



**2013**

# **DRAG RACING HANDBOOK**



Please consider the environment before printing this document

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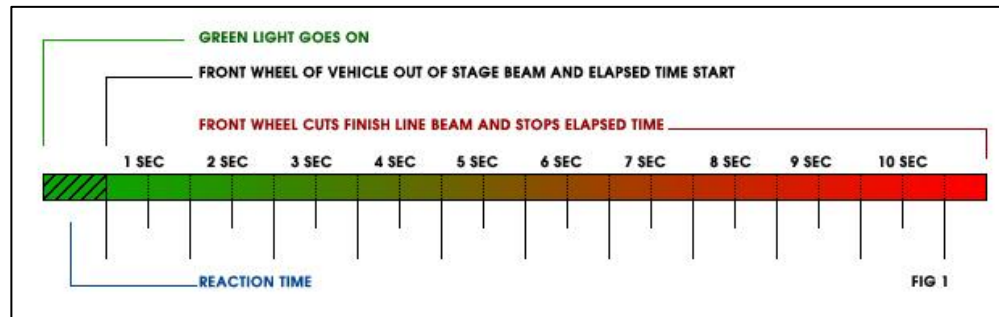
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THE BASICS OF DRAG RACING

Drag Racing is an acceleration contest between two vehicles from a standing start, over a measured distance, usually the quarter mile. These contests are monitored by means of an electronic device, referred to as a “Christmas Tree”. Two light beams connect to photo-cells on the track that are wired to the Tree and cross the start line. These light beams ensure that vehicles are positioned evenly. In turn, the beams are connected to electronic timers in the Control Tower. On launching off the start line, each driver/rider activates a timer that stops when the vehicle has reached the Finish Line. It goes without saying that each lane is timed independently of each other.

**DB 1 THERE ARE THREE IMPORTANT TIMES RECORDED DURING A RUN:**

- 1.1 **Reaction Time:** This is the time recorded as the green light is activated and the wheels of the vehicle move out of the stage beam. Reaction times are vital as these are what competitors have at their disposal to win a race. (See Fig.1).
- 1.2 **E.T.:** E.T. stands for Elapsed Time and it records the time as the front wheels of the vehicle move out of the stage beam, to when it cuts the finish line beam at the end of the quarter mile. (See Fig.1).
- 1.3 **Speed (KPH):** The third of course, is the terminal speed.



**DB 2 REACTION TIMES**

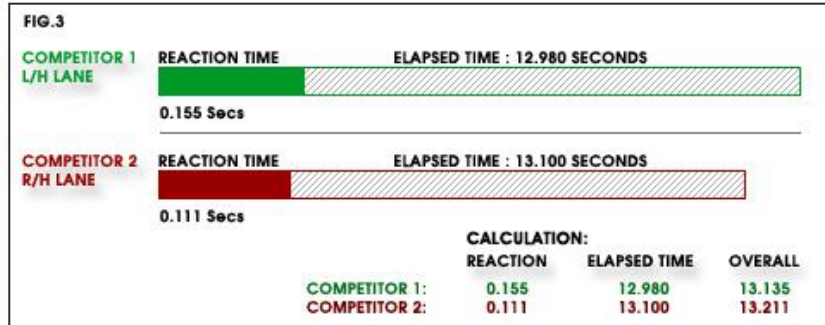
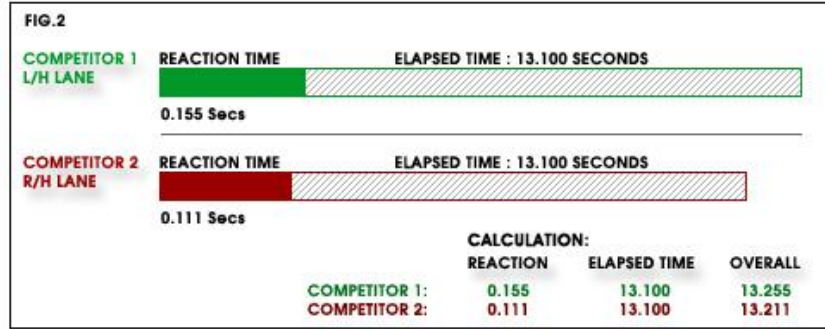
- 2.1 Reaction times are vital as they are what competitors have at their disposal to win a race. The reaction time is recorded when the green light is activated to when the front wheels leave the “STAGE” beam. Comments have been received about slower cars always seeming to win. Whether a competitor is competing in handicap or heads-up racing, the quickest is not necessarily the winner. That is why “reaction times” are so important. A competitor may lose, regardless of whether his/her E.T. (Elapsed Time) was good. If the initial “reaction time” was loose, he/she could well lose the race. The faster the “reaction time”, the more chance a competitor has of winning.

**2.1.1 Why is a Reaction Time important?**

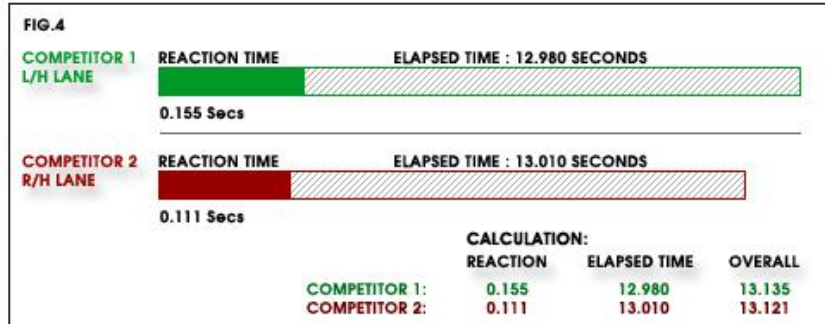
Reaction Times have nothing to do with Elapsed Times (E.T.’s). The Reaction Time is measured before the Elapsed Time counter starts. It should be stated that racing is first and foremost about who crosses the finish line first, irrespective of how quick you were getting there. In order for any system to accurately determine a winner, it uses the “reaction time” and the “elapsed time” to calculate the “overall time”. The “overall time” is calculated by adding the “reaction time” to the “elapsed time.” If two competitors race, the one with the lowest “overall time” is the one that crossed the finish line first.

In (Fig.2 below), let’s assume that we have two vehicles running identical elapsed times of 13.100 seconds, however, this doesn’t necessarily mean that they both crossed the line in an identical fashion. The competitor who had the quickest reaction time (Competitor 2) will win as his vehicle moved out of the stage beam before the other (Competitor 1).

Remember that the elapsed time only commences when the vehicles move and NOT when the green light goes on. The overall time of Competitor 2 is less than the overall time of Competitor 1.



In Fig.3 above, Competitor 1 is the winner even with a slower reaction because his “OVERALL TIME” was less than Competitor 2. The difference in Elapsed Times superseded the difference in reaction time.



In Fig.4 above, Competitor 2 is the winner even with a slower elapsed time because his “OVERALL TIME” was less than Competitor 1. The difference in reaction time superseded the difference in elapsed time. This is one of the most confusing things to competitors and spectators alike, unless they understand completely how “reaction time” and “elapsed time” work.

**2.1.2 How do I get a “good” Reaction Time**

A perfect reaction time is 0.000 seconds. A good reaction time in real drag racing terms is between 0.000 and 0.100; the closer to 0.000 the better. Following on from the sections on “STAGING” and the “CHRISTMAS TREE”, “How to get a good reaction time”, can now be explained.

A good reaction time is achieved by the driver’s reaction to the Amber light signal and also the vehicle reaction to the accelerator. Any good drag racer won’t wait for the green light to go on before reacting. This is why we have Amber Lights activating before the Green. The Amber lights are warning the driver that the green light will be activated at any moment; usual 0.4 seconds.

The driver should leave while the yellow light is still on as there is the “ROLLOUT” distance on the “STAGE” beam and the time for the vehicle to react after the driver

has pushed the accelerator.

Frankly, if racing was all about fast cars, then why run the risk of putting two competitors up against each other, or more for that matter when you consider other forms of motorsport, athletics or even horse racing. If it was all about fast cars, then a single lane strip would suffice, where competitors could run time trials or top speed runs and not drag race two cars/bikes against each other to see who could cross the finish line first. In the professional categories running in the American NHRA drag series it is not the quickest or fastest car that usually wins but the driver with the best reaction time that supersedes his slower E.T. from that of his opponent. If a competitor is slipping and sliding or spinning his rear tires from overpowering, or incorrect clutch set-up, it follows that because he didn't adapt to the track conditions correctly, he will be eliminated from the competition. Any track must have reaction times in order to make it fair to all competitors.

**DB 3 STAGING**

3.1 All vehicles must stage on the front wheels, not the rear. Once a vehicle reaches the front of the staging lanes for a run, it must be prepared to fire and race. A vehicle must start and self-stage. It is not permitted to push start or push stage a vehicle. Please watch your own lane lights and not those of the opposition. Once the staging lights are activated, should a competitor roll forwards, he/she will receive a Red Light, which is considered a serious infraction. The same applies if a competitor rolls backwards. Once staged, it is vitally important that competitors remain absolutely still until the Green Light is displayed. If a Red Light is received, the competitor, albeit disqualified, must finish the race. There are no recalls on Red Lights.

**3.1.1 What is Staging?**

In order to run a fair drag race using electronic timing equipment, both competitors must start from exactly the same position in each lane. This position is called the "STAGE" beam. The front wheels of the vehicle activate the "STAGE" beam. By moving into the beam and breaking it with the wheels, it activates the "STAGE" light on the Christmas tree. When a vehicle is in STAGE, the vehicle must stand still until the tree is activated to start the race.

3.1.2 Prior to activating the "STAGE" beam, competitors need to activate a "PRE-STAGE" beam. "PRE-STAGE" is an indication to the competitor that he is very near to the "STAGE" beam. Each of the beams has a certain amount of "ROLLOUT". "ROLLOUT" is the distance that the wheel is closing in on the beam. The "ROLLOUT" distance can vary slightly from track to track. It is approximately 10" (250mm) long when measured with a 22" diameter wheel.

**3.1.3 How to Stage:**

When the vehicle moves forward and breaks the "PRE-STAGE" beam, the light will activate on the Christmas tree. The driver should then stop and slowly move forward until the "STAGE" light is also activated. At this point, both lights ("PRE-STAGE" AND "STAGE") are lit. The driver can now remain in this position or move forward until the "PRE-STAGE" light goes out and only the "STAGE" light is on. With only the "STAGE" light on, it means that the wheel has already covered approximately 1/3 of the "ROLLOUT" distance of "STAGE". In other words, the "ROLLOUT" is now reduced to approximately 6"-7" (150mm-175mm). In most cases, competitors leave both lights on. With both lights on, it is called "SHALLOW STAGE". With one light on, it is called "DEEP STAGE". This "ROLLOUT" distance plays a vital role in the reaction time as well as red lighting.

