric Fans Excluded).
11. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and throttle shaft arm(s) on injection or butterfly shafts.

12.14 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. The kill switch must be located in the rear centre of the tractor (maximum of 150mm off centre in all directions), 1200mm above the ground.
 - b. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - c. 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
 - d. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Clerk of the Course's discretion.
3. All diesel and fuel injected ignition engines must have a fuel shut off valve control within easy reach of the driver.
4. All diesel engines will be equipped with an emergency shutdown air shut off at the air intake, which can be utilised from the tractor seat.
5. All Open Modified tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.
6. Tractors fitted with a jet turbine or other high kinetic energy are required to supply a chain attached to the chassis and of sufficient length to attach to the sled pan and that sleds have provision for attachment. The chain is to be of sufficient strength to stop a tractor in a jerk breakaway situation.

12.15 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.
4. Starter motors, fuel injection pumps and fuel pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
5. Shielding on all V or Y type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
6. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.
 - a. No turbine engine will be operated beyond military temperature and RPM limits.
 - b. All turbine air intakes shall be screened with metal screen having openings no larger than 4mm.
 - c. All turbine engines must have a 360 degree cover, extending from the location of the turbine wheel for a minimum distance of 250mm in the direction of gas flow. Shield must be made of 10mm steel with all joints securely fastened.
 - d. All turbine engines with horsepower in excess of 1500 horsepower (Government Rating) shall have 12mm stainless steel shrouding around the turbine wheel(s).
 - e. Exhaust stack diameter to be no smaller than 25mm of engine outlet.

12.16 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

12 RULES FOR OPEN MODIFIED TRACTORS

12.17 Engine Mounting

1. Two front motor mounts, two rear mounts and a support saddle for rear of transmission, with 12mm maximum clearance or,
2. Two front motor mounts, support saddle at rear of engine with 12mm clearance and a motor mount at rear of transmission.

NOTE: This is to prevent engine and / or transmission from dropping if breakage occurs.

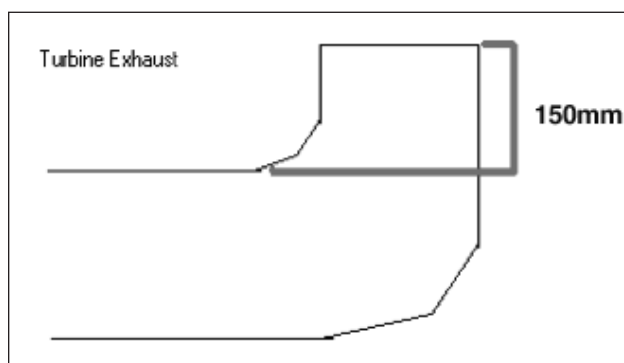
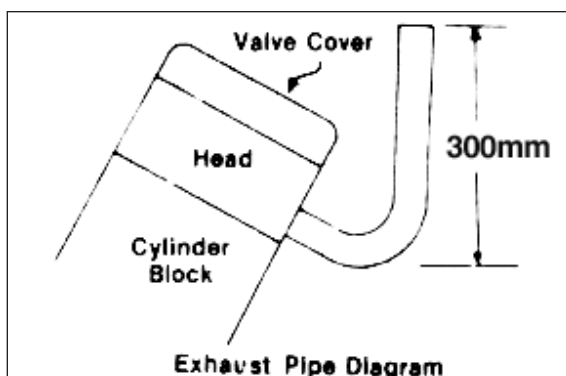
12.18 Automotive Engines

1. Open Modified tractors must use a SFI approved bell housing or a 10mm thick steel safety shield. It must be a ONE PIECE 360 degree circle, separately constructed from the chassis and securely attached to the tractor, starting 25mm ahead of the flywheel or against the engine block and be a minimum of 150mm wide. The shield must not be over 75mm away from the flywheel at any point and must be fully enclosed except for clutch control mechanism. The shield is to be bolted together with three 12mm bolts (grade 5 or better) at each seam, or butt and seam welded, or if unable to comply with this requirement an SFI scatter blanket is to be used.
2. All Open Modified tractors using automotive engines must have flywheels, clutches, and related components mounted to engine (or block plate).
3. Where gear box is used between engine and clutch, the shaft must be solid billet steel 56mm min diameter, to be heat treated 4140 steel 30 to 38 Rockwell. This shaft **must not exceed** engine crankshaft RPM.

12.19 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.
7. Turbocharged engines must have two 10mm (Grade 5) bolts in vertical portion of exhaust pipes. Bolts are to be installed at 90 degrees to each other, within 25mm of each other.

12.19.1 Diagram Five: Exhaust Pipe Design



12.20 Superchargers & Turbochargers

1. All turbochargers and centrifugal belt driven superchargers not bolted to the intake manifold, that are NOT under hood, must be completely shrouded, except for inlet and exhaust pipes, with steel 1.5mm or thicker.
2. All supercharger drive components must be shrouded on the top and sides with 1.5mm steel, the shield to be wider than the drive belt or chain and securely mounted.
3. All Centrifugal superchargers must be shielded with 10mm steel on the top sides, 150mm side fastened securely with grade 8 or better 10mm bolts every 50mm where fastened.
4. All superchargers to be mounted to the intake manifold using aluminium studs.

NO STEEL STUDS ALLOWED

5. A supercharger restraint system is mandatory and shall meet **minimum of SFI 14.1 (and be fit for purpose. Refer to Appendix D)**, consist of four separate straps securely fastened to the engine by means of its own attachment bracket. The top attachment bracket to be sandwiched between the lower surface of the injector body and the upper surface of the supercharger case. The bottom attachment bracket for each strap shall be connected to the engine by a minimum of two 10mm bolts or studs, Grade 5 or better. **When over 20% nitro methane used, must use approved SFI 14.3 blanket on blower.**
6. All carburetted or injected Allison, Packard, Rolls Royce, Industrial or Marine engines using a centrifugal supercharger must be shielded.
 - Shielding will be same on each side of supercharger.
 - Shield to start at the centre line of supercharger housing and extend 125mm rearward, only allowing notching to fit around accessory components.
 - Shield to extend 200mm forward of centre line of blower housing and notched only for accessory components (such as air boxes).
 - On the front edge of the shield there will be a rolled lip extending inward 25mm Shields will be 10mm steel bolted every 50mm or closer, 10mm bolts or larger, Grade 5 or better.
 - Shield to start at bottom of blower housing, up the side, over the top and down the other side to bottom of blower housing.
 - Holes or notches allowed only for accessory components.
 - The Shield must maintain its integrity.
7. On all pulling tractors the tubing on the pressure side of a turbocharger to the intake must be under the hood, side shields, be bolted and / or strapped securely.

12.21 Clutches Flywheels and Automatic Transmissions.

1. The use of torque converters, automatic shifts, etc. will be permitted.
2. All Open Modified tractors using torque converters or automatic transmissions are required to have an approved Scatter Blanket fitted meeting SFI 4.1 standard, wide enough to extend from the rear of the engine block to the front of the tail housing or **SFI APPROVED** or equivalent shielding. The opening at the bottom of the transmission/torque converter housing must be enclosed in steel (stock steel cover is acceptable).
3. All Open Modified tractors fitted with automatic transmissions with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' SFI approved shifter.

12 RULES FOR OPEN MODIFIED TRACTORS

- All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

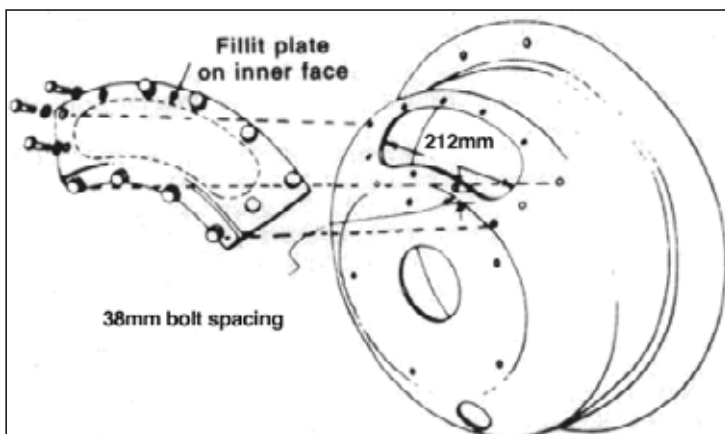
POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

- A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
- All automotive engines will be required to have a **STEEL PLATE** or a **STEEL BILLET** flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
- Inspection procedure.
 - All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
- All Lenco type planetary transmissions must be covered with an approved scatter blanket.
- Scatter blanket straps to be fastened forward and to the rear of the Clutch / flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.
- Tractors are required to have an approved scatter blanket fitted covering the transmission distance from the rear of the engine block to the start of the extension housing of all automatic transmissions or a protective shield fabricated from a minimum 6mm aluminium or 3mm steel offering 180 degrees of protection (e.g. pan rail to pan rail on automatics or equivalent on manuals) mounted securely with two steel straps 25mm x 4mm minimum passing under the transmission as per **SFI** specifications. **A shield must cover ring gear** with minimum 50mm coverage 180 degrees, fabricated from a minimum 6mm aluminium or 3mm steel or SFI approved.

12.22 Bell Housings

- Bell housing must originally be purchased and installed as SFI 6.2 bell housing with sticker visible for inspection.
- The inspection / maintenance hole (i/m) in the bell housing shall not extend further forward at its top edge than flush with the cross shaft hole, or further down ward at its bottom edge than 12mm from the fastening bolts in both the bell housing, the i/m cover and the vertical surface at the rear of the bell housing.

12.22.1 Diagram Six: Bell Housing



- The length of the inspection hole shall be no more than 212mm measured in a straight line.

4. The bell housing cover:
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
 - c. The Cover and fillet must be steel.
 - d. The fillet must be welded to the cover.
 - e. All bolts must be flush on the inside.
5. There must be a minimum of six bolts (10mm diameter minimum) used to secure the transmission to the bell housing.
6. All automotive type engines with bell housings and clutch will run a full block plate, which can be either a commercially produced unit or 4mm steel with six 10mm diameter bolts evenly spaced on the bottom of the bell housing.
7. SFI certified bell housings with Crower stand adjustment slots are acceptable.
8. Block saver plate must have no additional holes.
 - a. Must have six (grade 5) or better cap screws securing the cover to the bell housing.
 - b. The cover must have a plate or fillet that fits flush with the housing.
9. No lightening holes allowed on the transmission face of the bell housing, one cooling hole allowed, maximum 25mm in diameter on the face of bell housing.
10. No chemical milling.
11. Bell housings with lightening holes on the transmission face MAY NOT be welded up and reused.
12. Clutch maintenance holes MAY NOT be welded up if the original hole in the housing was over 262mm in length or 87mm wide. All bell housings must be flush on the inside surface face.

12.22.2 Aviation, Marine & Industrial Engines

The following items provide specifications for different clutch applications on aviation, marine and industrial engines.

12.22.2.1 Clutch Application One

1. On aviation, marine and industrial engines in tractor pulling applications where a gear box is used between the engine crankshaft and the clutch, the gear box output shaft **must not exceed** one and one half times (1.5:1) the speed of the crankshaft.
2. No torque converters are allowed behind the gearbox.
3. The shaft that accepts the flywheel must be made of solid billet steel and of 56mm minimum diameter, to be heat treated 4140 steel, 30 to 38 Rockwell.
4. All clutch assemblies used in this application must be **SFI** approved.
5. Clutches are limited to a maximum diameter of 279mm.
6. Bell housing to be bolted to a 6mm steel plate or greater with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around bell housing. The 6mm plate to which the bell housing is bolted must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.
7. The gearbox must be securely fastened to the frame by a 10mm steel plate, or securely attached to the rear of the engine. The gearbox will be mounted and secured to the tractor sub frame in such a manner to withstand lifting the entire tractor weighted for the lightest class it can legally enter.
8. The gearbox must be constructed of 10mm steel or 19mm aluminium or greater. Owners of tractors using this type of arrangement **MUST** provide scrutineering panel with **POSITIVE PROOF** of gear box speed.

12 RULES FOR OPEN MODIFIED TRACTORS

12.22.2.2 Clutch Application Two

1. On aviation, marine and industrial engines in pulling tractor applications with the clutch mounted on the crankshaft or on a shaft connected to the crankshaft, the shaft or adaptor which accepts the flywheel must be made of solid billet steel, and of 56mm minimum diameter, to be heat treated (4140) steel, 30 to 38 Rockwell.

ALL CLUTCH ASSEMBLIES USED IN THIS APPLICATION MUST BE SFI APPROVED

2. The diameter is limited to 279mm.
3. Bell housing to be bolted to an engine plate with a minimum of twelve 10mm (Grade 5) bolts evenly spaced around the bell housing.
4. Engine plate to be 6mm steel plate or greater, or 10mm aluminium plate or greater.
5. The plate to which the bell housing is bolted must be securely fastened to the engine or frame by at least eight 10mm (Grade 5) bolts. Four on each side of the frame.
6. If using a single rail design, the 6mm plate on the front of the bell housing must be securely fastened to the frame by eight 10mm (Grade 5) bolts, four on each side of the frame.

12.22.2.3 Clutch Application Three

1. On aviation, marine and industrial engines used in tractor pulling applications with clutch or torque converter mounted on crankshaft.
2. All clutch components shall be required to have all steel, aluminium or ductile iron components, and be **SFI** approved for this application.
3. Maximum diameter to be 350mm.

POSITIVELY NO GREY CAST IRON

4. Tractor shall be required to have entire clutch or torque converter area enclosed, front and rear, 360 degree coverage, with 10mm minimum thickness steel, 12mm distance from rotating mass, maximum centring on rotating mass.
5. Entire shield to be covered with **SFI** approved scatter blanket, 360 degrees.
6. Blanket to centre on rotating mass, minimum 300mm wide, and cover the clutch and all components.

12.22.3 Turbine Engines

Any turbine engine that exceeds 8,000 rpm on the output shaft shall not be allowed to use a clutch / flywheel assembly, or an automatic transmission.

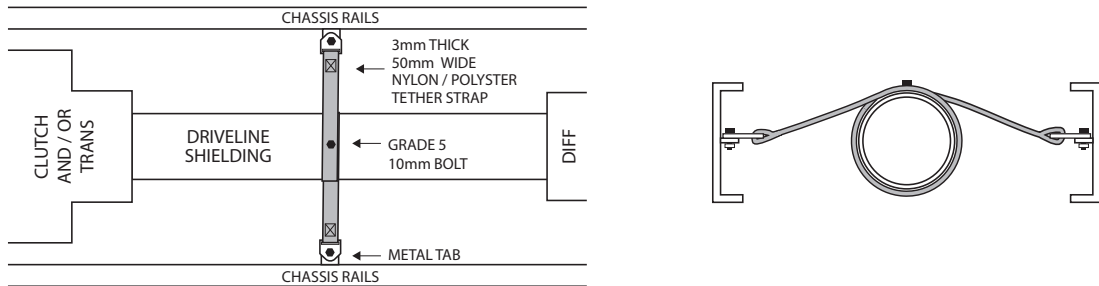
12.23 Drive Line Shielding

1. All drive line brakes must have 10mm steel, 360 degrees around brake components, and both ends must be closed with 3mm steel or greater.
2. On multiple engine tractors that use a starter ring gear between motors, the starter ring must be covered 360 degrees, securely fastened and both ends must be enclosed in 6mm steel or greater. If an engine block plate is used, it is to be used only for the back (behind starter ring) portion of the shield.
3. Tractor chassis rails may form part of ring gear shield if shield will not fit between chassis rails and bell housing (If sufficient space exists, shield must pass between chassis rail and bell housing)
4. All remaining drive train must be enclosed in 8mm minimum steel, round, inside diameter not to exceed 50mm more than the outside diameter of the largest universal joint, fastened every 150mm or closer, with 10mm or larger (grade 5) bolts or butt and seam welded and be securely mounted to tractor frame. Chrome molybdenum (4130 grade) with a minimum wall thickness of 3mm may also be used for this purpose. 10mm aluminium with 3mm steel insert in the aluminium. The insert must be a minimum of 150mm wide and over the 'U' joint
5. Drive shaft covers that are not solid mounted to the chassis must have a rated drive shaft strap installed to stop any chance of the drive shaft exiting tractor. For solid driveline shields over 400mm in length. All driveline shield components must be tethered on each end by two opposing restraints. Tethers must attach to the driveline shield with two 3/8 grade 5 bolts at 180 degrees of each other and a minimum of 75mm and a maximum of 150mm from each end of each driveline shield component.

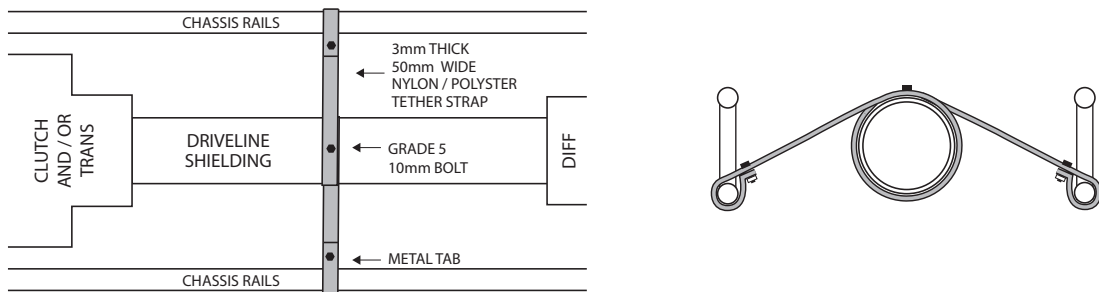
Tether to be constructed of a minimum of 50mm wide by 3mm thick nylon or polyester strap. One end of tether must attach to one side of the chassis then go around the driveline shield then attach to the other side of the chassis. Tether must be attached to chassis by a minimum of one 10mm grade 5 bolt with a grommet on each side or wrap around the chassis and use a buckle to fasten it to itself. The reason for this is to stop a potential driveline / driveline shield flying into the crowd.

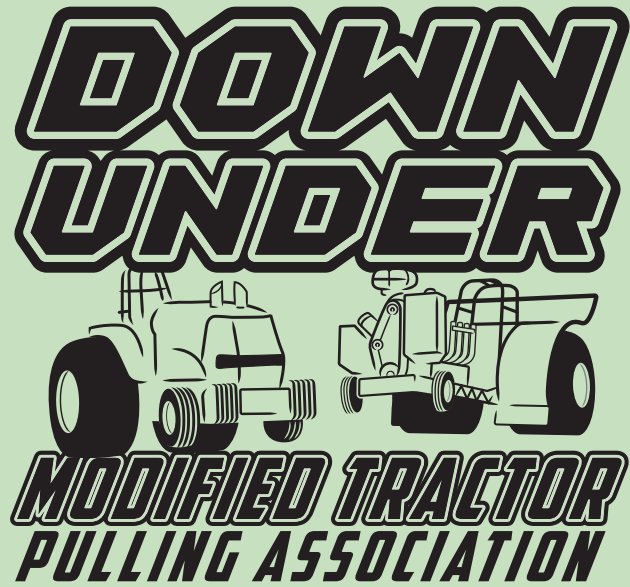
12.23.1 Diagram Eight: Driveline Tether

ONE STRAP WRAPPED & BOLTED TO TABS OFF CHASSIS



ONE STRAP WRAPPED AROUND TUBE CHASSIS





13. RULES FOR PRO-STOCK TRACTORS

13 DOWN UNDER MTPA RULES FOR PRO-STOCK TRACTORS

1. The engine capacity for Pro-Stock:
 - Above 7.68 litres (470ci) will be Pro-Stock Open (A)
 - Below 7.68 litres (470ci) will be Pro-Stock Tractors (B)
2. Weight class is: **4600kg**, including driver & safety apparel.
3. The maximum length of 3962mm from centre of rear wheel to forward most portion of tractor including removable ballast.
4. **Maximum width of vehicle is to be 2440mm at its widest point including ballast.**
5. No four wheel drive model tractors are eligible as a Pro-Stock entry.
6. In order for a particular model of Tractor to be eligible as a Pro-Stock entry there must have been 150 units produced of that model, it is up to the owner to provide documented proof should a protest be made.

NOTE:

- a. All measurements are shown in imperial measure (unless otherwise indicated).
- b. These are the minimum standards.
- c. If using metric material and there is no exact equivalent, a larger size must be used.
- d. The following approved safety equipment may be used FIA & SFI.

13.1 Safety

If the Clerk of the Course or the Scrutineering Panel feel that a tractor is unsafe they have the right to disqualify that tractor from hooking.

1. The fire extinguisher must display the band either white (dry chemical / powder fire extinguisher) or blue (foam fire extinguisher) and a corresponding sticker either white or blue 75mm x 50mm rectangle on or close to the fuel tank so the track workers know which extinguisher can be used in case of a fire.
2. All competing drivers at all **Down Under MTPA** events must wear approved protective drivers apparel & helmet. **(Refer to Appendix C - SFI / FIA Driving Apparel requirements).**
3. All competing drivers at all **Down Under MTPA** events must use approved seat belts. **(Refer to Appendix D - SFI / FIA Selt Belt requirements).**
4. **A competent driver must be seated in the driver's seat of the tractor when the tractor engine/s is being started and running and must have complete control of the tractor at all times.**

NOTE: No exposed skin while competitor is sitting in seat ready to compete.

5. All Pro-Stock tractors with an accessible reverse gear are required to have a reverse safety light system. The system must conform to the following:
 - a. A white light visible in day light at 4 metres, must be mounted adjacent to the kill switch at the rear of the tractor. Also a white light on both sides of the tractor that is visible in day light at 4 metres from the rear side of the tractor, it must be behind the centre of the rear axle.
 - b. A light in the driver's compartment must operate off the same circuit.
 - c. Both lights are to be activated by the gearshift so that it will be operated only when the tractor is in reverse gear.

13 RULES FOR PRO-STOCK TRACTORS

13.2 Legal Fuels

Diesel. Automatic transmission fluid may be used at a ratio of 400:1 or 2.5 ml per 1 litre of diesel fuel as an additive to prevent delivery valve or injector seizure.

13.2.1 Fuel Lines

1. All fuel lines are to be either steel braided, high pressure reinforced rubber or fuel grade (red reinforcing) high pressure PVC.
2. No plastic tubing is allowed.
3. Fuel lines should be braided and clamped or shielded and clamped within 150mm of any moving engine component (alternators, water pumps, harmonic balancers, etc.) component (alternators, water pumps, harmonic balancers, etc).

13.3 Chassis

1. Pro-Stock tractors with frame bolted to transmission shall also be bolted to axle housing to prevent splitting of tractor. Must be of sufficient strength to support the weight of the tractor in the heaviest class being entered with bolts removed from plate of transmission or rear end.
2. All tractors shall have wide front axles. Front wheels shall track within the rear wheels.
3. All tractors shall be fitted with a tow back hook painted in a contrasting colour and to be strong enough to tow the tractor's weight. Hook to be fitted so as to prevent tow strap falling off.
4. The chassis of a Pro-Stock Tractor shall consist of the following:
 - (a) The stock engine block or the Original Equipment Manufacturer (OEM) that will operate with the stock crankshaft for that model without any alterations for chassis mounting.
 - (b) Exception: In the case where a roller cam is fitted, (OEM) does not apply.
5. Engine block must remain located within the chassis as is manufacturer.
6. All engines must be secured and held to (OEM) chassis. Engine may be mounted to chassis independent of direct attachment to the rear end/transmission assembly. This is to save splitting of the tractor drive train to carry out clutch repair or replacement.
7. The stock transmission housing and stock final drive or equivalent manufacturer's replacement must be used. **NOTE:** Planetary gears are considered part of final drive and are not removable.
8. Any alteration to the chassis shell or the stock appearance must have the written approval of the **Down Under MTPA** Scrutineering Panel before the tractor in question will be considered a legal **Down Under MTPA** entry. The tractor must maintain a stock appearance.
9. The chassis and frame must remain stock from the rear of the engine block to the rear of the tractor. Safety tie bars must be mounted to the rear axle housing with at least four axle housing bolts, extending forward of the flywheel areas and fastened to side of the block or main frame with at least two 16mm bolts or a one piece frame extending from the front of the tractor to the rear axle housing mounting bolts.

NOTE: Tie bars or frame must be of sufficient strength to support the weight of tractor if the bolts used to split the tractor were removed.
10. Safety blankets must be on the inside of the tie-bars and the tie-bars must be fastened forward of the rear of the engine block.

13.3.1 Frame & Sheet Metal

1. Tractors must have hood and grill in place as intended by the manufacturer.
2. Sheet metal can be upgraded to present manufacturer.

3. Sheet metal upgrades cannot cross original manufacturer's lines (i.e: Case to IH, or Oliver to Minneapolis Moline).
4. Sheet metal to be stock length and stock location.
5. Tractors must retain stock appearance.
6. The distance from the centre of the rear axle to that part of the hood that is the farthest forward must be the same length as that model of the upgraded sheet metal.
7. Wheelbase rule will apply according to the original chassis, not to the model of the upgraded sheet metal.
8. Maximum of 2896mm wheelbase unless originally produced with longer wheelbase, in which case stock length must remain.
9. In all cases the rules defined in section 13.3, number 4 to 9 will apply according to the original chassis, not to the model of the upgraded sheet metal.

13.4 Brakes

All tractors must be equipped with working rear brakes on axles. Brakes must have pedal height and 'feel' and apply to stop the tractor.

13.5 Drawbars

1. Drawbars shall be constructed in such a way that in the event of drawbar breakage, any drawbar supports do not pull from a top link or brace above the centre line of the rear axle of the tractor.

NOTE: A single pin breakaway type drawbar (similar to a standard car hitch arrangement) is recommended to eliminate the rearing up of the pulling tractor, which may occur if the front drawbar pin breaks and all of pull is from the top link or a brace fastened above the centre line of the rear axle.

2. Any competing tractor which has the drawbar hold up device supported from above the centre line of the rear axle must have a single pin break away type (slide out) drawbar. i.e: If the pin at the front of the drawbar breaks the drawbar will slide freely out of its hold up/hold down devices.
3. Drawbars must have the pivot pin in the same plane as the hitch point and parallel to the ground within 38mm, plus or minus, per 300mm of length of drawbar. This formula translates to legally allow 10 degrees or less of drawbar angle.
4. Drawbar distance from the centre of the rear axle must not change during a pull.
5. A drawbar which has provisions to be made shorter than legal length is not acceptable as a legal drawbar.
6. No portion of tractor may interfere with sled or sled hitch during a pull.
7. No 'trick' hitches - no 'cam type' rear ends.
8. Drawbar must be rigid in all directions.
9. An area, 150mm wide and 300mm high, immediately above the drawbar must be free of all obstructions for ease of hooking and unhooking.

13.5.1 Drawbar Heights & Lengths

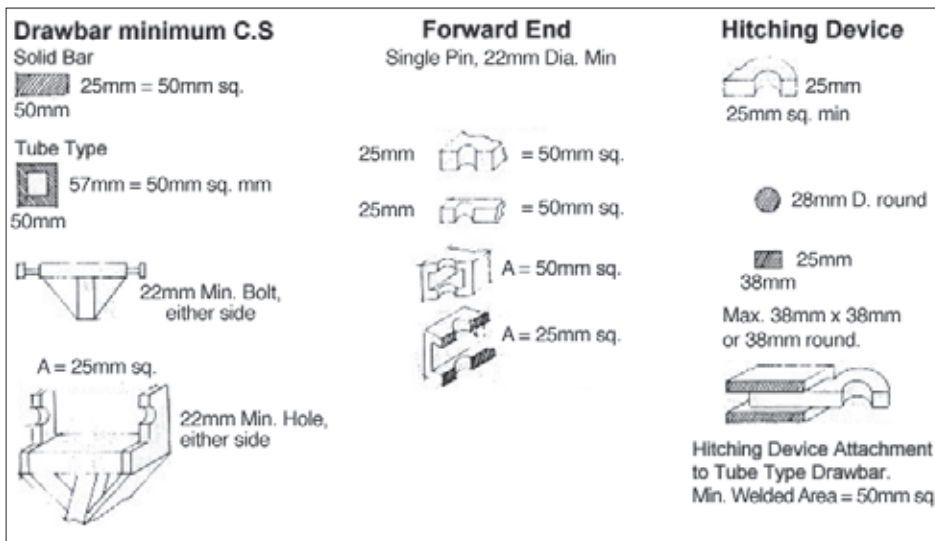
Drawbars cannot be shorter and / or higher than specifications listed below.

Drawbar lengths are measured from the centre of the rear wheels to the point of hook.

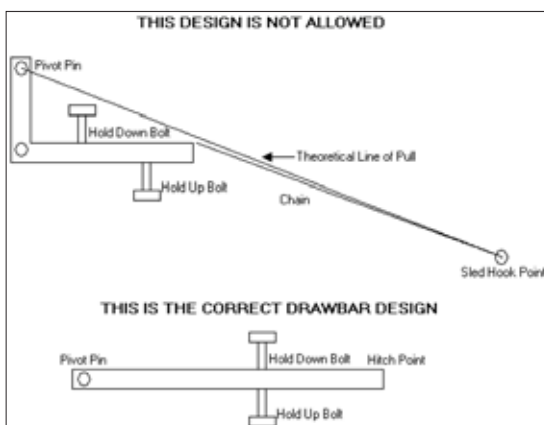
CLASS	MAX HEIGHT	MIN LENGTH
Pro-Stock	508mm	450mm

13 RULES FOR PRO-STOCK TRACTORS

13.5.2 Diagram One: Drawbar Materials & Size



13.5.3 Diagram Two: Drawbar Design

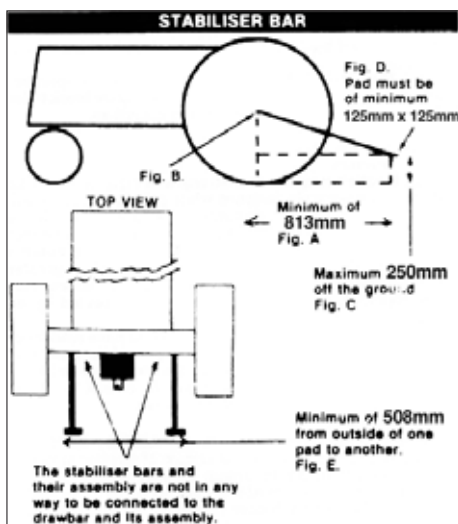


- Drawbar must be a minimum of 50mm x 50mm in total material (steel) at any point. This includes the area of the pin with the pin removed.
- No drawbar pin is to be less than 22mm diameter.
- Drawbars must not extend rearward beyond the rear tyres.
- Drawbars must be equipped with a steel hitching device not more than 38mm x 38mm square (38mm round stock) nor less than 25mm x 25mm square (28.5mm round stock) with a 75mm round hole (maximum of 87mm round hole).

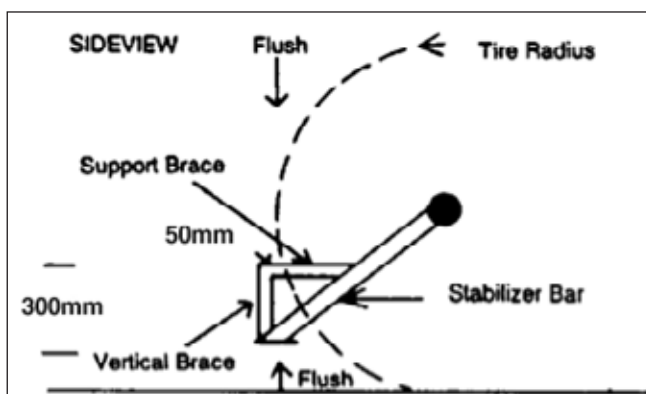
13.6 Stabiliser (Wheelie) Bars

1. The stabiliser bar system must be able to support the weight of the tractor. Jacking up the pads, so tractor is completely off the ground will be a good test.
2. Stabiliser bars are required.
3. The drawbar and drawbar assembly will not in any way be attached to the stabiliser bar assembly. (Refer to Diagram Three below)
4. The stabiliser bar will extend a minimum of 813mm behind a line (Figure A) drawn from the centre of the wheel (Figure B) to the ground. The stabiliser pad must not be more than 250mm off the ground (Figure C).
5. The stabiliser pad must be a minimum of 125mm x 125mm (Figure D).
6. A minimum of 508mm will be allowed from the outside of one pad to the other (Figure E).

13.6.1 Diagram Three: Stabiliser (Wheelie) Bars



13.6.2 Diagram Four: Stabiliser Design



13 RULES FOR PRO-STOCK TRACTORS

13.7 Roll Cages

Driver Roll Cage

13.7.1 Driver Roll Cage for Pro-Stock Tractors:



Figure A.

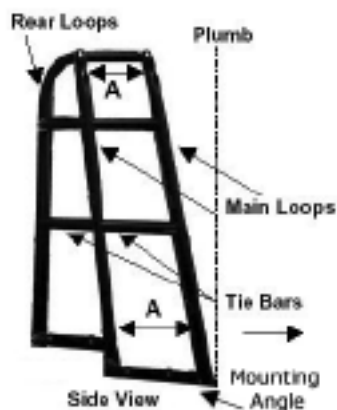


Figure B.

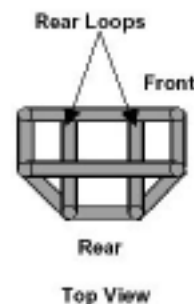


Figure C.

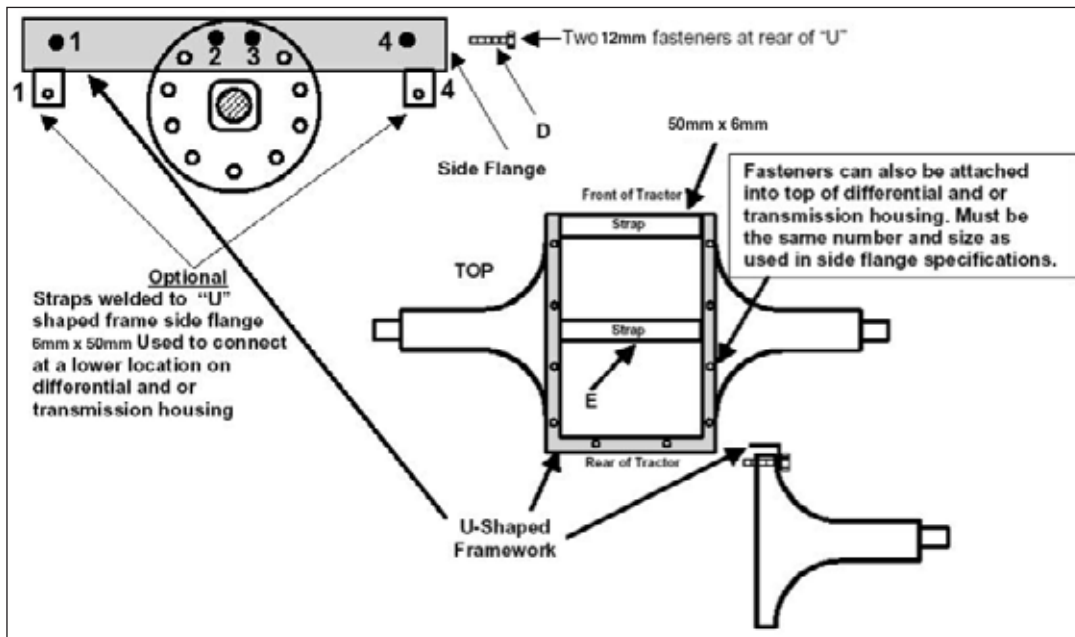
1. Structural Material:
 - a. Chrome molybdenum seamless steel tubing: 2.4mm minimum wall thickness and 50mm minimum tube diameter
 - b. Carbon mechanical seamless tubing (mild steel) or (DOM): 3mm minimum wall thickness and 50mm minimum tube diameter.
2. Six-point connection at differential housing using following options: 'U' flange, tube chassis, or channel chassis.
3. Two main vertical loops (side to side)
4. Two rear vertical loops (off top of main loops)
5. Vertical loops must be one length - No splices (must be bent in a formed radius, without kinks)
6. Main vertical loop spacing at top is 200mm minimum to 350mm maximum (centre to centre) Fig. A
7. Main vertical loops must be no more than 10-degrees from plumb (forward or backwards)
8. Rear loop spacing at top and bottom is 200mm minimum (centre to centre) Fig. B
9. Maximum width of main vertical loops is 860mm (inside to inside) Fig. C
10. Horizontal bars, minimum of two on top, minimum of two per side tied to rear loops
11. Harness must be attached to the roll cage - weld hardware to tube and do not drill holes in tube.
12. Use attaching specifications that are located in roll cage mounting section
 - a. Tractor transmission and differential housing
 - b. Tractor tube chassis
 - c. Tractor channel chassis

13.7.2 Roll Cage Mounting

13.7.2.1 Mounting to Tractor Transmission and / or Differential Housing

13.7.2.1.1 OPTION 1

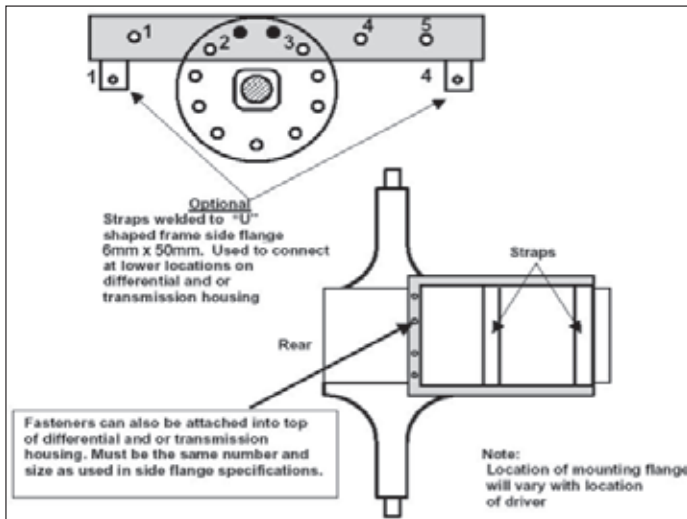
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of two axle-housing fasteners per side. Two additional fasteners must be attached to the vertical flange, one before and one after the axle housing. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. The rear attaching flange must be constructed as to attach to a minimum of two threaded holes in the differential housing that are 12mm or larger (Fig. D). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
3. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (Fig. E)
4. Each flange configuration requires a minimum of ten fasteners.