3.1.4 If both competitors in each lane have moved through "Pre-Stage" into "Stage" (Re: Solidly, without stage flickering or merely "over staging"), it is automatically assumed that they are committed / ready to do the run. Once this has happened and any one competitor moves out of "Stage" (before amber sequence has started), the system will NOT start. The competitor who first starts a run (i.e.: Once staged solidly and not merely "over staging") before the amber sequence has started, will automatically be excluded (the loser). The second competitor will be the winner, however it is pointed out that if he/she also started before the amber light sequence, (i.e.: Before race official (tree operator / timekeeper) could manually reset the system) no ET or Speed will be recorded and therefore lane-Choice will be forfeited for the next round. If any

dispute arises from the losing competitor in the above mentioned instance as to whether he/she has “over staged” or “started the run”, the matter will be handed to startline officials, the tree operator/timekeeper, official judges of fact and their assistant judges/observers to make final decision.

**DB 4 OFFICIAL QUALIFYING**

4.1 Events will commence with a few practice rounds in order to test engine performance, traction, wind shear, etc., after which Official Qualifying will commence. OQ comprises two rounds, during which competitors have two chances to pump up their performances before main racing. Any competitor who fails to do at least one qualifying run, will not be included in the main eliminations. Competitors who red light during this section of the event, still qualify for main eliminations! Qualifying is purely to establish what times your vehicle is capable of running in order to set a dial-in time for main racing.

**DB 5 MSA LICENCE**

All competitors must be in possession of a valid Drag Racing Licence issued by Motorsport SA [MSA]. This license must be produced during documentation to the race secretary of the meeting. All competitors under 18 years of age must have their Drag Racing License application forms countersigned by a parent or legal guardian, who must also approve and countersign their competition entry form.

**DB 6 DRIVER'S BRIEFING**

When called for, it is compulsory for all competitors to attend a Driver's Briefing. Failure to do so may lead to exclusion from competition, the day's racing or a point's penalty as determined by the Clerk of the Course.

**DB 7 CONDUCT**

All competitors plus crew are to conduct themselves in an orderly manner. Any disorderly conduct or failure to obey official instructions or any breach of these regulations by entrants or their assistants, shall make the entrant concerned liable to a penalty and/or fine. If the offence occurs during a race, the entrant will face disqualification.

**DB 8 FAMILY AND FRIENDS**

Family and friends are not permitted on the start-line. This area is restricted! The only people allowed to be on the start line are competitors, crew and start line marshals. Remember that every time the track is closed, it delays proceedings that aggravate the organisers, competitors and public who are there to watch the racing. Please note that the minimum age for pit crew members allowed on the start line at an event is 16 years.

**DB 9 DIAL-INS (HANDICAP)**

Each driver / rider nominates his or her own handicap or dial in time. However, no driver rider may dial-in slower than his / her quickest qualifying time of the day. This is usually done by making two runs during official qualifying to see how slippery or sticky the track surface is at the start line and to see how much power the engine is pumping. Suppose a competitor runs a 14.4 and 14.2, knowing that if he beats his “Nominated Time” or “Handicap Time” even by one thousandth of a second, he will be disqualified. It would be stupid to dial in at 14.4. It would be just as dangerous to dial in at 14.2 because any improvement in the conditions such as traction, wind, and temperature or engine power could result in a better run being recorded, and disqualification. So the safe thing to do is to give himself a safety margin of approximately one tenth of a second (depending on what type of vehicle and / or driver consistency, and / or track conditions, and / or vehicle consistency). Therefore nominate 14.2 less 0.1 = 14.1 seconds as a “Dial-in” time.

**DB10 WHY ONE COMPETITOR LEAVES THE START LINE BEFORE ANOTHER?**

Let's say one competitor dialed in a 12.2, the other a 14.2. If they are matched against each other, the slower competitor will get a two second head start. This is built into the control of the Christmas tree by the Control Tower officials. If they each run according to their dial-in times, there should be a dead heat at the end. This of course, rarely happens as one competitor could go faster than his handicap and get disqualified, or one launches too early and receives a Red Light, or one has a better reaction time than his opponent.

**DB11 PENALTIES**

**A competitor may be disqualified for:**

- 11.1 Failing to report to the start line on time.
- 11.2 Crossing the centre line.
- 11.3 A Red Light start.
- 11.4 Breaking out of his bracket.
- 11.5 Failure to attend Driver's Briefing.
- 11.6 Depositing foreign matter including debris or oil onto the strip or staging lanes, except in the case where an accident has occurred.
- 11.7 Unsportsmanlike behaviour.
- 11.8 Behaviour that causes a safety hazard to other competitors and/or spectators.

- 11.9 Driving dangerously. (This includes crew vehicles).
- 11.10 Driving excessively fast on the 'return road'.
- 11.11 Being suspected or seen to be consuming alcohol, regardless of the amount.
- 11.12 Behaving in a manner that could prejudice MSA.
- 11.13 Disregarding a specific instruction from an official.
- 11.14 Starting the run before the "Amber Light" sequence has started.

**DB12 THE TIMING EQUIPMENT**

- 12.1 This has been constructed to ensure reaction and elapsed times to a thousandth of a second and terminal speed to a tenth of a KPH. The start will be by light sequence provided by Christmas tree format with the following specifications:
- 12.2 Approach, pre-stage and track lights are controlled by the vehicle. Once in stage, a clearly displayed Countdown Board; fitted to the Control Tower Computer, will start running down from 30 seconds. If the countdown has begun and the adjacent lane has not staged, the sequence lights will commence running down. The standard sequence will be 3 AMBER LIGHTS with a minimum time between lights of 0.4 of a second. GREEN IS FOR GO! A Red light is caused by either rolling forwards or backwards from stage during the sequence lights. This is referred to as "Amber Gambling", i.e. trying to leave the line too early. However, when a Red Light is displayed, the run must be completed. **THERE IS NO RECALL ON RED LIGHTS.**  
**Note: Drag racing rules (NHRA and international) do not permit rolling starts. To lay claim to any recorded time, the organizer(s) must comply with NHRA rules.**

**DB13 DRAG RACING DISTANCE**

All street racing venues, MUST run 1/8 mile. On application venues who wish to run longer distances will be considered, taking into account elements of safety and track conditions and design.



NATIONAL / REGIONAL CHAMPIONSHIP AND NON-CHAMPIONSHIP DRAG RACING CATEGORIES

**INTERPRETATION OF REGULATIONS AND SPECIFICATIONS**

In interpreting Motorsport regulations and specifications “what is not specifically permitted is disallowed” is the normal concept in keeping with the French regulations on which all motor sporting regulations are based.

1. The MSA National and Regional Drag Racing Championships for cars and motorcycles will consist of 6 rounds each, with all events to count, subject to meeting the minimum requirements. 10 rounds for Street Eliminator, SS Bikes and SB Bikes, but only 8 rounds to count – (Refer to the National Championship Point Scoring, 2(a) to (f) and 3(a) to (f).
2. The following are categories for National and Regional Championship events to be held at venues graded and approved for National and Regional Championship events. Some categories may only be run at venues suitable for the high speeds reached by some vehicles, i.e. Top Eliminator and Senior Eliminator.
3. These categories are determined from the performance level of individual classes and also the types of vehicles competing against each other.
4. Each venue hosting events for National and Regional Championships must have timing equipment suitable for handicap racing in order for these categories to work.
5. The following categories will have National and or Regional status and all competitors must have a valid “National” and or “Regional” Competition License in order to enter and compete:

**5.1 CARS**

(Please note that all competitors wanting to compete in the following National / Regional categories have to be in possession of a valid National and or Regional Motorsport South Africa License valid for the category of sport)

**NATIONAL / REGIONAL CATEGORIES**

- (a) TOP ELIMINATOR CATEGORY  
The following classes may compete in this category and the maximum (slowest) dial-in time accepted is 7.80 seconds  
**TAD, TAF, AD, AF, SA, S/TA, A/TA\*, AA/CA, A/TFC, B/TFC, A/TD, B/TD, C/TD**
- (b) SENIOR ELIMINATOR CATEGORY  
The following classes may compete in this category and the minimum (fastest) dial-in time accepted is 7.00 seconds and the maximum (slowest) dial-in accepted is 9.00 seconds.  
**AA, BA, A/TA\*, B/TA, C/TA, D/TA, AR/TA, BR/TA, CR/TA, DR/TA, BB/CA, CC/CA, B/FC, BD, A/CD, C/TFC, D/TD**
- (c) SUPER COMPETITION ELIMINATOR CATEGORY  
The following classes may compete in this category and the minimum (fastest) dial-in time accepted is 8.20 seconds and the maximum (slowest) dial-in accepted is 11.20 seconds.  
**CA, DA, EA, E/TA, F/TA, A/RA, B/RA, C/RA, DR/A, ER/TA, FR/TA, AF/TA, BF/TA, CF/TA, DF/TA, EF/TA, A/CA, B/CA, C/CA, C/FC, CD, DD, BC/D, CC/D, DC/D, SP, AP, BP, CP, DP, S/TP, A/TP, B/TP, C/TP, D/TP, AR/TP, BR/TP, CR/TP, DR/TP**
- (d) COMPETITION ELIMINATOR CATEGORY  
The following classes may compete in this category and the minimum (fastest) dial-in time accepted is 9.00 seconds and the maximum (slowest) dial-in accepted is 13.50 seconds.  
**FA, GA, HA, G/TA, ER/A, FR/A, GR/A, HR/A, GR/TA, AF/A, BF/A, CF/A, DF/A, EF/A, FF/A, GF/A, HF/A, FF/TA, GF/TA, HF/TA, EP, FP, GP, HP, E/TP, F/TP, G/TP, AR/P, BR/P, CR/P, DR/P, ER/P, FR/P, GR/P, HR/P, ER/TP, FR/TP, GR/TP, AF/P, BF/P, CF/P, DF/P, EF/P, FF/P, GF/P, HF/P, AF/TP, BF/TP, CF/TP, DF/TP, EF/TP, FF/TP, GF/TP, HF/TP.**
- (e) STREET ELIMINATOR CATEGORY  
The minimum (fastest) dial-in time accepted is 11.00 and the maximum (slowest) dial-in is 17.00 seconds. Any vehicles running quicker than 11.00 seconds, regardless of whether they comply with “Street Eliminator” class regulations, will be classified

as “Pro-Street” cars due to various safety reasons.