13.7.2.1.2 OPTION 2

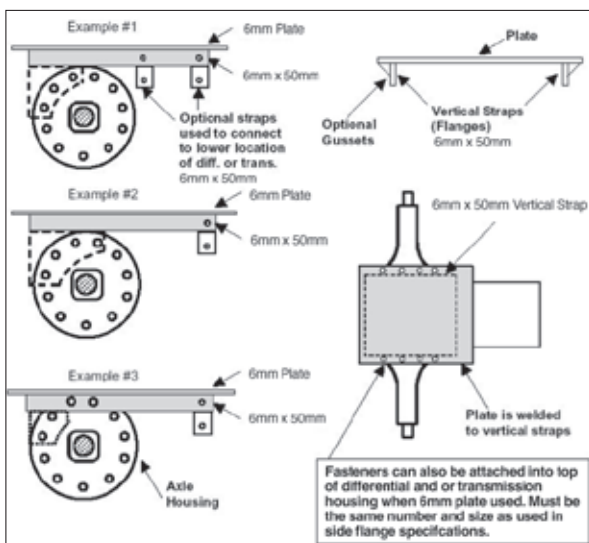
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of 90-degree angle steel with minimum dimension of 50mm x 50mm x 6mm will be attached to the differential housing or a strap 50mm x 6mm can be welded to create a 90 degree-angle. Side flanges must be attached by a minimum of five fasteners per side (total 10) to vertical or horizontal sides. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching flange is connected at the rear of the two side flanges. The rear flange is of the same dimension as the side flanges. The rear and side flanges, when connected, create a 'U' shape. When five fasteners per side are used the rear attaching flange does not have to attach to the threaded holes in the differential housing. Some models will have the rear flange positioned and connected forward of the rear of the differential housing. The 'U' shaped flange assembly must be connected at two locations by a minimum of 50mm x 6mm strap at the open end of the 'U' and a second strap midway between rear angle flange and front strap. (illustration shown on **OPTION 1**)

13 RULES FOR PRO-STOCK TRACTORS



13.7.2.1.3 OPTION 3

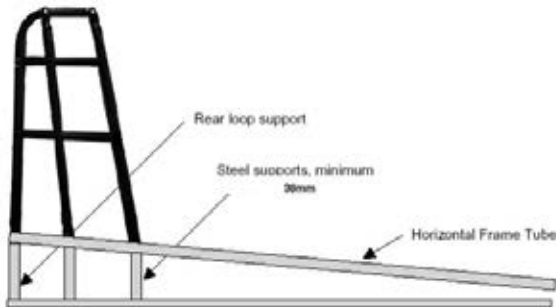
1. Roll cage must be attached to any tractor utilising a stock differential housing. Side flanges constructed of strap steel with minimum dimension of 6mm x 50mm will be attached to the differential housing. The straps are welded to a 6mm plate (dimensions dictated by size of operator area). Side flanges and or plate must be attached by a minimum of five fasteners per side (total 10) or four each side and two at the rear of differential housing. If needed, straps 6mm x 50mm can be welded to side straps (flanges) to fasten to a lower location of differential and transmission housing (examples below). Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.
2. An attaching strap is connected at the rear of the two side straps and an optional strap can connect across the front of the 6mm x 50mm plate. The rear and front strap is of the same dimension as the side straps. The rear and side straps when welded to the plate create a 'U' shape. When the rear, front and side straps are welded to the plate it creates a 'box' shape. When five fasteners per side are used the rear attaching strap (flange) does not have to attach to the threaded holes in the differential housing. Some models will connect the rear strap forward of the rear of the differential housing.



13.7.2.2 Mounting to Tube Type Chassis

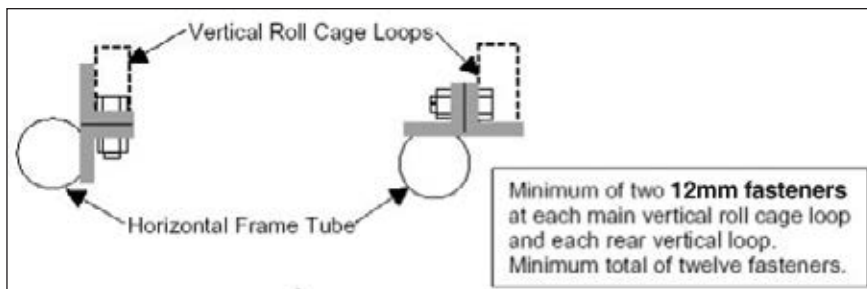
13.7.2.2.1 OPTION 1 – Permanent Attachment

1. Vertical roll cage loops to be fastened (welded) directly to horizontal type frame structure. When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube. Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure.



13.7.2.2.2 OPTION 2 – Removable

1. Vertical roll cage loops to be fastened to an angle iron with minimum dimension of 6mm x 50mm x 50mm which is fastened by 12mm fasteners to an angle iron. The angle iron minimum dimension is 6mm x 50mm x 50mm which is directly fastened to the horizontal type frame structure (examples below). When this method is used, steel supports must be installed directly below horizontal frame tube and in line with each vertical roll cage tube (same as **OPTION 1**). Steel supports must extend to the next horizontal frame tube directly below. The steel supports must be a minimum 6mm x 75mm dimension or 38mm diameter tube. Rear roll cage vertical loops must be attached to one of the differential housing options or must be supported directly below both rear vertical roll cage loops same as side frame structure. Fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.

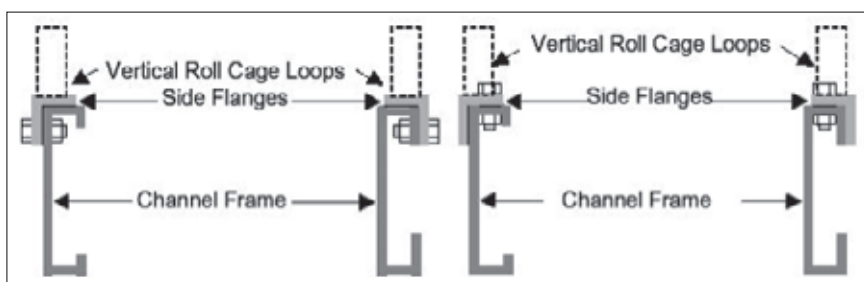


13 RULES FOR PRO-STOCK TRACTORS

13.7.2.3 Mounting to Channel Type Chassis

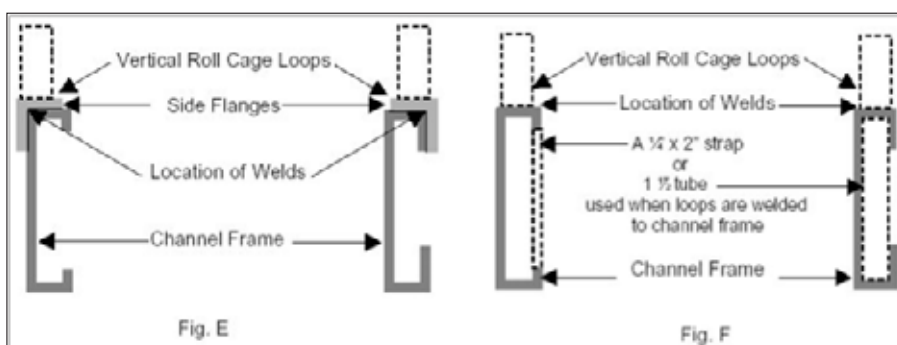
13.7.2.3.1 OPTION 1 – Removable

- The vertical roll cage loops to be fastened to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron is permissible. Each side flange must be secured to the vertical or horizontal of the channel frame with a minimum of five 12mm fasteners. Rear roll cage attaching tubes to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 12mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 12mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



13.7.2.3.2 OPTION 2 – Permanent

- The vertical roll cage loops to be fastened (welded) to a side flange with a minimum of 6mm thick steel with a 50mm wide horizontal and 50mm wide vertical flange. A 6mm x 50mm x 50mm angle iron also can be used. Each side flange must be welded to the vertical of the channel frame (Fig. E). Also the vertical roll cage loops can be welded directly to the channel frame. A 6mm x 50mm strap or 38mm tube must be positioned directly below the vertical roll cage loops for support (Fig. F) Rear roll cage loops to be attached to a 6mm minimum thickness steel flange made to at least the minimum dimensions of side flanges. The rear flange to be attached by welding to the side flanges or channel frame. The rear flange must be supported directly below both rear vertical roll cage tubes. Supports to be made from a minimum 6mm x 50mm steel strap welded to rear end housing or tractor frame structure or bolted with a minimum of two 50mm fasteners. All fasteners must be a minimum of 12mm diameter and grade 8 which is clearly marked on the head.



13.8 Driver's Seats & Wheel Fenders

- All Pro-Stock tractors must have a strong and rigid seat.
- All Pro-Stock tractors are required to have fenders or shield or both between the driver and any part of the rear tyre.
- Fenders or tyre shields must be constructed so that when the driver is seated and the hands are on the steering wheel, he / she cannot touch the rear tyre with any part of the driver's body.

13.9 Seat Belts / Safety Restraints

All tractors are required to have a securely installed (minimum two shoulder straps, minimum 4 point harness) seatbelt restraint system with a quick release opening mechanism. Bolt on roll cages, all harnesses must be attached to cage.

All restraint systems must be fitted per manufacturer's instructions, The minimum Standard for Restraint Systems will be the SFI standard. This restraint must be used at all times. Seat Belts must be Fit for Purpose (Refer to Appendix D)

13.10 Tyres & Wheels

TYRE / RIM SAFETY WARNING

A tyre / rim assembly may burst with explosive force causing serious injury or death if;

- **35 psi** cold inflation pressure is exceeded.
- The rim is welded without the tyre first being removed.
- The tyre is drilled or screwed onto the rim.

1. The tractor pull contest is open to pulling tractors with rubber tyres.
2. No dual tyres, tyre studs, or chains permitted.
3. All power must be transmitted through the wheels.
4. A limit of 30.5" is put on the width of tyres, rim diameter is limited to 32" on tyre widths over 24.5".

13.11 Tow Hooks

1. Competing tractors are required to have a tow hook on the front of the tractor.
2. **The hook must not extend more than 150mm beyond the foremost point of the tractor.**
3. The hook will not be included when measuring the length of the tractor.
4. The hook is not to be used for any other purpose than towing the tractor.
5. The tow hook colour must be in contrast to the colour of the pulling tractor.

13.12 Weights (Ballast)

1. All weights must be securely fastened anywhere on the tractor.
2. Weights must not extend rearward beyond rear tyres.
3. Any ballast lost while hooked to the sled will be cause for disqualification.
4. If weights touch the ground although they may still be attached to the pulling tractor, the pull will be disqualified.
5. Weights must not interfere with the operation of the kill switch or drawbar.

13 RULES FOR PRO-STOCK TRACTORS

13.13 Turbo-charged Engines

1. The engine capacity for **Pro-Stock (Open)** is set at 8.5 litre (520ci) with a maximum Turbine intake of 125mm. The turbo must not exceed 125mm on the intake, this measurement is at the entry point prior to the compression impeller. Any turbo found to be over 125mm prior to the impeller will be deemed illegal.
2. The engine capacity **Pro-Stock** tractors is set at 7.68 litre (470ci) with a maximum Turbine intake of 75mm inch. The turbo must not exceed 75mm on the intake, this measurement is at the entry prior to the compression impeller. Any turbo found to be over 75mm prior to the impeller will be deemed illegal.
3. The OEM engine block must not be modified externally. External modifications are only allowed for roller cam installation and normal repair.
4. Fuel Injection Pumps may be modified.
5. Internal webbing and water jackets must remain intact with the provision to rebore engine block may be provided.
6. One piece engine main cap bearings are allowed.

NOTE: A one piece main cap is not considered a girdle.

7. All Turbo or supercharged engines are required to have two cables that must surround the engine circumference passing around sump cylinder block and cylinder head. On inline engines the cables must be placed between the first and second cylinders and fifth and sixth cylinders of the engine. On 'V' or 'Y' block engines the cables must pass between the first and second cylinders and third and fourth cylinders on both sides of the engines. This cable must be placed through exhaust manifold port area.
 - Cable must be a minimum of 10mm thickness.
 - Cable must have a minimum of two clamps at the splice.
 - Cable must have approximately 100mm slack.
8. Pro-Stock Tractors are limited to one pressure stage and allowed one compression device.
9. Pro-Stock Tractors may use a steel plate, maximum of 16mm thick, between the block and the head.
10. Pro-Stock Tractors are limited to (2) valves per cylinder, except where a 4 valve (OEM) head is available and fitted to the engines in production.
11. Water injection and / or intercoolers are permitted. Automatic transmission fluid may be used at a ratio of 400:1 or 2.5 ml per 1 litre of diesel fuel as an additive to prevent delivery valve or injector seizure.
12. No electric fuel injection or metering devices will be allowed.
13. All ether bottles (starting aids) must be placed outside of the engine compartment.

13.14 Engine Safety

1. All tractors with radiator / water tank must have over flows and pressure cap fitted.
2. All blow-by tubes must exit forward of rear tyres.
3. All pulling tractors must be equipped with a Deadman's throttle.
4. All throttles working in a forward-rearward direction shall be closed in the rear most position.

5. No hydraulic throttle linkage allowed. The throttle must be a positive, two-way, mechanical linkage. A Morse type cable system may be used for this purpose, a return spring must be used on the hand control end.



6. All foot throttles must have toe strap.
7. All diesel engines will have a visible return to idle spring on fuel injection pump throttle arm. Return springs to be fastened between fixed mounting bracket(s) which is securely attached and pump throttle arm(s).
8. All engine fans must be shrouded with steel 1.5mm or thicker 360 degrees. (Electric fans excluded)

13.15 Kill Switches

1. All pulling tractors must have an automatic ignition kill switch and / or air shut off, in working order at all times.
 - a. The kill switch must be located in the rear centre of the tractor (maximum of 150mm off centre in all directions), 1200mm above the ground.
 - b. On a spark ignition engine, the kill switch must break or ground the ignition circuit. On tractors equipped with electric fuel pump(s), the kill switch must also break power to the fuel pump(s).
 - c. 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
 - d. The break-away kill switches will have attached to them a minimum of a 50mm diameter ring. To this ring will attach the cable from the sled.
2. If tractor has kill switch or shut off located in the legal position and during the pull it is pulled for an unknown reason and the presiding Clerk of the Course inspects and finds the switch capable of operating properly under normal conditions, tractor can be allowed to re-pull at the Track Marshals discretion.
3. All diesel engines must have a fuel shut off valve control within easy reach of the driver.
4. All diesel engines will be equipped with an emergency shutdown air shut off at the air intake, which can be utilised from the tractor seat.
5. All Pro-Stock tractors will be equipped with a starter interrupter switch on the gearshift which will allow starter engagement only in a neutral gearshift position.

13.16 Engine Shielding

1. A deflection shield is required on both sides of all engines.
2. Shield must extend the complete length of block casting and be securely fastened. The shield is to be made of aluminium, carbon fibre or steel, a minimum of 1.5mm thick or safety blanket material.
3. 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 of or all of the shield, providing it covers required areas of block casting. A quick release fastener is used (winged Dzus type or cotter pin type hood pins). Use of bolts with nuts, screws, locks are discouraged as they do not provide ease of access in case of emergency - fire, run off, etc.

13 RULES FOR PRO-STOCK TRACTORS

4. Shielding on all in line engines will be from sheet metal (hood) to 50mm below bottom centre of crankshaft throw, and be securely fastened.
5. Starter motors and fuel injection pumps may not be used as shielding. Shielding may cover or pass behind starter or fuel pump.
6. Shielding on all 'V' or 'Y' type engines must extend from base of head or the uppermost point of piston travel to 50mm below bottom centre of crankshaft throw and be securely fastened.
7. Shielding on in-line engines shall be from the bottom of head (top of block) and extend to 50mm below bottom centre throw of crankshaft.
8. Metal deflection shields are required between the driver and the engine. The shield must be from the top of the hood to the top of the torque or transmission housing and from side shield to side shield. This also serves as a flash fire shield.
9. Pro-Stock tractors that require tools for the removal of side shields must have suitable on-board fire control systems. On-board system nozzles must be installed in the engine compartment.
10. Tractors must have a complete firewall with no holes except for controls. Holes must not exceed 12mm larger than the control.

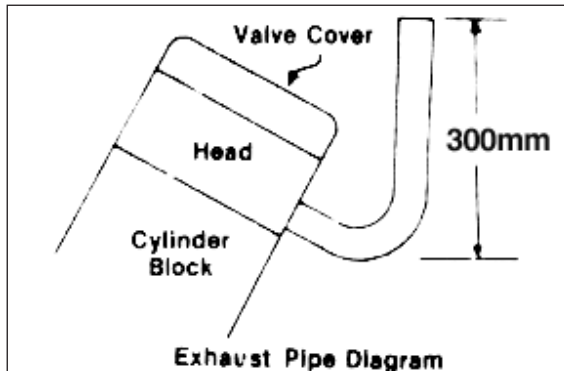
13.17 Harmonic Balancers

1. All automotive engines equipped with a harmonic balancer shall be shrouded with a one piece circle of 6mm steel no more than 25mm away in direction of rotation and at least the width of the harmonic balancer. The shroud will be securely fastened to the cylinder block. The shroud shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if the crankshaft nose fails.
2. All automotive engines equipped with a harmonic balancer which complies with SFI spec 18.1 shall have a bar fitted across the face of the harmonic balancer to prevent the harmonic balancer 'walking' if crankshaft nose fails. The bar is to be securely fastened to the cylinder block.
3. Steel to be of following minimum mechanical properties:
 - Tensile strength - 60,000 psi
 - Yield strength - 40,000 psi
4. A bolt in the crankshaft to hold damper pulley is required.
5. The term 'Harmonic Balancer' will mean any device mounted or attached to the nose end of the crankshaft (e.g. pulley)

13.18 Exhaust Systems

1. All exhausts must discharge vertically.
NOTE: Vertical is defined as being within 10 degrees plumb of the vertical plane.
2. Height to be a minimum of 300mm above the bend in the pipe which discharges vertically measured from top of the pipe to bottom of bend.
3. All exhaust pipes must be securely attached.
4. Rain caps may not be used.
5. No megaphone pipes allowed.
6. Venturi type headers acceptable.
7. Turbocharged engines must have two 12mm (Grade 5) bolts in vertical portion of exhaust pipes. Bolts are to be installed at 90 degrees to each other, within 25mm of each other.

13.18.1 Diagram Five: Exhaust Pipe Design



13.19 Superchargers & Turbochargers

1. All turbochargers and centrifugal belt driven superchargers not bolted to intake manifold, NOT under hood must be completely shrouded, except for inlet and exhaust pipes, with steel 1.5mm or thicker.
2. All supercharger drive components must be shrouded on the top and sides with 1.5mm steel, the shield to be wider than the drive belt or chain and securely mounted.
3. All Centrifugal superchargers must be shielded with 10mm steel on the top sides, 150mm side fastened securely with grade 8 or better 10mm bolts every 50mm where fastened.
4. All superchargers to be mounted to the intake manifold using aluminium studs.

NO STEEL STUDS ALLOWED

5. On Pro-Stock tractors the tubing on the pressure side of a turbocharger to the intake must be under the hood, side shields, be bolted and / or strapped securely.