**This category is divided into two sub categories as follow:**

- i. Super Street  
The minimum (fastest) dial-in time accepted is 11.00 seconds and the maximum (slowest) dial-in accepted is 14.00 seconds. Any vehicles running quicker than 11.00 seconds, regardless of whether they comply with “Street Eliminator” class regulations, will be classified as “Pro-Street” cars due to various safety reasons.  
**ST**
- ii. Modified Street  
The minimum (fastest) dial-in time accepted is 13.50 seconds and the maximum (slowest) dial-in accepted is 17.00 seconds  
**MS**

**NOTE: (Applicable to all car categories):**

Should a condition occur in which a vehicle is classed to run in a lower category and the vehicle runs quicker than the minimum allowed dial-in time for the class category during practice/qualifying (prior to main eliminations), that vehicle will then automatically move up to the next higher category. Ranking in the higher category would then still be done against the class record to which this vehicle is classed at.

## 5.2 BIKES

- (a) PRO STREET BIKES (PST)  
The following classes may compete in this category and competition will be run on a heads-up basis with no handicap.
- (b) SUPERBIKE ELIMINATION (SB)  
The following classes may compete in this category and the maximum (slowest) dial-in accepted is 13.50 seconds.
- (c) SUPERSPORT SHOOTOUT (SS)  
The following classes may compete in this category and competition will be run on a heads-up basis with no handicap

## 6. MINIMUM NUMBER OF STARTERS

With reference to GCR 230 of the MSA handbook the following criteria will apply in respect of the National Championship categories.

- a. **CARS**
    1. 10 starters - Top Eliminator category
    2. 10 starters - Senior Eliminator category
    3. 10 starters – Super Competition Eliminator category
    4. 10 starters – Competition Eliminator
    5. 10 starters – Super Street (Street Eliminator category)
    6. 10 starters – Modified Street (Street Eliminator category)
  - b. **MOTORCYCLES**
    1. 10 starters – P/ST
    2. 10 starters - SB
    3. 10 starters – SS
7. The minimum number of starters, at the end of the National Championship, will be based on the average entries during all the rounds of the championship.
  8. To be classified as a starter, the competitor must have entered and passed scrutineering.
  9. The minimum number of starters for Regional Championships will be based on the average entries during all the rounds of the championship and all competitors must be in possession of a valid MSA National or Regional License.
    - a. **CARS**
      1. 6 starters - Top Eliminator
      2. 6 starters - Senior Eliminator

3. 6 starters - Super Competition Eliminator
4. 6 starters - Competition Eliminator
5. 6 starters – Super Street (Street Eliminator category)
6. 6 starters – Modified Street (Street Eliminator category)

**b.**

**MOTORCYCLES**

1. 6 starters - Pro Street (PST)
2. 6 starters - Super Bike (SB)
3. 6 starters - SS Class Bikes (SS)
4. 6 starters – Quad Bikes (Q)

NATIONAL CHAMPIONSHIP POINT SCORING

All categories will take part in an elimination series as per these supplementary regulations. Points will be scored accordingly. All car and bike categories will complete their eliminations up to the finals to determine the 1st, 2nd, 3rd and 4th place on the championship only.

**DRAG CARS, STREET CARS, BIKES**

**Top Eliminator, Senior Eliminator, Super Competition Eliminator, Competition Eliminator**

**Super Street, Modified Street**

**SS-Bikes**

**SB-Bikes**

**a. Championship Rounds**

There will be a total of 6 rounds that will count towards the championship. After 4 rounds the "points reset" will happen (refer to point f.)

**b. Attendance / Qualifying Points**

10 Points will be awarded to each competitor in all categories after completion of at least one qualifying run. (Red light start is not applicable.)

**c. Consolidated Qualifying Bonus Ranking Points**

All entrants will here be ranked and points awarded and measured against the rest of the field within the main group.

- i. Following all qualifying rounds at any event, the top half (highest ranked qualifiers) in each individual category, will also score an additional 5 (five) points in the 'higher' category from the elimination category where the competitor has competed for the day, and the bottom half (lowest ranked qualifiers) in each individual category, will score an additional 5 (five) points in the 'lower' category from the elimination category where the competitor has competed for the day.
- ii. Following all qualifying rounds at any event, all competitors will be ranked together (consolidated qualifying ranking) from highest ('best') qualifier to lowest ('worst') qualifier.
  - The top 10 (ten) qualifiers (from No. 1 -10) will be awarded 5 (five) additional qualifying ranking bonus points,
  - from numbers 11- 20 will be awarded 4 (four) additional qualifying ranking bonus points,
  - from numbers 21-30 will be awarded 3 (three) additional qualifying ranking bonus points,
  - from numbers 31-40 will be awarded 2 (two) additional qualifying ranking bonus points,
  - from numbers 41-50 will be awarded 1 (one) additional qualifying ranking bonus points and from 50 onwards will receive no additional ranking bonus points.

These points will be awarded to each competitor in his/her elimination category, as well as the higher/lower category where the additional 5 (five) points, [referred to in (i) above] to each competitor. All ranking above will be done by sub-tracking each competitor's best qualifying time of the day from class record for the vehicle he/she is competing with. The nearer to the class record (or furthest below) is ranked higher.

- iii. In addition to above, all the 'highest ranked qualifiers' in each individual category, will each score an additional 1 (one) bonus point in the elimination category where the competitor has competed for the day.

**NOTES**

- In case an uneven field after qualifying, the higher (equal) amount of competitors will be taken as the 'highest ranked qualifiers' and the lower (unequal) amount of competitors will be taken as the 'lowest ranked qualifiers'.
- In some instances where competitors are competing with two vehicles in two categories, the additional 5 (five) points awarded in the higher or lower category, may not be added to the same competitors name in the higher or lower category, but the additional 1 (one) bonus point in the

elimination category may be awarded in each individual category if applicable.

- (No competitor may score points in one category with more than one vehicle on a race day).

d. **Elimination Points**

i. **Round Scoring**

Field Size	1 <sup>st</sup> Rnd Loser	2 <sup>nd</sup> Rnd Loser	3 <sup>rd</sup> Rnd Loser	4 <sup>th</sup> Rnd Loser	5 <sup>th</sup> Rnd Loser	Runner Up	Winner
Min 4	15(3)					40	50
5 to 8	15	20(3)				40	50
9 to 16	15	20	25(3)			40	50
17 to 32	15	20	25	30(3)		40	50
33 to 64	15	20	25	30	35(3)	40	50

Note: Add number in parenthesis to points total for 3<sup>rd</sup> place.

ii. **Additional Qualifying Points in each Eliminator Category**

Top Qualifier	8	5 <sup>th</sup> and 6 <sup>th</sup>	4
2 <sup>nd</sup>	7	7 <sup>th</sup> and 8 <sup>th</sup>	3
3 <sup>rd</sup>	6	9 <sup>th</sup> and 12 <sup>th</sup>	2
4 <sup>th</sup>	5	13 <sup>th</sup> to 16 <sup>th</sup>	1

e. **Bonus Points and Other**

10 points will be awarded for establishing an E.T. Record Subject to technical inspection and after successful "Back-Up" run as required. (Refer to National Drag Racing Records).

NOTE: Record Bonus Points will only be awarded once at an event to a competitor in a category. (Re: should one record get broken on multiple times by the same competitor in a class at the same event, he can only earn record points once for that event.)

f. **Points Reset - National Championship**

- After completion of 4 (four) rounds (total 6) in all National Championship categories, the total points (except Record Bonus Points) earned by each competitor in a category will be divided by 4 (four) in order to average the points scored per event.
- The total points after divided will be the points for each competitor going into the 2 (two) remaining rounds.
- The 2 (two) remaining events will then be scored on the same method as from (a - d) above and added to the divided total after rounds 1 – 4 to determine the winner at the conclusion of the series.
- RECORD points will be considered a bonus and will **NOT** be divided after the first four rounds and will therefore count the full 10 (ten) points (per event/record) towards the total at the end of the year.

g. **General Notes**

1. Decimals after dividing of points (see 'e' above)
  - If decimal amount is .5 and higher, the rounding will go up
  - If decimal amount is below .5, the rounding will go down.
2. Minimum criteria of awarding first round loser points will be if Competitors appeared on the line with their vehicles and were able to take the light under their own power, and / or vehicles breaking down during start-up to approach the start line / burnout area.
3. If a tie exists (for any of the Top 3 (three) positions) at the conclusion of the season, it shall be resolved as follows. If after step one is followed a tie still remains, additional steps are to be followed until a tie is broken.
  - a. Driver with most event (with same status where tie exists) wins. (Depending in which series the points are tied.)
  - b. Driver with most Runner-ups (with same status where tie exists) finishes. (Depending in which series the points are tied.)
  - c. Driver with most 3<sup>rd</sup> place (with same status where tie exists) finishes. (Depending in

which series the points are tied.)

- d. Should the tie still exist, the driver with the best average Qualifying Elimination Ranking points for all events wins the tie.

4. Event cancellations (Re: Rain and/or other reason)

- Should it so happen that any event is cancelled completely, no points will be awarded to any competitor.
- Should an event be started and not be completed and without running again on a Re-Scheduled rain date, each category will score points up to successful completion of an elimination round by all competitors in each individual category. (Re: some categories may have progressed further than other categories.)
- Should any event get Re-Scheduled to a "Rain Date", no points will be awarded to any competitor for the date that gets Re-Scheduled. Points will only be awarded for the Re-Scheduled event on the rain date.

**DRAG RACING RULES, REGULATIONS AND SPECIFICATIONS**

**DR 1 VEHICLES – GENERAL**

- 1.1 All vehicles must satisfy the Scrutineers of the meetings as to their suitability for Racing, taking into account all details of their design and construction. In addition, it must be evident, both from a static examination from its behavior on the track, that a vehicle will present no hazard to the driver or to the other competitors or to spectators.
- 1.2 **Appearance:** Vehicles participating in Drag Racing events must be presentable in appearance at all times. At any sanctioned event, the Scrutineers may reject vehicles that are considered improperly prepared.
- 1.3 The appearance of personnel attending contestant vehicles is equally important and each member of a participant crew must be fully attired including shoes when present in the staging, starting and competition areas of the racetrack. It is the Chief Start Line Marshal's responsibility to police the appearance of crewmembers that venture into the abovementioned areas.
- 1.4 **Component Substitution:** Any component of a vehicle may be replaced (except the chassis) during competition provided that the new components are inspected and passed by the scrutineer if liable to alter that vehicle's class or affect its safety. The onus is on the competitor to be ready on time for each new run. The vehicle must still comply with regulations of its originally entered class at that event.
- 1.5 **Ground Clearance:** All vehicles competing are required to maintain a minimum of 75mm ground clearance, measured from the front of the vehicle to 300mm behind the centre line of front axle and 50mm for the remainder of the car. Wheelie bars are exempt. All vehicles will be checked for correct ground clearance during scrutineering. Subsequently, any staging problems should be the fault of the start line equipment and if a problem occurs, both vehicles should be backed out and the fault investigated. If the fault is found to be with one of the vehicles, it will be excluded immediately.

**DR 2 RACING: GENERAL REGULATIONS APPLICABLE TO ALL COMPETITORS**

- 2.1 In the interest of safety, before a vehicle proceeds onto the strip, a check shall be made that the scrutineers have passed it.
- 2.2 Only the entrant shall drive a vehicle onto the strip during pre-race practice and the racing, except with the specific permission of the Clerk of the Course.
- 2.3 Normally, no vehicle may be driven or pushed in any direction, except in the direction of the course, either during unofficial or official practice sessions or during a race meeting. Vehicles may be reversed (backed up) after a burnout.
- 2.4 Any driver stopping on the strip or its verges, whether voluntarily or involuntarily (such as through stalling the vehicle), shall remain there until it is safe to move as directed by an official.
- 2.5 Any driver who refuses to voluntarily reduce speed or stop in the event of his/her vehicle not handling properly (i.e. excessive drifting of the vehicle towards the centre or edge of the track), or any driver who "fishtails" or weaves with undue regard to the safety of himself, other drivers or spectators renders himself/herself liable to disciplinary action.
- 2.6 If any vehicle at any event spills a foreign substance on the track, that requires clean-up and takes longer than 15 minutes, the competitor will be liable for a fine of R2500-00. If the delay is 1 hour and longer or the track is closed, a fine of R5000-00 will be imposed on the competitor.

**DR 3 BURNOUTS**

- 3.1 A maximum of two burnouts are allowed. Only vehicles equipped with racing slick-type Tyres are permitted to cross the start line. Maximum time for this will be two minutes, of which the period starts when the first burnout to be performed by either competitor commences.
- 3.2 At the end of the two minute period or once a vehicle is staged, the remaining vehicle will have a maximum of 30 seconds to stage. It will be the Chief Start line Marshal's responsibility to enforce these requirements unless by prior arrangement with the parties involved.
- 3.3 Burnouts must be of an UNASSISTED NATURE, i.e. no holding of vehicles under any circumstances at any track. Once again it will be the Chief Start line Marshal's responsibility to police the burnout procedure and to halt any handling of vehicles.
- 3.4 Crossing the centre line during a burnout is not an automatic exclusion unless such action is deemed by the start line officials to be careless or hazardous to the vehicle in the opposite lane.

**DR 4 ALTERNATES**

- 4.1 In order to ensure paired competition during all elimination series, the following rules shall apply. Where an elimination bracket needs to be filled, an alternate or alternates shall be drawn from non-qualifiers in order of their qualifying times. The use of alternates is restricted to the first round of Racing and no substitutes will be brought in after the first round of Racing other than in Top

- Eliminator.
- 4.2 If an elimination contestant is unable to complete the following round they must notify race control as soon as possible so that seeding sheets can be adjusted accordingly and ensure paired runs continue.

**DR 5 STAGING**

- 5.1 Once a vehicle reaches the front of the staging lanes for a run it must be prepared to fire and race. The onus is on the competitor to make sure both he and his opponent are ready for each new run. If a competitor is on the start line and his opponent does not appear within the prescribed two minutes that competitor must then make use of the 30-second board.
- 5.2 If a competitor notifies both his opponent and race control that he is not ready, the pairing can be slotted in at the bottom of the present elimination's round. However, if all races have been completed in the respective elimination round, a bye run, directly after the last pairing is required by the racer who is ready and his missing opponent is eliminated.
- 5.3 In order to be a legitimate race winner, a contestant's vehicle must start and self-stage. This rule also applies to bye runs. It isn't allowable to push start a vehicle or to push stage a vehicle. Staging must be done under the vehicle's own engine power in the direction of the Racing.

**DR 6 THE DIFFERENCE BETWEEN BYE RUNS AND SOLO RUNS**

**6.1 Bye Runs**

- (a) Bye Runs are compulsory and are awarded in progressive order, e.g. if a field produces three Bye runs, the Top Qualifier would receive the first Bye, the No. 2, the second, and the No. 3, the third. On an uneven field, the Top Qualifier always receives a Bye run.
- (b) The breakout rule does not apply during a Bye Run.
- (c) A driver/rider that gets a red light with any Bye Run will be disqualified, however, if a situation arises where there are three competitors in a semi-final and the competitor that has the Bye-Run awarded for that round of competition gets a Red Light, he will be awarded 2<sup>nd</sup> Place and the winner of the other run in the same semi-final will be awarded 1<sup>st</sup> Place and the loser of the same run, 3<sup>rd</sup> Place.
- (d) If a competitor crosses the boundary line on a Bye-Run run, the elapsed time is voided for lane choice determination.

**6.2 Solo Runs**

- (a) If one competitor fails to report to the start line, the other competitor will perform a solo run. This is not a Bye Run; merely the result of a "no show" and the breakout and red light rule will apply.
- (b) If a competitor crosses the boundary line on a solo run, the elapsed time is voided for lane choice determination.

**6.3 No Shows**

The onus is on the competitors to ensure they are ready for each new run. If a competitor is on the start line and his opponent does not appear within the prescribed two minutes, that competitor must then make use of the 30-second board.

**6.4 Crossing the Centre Line**

It should be noted that during a BYE or SOLO run, crossing the centre line does not constitute an infraction. However, if this occurs, i.e. if the competitor started out in the left hand lane and crosses the centre line, the competitor must correct the vehicle and revert back to and complete the run in the left hand lane. In qualifying, crossing or touching the centre line, the run becomes null and void.

**DR 7 BREAKOUT RULE**

- 7.1 To prevent competitors from nominating a "soft" dial-in time and then running quicker in competition, a breakout rule is enforced which eliminates a racer running below their nomination. If both competitors breakout the racer who infringes by the largest margin is the loser and the one who infringes by the least is the winner. Points/remuneration will be allotted as if both competitors legitimately won/lost the race concerned. If a competitor chooses to dial-in on the applicable class record, then the breakout rule does not apply.

**DR 8 EXCLUSION – EXAMPLES OF GROUNDS FOR EXCLUSION**

If a driver is excluded for any reason, he cannot be reinstated at any time during the event and will only gain points/remuneration up until and including the round of exclusion/elimination.

**8.1 "First" or "Worst" Rule**

The ideal outcome of any race is to have one winner and one loser. In cases where both



competitors are guilty of an infraction during the same elimination race, the 'First or Worst' rule will apply. This rule applies in all circumstances such as in the case where competitor red lights, then their opponent break out. The red light would be classified as the worst infraction.

The 'First' ruling applies when both competitors are guilty of an equal/same infraction. The 'First' offender will be excluded. (This ruling does not apply to breakouts - Refer to breakout rule – DR 7.)

The 'Worst' ruling applies when both competitors are guilty of a different infraction, then the following order of infractions will apply. The 'Worst' offender will be excluded, starting from Number 8.1.1.

**Order of Infraction:**

- 8.1.1 Failing to report to the Start line on time.
- 8.1.2 Failing to stage the vehicle
- 8.1.3 Starting the run before the "Amber Light" sequence has started. (Refer to DB 3.1.4)
- 8.1.4 Crossing or touching the strip centre or boundary lines other than leaving the strip intentionally. (In all instances the run is to be aborted and no E.T. or speed will be recorded).
- 8.1.5 A red light start.
- 8.1.6 Failure to complete the run.
- 8.1.7 Breaking out of the dial-in nomination where applicable.

**DR 9 PASSENGERS**

**A passenger may be carried in a Drag Racing vehicle subject to the following conditions:**

- 9.1 Approval shall be at the discretion of the Clerk of the Course.
- 9.2 The vehicle must be of a sedan (or truck) type nature.
- 9.3 The passenger must sign a form indemnifying the respective track and MSA from any misfortune.
- 9.4 The passenger must be afforded the same measure of protection as is afforded the driver for the class of vehicle in question, i.e. helmet, driving suit, multi-point harness, seat, etc.
- 9.5 Restricted to solo passes only.

**DR10 PROTESTS AND APPEALS**

Refer to Part IX of the MSA Handbook.

**DR11 START PROCEDURE**

**11.1 Full Tree**

- 11.1.1 Approach, pre-stage and stage lights are controlled by the racer's vehicle.
- 11.1.2 The standard arrangement of lights will be three amber lights, one green and a red light at the bottom of the Christmas tree.
- 11.1.3 The timing sequence is variable from 0.3 seconds between lights to 0.5 seconds. This sequence is adjustable from the tower and once established at the start of official practice cannot be varied.
- 11.1.4 The green light coming on is the signal to "GO".
- 11.1.5 A red light may be caused to light by either rolling forwards or backwards from the stage position during the start sequence of lights or trying to leave the line too early so as to gain an advantage on an opponent.
- 11.1.6 This technique is usually referred to as "AMBER GAMBLING". If a red light is shown in either lane, the race must be completed.
- 11.1.7 There is no re-run on red light starts.

**11.2 Pro-Tree**

- 11.2.1 The call up, pre-stage and stage light operation remains the same.
- 11.2.2 The start sequence is limited to one amber light and the green light start.
- 11.2.3 The only allowable time sequence between lights is 0.4 seconds.
- 11.2.4 This format is optional depending on the Drag meet organisers.
- 11.2.5 If the meet organisers choose the Pro-tree for eliminators for the entire meeting, this fact must be made clearly known to the racers at the drivers briefing.

**11.3 Lane Choice**

- 11.3.1 It is not for Race Control to decide lane choice.
- 11.3.2 Lane choice is determined by elapsed time. The driver with the better qualifying position gets first-round lane choice, and in subsequent rounds, the lane choice goes to the driver with the lowest elapsed time (in relation to his/her dial in.) from the previous round. If there is a tie to the thousandth, speed is not the determining factor

– the first contestant posting the time will take precedence.