13.20 Clutches Flywheels and Automatic Transmissions.

1. All Pro-Stock tractors fitted with an operational reverse gear must be fitted with a two hand operated spring loaded reverse 'lock out' SFI approved shifter.
2. All tractors using a clutch must be equipped with a flywheel meeting **SFI spec 1.1** or **SFI 1.2** steel plate or steel billet flywheel standards.

POSITIVELY NO GREY CAST IRON COMPONENTS ALLOWED.

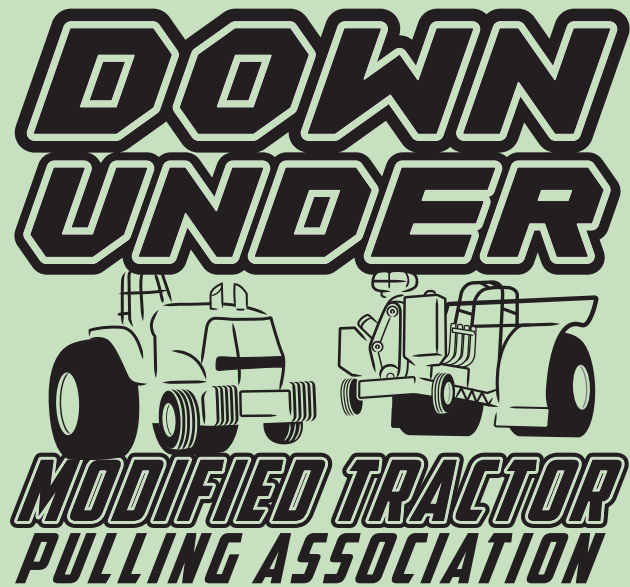
3. A signed affidavit (and proof of purchase) must be provided to the **Down Under MTPA**, upon request, stating that the proper clutch and flywheel components are installed.
4. All automotive engines will be required to have a STEEL PLATE or a STEEL BILLET flywheel. The flywheel must be made of steel with the following mechanical properties: Tensile strength 60,000 psi; Yield strength 40,000 psi. Any magnesium or aluminium flywheel that meets or exceeds SEMA 1.1 or equivalent will be acceptable.
5. Inspection procedure.
 - a. All clutches and documentation must be verified by the Scrutineering Panel before the tractor is allowed to compete.
6. Scatter blanket straps to be fastened forward and to the rear of the Clutch/flywheel assembly cover. All straps must be securely fastened and the blanket must be secure against the engine block.

13 RULES FOR PRO-STOCK TRACTORS



7. Pro-Stock Tractors are required to have an SFI Spec. 4.2 bell housing blanket that meets the following minimum construction specifications:
 - 432mm wide and long enough to wrap around the bell housing with at least a 150mm overlap.
 - Secured with six 50mm wide nylon web straps with a steel D-ring on one end and sewn the length of the blanket (except for overlap area) and long enough to pass back through the D-ring and be tied in a saddle cinch.
 - Four x 50mm nylon web retaining straps each at the front and back of the blanket.
8. Only mechanically activated clutches are permitted.
9. The clutch housing, transmission case, rear end housing and axle housing must be OEM, with no aluminium replacements.

POSITIVELY NO GREY CAST IRON.



14. WEIGHT TRANSFER DEVICES (SLEDS)

14 WEIGHT TRANSFER DEVICES (SLEDS)

14.1 General

The weight transfer devices that the tractors and trucks pull also have many safety features built into them.

All transfer devices be it big or mini sleds being used at a **Down Under MTPA**, sanctioned event, shall be inspected before every event for safety, performance and legality. All transfer devices will be checked statically, and that the test pull light operates correctly when switched on and off, and that the transfer device in gear light (green) operates only when weight device is in gear and that the hydraulic drive wheel is in contact with the ground. Then a performance test will be performed which will consist of the scrutineer's asking the operator to set the sled at the start line ready for operation. It is to be towed by a tractor at working pace the full distance (115 meters) of the track, not by a competing tractor, the sled must operate as per intended, (e.g. transfer weight to sled base and for the rear ripper pan to contact track surface at a designated distance). If transfer device passes test, it is to be tagged and deemed to be safe and operational for that event. If sled doesn't pass it is not to be used at that event unless it can be rectified and tested again.

14.1.1 Inspection and Licensing

1. All transfer machines will be inspected not only for safety and legality, but also for performance.
2. All sleds will be inspected by a team of two (designated by the **Down Under MTPA**), this team is to consist of the appointed scrutineers. Every sled, if approved, shall be licensed for a fee of \$200 (payable to the **Down Under MTPA**). Sled owners will incur all travel expenses of the inspection team if a re-inspection is required.
3. All sleds must be inspected yearly and must display a current **Down Under MTPA** inspection tag before they will be considered legal.
4. All sleds used at **Down Under MTPA** sanctioned pulls must be **Down Under MTPA approved**
5. Executive. All identified corrections shall be made and the Sled re-inspected or the licence shall be revoked.

14.2 Big Tractor Sled

1. All sleds must have a chain pull which is 1170mm in length, hook must be balanced.
2. A cable from the sled for the purpose of the connection to the pulling vehicles kill switch must be available. This cable shall be of sufficient strength and length, with a positive latch on cable end to disconnect the pulling vehicles kill switch. The cable shall be of 3mm steel cable and be plastic covered.
3. There must be a manual or electric kill switch cable accessible to sled operator or track official to shut off tractor when in a 'sitting run away' situation. The sled operator MUST NOT need to leave his / her seat in order to reach / operate the manual or electric shut off.
4. All pan bottoms shall have rounded edge at front to prevent 'tyre climbing'. All sleds must be equipped with a substantial dirt guard at front of the pan. All sleds must have a rubber flap mounted on each side of the dirt guard, 762mm wide, 609mm high (minimum) on a spring at a 45 degree angle forward and a 100mm belt lip (horizontal) on top of dirt guard to deflect stones to ground. Rubber flaps must contact ground and must be weighted or secured in such a manner to prevent dirt from the pulling vehicle tyres from deflecting the flap and escaping below the flap.
5. The pan on all conventional big sleds must pivot (not less than 10 degrees and not more than 30 degrees) and must follow the contour of the track.
6. The point of hook of the weight transfer device to the pan will be the rear of centre (positively not to be in the front half of the pan).
7. Maximum amount of weight on the pan at the starting line can be no more than 100% of the weight class being pulled.

14 WEIGHT TRANSFER DEVICES (SLEDS)

8. The sled hitch shall be of a centred single design, the hitch point of pull shall be at least 25mm or not more than 50mm above ground level.
9. All sleds must be of a rigid design and stay on ground to prevent bouncing.
10. The sleds must have provisions for the attachment for a turbine tractor second chain. The turbine tractors owner is to supply the second chain.
11. An operator is required to ride on all big sleds, so that in an emergency situation it can be controlled before it gets out of hand.
12. Steer chains on skid pans (buckboard) to pull chain are optional on all sleds. Steer chains may not be welded to or on main chain. Big sled chains attached to pan and buckboard to be 305mm (plus or minus 25mm) on each side of pan drawbar at same height from ground as pan drawbar. Chains to tie into main pull chain 430mm to 458mm ahead of first pivot point (pin or hammer link) clamp to or bolt through main chain. Steer chains to be 15mm grade 8. When main chain is extended tight and straight ahead both steer chains to be taught.
13. All big sleds must have S. Cam brake system
14. Skid pans may be fitted with dirt bars on the rear half of the pan

14.2.1 Transfer Mechanism

1. All sleds must have two stops independent of each other at the front of the rails. Stops shall be made of substantial material, strong enough to halt a fully loaded freewheeling weight box and be securely fastened to the transfer. Stops on the wheels on the box are not sufficient, stops must contact the weight box itself.
2. Transfer must have brakes on weight box and ground wheels. To pass safety inspection the transfer MUST be capable of stopping a freewheeling weight box when the transfer is being towed at a speed NOT LESS THAN 15 kph, and then immediately stopped. If the sled is equipped with brakes on the weight box, the brakes can be used to control the box during this test.
3. All transfers must have a light system to show operational status of transfer mechanism as follows:
 - a. One (1) RED light to indicate transfer out of gear or brakes engaged,
 - b. One (1) GREEN light to indicate transfer in gear in normal operation with clutch released,
 - c. One (1) AMBER light to indicate that while the amber light is in operation, the pulling tractor connected to the sled and pulling at that time is deemed to be the Test Puller. The Amber Light is to be turned off (by the Sled Operator) when the sled is deemed to be set. The Amber light is to be extinguished as soon as the Sled is returned to the starting position, prior to the next pulling tractor connecting to the sled. This indicates that the pulling tractor now connected to the sled is NOT the test puller and is taking its official run.
4. On a transfer with a single drive chain, there must be a separate braking system. Brake system MUST pass 15kph test as in Section 13.2.1, point 2.
5. All transfers MUST be capable of TRANSFERRING a MINIMUM of 300% of the weight class being pulled in order to be considered legal.
6. All sled operators are responsible for furnishing all ballast for their sleds. Ballast in the weight box MUST be safely secured at all times. Ballast must be easily removable.
7. All pull-back vehicles shall have a drawbar guide that allow sled to track' and be guided back to the starting line in a steerable fashion by the tow back tractor. (Not required on self-propelled sleds)
8. One 9kg dry chemical fire extinguisher, one 9kg water fire extinguisher in working condition MUST be installed. (One installed on each side of the transfer.)

9. Sled owners MUST have an operator in control, on all sleds. No passengers are permitted on pan.
10. There will be no over-running clutches allowed, and all weight boxes shall be pinned or braked when in neutral.
11. Sleds should be equipped with light to assist with hooking and unhooking of tractors.

14.2.2 Operation

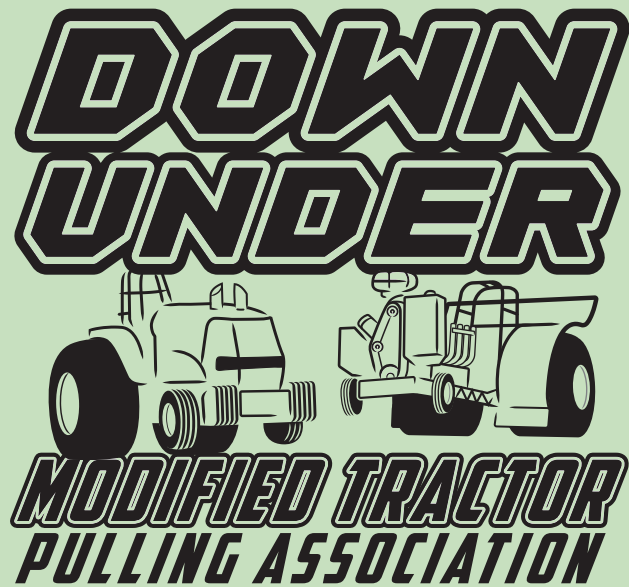
1. All sled operators shall have readily available, information on travel and weight box for every combination of gears available to him / her.

14.3 Mini Tractor Sleds

1. The length of the hitch on an official Mini sled shall be 915mm as measured from the point of contact of the hook to the hitching device rearward to the point of hitch on the sled. Point of hitch to be 25mm to 50mm above ground level. Hitching chain to be a minimum of 10mm thick.
2. Pan must pivot not less than 7 degrees, not more than 10 degrees from centre and must follow ground contour.
3. No sled operator may be required on certain Mini Sleds, dependant on design.
4. A cable from the sled for the purpose of the connection to the pulling vehicles kill switch must be available. This cable shall be of sufficient strength and length, with a positive latch on cable end to disconnect the pulling vehicles kill switch. The cable shall be of 3mm steel cable and be plastic covered. There must be an extension of kill switch cable accessible to sled operator or track official to shut off tractor when in a 'sitting run away' situation. The sled operator MUST NOT need to leave his / her seat in order to reach / operate the shut off.
5. The sleds must have provisions for the attachment for a turbine tractor second chain. The turbine tractors owner is to supply the second chain.
6. All pan bottoms shall have rounded edge at front to prevent 'tyre climbing'. All sleds must be equipped with a substantial dirt guard at front of the pan. All sleds must have a rubber flap mounted on each side of the dirt guard, 430mm wide, 1245mm high (minimum) on a spring at a 45-degree angle forward. Steel flaps must have minimum 50mm of rubber attached to the bottom. Rubber flaps must contact ground and must be weighted or secured in such a manner to prevent dirt from the pulling vehicle tyres from deflecting the flap and escaping below the flap.
7. Maximum amount of weight on the pan at the starting line can be no more than 100% of the weight class being pulled.
8. All sleds must be of a rigid design and stay on ground to prevent bouncing.
9. All sleds must have a 100mm donut ring on rear Pull.
10. All pull back tractor's must have 3-point linkage.
11. All sleds must supply 3 point linkage hook up with a solid pin for connection to pull back tractor
12. All transfers must have a light system to show operational status of transfer device as follows:
 - a. One (1) GREEN light to indicate transfer in gear in normal operation with clutch released,
 - b. One (1) AMBER light to indicate that while the amber light is in operation, the pulling vehicle connected to the sled and pulling at that time is deemed to be the Test Puller. The Amber Light is to be turned off (by the Sled Operator) when the sled is deemed to be set. The Amber light is to be extinguished as soon as the Sled is returned to the starting position, prior to the next pulling vehicle connecting to the sled. This indicates that the pulling vehicle now connected to the sled is NOT the test puller and is taking its official run.

14 WEIGHT TRANSFER DEVICES (SLEDS)

13. All transfers **MUST** be capable of **TRANSFERRING** a **MINIMUM** of 300% of the weight class being pulled in order to be considered legal.
14. All sled operators are responsible for furnishing all ballast for their sleds. Ballast in the weight box **MUST** be safely secured at all times. Ballast must be easily removable.
15. All sleds shall have a pullback tongue or hitching device that will allow sled to 'track' and be guided back to the starting line in a steerable fashion by the tow back tractor.
16. One minimum of 4.5kg, dry chemical and one 9kg Foam or water fire extinguisher in working condition **MUST** be installed. (One installed on each side of the transfer device)
17. Sled owners **MUST** have an operator in control of all sleds. No passengers are permitted on pan.
18. There will be no over-running clutches allowed.
19. Steer chains on skid pans (buckboard) to pull chain are optional on all sleds. Steer chains may not be welded to or on main chain. Big sled chains attached to pan and buckboard to be 305mm (plus or minus 25mm) on each side of pan drawbar at same height from ground as pan drawbar. Chains to tie into main pull chain 430mm to 458mm ahead of first pivot point (pin or hammer link) clamp to or bolt through main chain. Steer chains to be 15mm grade 8. When main chain is extended tight and straight ahead both steer chains to be taught.



**15. INFORMATION FOR
EVENT CO-ORDINATORS
& HOW TO RUN A PULL**

15 INFORMATION FOR EVENT CO-ORDINATORS

15.1 What do the big tractors and trucks pull?

Tractors pull a weight transfer device that gets heavier the further it is pulled down a 100 metre track. The weight transfer or sled is based on a set of rails, with a weight box on top, and a steel skidpan at the front. The total weight of the machine is about 13 tonne. The box that moves up and down the frame weighs about 3 tonne.

The weight box starts the pull at the rear of the machine. As the tractor pulls the sled down the track, the box moves toward the front of the machine driven by the rear wheels of the sled through a series of drive chains and a transmission. There are series of switches, and once they are tripped by the box moving up the rails more hydraulic pressure is put onto the pan thus applying all of the sled weight onto the pan

As the box moves forward, the entire weight of the machine is transferred from the rolling rear wheels to the steel skidpan at the front. The friction between this plate and the ground eventually overcomes the traction or horsepower whichever the pulling vehicle runs out of first. When the tractor comes to a stop it is unhooked from the sled and the pull is measured.

The sled is driven back to the start line ready for another competitor.

15.1.1 Diagram One: The weight Transfer Device (Big Tractor Sled)



15 INFORMATION FOR EVENT CO-ORDINATORS

15.2 What do the mini tractors pull?

The mini sled is specifically designed for the Mini Modified class of pulling tractors. It is the same principal as the big sled but on a smaller scale which has an operator on it to operate and adjust the sled for different weight classes. The sled is self-propelled and the operator has the ability to pull the plug on tractors in case of an incident.

15.2.1 Diagram Two: The Mini Sled



15.3 Event Co-ordinators Notes

The Event Co-ordinators are required to apply for a AASA permit (covers the insurance) so the event can take place. **Down Under MTPA** will send the appropriate paperwork for you to complete and return to **Down Under MTPA**, we will submit your application to AASA approx. 6 weeks prior to the event. If a CERTIFICATE OF CURRENCY is required then this process needs to occur earlier.

All Event Co-ordinators are obliged to pay the appropriate fees to **Down Under MTPA**. To be eligible for travel money payable by **Down Under MTPA**, the pulling vehicle must have hooked to the sled in competition.

Pulling order to be determined by ballot conducted by the Event Co-ordinator in consultation with the **Down Under MTPA**.

All Event Co-ordinators & Clerk of the Course must hold a drivers meeting prior to the first event at which all drivers, officials and track personnel must attend and sign a register.

15.4 The Tractor Pull Site

There are two main aspects involved in establishing a Tractor Pull Site, they are:

- To locate and prepare a track that is even, consistent, provides good traction and resists breaking up or become dusty, and
- To provide facilities for the spectators in which they can enjoy the days competition in comfort and safety.

The recommended type of soil is a loamy one, not sand and free from rocks. It needs to be able to bind together with moisture, but not become sticky (like heavy clay).

As part of the selection of a site, the following questions must be considered:

- Is there sufficient length and width for the track? Take into account that it is more efficient and spectacular for the crowd if your site is developed with two tracks, side by side, this allows for the mini tractors to run on one and the big tractors to run on the other, providing continuous action
- Is there space for spectator facilities, such as Food Vendors, Childrens Rides, Trade Sites, etc.?
- Ensure that there are sufficient toilet facilities
- Ensure that there is plenty of car park space, also consider access roads. Will they support the traffic?
- Can the Track and Pit Area be easily secured, eg. in order to limit access to authorised persons during competition?
- Will sufficient volunteers be available to assist with such things as Ticket Gates, Parking Attendants, Security and preparation of the site and track?