**DR12 NATIONAL DRAG RACING RECORDS**

- 12.1 The standard of excellence of performance in South African Drag Racing is the National Record. In a sport where records play such a vital role, every effort will be made to maintain their accuracy and validity.
- 12.2 With major changes to class regulations for various categories taking effect on 1 January 2004, all present records held by vehicles fitting into the new classes will be carried over to the new class. If any competitor fails to run within 2% from this record within a period of 3-months (not later than 31 March 2007), the record will become null and void. Until such time as a new National Record is set, minimums will be set in the appropriate classes.
- 12.3 Elapsed Time records will be recorded to the thousandth of a second while Terminal Speed records will be recorded to the hundredth of a kilometer-per-hour.
- 12.4 If a lower class of the same type and aspiration has a National ET record quicker than its equivalent higher class, then those classes without a record or those with a slower ET record will become “Minimum’s” utilizing the figure posted by the lower class (i.e. C/S ET record is quicker than B/S record), then the B/S ET record becomes a “minimum” using the same ET record set in C/S).
- 12.5 All competitors who officially break National Records, both Elapsed Times and Terminal Speeds, will be presented with a National Record Certificate. Once the record ratification has been finalized the National Record Certificate will be forwarded to the competitor’s mailing address as well as held on file at the MSA Head Office.
- 12.6 Official National Drag Racing records may ONLY be set at “National” classification events or meetings designated by MSA in writing as a record setting event provided that:
  - 12.6.1 The track has been certified in writing by MSA for record run performances.
  - 12.6.2 A MSA Official is in attendance.
  - 12.6.3 The competitor holds a current Drag Racing competition licence.
  - 12.6.4 In order to ensure their validity, all new records must be backed up with another run within ONE PERCENT during the periods eligible for record setting at that event. A run that is faster or quicker but outside the one percent can be used as a backup for a record. The record then becomes the slower figure.
  - 12.6.5 Records may be set or broken during qualifying and racing ONLY or until a driver is eliminated from further competition. A competitor will be allowed to do one back-up run if he/she is eliminated from competition and if time/safety permits it.
  - 12.6.6 Previous runs allowable as one-percent backup.
  - 12.6.7 Separate records will be recognised for ET and KPH performances.
  - 12.6.8 Records will only be issued in the class entered on the day, i.e. competitors may not enter in one class and claim a record in another.
  - 12.6.9 Before any backup run and immediately after a record setting performance, a fuel and weight check will be required as well as a cubic capacity certification after the vehicle’s last run in competition. Failure to report to the Clerk of the Course for post-race or spot checks will be considered an admission of illegality and will be grounds for immediate exclusion from the event and/or suspension from Racing.
  - 12.6.10 Exhibition records (Top Fuel and Jet Dragsters – unofficial results).
  - 12.6.11 Any vehicles running as exhibition vehicles (i.e. Top Fuel, Jets, etc.) will be awarded unofficial records only with one run being completed; however, official records may be claimed if a backup run is being made as per all other classes.
  - 12.6.12 Competitors who claim records must fill out forms.

**TRACK AND SAFETY REGULATIONS**

**TR 1 TRACK REQUIREMENTS AND REGULATIONS**

**1.1 Permanent Facilities:**

The plan of the strip is to be submitted to MSA when applying for a track licence, shall be to a scale of not less than 1:500 and shall indicate position of:

- 1.1.1 Start and Finish Lines
- 1.1.2 All enclosures and entrances
- 1.1.3 All protective Barriers
- 1.1.4 Race Control
- 1.1.5 Assembly for grid starts
- 1.1.6 Type of surface
- 1.1.7 Length of strip
- 1.1.8 Grandstand
- 1.1.9 Car parks for officials/competitors
- 1.1.10 Entry to and exit from the Parc Ferme for technical inspections
- 1.1.11 Width of track showing maximum and minimum
- 1.1.12 Ambulance positions
- 1.1.13 Scrutineering Bay / Weighing / Welding areas
- 1.1.14 Timekeepers and Lap scorers
- 1.1.15 Secretarial Control and Notice Boards
- 1.1.16 Toilet facilities
- 1.1.17 Refreshment areas

**1.2 Obligatory Track Installation**

- 1.2.1 The timekeeping, scoring, public address and secretarial areas to be covered.
- 1.2.2 The paddock, weighing, scrutineering areas to be cemented surfaces or hard standing.
- 1.2.3 Parking facilities for competitors and officials to be close to the track.
- 1.2.4 Toilet facilities for males and females.
- 1.2.5 Parc Ferme area to be capable of closure.
- 1.2.6 Welding area away from paddock and any area where fuel is held.

**TR 2 GRADING OF TRACK FACILITIES**

**2.1 GRADE A FACILITIES**

**2.1.1 Timed Distance**

Timed distance, from the Start Line to the Finish Line is 1320 feet (402.336 metres). The speed trap extends 20.13 metres either side of the Finish Line, to measure the Terminal speed of vehicles at that point. In some cases the speed trap utilizes the 20.13m distance before the finish line.

**2.1.2 Burnout**

- (a) A suitable area is required before the Startline for staging and pre-race preparations.
- (b) This area should be in direct line with the Racing surface, and provide for vehicles up to ten metres in overall length.

**2.1.3 Braking Area**

- (a) *Primary:* From the finish line the primary braking area should extend another 500m. These sections of the track should be the same width as the Racing surface.
- (b) *Emergency:* In addition to the Primary braking area a further clear area of 300m should be available.

**2.1.4 Surface**

- (a) Timed Distance  
Smooth flat surface of recognised road base construction hotmix, concrete or approved sealed bitumen surface. Shoulders and irregular joints are not permitted. All edges must be satisfactorily blended.
- (b) Primary Braking Area:  
Should be a continuation of the surface used for the Timed Distance, but must comply at least with minimum specification for that.
- (c) Emergency Braking:

- Sealed surface.
- (d) **Width**  
The width of the track and braking area should not be less than 15.2m.  
New facilities should not be less than 18.5m.  
Should the Drag strip widen or narrow the transition should be made as gradually as possible (not less than 1:20)
- 2.1.5 **Surface Tolerance**  
(a) The aim should be plus or minus a maximum of 6mm in any 10m distance, for the Time Distance and the Primary Braking Area.
- 2.1.6 **Levels Variation**  
(a) *Timed distance*: Rise or fall should not exceed 1%.  
(b) *Primary Braking Area*: A fall exceeding 1% from the Finish Line will require approval from MSA subject to any additional length being available.  
(c) A rise is acceptable, but consideration should be given to exits so that delays in the clearing of the track may be avoided.
- 2.1.7 **Crossfalls**  
(a) For drainage purposes, a one-way cross fall of no more than 1% of equivalent camber, is acceptable.
- 2.1.8 **Return Road/Turnoffs**  
(a) The Return Road should be a minimum of 3 metres in width, with suitable access to Pit and Staging Lane areas. It should be sealed so that all vehicles may use it at all times.
- 2.1.9 **Safety Barriers**  
(a) Due to variations necessary through individual requirements, the following details are to be considered a general indication of what will be accepted.  
(b) The primary crash barrier must be located between the track edge, and a point of no closer than 6.0m in front of the spectator fence. Track edge location is preferred. Crash barriers are mandatory for each side of the track or part thereof, where spectators are permitted.
- 2.1.10 **Barrier Construction**  
Within two metres of the track edge.  
(a) Concrete wall suitably reinforced, minimum height of 660mm, with a minimum width of 150mm at the top.  
(b) Two-tiered highway standard guardrail, utilising the recommended mounting methods.
- 2.1.11 **Return Road Protection**  
(a) Where a minimum of double strand guardrail is located between the track edge and the return road.  
(b) Otherwise, the return road must be at least 30 metres from the track edge, with some alternative approved line of protection.
- 2.1.12 **Spectator Fence**  
All spectator and pit areas must be enclosed with a minimum 1.2 metres high fence of chain link construction. Security and/or fencing must be provided in any area of potential danger (Staging Lines, Braking Area) to prevent public access.  
(a) All public areas should be maintained to ensure a safe Environment for the general public.  
(b) All spectator areas, including the pit area, must be separated from the restricted areas by fencing (minimum 1.2m in height). Positive barriers are further required where deemed necessary for reasonable protection of spectators and participants.  
(c) All spectator areas, including the pit area, must be a minimum of 15.2m from positive barriers. If spectator areas are located down track more than 200m from the starting line, and if spectator areas are not a minimum of 15.2m from positive barriers, the track must have a debris fence in this area. The top of the debris fence must be a minimum of 2.44m in height and must incorporate at least 2 strands of 10mm steel cable evenly spaced and securely anchored at each end.

- (d) All grandstands must be in compliance with State and Municipal regulations.
  - (e) All spectators must be warned throughout the event not to place or allow children to sit or lie in the footboard area. Special emphasis in the warning should be addressed to parents monitoring their children at all times.
  - (f) Further signage re-emphasizing this warning must be posted prominently at every entrance to the facility.
- 2.1.13 **Pit Area**  
Tracks intending to host National Championship events should provide facilities for 150 competitors. Pit Area should be rendered dust free (grassed, sealed) and suitable access should be provided between this area, the Staging Lines, and the Return Road.
- 2.1.14 **Staging Lines**  
Minimum of four lines 3.0m wide sealed surface leading into the burnout area.
- 2.1.15 **Tender/Trailer Park**  
An area reasonably accessible from the Pits must be available for parking/storage of trailers and vehicles.
- 2.1.16 **Weighing Facilities**  
Equipment must be available to weigh those vehicles subject to weight/capacity, or minimum weight regulations. Vehicles may be weighed one axle at a time, and the area over which the weighing takes place should be flat over a suitable distance for weighing of the longest vehicles.
- 2.1.17 **Scrutineering Facilities**  
At least one drive through bay 20 feet square (6 metres), with a sealed floor, must be provided for Scrutineering/Classification purposes. A roofed double bay, closed on the prevailing weather side is recommended.
- 2.1.18 **Timing Equipment**
  - (a) A full electronic timing system is required at all events.
  - (b) The timing equipment should be constructed in such a manner as to measure Reaction Time, Elapsed Time (to one thousandth of a second) and Terminal Speed (to one hundredth of a kph).
  - (c) Foul starts must be indicated by a red light at the bottom of the Christmas Tree should in the lane in which they first occur, triggered by the timing system if the timers start before the green light shows.
- 2.1.19 **Christmas Tree**  
The Startline display referred to as the Christmas tree should be clearly visible to vehicles in the staging/Startline area of each lane. A "Pro-Start" facility must be available.
  - (a) Handicaps  
Handicap facilities, accurate to 0,001 seconds are required.
  - (b) Pre Stage Beam  
Located (200mm) before the Stage beam in each lane. Its only purpose is to show the competitor that the vehicle's front wheel is approaching the Stage Beam by illuminating a Pre-stage light at the top of the Christmas tree.
  - (c) Stage Beam  
Located (405mm) before the Guard Beam in each lane, it indicated that the vehicle is in the correct position for the start. The Stage Light at the top of the Christmas tree should activate when the leading edge of the vehicle's front wheel breaks the Stage Beam. The Stage Beam also serves to start the ET timers as the wheel clears the beam, and activates the red "foul" light in the event of the wheel clearing that beam prior to the green light showing
  - (d) Guard Beam  
Located at the start of the Timed Distance the Guard Beam ensures that no vehicle has an excessive amount of roll-out (movement required to leave the Stage Beam). If the Guard Beam is broken at the same time as the Stage Beam and the starting sequence has been initiated, the timers, and the red "foul" light will be activated if the green light is not showing.
  - (e) Finish Line Beam  
The Elapsed Time Beam is located at the Finish Line in each lane, 1320 feet

(402.336m) from the Guard Beam. It indicates which competitor reached the Finish Line first, and stops the timers. Elapsed times must be available to competitors in written or printed form.

(f) Speed Traps

These are located adjacent to the Finish Line, using photocells at a distance of either 166 or 132 feet (20.1m or 40.2m) to measure the Terminal Speed of the vehicle in each lane, independently of the Elapsed Time. Terminal speeds must be available to competitors in written or printed form.

(g) Photocell Heights

Ideally, all light sources, sensors and reflectors should be mounted as close as possible to the level of the track surface with the filament in the vertical position the roll-out at the Start Line should be parallel. Apart from the start line, all fittings on the Racing or breaking surfaces should be of the “breakaway type”.

2.1.20 **Strip Markings**

The track boundaries and the centerline must be clearly marked with a white line, at least 100mm in width. The speed traps should be clearly marked on the track surface with diagonal lines, before and after the finish line.

2.1.21 **Track Officials**

The track management will provide and supervise such trained Officials as are deemed to be necessary for the safe and efficient conduct of all Drag Racing events. All Officials in areas beyond the start line should be located in protected positions.

2.1.22 **Medical Facilities**

To conform to Appendix “L” of the 2011 Handbook.

2.1.23 **Fire Equipment**

Fire and Rescue Intervention Vehicle to conform to Appendix “L” of the 2011 MSA Handbook.

2.1.24 **Bridges**

A minimum of 6m clearance at the lowest point of bridge to roadway.

**2.2 GRADE B FACILITIES**

2.2.1	Width:	Minimum 10.0m
2.2.2	Length:	Minimum 800m
2.2.3	Level Variation:	As per Grade A
2.2.4	Return Road/Turnoff's:	As per Grade A
2.2.5	Safety Barriers:	Minimum single layer “Armco” on both sides of track for at least 600m.
2.2.6	Spectator Fence:	As per Grade A
2.2.7	Strip Marking:	As per Grade A
2.2.8	Timing Equipment:	As per Grade A
2.2.9	Track Officials:	As per Grade A
2.2.10	Medical Facilities:	Appendix “L” of the 2011 Handbook
2.2.11	Fire and Rescue Facilities:	Appendix “L” of the 2011 Handbook
2.2.12	Bridges:	As per Grade A

**2.3 OTHER FACILITIES**

**Sportsman Racing / Street Drags**

2.3.1 Limited Competition Drag Strips:

Other venues, apart from public roads such as airports and circuit Racing venues, can be sanctioned by MSA for either regular or individual Drag Racing events. Due to the varied nature and track length of these venues, the types of vehicles, which can compete at sanctioned meetings, will be determined on a case-by-case basis. MSA may allow certain classes to compete at specific venues at their discretion and provided the track length and the timing system is certified by MSA, such venues may also be approved for record setting in the classes approved for competition.

**2.4 DRAG RACING EVENTS ON PUBLIC ROADS**

Drag Racing events may be sanctioned on public roads specifically closed for the purpose for either

regular or individual events with the following minimum criteria being applicable.

- 2.4.1 The roads to be utilized must be officially closed for the purpose by the controlling local authority.
- 2.4.2 The competition will be conducted under the Sportsman / Street Racing Rules and will only be permitted between vehicles complying with the "Sportsman Racing" Class Regulations.
- 2.4.3 The competition will be restricted to vehicles running not quicker than 11.00 seconds.
- 2.4.4 All other vehicles may be permitted to make single exhibition runs under certain criteria as set by MSA on a case-by-case basis.
- 2.4.5 Temporary Sites not using approved barriers must limit spectator access to defined areas extending diagonally away from the Start Line and Racing surface.
- 2.4.6 This criterion may be amended by MSA if adequate alternative safety measures exist at any site (such as natural banks, ditches, existing road barriers, etc.)
- 2.4.7 Prior to the first event being held on any street course, the relevant Stewards must inspect the areas and forward a report to MSA detailing the grounds under which the venue shall be approved or a recommendation not to approve the venue if it is not suitable. The final decision to approve all venues rests with MSA.

**TR 3 OFFICIALS**

The officials listed in sub-articles (b) to (q) hereof, are mandatory for all international, national and provincial championship events and for any other events decided upon and they shall be approved by MSA. They shall be present throughout practice and racing and shall be responsible for carrying out the duties defined. No official shall take part in any event at a meeting at which he is officiating, and no official shall expose himself to any hazard not essential to the performance of his allotted duties. No official shall be under 16 years of age; any official under 18 years must be able to provide written approval of a parent or guardian.

- 3.1 MSA Steward: Shall be appointed by MSA and responsible to MSA. The person appointed as MSA Steward shall be familiar with Drag Racing Regulations, Specifications and Drag Racing generally insofar as they differ from other forms of motor Racing.
- 3.2 Club Stewards: May be appointed by the organisers of each Drag race meeting to act with the appointed MSA Steward.
- 3.3 Powers and responsibilities of Stewards of meeting: Refer to GCR 152. Stewards of the meeting report: Refer to GCR 154.
- 3.4 Clerk of the Course: Must hold a licence valid for the grade of the meeting.  
Duties and powers of the Clerk of the Course: Refer to GCR 156.
- 3.5 Medical organisation: For "A" grade tracks as written under Article 8 'Strip Requirements' for "B" grade tracks: one ambulance and first aid crew must be present at each meeting. The aforementioned vehicle must be parked in such a way as to allow it ready access to the Drag strip.
- 3.6 Scrutineers and assistants: Shall be licensed by MSA. Refer to GCR 166 for duties. Scrutineers are to re-inspect and approve any vehicle involved in an accident before it can be allowed to resume racing. Scrutineers cannot be involved with any competitor or vehicle taking part in an event.
- 3.7 Chief Timekeeper: Refer to GCR 163 for duties.
- 3.8 Chief Scorer: With the aid of adequate assistance, shall record the results of each race.
- 3.9 Judges of Fact: May be appointed by the organisers as deemed necessary. Refer to GCR 162 for duties.
- 3.10 Starter: To ensure that racers are correctly started and finished and the proper signals given. Refer to GCR 160.
- 3.11 Chief Course Marshal: in accordance with GCR 171 shall be responsible:
  - 3.11.1 To ensure with the aid of at least four assistants, that the strip surface and marking and protective works are maintained in good order throughout the meeting.
  - 3.11.2 To ensure that the firefighting equipment is readily available and correctly sited and that his assistants and the Paddock Marshals are familiar with its operation.
  - 3.11.3 To ensure that the strip cleaning units are sited at suitable points.
  - 3.11.4 To supervise the removal from the strip of any vehicle which may have stopped on the tarmac.
  - 3.11.5 To see that all entrances to the strip proper are manned and that no unauthorized person comes within this area. Normally more than four assistants will be required, and if enclosures are not surrounded by unclimbable fencing there must be course marshals stationed at strategic points between all enclosures and the strip proper.

- 3.12 Chief Paddock Marshal: shall be responsible for:
- (a) To maintain orderly conduct in the paddock and/or pit area.
  - (b) To notify competitors to assemble on the dummy grid prior to each heat.
  - (c) To exclude any unauthorised persons from the paddock and/or pit area.
- 3.13 Secretary of the meeting: Duties as detailed in GCR 159.
- 3.14 General officials: To be present in a number adequate to control admission to all enclosures, to operate car parking, distribute programs, etc. All officials shall be suitably identified.

**TR 4 FEES**

Organizer/Promoter and other shall be responsible for payment to MSA of the fees prescribed from time to time by MSA.

**TR 5 INSURANCE**

Public Liability Insurance of the organisers and parties associated with them such as track owners, etc. shall be effected to the satisfaction of MSA.

**TR 6 RIGHTS AND DUTIES OF ORGANISERS**

Refer to the applicable MSA GCR's and SSR's. In particular they must check eligibility of any vehicle or competitor, and require entrants to undertake such dismantling and reassembling as may be required for the check after the meeting. (See Appendix "R" for scrutineering fees).

**TR 7 RESPONSIBILITIES OF ORGANISERS/PROMOTORS**

Refer to Part VI of the MSA Handbook.

**TR 8 PENALTIES**

Any breach of these regulations or the supplementary regulations for any competition, whether or not any penalty is specified therein, may be subject to the penalties laid down in the GCR's and the imposition of such conditions as MSA may deem appropriate.

**TR 9 SCRUTINEERING**

After an event, the Clerk of the Course may instruct that vehicles shall be placed in the possession of the promoters/organisers for examination by the scrutineers to determine if they comply with the regulations. Any vehicles failing to comply shall be excluded from the results of the event. Refusal to submit a vehicle for scrutiny as directed shall result in automatic exclusion and further disciplinary action. All nuts, bolts and component parts on each vehicle's suspension system, chassis and running gear must be secured with either lock nuts, lock washers or split pins. All nuts and bolts must have full threat engagement.