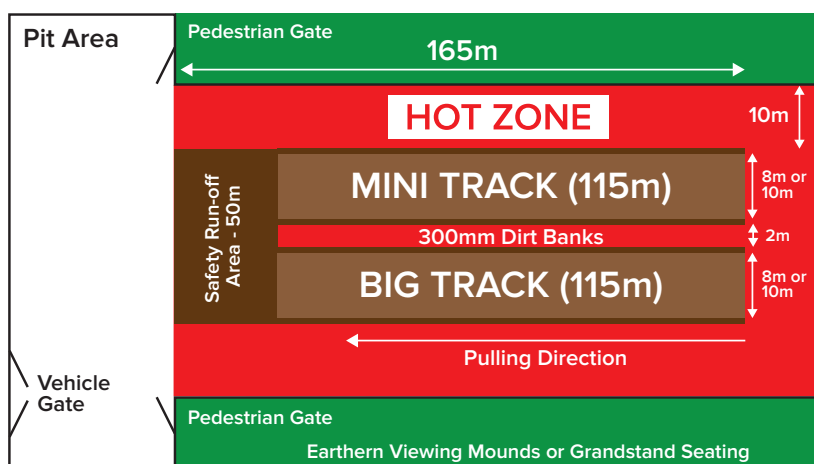
15.5 Track preparation and requirements

1. The **AASA Steward** is the main official of the event.
2. The **Down Under MTPA** shall appoint a Clerk of the Course who has ultimate responsibility for the supervision, preparation and maintenance of the track. Have knowledge of applicable **Down Under MTPA** rules as set out in the Clerk of the Course training document. He / she must be on the track during the running of all events or in radio contact.
3. All **Down Under MTPA** pulls must have available a dirt track free of grass, roots, rocks etc.
4. Track preparation should be started well before the day of the pull. The track should be ripped up and the subsoil moistened down at least 200mm. Moisture level should be consistent for the whole length & depth of the track.
5. All watering must be done by water truck (**NOT IRRIGATION or SPRINKLER**).
6. Similar principles as those used in road making are then applied – grade, roll and water, so that the track is moist but not wet, firm but not rock hard and level across the track with a bank of dirt on either side of the track. Enough area is to be left at the end away from the Pit Area to provide a turning area. **There must be a 2 metre distance between the two tracks.**
7. The track needs to be marked every 10 metres with signposts indicating the distance from the start. A special post is required for the 25 metre mark. All signposts are to be installed facing the spectators, with the exception of the 25 metre mark signposts. These will be supplied by **Down Under MTPA**.
8. The dimensions of the track are to be 115 metres long with a minimum of a further 50 metre runoff area before any fence or solid object.
9. All **Down Under MTPA** Tractor Pulls shall be conducted so that the weight transfer device (Sled) is started from a standard starting point marked across the track and the contest be decided by measurement of the distance travelled by the sled from the starting point, measured in metres and millimetres.
10. If no tractors reach the 100 metres, the furthestmost distance, measured to the nearest millimetre will determine the winner and placings accordingly. In the event of a pull off occurring, a distance of 115 meters will be used (provided that the safety buffer of 50 metres is still maintained) for the pull off. This has been implemented to prevent multiple pull off situations occurring, which would result in damage to vehicles and also an extended program.
11. Outlaw Mini, Open Modified & Pro-Stock tractors pull on a 115 metre track
12. Width of the track is to be not less than 8 metres (10 metres is now recommended) defined by dirt banks, graded up to a 300mm high and wide to rapidly stop the sled in case of runaway. This bank must be constructed from loose dirt, no compacted banks allowed. Should a pull be run in a confined area then the minimum track length shall be limited to a 75 metre track length to allow the 50 metre run off.

15 INFORMATION FOR EVENT CO-ORDINATORS

13. Should a pull be run in a confined area then the minimum track length shall be limited to a 75 metre track length to allow the 50 metre run off.
14. Fencing for spectators a minimum of 10 metres back from the banks and completely around the pit area of sufficient strength to prevent the entry of the crowd.
15. All tracks are to be continuously repaired, and rolled if necessary, during all modified tractor events.
16. No-one is allowed on the track other than officials, competitors and authorised persons, this is called the **HOT ZONE**.
17. Starting line position may be altered at the discretion of the Clerk of the Course and **AASA Steward**.

15.6 Diagram Three: Dual Track Layout



15.7 Tractor Pull Officials

The following personnel are required on the day of the pull:

- **AASA Steward** – The Overall Co-ordinator of the event
- **Clerk of the Course** – The Overall Track Co-ordinator of the event
- **Down Under MTPA Safety Officer** – The Overall Track Co-ordinator of the event
- **AASA Steward, Clerk of the Course** – Have knowledge of applicable **Down Under MTPA** rules as set out in the Clerk of the Course training document
- **Pull Co-ordinator** – To co-ordinate the event on the day. Supplied by **Down Under MTPA**
- **Flag Marshalls** – For the start and finish lines. Supplied by **Down Under MTPA**
- **Test pull Co-ordinator** – Supplied by the Event Co-ordinator to co-ordinate the test pulls
- **AASA Licenced Scrutineers** – Trained scrutineers with knowledge of all competition rules and program (These persons are supplied by the **Down Under MTPA**)
- **Commentators** – To provide a running commentary of the days events via the Public Address System. Supplied by the **Down Under MTPA**
- **Public Address System** – To be organised by the Event Co-ordinator
- **Laser & Laser Operator** – Supplied by the **Down Under MTPA**
- **Points Scorers** – Two people to record results. Supplied by **Down Under MTPA** with / also assistants supplied by Event Co-ordinator

- **Pit Marshall** – With competitor running order and assistant to ensure that competitors are in the correct pulling order and are on the track on time
- **Weighbridge Operator & Assistant** – Weighbridge Operator to record all details on the day of the pull and hand to **Down Under MTPA** scorer of the day immediately each class has been weighed and event coordinator to forward a copy to the **Down Under MTPA** Points scorer along with the results. The assistant is to check drawbar heights and record findings.
- **Sled Operators** – Supplied by **Down Under MTPA**
- **Hookers / Unhookers** – Two people for each sled at each end of the track to assist with hooking and unhooking of tractors, supplied by Event Co-ordinator
- **Wet Smudger Driver** – Must be a competent tractor driver. Supplied by Event Co-ordinator
- **Dry Smudger Driver** – Must be a competent tractor driver. Supplied by Event Co-ordinator
- **Telehandler & tow-off operator** – Must be a competent tractor driver. Supplied by Event Co-ordinator
- **Water truck operator** – Must be a competent truck driver. Supplied by Event Co-ordinator
- **5 x four wheel motorcycles drivers** – Must be competent motorcycle drivers. Supplied by Event Co-ordinator (helmet to be worn on four wheelers, side-by-side helmets not required)
- **General Assistant** – It is also a good idea to have a ‘gopher’ available to supply drinks to officials & track personnel

15.8 Equipment to be supplied by the Event Co-ordinator

In order to prepare the track and keep it maintained throughout the event, **the Down Under MTPA** requires that the following items of equipment are available:

- **Grader** – Initially used to grade the track must have rippers
- **Crane or telehandler** – Required to lift weights for competitors, assemble / disassemble the sled
- **Multi-tyre roller** – For rolling of track
- **2 x Small Tractors** – For wet and dry smudgers, 60 to 80hp
- **Small Tractor** – For towing big pulling tractors
- **5 x 4 wheel motorbike** – These are used for tow back vehicles for the Mini Tractors & **AASA Steward**
- **Scorers box / tent** – With power supply
- **2 x sleeper stops** – For sled start line
- **Water truck with a water pump** – To wash sleds etc.

15.9 Equipment required by the Event Co-ordinator to run a Tractor Pull.

***Please Note – some equipment will incur applicable fees.**

The following equipment is held by the Down Under MTPA or appropriate owners that will be supplied to the event co-ordinator when requested and if required:

- Big Sled*
- Mini Sled*
- Wet Smudger
- Dry Smudger
- Hand-held radios with head phones

15 INFORMATION FOR EVENT CO-ORDINATORS

- Scales
- Distance markers
- Laser
- Flags / night lights
- Hi-Vis Safety vests
- Commentator*
- Fire Extinguishers**

** If fire extinguishers are used during an event, the event coordinator may be charged to refill or replace the extinguishers

15.10 Safety and Mandatory Safety Equipment

- Ambulance, First Care or First Aid post
- Fire Fighting equipment and or Fire Truck

15.11 Pit Area

- The Pit Area should be of sufficient area for each competitor to park with a truck / tow vehicle alongside and have sufficient area for loading / unloading weights with a crane
- It is recommended that all classes are grouped together for easy marshalling
- If the event is to run in the evening, then adequate lighting should be provided in all areas
- Ideally, the Pit Area would consist of a grassed area
- There must be an unloading ramp within close proximity to the Pit Area
- Two 3m x 6m areas for scrutineering

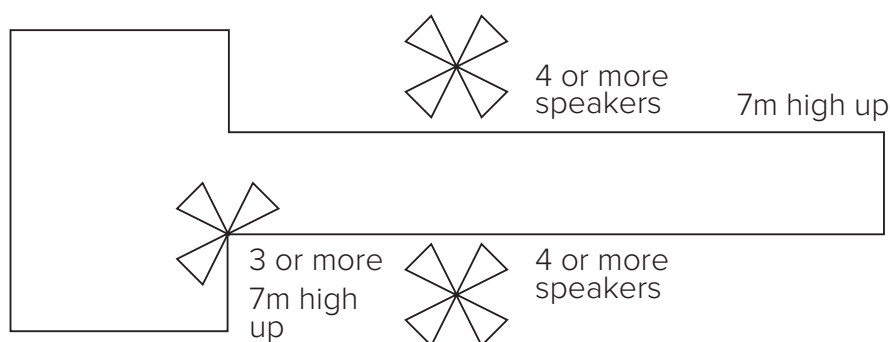
NO ALCOHOL IS TO BE CONSUMED WITHIN THE PIT AREA OR THE TRACK AREA.

NO SMOKING IN THE PIT AREA.

15.12 Public Address

A key component in the success of a Tractor Pull is keeping the spectators informed of proceedings. A good PA is essential. Each side of the track and the Pit Area should be covered. The most suitable system requires at least 100 watt output and uses 'single point sound source' speakers (that is speakers which radiate sound through 180 degrees).

15.13 Diagram Four: PA Layout



15.14 AASA Media Pass

All Media & photographers must be accredited media personal through AASA **prior** to the event. To apply for a permit go to AASA website: www.aasa.com.au go to **OFFICIALS & MEDIA** tab for more information. All accredited personal need to **sign in** on the day and have their pink vests on.

15.15 Crowd Vantage Points

Stands are not essential; in fact, the **Down Under MTPA** has found that the best method is to provide gently rising banks of earth on each side of the track, preferably covered in grass.

It is recommended that an 'Alcohol free' Family Area be established. Usually one side of the competition area is declared a 'Dry Area' and the other a 'Wet Area' (meaning alcohol is permitted).

There must be adequate fencing in place around the perimeter of the competition area. The fencing material must be of sufficient strength to withstand the crowd leaning against it.

15.16 Hot Zone

The **HOT ZONE** comprises of the competing track and the marshalling area. Only authorised people are allowed in this designated area.

Those people being **Down Under MTPA** members or drivers or 'signed in' workers / volunteers. No children under the age of 16 allowed in the **HOT ZONE**, unless they are Registered drivers (14 years old) & under adult supervision.

AASA accredited media personnel who have 'signed in' may also be in the **HOT ZONE**.

Refer to: **15.6 Diagram Three: Dual Track Layout** for more information.

15.17 Volunteers

All Volunteers to see the secretary and sign in or they are not covered by our insurance.

15.18 National Anthem

Will be played prior to the event start time. Please allow time in your planning of the day.

15.19 Static Display

Static displays in the lead up to an event are allowed. It is a requirement that the location, time, dates and which will be tractors involved be advised to the secretary prior to the display occurring.

Only **Down Under MTPA** registered tractors allowed.

15.20 Passengers in 2WD Trucks

Passengers are only allowed to ride in the 2WD Trucks at an event. Only if the Event Co-ordinator seeks consent from the 2WD Truck owner **prior** to the AASA permit application. The relevant section needs to be ticked on the application permit. Also the passenger must complete an indemnity form and give it to the secretary on the day.

15 INFORMATION FOR EVENT CO-ORDINATORS



15.21 Down Under MTPA Safety Assessment Check List

Track Location:		Event Date:	
Area of Concern	Checked	Comments	
Track			
Length			
Width			
Runoff			
Check banks			
Track markers zeroed in (in case of laser failure)			
Stops for Pull back tractors in correct position			
No check banks to start prior to 10 (ten) metre mark (to allow clear access at and around start line)			
Fire Extinguishers to be placed at appropriate locations along track			
Laser to be in clear sight of sled prisms			
Refuelling station in appropriate position per site layout plan			
Track Staff			
Clerk of the Course			
Flag Marshalls: 1 @ start line, 1 on top end of track 115 metre mark			
Flags: 2 x Green, 2 x Red, 1 x Black, 2 x Checkered			
Hookers: 2 x per sled at start line and on track			
Test Radio's on correct channel pull co-ordinator			
Sleds			
Scrutineered by scrutineering panel			
Plant regulations and risk assessment to be carried on sleds			
Smudgers			
Scrutineered by scrutineering panel			
Operators of smudgers briefed on track repair and direction of travel to do same			
Smudgers set to suit track on day			
Easy access to water for wet smudger			
First Aid			
Location of first aid station			
Contact process in case of emergency (radio or other means)			
Access to site clear path, spotters			
Fire Services			
Location to pits, track			
Appropriate extinguishers, foam to suit fuels in use			
Fire plan			

15.22 Down Under MTPA Safety Assessment Check List

Track Location:	Event Date:	
Area of Concern	Checked	Comments
Evacuation Plan for site		
Plan to be developed to suit each pull site		
Scrutineering		
To be carried out by scrutineering panel per rule book including time frame		
Pit Security		
Responsibility of pit Marshall inside of designated pit area duties as described in rule book		
Safety Vests		
Radios to be signed out & in by user on radio sheet responsibility of user to return at conclusion of event		
All Track officials (workers) and authorized persons on the track and in the pit area will wear safety vests		
Clerk of the Course, pit Marshall, flag Marshalls		
Pit Area		
Designated parking for each class of pulling vehicle		
Signage of pit area: No smoking, alcohol, no unauthorised entry		
Pit Pass Required		
Designated smoking area		
Pit area staffed by security personal at all times at entry gates		
Scales		
To be carried out by scrutineering panel per rule book including time frame		
Drivers Briefing		
All competing drivers to attend briefing prior to event commencing		
Track workers to attend briefing		
First aid, Rubbish etc.		

15.23 Key Personnel List

✓ or X	Role	Supplied by
<input type="checkbox"/>	AASA Steward	Down Under MTPA
<input type="checkbox"/>	Clerk of the Course	Down Under MTPA
<input type="checkbox"/>	Scrutineers	Down Under MTPA
<input type="checkbox"/>	Pit Marshall	Down Under MTPA
<input type="checkbox"/>	Scales Operator	Down Under MTPA
<input type="checkbox"/>	Mini Sled Operator	Down Under MTPA
<input type="checkbox"/>	Big Sled Operator	Down Under MTPA
<input type="checkbox"/>	Flag Marshall	Down Under MTPA
<input type="checkbox"/>	Light or Flag Marshall	Down Under MTPA

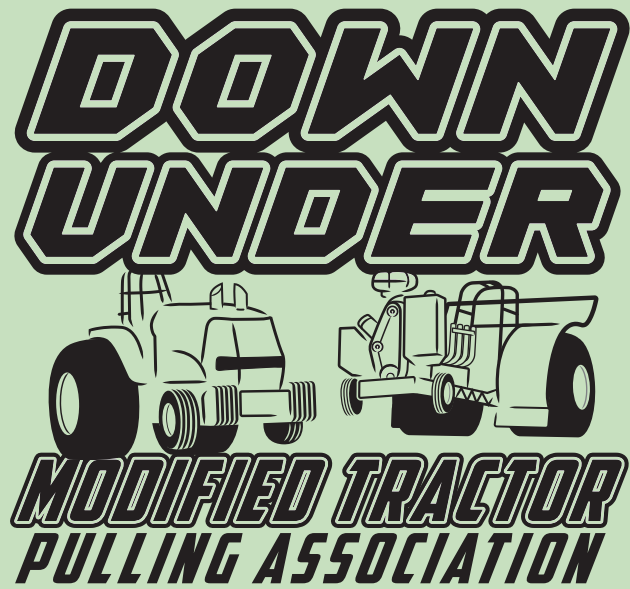
15 INFORMATION FOR EVENT CO-ORDINATORS

<input type="checkbox"/>	Test Pull Co-ordinator	Down Under MTPA
<input type="checkbox"/>	Scorers	Down Under MTPA
<input type="checkbox"/>	Commentator	Down Under MTPA
<input type="checkbox"/>	Laser Operator	Down Under MTPA
<input type="checkbox"/>	Track Advisory Group	Down Under MTPA
<input type="checkbox"/>	Laser Operator	Down Under MTPA
<input type="checkbox"/>	Wet Smudger Driver	Event Co-ordinator
<input type="checkbox"/>	Dry Smudger Driver	Event Co-ordinator
<input type="checkbox"/>	2 x Big Sled Hooker	Event Co-ordinator
<input type="checkbox"/>	2 x Big Sled Unhooker	Event Co-ordinator
<input type="checkbox"/>	2 x Mini Sled Hooker	Event Co-ordinator
<input type="checkbox"/>	2 x Mini Sled Unhooker	Event Co-ordinator
<input type="checkbox"/>	Telehandler / big track tow vehicle	Event Co-ordinator
<input type="checkbox"/>	Water truck driver	Event Co-ordinator
<input type="checkbox"/>	4 x drivers for motor bikes	Event Co-ordinator

15.24 Equipment List

Item	Supplied by
Big Sled	Down Under MTPA
Mini sled	Down Under MTPA
Smudger Wet	Down Under MTPA
Smudger Dry	Down Under MTPA
Hand held radios with headphones	Down Under MTPA
Scales	Down Under MTPA
Distance Markers	Down Under MTPA
Laser	Down Under MTPA
First Care	Down Under MTPA
Safety Vests	Down Under MTPA
4 x Fire extinguishers at either side of the track and in the pit area, being alcohol foam or 20kg dry powder	Down Under MTPA
Water truck	Event Co-ordinator
3x motorbikes - mini track tow off	Event Co-ordinator
1 x motor bike - Clerk of the Course	Event Co-ordinator
Grader	Event Co-ordinator
Front end loader	Event Co-ordinator
Scoring box	Event Co-ordinator
Sleeper stops tow back tractors	Event Co-ordinator
2 x tractors at 60-80 hp for smudgers	Event Co-ordinator
PA system	Event Co-ordinator
1 x Multi Tyre Roller	Event Co-ordinator
Mandatory safety equipment	Event Co-ordinator
Firefighting equipment and/ or truck	Event Co-ordinator

NOTES:



APPENDICES
16 - 20

16 APPENDIX A – DOWN UNDER MTPA POSITION DESCRIPTIONS

16.1 Down Under MTPA Committee

16.1.1 President

The President shall act as the representative of the Association in all matters. The President also provides motivation and direction to members of the Association. Enthusiasm, organisation and the ability to act as a liaison between the Association and any other party are key characteristics of this committee member.

The President shall preside as chairperson at all meetings of the Association, provide a communication path between the committee and the members of the Association and shall manage the Executive Committee of the Association.

The Executive Committee of the Association comprises of the President, Vice President, Treasurer and Secretary.

16.1.2 Vice President

The Vice President is to provide support to the President and fulfil the role of the President whenever called upon.

16.1.3 Treasurer

The Treasurer is to maintain the financial records of the Association. The treasurer shall collect and receive all moneys due to the Association and make all payments authorised by the Association and shall keep accurate accounts and books showing the financial affairs of the Association with full details of all receipts and expenditure connected with the activities of the Association.

The treasurer shall prepare a financial statement annually and present this statement for approval by the members of the Association at the Annual General Meeting, once approved the financial statement is to be lodged with the registrar for Incorporated Associations.

The treasurer is accountable for all financial transactions to the Association.

16.1.4 Secretary

The Secretary shall maintain a register of all members, record all business conducted at every meeting of the association, provide any required documents relating to the business of the association to all financial members.

Notify members of all meetings and the agenda for these meetings. Receive and deal with all correspondence of the Association.

16.1.5 Delegate

‘Delegate’ means a member elected on to the committee at then annual general meeting representing the members and or other position required by **Down Under MTPA**

‘Executive Committee’ The affairs of the Down Under MTPA shall be managed by the board of management consisting of the Officers of the Association, and the elected delegates. These delegates consist of 1 tractor delegate and 2 independent delegates, non-affiliated with tractor pulling in any way. They shall manage the affairs of **Down Under MTPA** throughout the year and the members can put submissions into the committee and can vote at the AGM.

The Committee:

- a. Shall promote the sport of Tractor Pulling.
- b. Shall control and manage the business and affairs of the **Down Under MTPA**
- c. May, subject to these Rules, the Regulations and the Act, exercise all such powers and functions as may be exercised by the **Down Under MTPA** other than those powers and functions that are required by these Rules to be exercised by general meetings of the members of the **Down Under MTPA**; and

16 APPENDICES



- d. subject to these rules, the regulations and the Act, has power to perform all such acts and things as appear to the Committee to be essential for the proper management of the business and affairs of the **Down Under MTPA**.

16.2 Down Under MTPA Tractor Pull Officials

16.2.1 Points Scrutineer

The Points Scrutineer has overall responsibility for the collation of points awarded as a result of any competitions conducted by the Association.

These results are to be tabled at the Annual General Meeting for the purposes of determining the overall placing of all competitors for the preceding season's competition.

Following each event during the Associations competition season, the results of that event are to be provided to the Publicity Officer for inclusion in the Associations Newsletter.

16.2.2 Points Assistants

The Point Assistants record pulling distances and assist the Points Scrutineer in the collation of points at each competition event for the Associations specified competition season.

16.2.3 Scrutineering Panel

The Scrutineering Panels responsibility is to enforce the **Down Under MTPA** Competition Rules.

A Head Scrutineer needs to be nominated by the scrutineering panel.

Safety is the primary concern and the Scrutineering Panel shall have final say in resolution of any issue relating to pulling vehicles and the Rules.

The Scrutineering Panel is to ensure that all pulling vehicles entered in any sanctioned event comply with the Rules and are scrutinised prior to the commencement of each event of competition.

A scrutineering Day/s to be held prior to the sanctioned pulling season commencing at venues to be agreed to for purpose of scrutineering the bulk of pulling vehicles registered for the season

ALL scrutineers **must** attend an accreditation class a maximum of every two years prior to the commencement of the pulling season. It is recommended that the people involved attend every year where possible.

16.2.4 Representatives at Pull Centres

Responsible members of the **Down Under MTPA**, who know the **Down Under MTPA** Rules, Track requirements, soil types and possess an overall general knowledge of tractor pulling.

Representatives should attend all meetings relating to a particular tractor pull, must be willing to travel and inspect the site. Constant contact with the pull centre is required.

16.3 Day of the Event Positions

16.3.1 Authorised Clerk of the Course

Clerk of the Course Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association Inc.** (**Down Under MTPA**), and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the position of Clerk of the Course, at tractor pull events run by the **Down Under MTPA**

Method

This method shall be followed by all personnel who undertake the position of the Clerk of the Course.

1. The nominated Clerk of the Course for the event Must have attended a Clerk of the Course training day.
2. The nominated Clerk of the Course for the event shall have knowledge of the **Down Under MTPA** rules, as set down in the Clerk of the Course training documentation.
3. They are required to have the knowledge of the track preparation for events, and for badly prepared tracks have the knowledge on how to prepare the track as per the **Down Under MTPA** requirements.
4. They are to ensure all equipment and personnel required to run the event safety is in place, and organise equipment and personnel if so required.
5. They must have knowledge of sled operations and can discuss with sled operators the correct set up for the sled during the event.
6. The Clerk of the Course must be on the track during the running of events, or in radio contact.
7. They shall wear the vest indicating the position they hold for the event and wear hearing protection in the vicinity of pulling vehicles.
8. The Clerk of the Course shall ensure all personnel within the track area are abiding by the **Down Under MTPA** rules.
9. The Clerk of the Course shall co-ordinate with the smudger / track operators during events / tractor pulls to ensure the track is prepared consistently for each pull.

This procedure is a minimum requirement to be followed by personnel whose task involves overseeing the track preparation and the safe running of events, for the tractor pulling competitions.

16.3.2 Flag Marshall

Two persons required - To control vehicles on the track.

Flag Marshall Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association (Down Under MTPA)**, and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the tasks of the Flag Marshalls at tractor pulling events run by the **Down Under MTPA**

Method

This method shall be followed by all personnel who undertake the positions for Flag Marshalls.

1. The flag Marshalls shall take up their nominated positions at the start and finish lines of the track flag marshall number one at the start line and flag Marshall Number two at the finish line as per the **Down Under MTPA** rule book.
2. The start line Flag Marshall shall stand behind and off to one side of the pulling vehicle and oversee the hook up of the pull chain and attachment of the kill switch cable, when that is completed the flag marshall is then required to move forward and check driver of the pulling vehicle has their racing harness fitted and adjusted while all the time displaying a red flag or wand.
3. The start line Flag Marshall shall then move back behind the pulling vehicle driver's sight check that the sleds green revolving light is switched on indicating that the pulling sled is in gear.

4. Then the start line Flag Marshall raises a green flag or wand to indicate the pulling vehicle and sled are ready to start their pull.
5. The finish line Flag Marshall shall stand at the 115 metre mark for a full length of the track displaying their red flag or wand. Their task is to indicate a clear track is available for the pulling vehicle and whether the green light is switched on to indicate the sled is in gear by raising their green flag or wand only after the start line flag person has raised their green flag or wand .and observe the pulling vehicle during the event for any disqualification offences and to stop the vehicle if observed.
6. Flag Marshalls shall stand between the tracks in a safe position, during running of event. But may move onto the track to indicate the pulling vehicle may proceed and shall wear a hi-visibility vest indicating their role and hearing protection while in the vicinity of running pulling vehicles.
7. The Flag Mashall shall only move onto the track to indicate a clear track using the green flag or wand. Under no circumstances shall a Flag Marshal move onto the track whilst an event is underway.

This procedure is a minimum requirement to be followed by all personnel whose tasks involve the positions of Flag Marshalls, involved in the tractor pulling competitions undertaken by the **Down Under MTPA**.

16.3.3 Tractor Pull Event Co-ordinator

The Clerk of the Course is the direct contact between the Event Co-ordinator and the **Down Under MTPA** and its members on the day of the Tractor Pull Event. Any requirements by either party should be made through the Clerk of the Course. This includes **Down Under MTPA** required equipment and ensuring sufficient personnel are provided by the Event Co-ordinator.

16.3.4 Pit Marshall

Pit Marshall Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association Inc.** (**Down Under MTPA**), and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the task the Pit Marshall at tractor pulling events run by the **Down Under MTPA**.

Method

This method shall be followed by all personnel involved as the nominated Pit Marshall:

1. The Pit Marshall shall ensure they are wearing a hi-visibility vest indicating their position and hearing protection when in the vicinity of running pulling vehicles.
2. The Pit Marshall is responsible for ensuring the pulling vehicles are organised through the weigh scales and are located at the staging area in their correct running order.
3. The Pit Marshall has the overall safety of the pit area along with the designated safety officer.
4. The Pit Marshall shall indicate when the pits are open to the general public and ensure all competitors comply with the **Down Under MTPA** rules whilst the pit area is open, and declare when the pit area is closed.

This procedure is a minimum requirement to be followed by personnel whose tasks involve undertaking the position of Pit Marshall, for sanctioned tractor pull events run by the **Down Under MTPA**.

16.3.5 Test Pull Co-ordinator

Test Pull Co-ordinator Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association Inc. (Down Under MTPA)**, and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the tasks of co-ordinating the pull and test pull of sleds at tractor pulling events run by the **Down Under MTPA**.

Method

This method shall be followed by all personnel involved in the pull and test pull co-ordination of events.

Test Pull Co-ordinator responsibilities:

1. The test pull co-ordinator shall wear a high-visibility vest indicating their position, and also wear appropriate hearing whilst in close proximity to all pulling vehicles.
2. The test pull co-ordinator shall liaise with the sled operators.
3. The test pull co-ordinator shall inform the pulling vehicle driver whether the sled has been set or not.
4. Once the sled is set the test pull co-ordinator must notify the point's scorers of the drivers decision as to whether the pull has been accepted or if the driver of the pulling vehicle is going to pull again.
5. This must happen in all pulling vehicle weight classes.
6. The test pull co-ordinator shall move to a safe location or leave the track area once the sled is set for each class of pull vehicle.

This procedure is a minimum requirement to be followed by all personnel whose tasks involve or assume the role of test pull co-ordinator, for events involved in the tractor pulling competitions.

16.3.6 Tow Back Vehicles

Tow Back Vehicles Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association Inc. (Down Under MTPA)**, and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the tasks of pull back vehicle operators at tractor pulling events run by the **Down Under MTPA**.

Method

This method shall be followed by all personnel involved in the retrieval pulling vehicles on track at events sanctioned by the **Down Under MTPA**.

1. Operators of the pullback vehicles shall be competent in All Terrain vehicle operations (four wheel motor bikes, Side by sides).
2. Operators shall wear a high visible vest and an approved helmet.

3. Operators of tow back vehicles shall work in conjunction with the Clerk of the Course for the retrieval of pulling vehicles.
4. Operators of tow back vehicles shall ensure the tow strap is connected to both vehicles before moving off.
5. Only one person shall be allowed to travel on the tow back vehicle at any time unless the tow back vehicle has two individual seats.
6. Drivers shall operate walking pace, which is set out in the **Down Under MTPA** rule book.

This procedure is minimum requirements to be followed by all personnel whose tasks involve pulling vehicles off and on track using 4WD motor bikes, involved in the tractor pulling competitions.

16.3.7 Hooking & Unhooking to Mini & Large Sled

Hooking & Unhooking to Mini & Large Sled Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association (Down Under MTPA)**, and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the task of hooking and unhooking the large sled to pullers at tractor pulling events run by the Down Under Modified Tractor Pulling Association.

Method

This method shall be followed by all personnel involved in the hooking and unhooking of sleds:

1. The tractor operator shall supply a spotter each time the tractor is positioned to conduct a run.
2. The spotter shall be positioned at the front of the tractor and to the right hand side (approximately 1.5 meters in front and to the side) and in conjunction with the hooker (using hand signals) guide the tractor into position ready to be hooked up.
3. Once the tractor is positioned, the hooker will then raise their two hands into the air, the spotter once the hooker has indicated correct position has been achieved will also raise both hands into the air.
4. The driver of the tractor will then ensure the tractor is out of gear and with foot on the brake pedal, raise both hands into the air indicating to the hooker and spotter the tractor is in a safe condition for the hooker to hook up.
5. The hooker shall then proceed to hook up the tractor as required by the **Down Under MTPA** competition rules. The hooker shall only enter the hooking zone by the correct entry point. (Not between the tractor and the sled)
 - a. The hooker shall stand to the side of the tractor (in a safe position) and again indicate by raising both hands in the air, the tractor has been made ready. The hooker shall then lower both hands.
6. The tractor spotter will lower their hands, indicating to the tractor driver successful connection of the sled, at that time the tractor driver shall lower their hands, and prepare to complete the run.
7. The tractor spotter shall then move away from the front of the tractor into a safe position, along with the hooker.
8. At the completion of the run the tractor operator shall make the tractor safe, and raise their hands into the air.

A spotter shall be positioned at end of track and assume the responsibility of spotting from the front of the tractor, they will also raise their hands at this point.

This is an indication to the un-hooker they can proceed to detach the sled from the tractor, once the tractor is un-hooked the person shall raise their hands to indicate the tractor can move away.

All persons shall lower their hands before the tractor moves away and move to a safe place.

This procedure is a minimum requirement to be followed by all personnel whose tasks involve hooking /unhooking tractors to sleds, involved in the tractor pulling competitions.

16.3.8 Smudger Driver

Smudger Driver Procedure

Purpose

To ensure safety of personnel at events operated by the **Down Under Modified Tractor Pulling Association (Down Under MTPA)**, and who undertake specific tasks at these events.

Scope

This procedure is for personnel who undertake the tasks of smudger driver operators for events run by the **Down Under Tractor Pulling Association Inc.**

Method

This method shall be followed by all personnel involved in the undertaking of smudger operators at events sanctioned by the **Down Under MTPA**.

1. All operators shall be competent in the safe operation of vehicles and hold the appropriate licence.
2. Work under the instruction of the Clerk of the Course for the maintenance of the tracks
3. Operators shall move to a safe location once smudging is complete.
4. Operators shall wear hi-visibility at all times. Hearing protection must be worn at all times when on open cabin tractors in close proximity to pulling vehicles.
5. Only one person shall be in cabin at any time, unless training for operation is conducted or two seats are available within the cabin.

This procedure is a minimum requirement to be followed by all personnel whose tasks involve operating the smudger tractors at events, associated with the tractor pulling competitions.

16.5 Event Co-ordinator - Volunteer Workers Site Induction

Site.....

Date.....

This induction must be undertaken by all personnel, who are undertaking tasks for the Event Co-ordinator or the **Down Under MTPA** during an official tractor pull event sanctioned by the **Down Under MTPA**.

At the end of this induction all personnel are required to sign the **Down Under MTPA Participants Acknowledgement of Risk Form Including Waiver, Release & Indemnity, Read and Sign, Read and Sign Occupational Health & Safety Policy (OH&S)**. And they have understood and will abide by the requirements of the **Down Under MTPA** for safety during this event.

All safety breaches will be considered as a no conformance of the induction and personnel may be asked to step down from there nominated positions for the remainder of the event, the safety advisor and officials will make the final decision.

- All personnel will wear the correct PPE whilst in the pit area or on track.
- **NO** personnel are to stand between tracks and must stand 3 meters from the brumes during running of events with the exception of Clerk of the Course, Flag Marshals, Sled Operators and Test Pull Co-ordinators
- All personnel shall co-ordinate with the Clerk of the Course for their tasks during all events.
- Only authorised personnel will be allowed on the track during tractor pull events or unless authorised by the Clerk of the Course and **Down Under MTPA** safety advisor, Eg photographers.
- All big sled operators shall wear seat belts during tractor pull events as required by the **Down Under MTPA** Competition Rules.
- A speed limit of walking pace, as per the rule book shall be observed at all times while traversing the pit and track area.
- No alcohol is to be consumed within the pit or track area.
- No smoking is permitted within the track, staging or pit area.
- All personnel operating machinery at this event must have an appropriate licence for operating that type of plant all operators are to have zero alcohol content.
- All operators of 4 wheel motorbikes shall wear an approved helmet and operate at walking pace and drive in a safe manner, Riders shall be over the age of 16 years old and be competent to operate the bike.
- Personnel operating firefighting equipment must have training for the type of extinguishing medium used or be competent in the operation of extinguishers.
- All personnel responsible for firefighting on the day have all PPE and ensure it is worn correctly during fire fighting operation.
- No pulling vehicle will be allowed to be towed or drive across the front of either track when the pulling vehicle has completed their pull.

16.7 Site Induction for Drivers & Pit Crew / Family or Friends

This site induction must be undertaken by all personnel, who are in the pits with their Pulling Vehicle teams.

At the end of this site induction all personnel are required to sign the **Down Under Modified Tractor Pulling Association Inc.** Participants Acknowledgement of Risk Form Including Waiver, Release & Indemnity, Read and Sign Occupational Health & Safety Policy (OH&S).

All safety breaches will be considered as a non-conformance of the Site Induction and personnel may be asked to leave the pit area for the remainder of the event, The **Down Under MTPA** and Event Co-ordinator officials will make the final decision.

- All pulling team members (drivers, family members, friends & acquaintances) that intend to stay in the pit area are required to read and sign the site induction form.
- All pulling team members (drivers, family members, friends & acquaintances) **MUST** read and sign Participants Acknowledgement of Risk Form Including Waiver, Release & Indemnity, Read and Sign Occupational Health & Safety Policy (OH&S).
- All Pulling Vehicle teams have the responsibility of making sure that all (drivers, family members, friends & acquaintances) for any pull site are financial members for our pit insurance two hours prior to start times.
- All Personnel in the pits, staging areas, must wear the correct footwear no exposed toes, no thongs, no sandals
- No personnel are to stand between tracks and must stand 3 meters from the dirt banks during running of events.
- No Smoking is allowed in any of the pit, track or staging areas.
- No Alcohol is to be consumed in the pit, track or staging area.
- No Illicit Drugs is to be consumed in the pit, track or staging area.
- All Drivers are Required to sign the drivers meeting attendance form
- All Drivers or Pit crew that operate Pulling Vehicles must have zero alcohol content.
- All Drivers or Pit crew that operate Machinery for loading or unloading of equipment must have the correct licence.
- All Drivers or pit crew that operate Machinery for loading or unloading of equipment must have zero alcohol content.
- A speed limit of walking pace as per the rule book shall be observed at all times while traversing the pit and staging area.
- All pulling vehicle must be switched off and have an approved fire extinguisher for the type of fuel that is used in their pulling vehicle on hand whilst refuelling is carried out.
- All fuel containers shall be tagged and of an approved type for the fuel being used and with an approved pump for the containers over a capacity of 20 litres.
- All pulling vehicle team owners shall have Material Safety Data Sheets (MSDS) for their fuel at their transporter.
- **NO** Persons under the age of 16 years of age are to be within the staging area.
- **ALL** Persons under the age of 16 years of age are to be supervised by an adult at all times whilst within the pit area
- Emergency evacuation points will be conveyed to drivers at the drivers meeting.
- All Drivers of pulling Vehicles will abide by the Event Co-ordinator Traffic Management plans.