## VEHICLE CONSTRUCTION AND GENERAL SAFETY REGULATIONS

In interpreting these construction and class regulations and specifications the principle of “what is not specifically permitted is disallowed” (GCR 226) shall apply. These construction rules apply to all classes. The class regulation may restrict these rules or permit further modifications. It follows that the class regulations are subject to these regulations unless specifically stated otherwise. They shall be viewed in the narrowest sense and in the interpretation of these regulations; officials shall have regard only to what is stated and not what is implied. Throughout the rules aluminium sheet of 1.6 mm may be utilised to replace metal plate with a thickness of 1 mm, provided the use of aluminium is not specifically excluded. Whenever reference is made to the weight of vehicles it shall include fuel and the competitor after completion of a run.

### CR 1 AEROFOIL

A positive locking device to prevent movement is mandatory. No part of the rear foil to be within 150mm of tyres. Spring loaded spoilers, wings or canards prohibited. Adjustment of airfoils, wings or spoilers not permitted during runs. Front overhang for all vehicle spoilers is a maximum of 1016mm. All front overhangs are measured from centerline of front spindle to forward most point on vehicle.

### CR 2 ALIGNMENT

Each car, regardless of class, must have sufficient adjustment of front alignment to ensure proper handling of the car at all speeds.

### CR 3 ANTI-BLOWBACK DEVICE

This is mandatory for TF/D, TAD, A/D, TF/FC, TA/FC, A/F TF/CA, AA/CA, BB/CA and SA. Brace or device must be installed that will prevent the clutch can or adaptor shield from being blown backwards in the event of a flywheel and/or clutch explosion. Minimum material requirement is OD .083” wall chrome moly tubing with 10mm fasteners. **Ball lock pins prohibited!**

### CR 4 ARM RESTRAINTS

Arm restraints are mandatory for all Funny cars and open cockpit vehicles capable of running faster than 11.99 seconds. Restraints must be adjusted so that the driver’s arms cannot extend beyond the confines of the roll cage, shoulder hoop, etc.

### CR 5 AUTOMATIC TRANSMISSION PROTECTION

- 5.1 The following vehicles using OEM automatic transmissions must be fitted with an approved scatter blanket or a protective shield:
  - 5.1.1 All Dragsters and open cockpit Altered.
  - 5.1.2 All vehicles using transmission brakes.
  - 5.1.3 All supercharged vehicles (including nitrous) that run faster than 10.50 seconds over the quarter-mile.
  - 5.1.4 All vehicles; regardless of classification, that run faster than 9.99 seconds over the quarter-mile.
- 5.2 The protective shield must be fabricated from a minimum of 3mm aluminium and must cover the main body of the gearbox, offering 180° of protection (pan rail to pan rail). It must be securely mounted with two steel straps passing under the transmission.
- 5.3 A 3mm aluminium flex plate shield covering the top 180° measuring 25mm either side of the front and rear of flex plate must be mounted securely to chassis, frame or other suitable member to protect the driver from exploding fragments.
- 5.4 Alternatively, a 13mm thick piece of conveyer belting may be securely wrapped around the required areas or fastened permanently to the floor pan inside the vehicle.  
**Note: Where other than original torque converters are used all mounting tabs and spacers must be suitably reinforced. All transmission lines must be high pressure-type hoses.**

### CR 6 AUTOMATIC TRANSMISSION GEAR SHIFTERS

Any non-OEM automatic floor mounted automatic transmission shifter (i.e. homemade) must be equipped with a spring loaded positive lockout device to prevent the shifter from accidentally being put into reverse gear. A functional neutral safety switch is mandatory.

### CR 7 BALLAST

Any material used for the purpose of adding to the vehicle’s total mass must be permanently attached as part of the car’s structure and must not extend behind the rear of the body or above the height of the rear tyres. Ballast carried in the boot or the trunk will only be permitted if the class allows. No extra fire extinguishers will be allowed as ballast however, all fire extinguishers must be operational as per fire extinguisher regulations. No liquid other than the fuel being used to propel the vehicle is permitted behind the front firewall. A maximum of 100kgs removable mass, if class permits, may be added. Not more than 40kgs may be mounted as one single removable mass by at least two 12mm steel bolts or equally strong straps or clamps and must be purposely made weights. (If more than 40kgs is needed, more than one unit is required).

**CR 8 BATTERIES**

- 8.1 All wet cell car batteries must be located outside the driver or passenger compartment and must be securely mounted with metal hold-down straps and 10mm bolts if battery is relocated from stock or other than stock hold-downs are utilized.
- 8.2 In open cars where acid spillage over the driver can occur in an accident, some form of covering over the battery is required to prevent this situation.
- 8.3 A maximum of two batteries may be fitted provided their combined weight does not exceed 50kgs. Onus is on the competitor to prove their vehicle's combined battery weight is under the acceptable limit. If two batteries are fitted, it needs to be marked that way at the isolator switch and both batteries need to be in the same compartment.
- 8.4 Any car with a battery fitted, running quicker than 9.99 seconds and any single purpose Drag Racing vehicle must incorporate a battery isolation switch capable of shutting of current flow and be operable from the exterior of the vehicle.
- 8.5 It is also recommended that sedan vehicles with trunk-mounted batteries have a trunk key permanently fitted to the lock. A cut-off switch must be connected to the positive side of the electrical system. The "ON" and "OFF" positions must be clearly indicated with the words "ON and OFF".

**CR 9 BATTERY LOCATION MARKERS**

A three-inch equilateral triangle, colored blue, is required on all vehicles fitted with a wet cell battery or batteries to accurately indicate the battery location. Should the colour of the marker not contrast sufficiently with the vehicle body colour, an additional white border, 2cm wide is required. If a vehicle incorporates a "Battery Cut-Out" switch, the location marker may be placed around the switch to indicate the position. Where more than one battery is fitted in different locations, a marker is required to indicate the position of both batteries.

**CR 10 BRAKES**

Brakes must be in good working order with two wheel hydraulic brakes (rear wheels only) as a minimum requirement for vehicles under 910kg. Four-wheel hydraulic brakes are required where noted under class requirements. Lightening of backing plates, brake drums and/or brake shoes by cutting or trimming metal are not permitted. Cooling holes must be drilled in such a manner that they do not weaken the unit, and must carry cooling scoops. The drilling of cooling holes in cast iron disc rotors is prohibited. If a hand brake is fitted, the brake handle must be inside of the body confines or driver's compartment. Front wheel drive vehicles may use rear brakes as staging brakes provided the vehicle is fitted with a parachute as a back-up stopping device. Brake lines must be attached to chassis as per OEM style: No Tie-straps and must be routed inside the frame or body and be enclosed in a 45cm length of 3mm wall thickness steel tubing and securely mounted where the brake lines pass the flywheel/bell housing area. All brake lines on any rear-engine car must be routed inside of the approved steel tubing or be of braided steel construction where they pass the flywheel/bell housing area. A supplementary or back-up brake system is compulsory on all cars. All pedals must be covered with a non-slip material.

**CR11 BURNOUTS**

No person is permitted to hold or touch vehicles during burnouts (including motorcycles). Motorcycles are not permitted to do "U" turns after burnouts.

**CR12 CLUTCH**

All cars, except those fitted with a torque converter, must have a foot-operated clutch. All pedals must be covered with a non-slip material.

**CR13 COOLING SYSTEM**

If a cooling system is utilized, it must be installed in the stock location for the body style used. Front engine Dragsters must have the system installed in front of the engine. In the event of a rear-engined Dragster with a radiator mounted in front of the motor, a deflector must be installed from frame rail to frame rail and to the top of the roll cage. No anti-freeze may be used in drag classes such as all vehicles running in Top Eliminator, all Alters and Modifieds.

**CR14 DEFLECTOR PLATE**

All rear-engined vehicles must have a deflector plate to protect the driver from the engine. Plates must extend from top blower pulley to bottom pulley and be at least 25mm wider than each pulley for supercharged cars, whilst others must have plate covering from shoulder height to bottom of chassis. Minimum attachment for any plate is four 10mm high tensile bolts.

**CR15 DELAY BOXES**

Any electrical, pneumatic, mechanical or other device attached to existing components that intentionally creates a delay between the driver releasing the clutch, transbrake, etc., and the forward movement of the vehicle will be considered a delay device and is prohibited.

**CR16 DRIVELINES**

- 16.1 On any car where the driver sits over or behind the engine, a suitable protective shield of 3mm minimum thickness steel plate must be installed over these units with universal joints securely mounted to the rear and centre section and the gearbox tail housing. Couplings are highly recommended in place of U-joints wherever possible. For those units with straight couplings, the minimum requirement is 2mm thickness aluminium which must contain an inspection cover for the removal and inspection of the coupling and must be securely mounted or as noted in the Class Requirements.
- 16.2 In place of a cross member in the immediate vicinity of the front universal joint, all competition cars using open drive shafts must have a 360° retainer loop of 6mm thickness and 50mm width securely mounted and located within 150mm of the front and rear universal joints to support the drive shaft in the event of a U-joint failure. Open drivelines passing any part of the driver's body must be completely enclosed in a 3mm thickness steel plate securely mounted to the frame or frame structure. All cars using open Hotchkiss-type drivelines must have radius arms, traction bars, or some suitable pinion support to prevent rear end housing rotation. It is highly recommended that a torque tube be used to enclose all drivelines.

**CR17 DRIVELINE ANTI-ROTATION DEVICE**

An anti-rotation device is required in any vehicle where the driver sits over or behind the rear-end (differential).

**CR18 DRIVER'S COMPARTMENT**

All interior panels (firewalls, floors, wheel tubs, doors, etc.) within the driver's compartment of enclosed-cockpit vehicles where the driver is located behind the engine must be constructed of materials other than magnesium and/or non-flammable materials.

**CR19 ENGINE**

With the exception of exhibition vehicles, all engines used in the Drag Racing must be of automotive type origin. Crankshaft centre lines may not exceed 600mm from the ground in any class.

**CR20 ESCAPE HATCH (FUNNY CARS)**

A working escape hatch must be installed in the roof of all Funny Car bodies that have enclosed side windows to permit easy driver exit. See through types are prohibited. Minimum size is 500mm x 500mm. Roof hatch must be permanently attached and hinged at the front and must have a release mechanism operable from both inside and outside the car.

**CR21 EXHAUST**

Each car, regardless of class, must be equipped with exhaust pipes to direct the exhaust gasses out of the car body to the rear or side of the car away from the driver, fuel tank and strip surface. Individual exhaust stacks must incorporate a metal connecting strap to prevent loss of one or more stacks during competition. If an exhaust exits through the bonnet, it MUST be angled / re-directed away from the driver's side of the compartment / windscreen.