16.8 OH&S Policy #1

Down Under Modified Tractor Pulling Association Inc. OH&S POLICY. Number 1		
This OH&S is a site-specific statement that must be prepared before any high-risk construction work is commenced.		
Person responsible for ensuring compliance with this OH&S:	Tractor Pulling Teams	
High-risk job:	Arriving on site, unloading and working at heights	
Date:		
Location:	All Down Under MTPA sanctioned tractor pull events including demonstration pulls and static displays	
What are the tasks involved?	What are the hazards and risks?	How will hazards and risks be controlled?
Think about the worksite and each stage of the project, including preparation and clean-up.		
Driving onto the pull site and the pit area	Hitting Personal, stationary objects	All personal must ensure correct footwear is worn, no sandals, thongs or open toed shoes
		All drivers or operators must have the correct licence or certificate of competency for the vehicle or item of plant being driven or operated
		Competent spotters to be used when reversing large vehicles spotter to wear high-visibility clothing (reflective vest)
		All large vehicles are to have working reverse beepers
Unloading equipment	Manual Handling	Refer to the Manual Handling Works Instruction
Unloading equipment	Working at heights	All Load restraining To be done from ground level If not practical attachment of load restraint equipment to be done as necessary no tensioning This is to be done at ground level as a priority
		No climbing, walking jumping to or from trailer a ladder is to be used for ascending or descending onto trailer fixed ladders on trailers if fitted to be used
		All ladder with a minimum 120kg ladder must be used if load restraining cannot be done from ground level

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What are the tasks involved?	What are the hazards and risks?	How will hazards and risks be controlled?
Think about the worksite and each stage of the project, including preparation and clean-up.		
Unloading equipment	Working at heights	All vehicles transporting pulling vehicles or support equipment MAY use the pulling centre loading ramp. If self(un) loading direct from load deck fixed ramps or portable ramps must be used as intended by the manufacturers operating manual and risk assessment
Unloading Equipment	Mobile Plant and Machinery	When driving or winching down pulling vehicle, personal are to stand to the side of vehicle never behind. Spotter to be used to maintain a clearway free of any persons or vehicles WARNING:If you jump one meter down and you weigh 100kg you are effectively putting one tonne of force through your legs and ankles
Unloading Equipment	Mobile Plant and Machinery	Only personal with the correct licence or certificate of competency are to operate any lifting equipment
Unloading Equipment	Mobile plant and Machinery	Personal are to en sure clear area whilst lifting equipment is operating, personal are to stand to the side and be in clear view of operator
Unloading tractors	Slips Trips and Falls	All lifting chains and lifting slings must be tested and tagged and must Never be used for towing All lifting slings and lifting chains must be attached to an approved lifting device on the lifting equipment Speed limit of 10km/h maximum shall be observed at all times
Unloading tractors	Slips Trips and Falls	All personal must ensure correct footwear is worn, no sandals, thongs or open toed shoes Personal are to ensure they work on a stable platform, loose items and slippery surfaces are to be removed and or cleaned prior to walking on
Unloading tractors	Unloading Pulling Vehicle	All load restraints to be used at ground level where possible
Driver or Personal Crush Injury	All vehicle transporting pulling vehicles or support equipment MAY use the pulling centre loading ramp. If self(un)loading direct from load deck fixed ramps or portable ramps must be used as intended by the manufacturers operating manual and risk assessment	Speed limit of 10km/h maximum shall be observed at all times

What are the tasks involved?	What are the hazards and risks?	How will hazards and risks be controlled?
Think about the worksite and each stage of the project, including preparation and clean-up.		
		If driving or winching down pulling vehicle, personal are to stand to the side of vehicle never behind. Spotter to be used to maintain a clearway free of any persons or vehicles
		Pulling Vehicle operators who make use of provided loading ramps are to maintain a safe distance from all persons and travel no more than speed of walking pace as per the rule book, utilise spotter where required
	Pinch Injury	Suitable gloves are to be worn when chains, load binders
Or ropes are to be used		
Storing and Decanting Flammable Liquids	Fire, Explosion	Material Safety Data sheets must be obtained and carried for the type of fuel being used
Storing and Decanting Flammable Liquids	Fire, Explosion	All fuel containers shall be tagged and of an approved type for the fuel being used and with an approved pump for the containers over a capacity of 20 litres.
		The correct type of fire extinguisher for the type of fuel used must be present whilst refuelling is done
		All vehicles shall not be running whilst re-fuelling is done
		Static free clothing should be worn when re-fuelling
		If practical, a clear area of three meters is to be established when re-fuelling



OH&S statement (continued)	
Steps for filling out	
1.	Discuss with relevant Team Members and HSR's what work will be high-risk, the tasks, and associated hazards, risks and controls.
2.	In the 'What are the tasks involved?' column, list the work tasks in sequence to how they will be carried out.
3.	In the 'What are the hazards and risks?' column, list the hazards and risks for each work task.
4.	In the 'How will the hazards and risks be controlled?' column, select the hazard or risk and then work through the control levels 1 – 4 from top to bottom. Choose a control measure (and how it is to be used) that is as close to level 1 as is reasonably practicable.
Control levels	
1.	Eliminate any risk to health or safety associated with Tractor pull work.
2.	Reduce the risk to health or safety by any one or any combination of the following: <ul style="list-style-type: none"> • Substituting a new activity, procedure, plant, process or substance • Isolating persons from the hazard, such as barricading, fencing or guard railing, or • Using engineering controls, such as mechanical or electrical devices.
3.	Use administrative controls , such as changing the way the work is done.
4.	Provide appropriate personal protective equipment.
5.	Brief each team member on this OH&S before commencing event. Ensure team knows that work is to immediately stop if the OH&S is not being followed.
6.	Observe work being carried out. If controls are not adequate, stop the work, review the OH&S, adjust as required and re-brief the team.
7.	Retain this OH&S for the duration of the high-risk Tractor Pull

Name	Signature	Pulling Vehicle Name	Date

16.9 OH&S Policy #2

Down Under Modified Tractor Pulling Association Inc. OH&S POLICY. Number 2							
This OH&S is a site-specific statement that must be prepared before any high-risk construction work is commenced.							
Person responsible for ensuring compliance with this OH&S:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Tractor Pulling Teams</td> <td style="width: 50%; text-align: center;">Date:</td> </tr> <tr> <td style="height: 20px;"></td> <td style="text-align: center;">Season 2018 / 2019</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table>	Tractor Pulling Teams	Date:		Season 2018 / 2019		
Tractor Pulling Teams	Date:						
	Season 2018 / 2019						
High-risk job:	<p>Moving pulling Trucks and Tractors around the pit and Track area</p> <p>Location:</p> <p>All Down Under MTPA sanctioned tractor pull events including demonstration pulls and static displays</p>						
What are the Tasks Involved?	<p>What are the Hazards and Risks?</p> <p>Describe the control measures and how they will be used)</p>						
Think about the Tractor Pull site and each stage of the Tractor Pull.							
What are the Tasks Involved?	How will the Hazards and Risks be controlled?						
Moving Tractors / Trucks to Scrutineering / Track	<p>What are the Hazards and Risks?</p> <p>Noise.</p> <p>All Personnel shall wear appropriate hearing protection, whilst in close proximity of pulling Truck / Tractor if under its own power</p> <p>All Track workers and Track Officials Must wear the correct hearing protection while on or within the track area</p> <p>Licensed drivers to operate pulling Tractors / Trucks</p>						
Moving Tractors / Trucks to Scrutineering or Track	<p>Hitting Personnel and Structures</p> <p>Hitting Personnel and Structures</p> <p>A Maximum speed limit of walking pace as per the rule book Must be observed at all times</p> <p>Spotter and all Track Personnel are to wear HI-visibility clothing (Vest)</p>						
Towing Tractors/ Trucks to Track	<p>Excessive Speed</p> <p>Speed Limit of walking pace as per the rule book shall be observed at all times</p> <p>Tow straps shall be inspected and be in good condition. Straps that have cuts, excessive rub marks, fraying or burns shall not be used</p> <p>Tow straps or chains MUST not be used for lifting</p>						
	<p>Only one person shall travel on all motor bikes unless manufactured for two persons All Persons in control of a motor bike must be 16 years of age</p>						

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Track Maintenance	Crush Injuries	All Track workers must have read and signed Down Under MTPA Volunteer Workers site Induction form
		All Track workers must be trained and deemed competent for the task they are doing
		Track Maintenance equipment shall be operated under the control of the track marshal and in a safe manner at all times
		All Non-essential person shall move away from operating machinery not stand between tracks while track maintenance is performed
Track Personnel / competing drivers	Personnel being struck	Under no circumstances shall personnel stand between tracks whilst track is operating with the exception of the Clerk of the Course, Flag Marshal, sled Operators, Spotter for pulling Trucks / Tractors and Test Pull Coordinators
		Personnel are not allowed within 3 metres from the earthen mounds.
	Slips Trips and Falls	Track Maintenance workers operating machinery shall observe the correct entering and exiting of the cabin Three points of contact at all times (No jumping off steps)
	Dust	Clerk of the Course are to ensure track is maintained to reduce the generation of dust
	Environmental Conditions	All Personnel are to wear appropriate protection from the direct sunlight, Example sunglasses, sunscreen, wide brim hat.
		All Personnel are to ensure that they remain hydrated during the day
		Track workers to have adequate breaks for toilet, hydration and meals
Night works	Slips, Trips and Falls	Track personnel are to ensure adequate lighting for tasks undertaken
Using Generators	Noise	The generator shall be placed in an area that will not have an effect on personnel to here properly. The noise limit should be below 85dBA
	Fumes, Explosion & Fire	Generator to be refuelled and used in a well ventilated area with fire extinguisher on site

16.10 Manual Handling

All Tractor / Truck Pulling teams should be aware of the injuries that can be caused by incorrect manual lifting and movement of a load or weight.

Before Lifting

1. Stop and assess the load or weight.
2. Plan the lift. Estimate the load or weight and know exactly where it is to be placed.
3. Seek help from another person to lift or move the weight or load. Plan the lift together.
4. Wherever possible use Mechanical device, example forklift or crane
5. Avoid placing weights or loads on the ground if they have to be picked up at a later time.
6. Ensure weights or loads have sufficient space around them to enable safe lifting.
7. Make sure you are capable of lifting, your body is warm and flexible especially when weather is cold.
8. Avoid reaching out, do not reach out to pick up any weight or load.
9. Handle heavy weights or loads close to your body.

When Lifting

1. Bend your knees, keep a straight back and use your legs to lift.
2. Lift slowly and smoothly without jerking and when turning move your feet.
Do not twist or turn with hips or shoulders.

All Tractor / truck team members are encouraged to suggest ways, in which we could improve the way we currently lift, stack or pick up weights or loads.

Remember the weight or load that is too heavy, is the lift that injures you. Different weights or loads suit different people. You be the judge and ask for help if you need it.

16.11 14 Year Old Registered Driver

Driver to read and understand what is required to participate in driving a modified tractor.

As a responsible 14 year old you are allowed to drive 2 classes of tractors.

Limited Mini Modified and Limited Modified.

When driving around the pit area and moving to the track area the speed limit is walking pace.

The tractor motor is not allowed to be running when there is no person sitting in the seat of the tractor.

The race gear you must wear:

- The correct SFI approved race suit for your tractor class and fuel used.
- This must be and not limited to, to include Gloves and full face helmet.

RED Flag means STOP.

GREEN flag means GO.

BLACK flag means Disqualified.

There must have a spotter with you when reversing to hook to the sled.

You must wear your seatbelt correctly, firmly in its clasp when in position and hooked to the sled before your pull commences.

When hooking to the sled.

When your tractor is in the correct position as guided by your spotter, your spotter will place both their hands in the air. You must then put your tractor in the neutral gear and place both your hands in the air.

Once your hands are in this position it informs the tractor hookers and other personal that it is safe for your tractor to be hooked to the sled. Your hands are to remain in this position until your spotter lowers their hands. You then wait for a green flag to be displayed.

While a **RED** flag is displayed by the flag-person you are to remain stopped, under no circumstances are you to move your tractor.

When a **GREEN** flag is displayed by the flag-person it is safe for you to commence your pull. As a note of good practice, you also need to keep a look at the track in front of you and make sure that the track is clear.

If the flag-person displays a **RED** flag during your pull you must stop.

The maximum distance you are allowed to pull is 115 meters, if you reach this marker you must stop. 115 meters has been enforced to keep your tractor within a safe distance of the tracks layout maximum allowance.

For safety reasons, the 2 **Down Under MTPA** registered sleds are the only sleds you are permitted to hook to. Both **Down Under MTPA** sleds have an electric switch within the sled cabin to stop the tractor and therefore is increasing the safety of tractor pulling in Australia. Once the competency test has been approved a **AASA license** can be applied for online on the day.

16 APPENDICES



16.12 14 Year Old Written Driving Test

1	What does a Green flag mean?	A. Stop	B. Go	C. Disqualified
2	What does a Red flag mean?	A. Go	B. Stop	C. Disqualified
3	What does a Black flag mean?	A. Stop	B. Go	C. Disqualified
4	When is it safe to start your pull?	A. When the Red flag is displayed?	B. When the Green flag is displayed?	C. When the Black flag is displayed?
5	What does it mean when a flag-person displays the Red flag in the middle of your pull?	A. Keep Going	B. Stop	C. Take no notice of it
6	What is the maximum distance you can pull down the track?	A. 50 metres	B. 100 metres	C. 115 metres
7	What race gear must you wear?	A. Shirt & Jeans	B. Helmet	C. Race suit, gloves and full face helmet
8	Do you have to wear a seatbelt while competing?	A. Yes	B. No	C. Only if you want to
9	What sled are you allowed to hook to?	A. Any sled	B. Down Under MTPA sleds only	
10	Do you have to have a spotter when hooking to the sleds?	A. Only if you have one	B. No	C. Yes
11	What is the speed limit when driving around the pit area and moving to the track?	A. Walking pace	B. 40 km/h	C. 20 km/h
12	What type of tractor are you allowed to drive?	A. Open Mini	B. Limited Mini Modified	C. Limited Modified
13	Is the tractor motor allowed to be running if no one is sitting in the seat?	A. Yes, if no one is watching	B. No	
14	What are the hand signals when hooking to a sled?	A. Both hands in the air when tractor is in neutral gear	B. Wave to the crowd	
15	When you are being hooked to the sled can the tractor be in gear?	A. Yes	B. No	C. It doesn't matter

16.13 Junior Driver Licence competency test

Assessor to tick the following:

- Show where the brakes are
- Show where the throttle is
- Show where the gear lever is and the position of neutral, forward and reverse
- Can the control be reached from the seat with seat belts on?
- Is the seat belt at a good position on the body when belted up?
- Demonstrates removing belts and getting off tractor quickly and safely
- Show how to start and stop the engine safely
- Demonstrate hand signals when being hooked up to sled
- Explain what is required to be seen prior to putting tractor into gear and going down the track
- Explain what to do if a red flag or light goes up on track
- Demonstrate the ability to shift and control tractor while moving around at walking pace (including starting and stopping the motor)

Assessor Name _____

Signed _____

Date Approved ____/____/____

16.16 Event Report Kit



EVENT REPORT KIT

On completion of the reports for the AASA Permit Event, all forms are to be returned to AASA Office.
Other forms are accepted when the information meets minimum criteria (i.e. Flag Marshal forms).

	COMPLETED
1. Accident/Incident Reporting Instructions	<input type="checkbox"/>
2. Accident/Incident Report(s)	<input type="checkbox"/>
3. Accident/Incident Witnesses	<input type="checkbox"/>
4. Incident Witness Report(s)	<input type="checkbox"/>
5. Chief Scrutineers Report	<input type="checkbox"/>
6. Scrutineers Report(s)	<input type="checkbox"/>
7. Statement by Medical Officer	<input type="checkbox"/>
8. Medical Record(s)	<input type="checkbox"/>
9. Clerk of Course Report	<input type="checkbox"/>
10. Steward's Report	<input type="checkbox"/>

*Incidents in which person(s) involved are taken from the event via state ambulance
must be reported immediately on 0428 844 860.*



IMPORTANT INFORMATION ACCIDENT/INCIDENT REPORTING INSTRUCTIONS

Emergency Procedures

- (a) **Action:** This Incident Report Kit is to be fully completed for each incident. Each official area must complete their section of the Report and forward to the Clerk of Course (Race Control) for further action.
- (b) **Notice:** Incidents can happen anywhere; Advise the Clerk of Course as soon as possible after an incident occurs. Notification, regardless of the location of the incident or whether or who you feel is responsible for the bodily injury or property damage, is essential.
- (c) **Statement:** do not make any statements regarding the cause of the accident. Give no opinions or conjectures to anyone other than your insurance company representative.
- (d) **Witnesses:** Secure name, addresses and phone numbers (home and work) and report of incident from witnesses as soon as possible after the accident.
- (e) **Photos & Drawings:** Make drawings (and where applicable take photographic evidence) of the accident scene as soon as possible and/or retain that item(s) which may have caused the damage/injury.
- (f) **Liability:** Always remember it is not your role to establish liability or fault. Such decision must wait for the conclusion of a comprehensive investigation and the involvement of professional investigators and lawyers.
- (g) **Waiver & Release (if any):** Regardless of whether or not injured person was in a restricted area, locate signed waiver and release immediately and store in a safe place.
- (h) **Local Authorities:** If investigated by authorities, identify who and report to the Australian Auto-Sport Alliance Pty Ltd i.e. police - name, division and from what station/office and state.
- (i) **Accident/Incident Report Form:** Collect all information required, complete the form and return to the Clerk of Course. Information must include facility name and address, date of accident, victim's and witnesses' name, address and phone number. If a fatality, name, address and phone number of a family contact.
- (j) **Incidents in which person(s) involved are taken from the event via state ambulance must be reported immediately on 0428 844 860.**

**Remember: Notify the Australian Auto-Sport Alliance
of all incidents, not only those catastrophic in nature.**



ACCIDENT/INCIDENT REPORT (Confidential)
Name of Person involved: Date of Birth..... <i>(Please print)</i>
Address..... City: State: P/code: Phone (H): () Phone (W): ()..... Mobile: Involvement at event <i>(please circle)</i> : (Competitor) (Pit Crew) (Official) (Spectator) (Other.....) Vehicle category:..... Class: Vehicle make/model:..... Log book no..... Competitor No.....
Event activity during incident <i>(please circle)</i> : (Testing) (Practice) (Qualifying) (Race) (Other)
Venue: Location <i>(e.g. Turn 1)</i>
Date of Incident Competitor's Licence No. Time of incident:..... am/pm Time of Scramble Order:..... am/pm
Patient circumstances post incident <i>(please circle)</i> : (incident site care) (circuit medical centre) (off-site medical centre) (hospital) (fatality) <i>Incidents in which person(s) involved are taken from the event via state ambulance must be reported immediately on 0428 844 860.</i>
Injured body part/s <i>(e.g. left or right)</i> :
Condition of patient <i>(e.g. sprain, fracture, concussion, etc)</i> :



ACCIDENT/INCIDENT WITNESSES

1) NAME.....
ADDRESS.....
PHONE: HOME ().....WORK ().....
MOBILE:

Please attach statement concerning the incident

2) NAME.....
ADDRESS.....
PHONE: HOME ().....WORK ().....
MOBILE:

Please attach statement concerning the incident

3) NAME.....
ADDRESS.....
PHONE: HOME ().....WORK ().....
MOBILE:

Please attach statement concerning the incident

4) NAME.....
ADDRESS.....
PHONE: HOME ().....WORK ().....
MOBILE:

Please attach statement concerning the incident



CHIEF SCRUTINEER'S REPORT	
Venue Date Name of Event: Weather Conditions: Chief Scrutineer: No. of Competitors: No. of Scrutineers: No. of cars checked:..... No. of impacts between cars or stationary objects: <i>(original reports to be attached)</i> No. of Incidents involving personal injury:..... <i>(original reports to be attached)</i> Names of Line Chiefs: Line 1: Line 2: Line 3: Line 4:	
Comments regarding the scrutineering at event:	
Name: Signed: <div style="text-align: center; margin-top: 5px;">Chief Scrutineer</div>	Date:/...../20..... Phone:



STATEMENT BY MEDICAL STAFF	
<small>(Medical staff definition: Dr = Doctor, PARA = Paramedic, RN = Registered Nurse, EN = Enrolled Nurse)</small>	
Date of Incident:	Time of Incident:
Patient's Name:	Date of Birth:
1/ Where Patient Seen:	
2/ Nature and Extent of injuries at time of examination:	
3/ What treatment was performed – Brief summary:	
4/ Subsequent treatment recommended:	
5/ What medical emergency vehicle/s and equipment were available at location of patient examination:	
6/ Other medical personnel at incident scene:	
Hospital (Y/N and location)	Name of own medical practitioner _____
	Contact Number _____
Own Doctor (Y/N)	
Emergency Ambulance (Y/N)	Ambulance car number or branch _____
Home to rest (Y/N)	Recommendations or advice given: _____
Urgent Y/N	Non Urgent Y/N
Recommendation: Competitor able to resume driving (Y / N) _____	
Should competitors licence be suspended (Y /N)* _____	
*If Yes AASA to be advised immediately	
Remarks – further details	
Signed _____ Print Name _____ Date:	
Medical Staff Qualification:	
Note Patient Care Record on rear of form to be completed if any treatment performed or full assessment completed	

16 APPENDICES



Surname		D.O.B.	
First Name		Gender	
Address		Postcode	
Phone: (Home)		Phone (Mobile)	
<input type="checkbox"/> Consent to treatment <input type="checkbox"/> Refuses		Casualty's signature	

History of incident or illness

Assessment

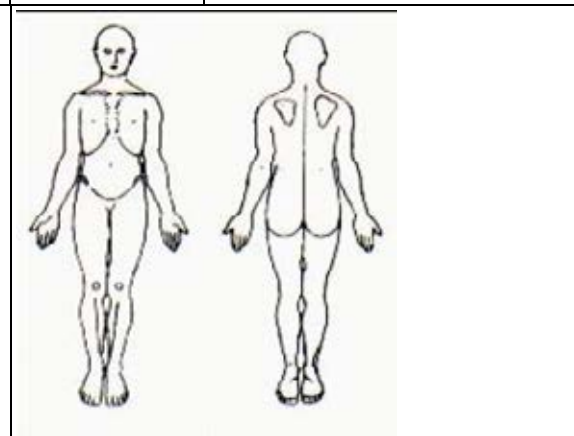
Time				
GCS: 3-15				
Pulse strength Strong/weak/bounding				
Pulse Rate				
Respiration Quality Deep/Shallow/Gasping				
Respiration rate				
Blood pressure				
Skin Hot/warm/cool/cold				

Allergies:

Medications:

Past History:

Treatment:



Hospital (Own Transport)	Time of departure:	Destination:
Ambulance	Time of Call:	Caller: Arrival time:
Own Doctor	Time of departure:	
Other (police etc)	Service:	Caller: Time called:
Returned to event	Time returned:	Who was advised:
Doctor / Paramedic / Nurse Name: _____		
Signature: _____		

Graphic Key: A: Abrasion B: Bleeding BU: Burns C: Contusion D: Discolouration
 F: Fracture (diagnosed or queried) L: Laceration P: Pain Sw: Swelling T: Tenderness

AASA Event Report Kit – V3 Jul 2018



CLERK OF COURSE REPORT

Venue Date:

Name of Event: AASA Permit No:

Organiser Name and Address:

No. of Competitors: Weather Conditions:

No. of Incidents involving personal injury:..... *(Reports to be attached)*

No. of impacts between cars or stationary objects: *(Reports to be attached)*

Did the event start on time: If not please give reason:

Were the following personnel in place at the start of the event:

First Aid Ambulance Crash/Rescue Fire personnel Safety Officer

Stewards Timing Scrutineers

Comments regarding the conduct of the event:

Comments regarding driving conduct or observed license tests:

Name:

Date:

Signed:

Phone: ()

(Clerk of Course)

Incidents in which person(s) involved are taken from the event via state ambulance must be reported immediately on 0428 844 860.



STEWARD'S REPORT	
Venue Date Name of Event: AASA Permit No. Names of Stewards: Name of Clerk of Course: No. of Competitors: Weather Conditions: No. of Incidents involving personal injury:..... <i>(Reports to be attached)</i> No. of impacts between cars or stationary objects: <i>(Reports to be attached)</i> Did the event start on time: If not please give reason: Were the following personnel in place at the start of the event: First Aid <input type="checkbox"/> Ambulance <input type="checkbox"/> Crash/Rescue <input type="checkbox"/> Fire personnel <input type="checkbox"/> Safety Officer <input type="checkbox"/> Clerk of Course <input type="checkbox"/> Timing <input type="checkbox"/> Scrutineers <input type="checkbox"/> Communications <input type="checkbox"/>	
Problems encountered with Competitors: Did you have to take any action – if so what Any Problems with Officials – if so what	
Name: Signed: <div style="text-align: center; font-size: small;">Chief Steward</div>	Date: Phone: ()

Incidents in which person(s) involved are taken from the event via state ambulance must be reported immediately on 0428 844 860.

17 APPENDIX B – DOWN UNDER MTPA COMMITTEE MEMBERS

President: Brendan Cornfoot

Vice President: Brett Harris

Secretary: Amanda Siemens

Treasurer: Robin Webb

Down Under MTPA

Postal Address
PO Box 519
Tintinara, 5266, SA

Down Under MTPA

www.downundermtpa.com.au

18 APPENDICES



18 APPENDIX C – SFI / FIA DRIVING APPAREL REQUIREMENTS

PPE	National	PPE	National
Suit	H3	Balaclava	Yes
Underwear	Yes (alcohol only)	Gloves	Yes
Helmet	T1	Boots	B1
Socks	S1	FHR	Yes (Mini's only)



18.1 Suit

In the present context, the term 'suit' refers to the items of external apparel that cover the torso and limbs of the occupant. Embroidery in **Level H3** suits must only be in the outer layer and utilise flame resistant thread. Badges must be of flame resistant material and be sewn into the outer layer.

(Needs to be replaced when frayed or damaged).

Level H3 - Single piece suits to SFI 3.2A Grade 5 (minimum) or recognised international equivalent.

18.2 Helmet

Each helmet should be chosen to fit the user's head and the intended use. Each helmet tends to mould to the shape of the user's head over time, and should not be repeatedly shared. Helmets must not be modified, except in accordance with the manufacturers guidelines. Painting of helmets, particularly those with a polycarbonate shell, may weaken the structure, as may the application of non-approved stickers. If air vents or communication equipment are required, consideration should be given to purchasing a helmet to meet those requirements. The use of speakers mounted in helmets, other than those supplied by the helmet manufacturer, is prohibited.

(Needs to be replaced when damaged).

Helmets must extend to cover the complete ear. 'Skull Cap' style helmets must not be used.

Level T1 - A helmet to one or more of the following standards:

- Australian or NZ standard AS / NZS1698
- European ECE 022 with 04 or 05 amendments
- Snell SA2000 (Expires 12/2018)
- Any Level T2 or T3 helmet

Level T3 - A Closed Face helmet to one or more of the following standards:

- Snell SA2005 (Becomes T1 as of 01/19), Snell SA2010, Snell SA2010H, Snell SA2015
- British Standard BS6658 A/FR
- SFI 31.1
- SFI 24.1 Youth Helmet (for competitors generally under 16 years of age)

18.4 Socks

Level S1 - Non-flammable socks of sufficient length to cover the ankles.

(Needs to be replaced when frayed or damaged).

18.5 Balaclava

Where specified, the balaclava or hood must comply with the **SFI 3.3** standard, or recognised international equivalent.
(Needs to be replaced when frayed or damaged).

18.6 Gloves

Where specified, gloves must comply with **SFI 3.3 Grade 5** (minimum) or recognised international equivalent.
Unless specified in event regulations, co-drivers in events that require the use of pace notes do not require gloves.
(Needs to be replaced when frayed or damaged).

18.7 Boots

Level B1 - Fully enclosed footwear with non-synthetic upper and low heels. Footwear shall not extend above the general ankle area (i.e. no long boots). Boots for drivers should be close fitting.
(Needs to be replaced when frayed or damaged).

18.8 (FHR) Head & Neck Protection (Mini's Only)

A collar style protective device can reduce the likelihood of neck injury due to compression or flexion. **A frontal head restraint (FHR)**, acting in conjunction with a properly mounted safety harness also offers a level of protection against severe head and neck trauma under tension. It is strongly recommended that a FHR system be used whenever the automobile is equipped with a four-strap harness.

(Needs to be replaced when frayed or damaged).



18 APPENDIX D – SFI / FIA SEAT BELT REQUIREMENTS

In accordance with **(AASA) Section 6.9 Seat Belts / Safety Restraints & (AASA) Section 12.9 Seat Belts / Safety Restraints.**

The introduction of **SFI 16.1** compliant safety belts / harnesses will be phased in and become mandatory from **1st January 2019.**

Please note that when using SFI branded belts the following condition is required:

‘Restraints must be maintained, inspected and replaced or re-webbed every two years because they degenerate from exposure to the elements and over time. Prolonged exposure of seat belt webbing and thread to sunlight can cause degradation of the fibres and loss of restraint integrity’.



Russell Kelly
Co-ordinator



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19 APPENDIX E – DOWN UNDER MTPA MEMBERSHIP CODE OF CONDUCT

19.1 Code of Conduct

This code of conduct contains the guidelines and expectations of the **Down Under MTPA** concerning the behaviour and conduct of our officials, members and other persons under the direction of, or representing **Down Under MTPA** at any time or in any place.

1. Any person, driver, crew or otherwise known to have harassed, confronted or intimidated officials or existing members of **Down Under MTPA** will have their application scrutinised by the **Down Under MTPA** board. Approval will be at the discretion of the board and will be provided in writing. Unsuccessful applicants will not be reconsidered.
2. Applicants who have actively engaged in intimidating verbal confrontations, towards any person, will have their application scrutinised by the **Down Under MTPA**. Unsuccessful applicants will not be reconsidered.
3. Any conduct that undermines the integrity of the board, the brand of **Down Under MTPA**, its Event Co-ordinators / Association will result in immediate expulsion at the discretion of the board.
4. **Zero Tolerance Rule** - Expressions of displeasure, dissatisfaction or dissension regarding the board and its decisions. In the first instance contact board re issue. Continuing on with the dissention without following the boards complaints procedures will result in immediate expulsion at the discretion of the board. (Please refer to **Down Under MTPA** Constitution - Disciplinary Action & Grievance Procedure).
5. Unsuccessful applicants are encouraged to attend **Down Under MTPA** events but are not eligible to enter pit or hot areas in ANY capacity. Failure to comply will result in any associated tractor owner being expelled from the **Down Under MTPA** association immediately.
6. That members are working towards the Associations purpose - to advance **Modified Tractor Pulling in Australia**
7. That members don't break the rules of the Association
8. Members don't contravene the Insurance Policy rules
9. Members act in good faith
10. Members aren't degrading the Association or its members unnecessarily
11. Members don't bring **Down Under MTPA** into disrepute, either verbally or via social media

20 APPENDIX F – COMPUTER SCORING / POSITION PLACING SYSTEM

The Down Under MTPA computer scoring / position placing system has been developed as a formulated spreadsheet in Microsoft Excel. It allows any scorer on the day to type in each tractor's test pull / official pull & pull off distance and has been programmed to calculate the placings at the click of a button.

Each pull (eg. **PULL 3**) once the distances are sorted gives the competitors a number, (If a competitor is disqualified or unable to pull in the event, a distance of 0.000 is given, the formula will then give the competitor 50 points for that event).

PULL 3					PULL 1						
TRACTOR NAME	TEST PULL	OFFICIAL PULL - 100.000m	PULL OFF	TOTAL DISTANCE 3	EVENT POINTS 3	TRACTOR NAME	TEST PULL	OFFICIAL PULL - 100.000m	PULL OFF	TOTAL DISTANCE 1	EVENT POINTS 1
Shillberite		98.635		98.635	1	Fiat Stick	63.001	100.000	99.052	199.052	1
Deer Diff		97.449		97.449	2	Shillberite		100.000	98.633	198.633	2
Flat Stick		93.248		93.248	3	Full Throttle		100.000	97.542	197.542	3
Full Throttle	95.600	78.326		78.326	4	Deer Diff		97.726		97.726	4
Soul Revival		0.000		0.000	50	Soul Revival		43.554		43.554	5

The Test Pull distance does not count towards the total distance for each event. Only the **OFFICIAL PULL & PULL OFF** distances are calculated for the **TOTAL DISTANCE**.

After the 3 x pulls are completed the scorer will sort the **TOTAL SORTING POINTS** COLUMN to show the overall winner for the day. The competitor with the lowest **TOTAL SORTING POINTS** for the day will be awarded 1st place.

PULL 1					PULL 2						
TRACTOR NAME	TEST PULL	OFFICIAL PULL - 100.000m	PULL OFF	TOTAL DISTANCE 1	EVENT POINTS 1	TRACTOR NAME	TEST PULL	OFFICIAL PULL - 100.000m	PULL OFF	TOTAL DISTANCE 2	EVENT POINTS 2
Fiat Stick	63.001	100.000	99.052	199.052	1	Shillberite		100.000	75.655	175.655	1
Shillberite		100.000	98.633	198.633	2	Full Throttle		100.000	68.127	168.127	2
Full Throttle		100.000	97.542	197.542	3	Deer Diff	92.630	95.888		95.888	3
Deer Diff		97.726		97.726	4	Fiat Stick		95.874		95.874	4
Soul Revival		43.554		43.554	5	Soul Revival		77.699		77.699	5

PULL 3					FINAL STANDINGS								
TRACTOR NAME	TEST PULL	OFFICIAL PULL - 100.000m	PULL OFF	TOTAL DISTANCE 3	EVENT POINTS 3	TOTAL DISTANCE	RUN 1 - POINTS	RUN 2 - POINTS	RUN 3 - POINTS	TOTAL SORTING POINTS	PLACINGS	POINTS	
Shillberite		98.635		98.635	1	Shillberite	472.923	2	1	1	4	1	20
Deer Diff		97.449		97.449	2	Fiat Stick	388.174	1	4	3	8	2	18
Flat Stick		93.248		93.248	3	Full Throttle	443.995	3	2	4	9	3	16
Full Throttle	95.600	78.326		78.326	4	Deer Diff	291.063	4	3	2	9	4	14
Soul Revival		0.000		0.000	50	Soul Revival	121.253	5	5	50	60	5	12

20 APPENDIX F – COMPUTER SCORING / POSITION PLACING SYSTEM

The results table above shows that 2nd place has a lesser total distance than 3rd place competitor. This result is reliant on the placings within each pull with the addition of all the **EVENT POINTS**.

In the event of two competitors finishing with the same **TOTAL SORTING POINTS** (in the above table 3rd & 4th place) the spreadsheet is then calculated to sort them into largest **TOTAL DISTANCE** for the day.

Each placing is then allocated points towards the **OVERALL CHAMPIONSHIP TOTAL** starting at 20 points for 1st place, 18 points for 2nd etc... which is calculated to decide the class **CHAMPION** at the end of the season.

The following classes use this formula:

- Limited Mini Modified
- Super Mini Modified
- Open Mini Modified
- Limited Modifieds
- Super Modifieds
- Pro-Stock (B)
- 2WD Trucks

The following classes use the slightly different formula below (Pulling to 115m with NO pulloffs):

- Outlaw Mini Modified
- Open Modifieds
- Pro-Stock (A)
- Outlaw 2WD Trucks

PULL 1					PULL 2				
TRACTOR NAME	TEST PULL	OFFICIAL PULL - 115.000m	TOTAL DISTANCE 1	EVENT POINTS 1	TRACTOR NAME	TEST PULL	OFFICIAL PULL - 115.000m	TOTAL DISTANCE 2	EVENT POINTS 2
Stampede		115.000	115.000	1	Rough Justice		115.000	115.000	1
Tommy's Toy	107.665	107.665	107.665	2	Reloaded	113.255	114.999	114.999	2
Rough Justice	98.665	104.432	104.432	3	Blown Income II	98.455	102.555	102.555	3
Stone Cold		104.102	104.102	4	Stampede		101.255	101.255	4
Blown Income II		96.213	96.213	5	Tommy's Toy		78.365	78.365	5
Reloaded		68.009	68.009	6	Uproar		33.254	33.254	6
Uproar		49.137	49.137	7	Stone Cold		0.000	0.000	50

PULL 3					FINAL STANDINGS							
TRACTOR NAME	TEST PULL	OFFICIAL PULL - 115.000m	PULL OFF	TOTAL DISTANCE 3	EVENT POINTS 3	TOTAL DISTANCE	RUN 1 - POINTS	RUN 2 - POINTS	RUN 3 - POINTS	TOTAL SORTING POINTS	PLACINGS	POINTS
Stampede	110.255	114.355		114.355	1	Stampede	330.610	4	1	6	1	20
Stone Cold		112.332		112.332	2	Rough Justice	319.433	3	1	7	2	18
Rough Justice		100.001		100.001	3	Tommy's Toy	264.695	2	5	12	3	16
Uproar		78.698		78.698	4	Reloaded	219.552	6	2	14	4	14
Tommy's Toy	48.655	78.665		78.665	5	Uproar	161.089	7	6	17	5	12
Reloaded		36.544		36.544	6	Stone Cold	216.434	4	50	2	56	10
Blown Income II		0.000		0.000	50	Blown Income II	198.768	5	3	50	7	8

20 APPENDIX F – COMPUTER SCORING / POSITION PLACING SYSTEM

POINTS		20
PLACINGS		18
TOTAL SORTING POINTS		6
PULL 3		
RUN 3 - POINTS	1	4
RUN 2 - POINTS	1	3
RUN 1 - POINTS	2	4
TOTAL DISTANCE	472,603	2
FINAL STANDINGS		
EVENT POINTS 3	1	50
TOTAL DISTANCE 3	96,635	1
PULL OFF	97,449	2
OFFICIAL PULL - 100,000m	95,600	3
TEST PULL	0.000	4
TRACTOR NAME	Shilberche	5
PULL 2		
EVENT POINTS 2	1	50
TOTAL DISTANCE 2	115,000	1
PULL OFF	114,385	2
OFFICIAL PULL - 100,000m	110,255	3
TEST PULL	0.000	4
TRACTOR NAME	Stampede	5
PULL 1		
EVENT POINTS 1	1	50
TOTAL DISTANCE 1	115,000	1
PULL OFF	114,332	2
OFFICIAL PULL - 100,000m	100,000	3
TEST PULL	0.000	4
TRACTOR NAME	Stampede	5

LIMITED MODIFIEDS

POINTS		20
PLACINGS		18
TOTAL SORTING POINTS		6
PULL 3		
RUN 3 - POINTS	1	4
RUN 2 - POINTS	1	3
RUN 1 - POINTS	2	4
TOTAL DISTANCE	300,610	2
FINAL STANDINGS		
EVENT POINTS 3	1	50
TOTAL DISTANCE 3	114,385	1
PULL OFF	112,332	2
OFFICIAL PULL - 115,000m	100,001	3
TEST PULL	0.000	4
TRACTOR NAME	Stampede	5
PULL 2		
EVENT POINTS 2	1	50
TOTAL DISTANCE 2	115,000	1
PULL OFF	114,999	2
OFFICIAL PULL - 115,000m	102,550	3
TEST PULL	0.000	4
TRACTOR NAME	Stampede	5
PULL 1		
EVENT POINTS 1	1	50
TOTAL DISTANCE 1	115,000	1
PULL OFF	113,255	2
OFFICIAL PULL - 115,000m	86,455	3
TEST PULL	0.000	4
TRACTOR NAME	Rough Justice	5

OUTLAW MINI MODIFIEDS

NOTES:

**DOWN
UNDER**



Contact us:

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Incorporated in Victoria,
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MARCH 2025 v7.0