**CR22 FIRE EXTINGUISHERS AND FIRE BLANKETS**

- 22.1 An on-board fire extinguisher system is mandatory under certain class requirements. When required, a minimum 1kg capacity extinguisher securely mounted (no tie-straps) and within easy reaches of the driver when he/she is wearing a safety harness.
- 22.2 If the extinguisher is not fitted with a gauge, it must have an empty/full stamp and a recent inspection/service label. It is the responsibility of the competitor to weigh the extinguisher prior to each event.
- 22.3 Funny cars – All cars must be fitted with a manually controlled pull-type only, on-board fire extinguisher system with the primary nozzle(s) directed to protect the driver. Bottles and lines must be permanently mounted, i.e. no hose clamps or cable ties.
- 22.4 In the case of more than one bottle, each bottle must have its own steel distribution tubing and nozzles. Nozzle placement is extremely important. Two nozzles are placed at the front of the engine directed into the compartment on either bank of the exhaust headers whilst another nozzle or nozzles should be positioned into the drivers' compartment using an atomizing unit placed at the drivers' feet or near the steering column.
- 22.5 Upon activation of the system, the contents of the bottle(s) must be totally discharged. Partial discharge systems are not permitted. The bottles must be mounted in such a manner that should an explosion or failure of any mechanical component of the vehicle occur, the bottles will be protected from flying parts as well as being high enough to not come into contact with the track surface, following a loss of tyres or wheels.
- 22.6 Bottles should be protected from excessive temperature and remote cables must be metallic without plastic coatings that will melt and jam the mechanism in cases of fire.

22.7 “Fire Windows” measuring no greater than 60 square centimeters on either side of the firewall in the vicinity of the valve covers to warn driver of fire are mandatory. Best results are obtained from laminated safety glass or fire resistant plastics like Lexan or Plex 70.

**CR23 FIRE BLANKET**

Blankets may be fireproofed by immersing in a solution of 240 grams of Boric Acid dissolved in 5 liters of water. Hand-wring and hang to dry. Repeat after each wash. It is recommended that each entrant have a treated fire blanket on hand in the pit area.

**CR24 FIREWALLS**

Each car must be equipped with a flame proof and fuel proof firewall extending from the body sides and from the top of the engine compartment upper seal, i.e. hood, cowl or deck, to the bottom of the floor and/or belly pan. The firewall must be constructed to provide a leak proof bulkhead between the engine and driver’s compartment. All holes or openings must be sealed with metal or a fireproof material.

**CR25 FLASH SHIELDS**

Injector tubes may extend through individual holes in the hood/bonnet, but carburetors must not be openly exposed or uncovered. In place of a hood/bonnet, carburetors must be equipped with a metal flash shield or velocity stack that prevents fuel from being siphoned into the air stream or blown into the driver’s face.

**CR26 FLOORS**

All cars without floors must be equipped with floor pans made of steel or aluminum that must extend the full length and width of the driver compartment to the rear of the driver’s seat. Cars equipped with floors or belly pans made of fiberglass or other breakable material must have metal sub floors. In all cars with OEM fiberglass floors, a cross member (minimum 2 inches x 2 inches, .083-inch wall-thickness square tubing) must be installed between frame rails for proper driver’s seat, seat belt, shoulder harness and crotch strap installation. Belly pans and sub floors enclosing engine or driver compartment must contain suitable drain holes so that liquids and foreign matter cannot collect, thus creating a fire hazard. Minimum .032-inch aluminium or .024-inch steel. In certain instances, a panel made of composite material may be substituted for steel or aluminium. Use of magnesium prohibited.

**CR27 FLYWHEELS**

All vehicles in competition with the exception of sedan vehicles known not to be capable of quarter-mile performances better than 11.99 seconds are required to be fitted with either a steel or alloy flywheel or an acceptable scatter shield as outlined in the following regulation. No excessively machined unit of cast iron or any other material will be accepted. Vehicles revving over 6000 rpm may not make use of any cast flywheels.

**CR28 FLYWHEEL SHIELDS (Vehicles quicker than 11.99 seconds)**

- 28.1 All rear-wheel drive manual gearshift vehicles capable of running 11.99 seconds or faster, must be equipped with a suitable shield made of 6mm minimum steel plate securely mounted to the frame or frame structure and completely surrounding the bell housing (full 360°) to protect frame, driver and bystanders from fragments in case of clutch/flywheel disintegration.
- 28.2 Alternatively, a 13mm thick piece of conveyer belting may be securely wrapped around the required area or fastened permanently to the floor pan inside the vehicle. Any vehicle utilising an aluminium bell housing, regardless of performance, must at minimum adhere to the conveyer belting regulation.
- 28.3 Shields must not be attached to the bell housing in any way. The flywheel shield must be constructed in such a manner that it covers the top, sides and rear of the enclosed bell housing completely, shielding the transmission bell and mounting flange to stop fragments entering the driver’s compartment.
- 28.4 The 6mm steel plate must at minimum extend forward to a point 25mm ahead of the flywheel and also another 25mm past the rear of the clutch and pressure plate.
- 28.5 An engine support strap either in the form of a 3mm steel motor plate, 6mm T6 aluminium motor plate or aircraft quality cable (chain is unacceptable) must support the rear of the engine in case of clutch of flywheel disintegration. This requirement is mandatory on all vehicles using a manual gearbox from Street Modified upwards unless it is evident that the headers, frame rails, etc., will prevent the engine from dropping to the surface of the track.
- 28.6 Vehicles using a conventional clutch/pressure plate/flywheel to drive an automatic gearbox must comply with the aforementioned flywheel shield rule.
- 28.7 A totally enclosed 360° one-piece bell housing/adaptor fabricated from 6mm steel plate and securely mounted using all available engine/transmission mounting points is acceptable in lieu of conventional shields and is recognised as a better alternative to the above method of concealing a clutch/flywheel explosion.
- 28.8 Flywheel shields are highly recommended on all vehicles including streetcars revving higher than 5000 RPM.

- 28.9 All Front Wheel drive or transverse mounted applications using a clutch and running a 11.99 or quicker must be equipped with a flywheel shield made of 6mm thickness steel plate. This shield must surround the bell-housing completely except for area of bell-housing adjacent to the differential axle shaft. This shield may be multi-piece, with pieces bolted together using minimum 10mm or 3/8" 8.8 grade high tensile bolts and must be attached to engine and bell-housing.

#### CR29 FLYWHEEL SHIELDS

Vehicles fitting classifications TF/D, TAD, A/D, TF/FC, TA/FC, A/F, TF/CA, AA/CA, BB/CA and Super Altered. The use of a shield constructed to the following specifications is mandatory in all clutch-equipped vehicles running in the above classes over the 1/4 mile.

- 29.1 All existing bolt holes must be utilized to secure the flywheel shield.  
 29.2 Vent holes must be contained below the crankshaft centre line and limited to a maximum 10cm.  
 29.3 A clutch inspection and maintenance hole may be cut on the back face of the housing. The hole may not be longer than an area covering 90° of the housing rear surface area.  
 29.4 No part of the rotating clutch assembly may extend past the forward edge of the inspection hole on housings with a radiused back.  
 29.5 A cover for the inspection-hole must be at least 6mm thick and be fastened with at least six 10mm high tensile bolts.  
 29.6 The abovementioned inspection-hole cover must incorporate a 6mm fillet welded precisely to fill the hole so it is flush in the inside of the housing.  
 29.7 Starter motor pocket if utilised, must be of the same material and thickness as the bell housing.  
 29.8 Scalloping of bell housing flange is accepted if at least 6mm of material is maintained between the radius and edge of the flange.  
 29.9 Motor plate must be of 6mm aluminium T6 plate or 3mm steel for full coverage style with a minimum hole for crank flange to pass through.  
 29.10 A crower glide clutch-adjustment slot (one only) is accepted if made precisely to the specifications as outlined in the illustration using a 6mm steel cover.

#### CR30 FRAME/CHASSIS

All butt-welds must have visible reinforcement. Flush grinding of welds is not permitted. The use of materials other than steel is permitted providing it can be proven the material and welding thereof is stronger than its equivalent in steel. Refer also to roll cage regulations.

#### CR31 FUEL

- 31.1 Service station pump petrol, aviation fuel, racing fuel, ethanol and methanol as sold to the general public through normal retail outlets is permitted. Off the shelf Sasol Racing blends are permitted according to class requirements.

#### 31.2 Approved International Fuels

- (a) **VP Racing Fuels:**  
 U4.4, C-10 (Unleaded), 110, C-11, C-12, C-14+, C15, C-16, Q-16, NOS, C19, C21, C23, C25, U2, U4, MR1, MR9, MR10, MR12, Motorsport 103, Motorsport 105L, VP Import and Street Blaze 100 are permitted.
- (b) **Philips/Trick:**  
 B25, B32, B33, B37
- (c) **Sunoco:**  
 Standard, Supreme, Maximal, Supreme NOS
- (d) **Torco:**  
 Mach 104, 110, 112, 114, 116, 116NOS, 118, 118NOS
- (e) **76:**  
 Competition 100 (Unleaded), Competition 110, Super Stock 114, Pro Stock 118, Pro Stock+.

**WARNING:** The current method to increase octane in both leaded and unleaded petrol is to increase the amount of aromatic hydrocarbons such as benzene, toluene, xylene and associated compounds. The higher the concentration of certain aromatic hydrocarbons, the higher the octane rating. These compounds cause cancer. The higher the concentration in petrol, the higher the risk of leukaemia (blood cancer) and other cancers.

The use of Hydrazine or any other chemicals (other than nitro and alcohol blends) designed to alter volatility or chemical composition of the permitted fuel, is totally banned. Use or possession of such material at the Drag strip carries severe penalties.

- 31.3 The use of Nitromethane will only be permitted in "Exhibition" or "Top Fuel" classified vehicles.  
 31.4 The use of Methanol / Ethanol or "E85" fuel will be permitted in the Top Eliminator, Senior

Eliminator, Super Competition Eliminator, Competition Eliminator and Street Modified Classes.

- 31.5 Any vehicle that uses methanol / Ethanol, as fuel must indicate its use by displaying an orange circle of 100mm diameter with an M / E inside the circle.

Drivers are advised to study the safety requirements set out under CR 31.2 read with CR55.4 and CR 55.5.

**Note: Refer to special MSA circular on approved fuels.**

#### **CR32 FUEL SYSTEMS AND FUEL TANKS**

- 32.1 Wherever permitted in class regulations, fuel tanks and fuel lines should be located ahead of the engine. Fuel blocks, if used, must be mounted at least 150mm forward of the flywheel/bell housing area.
- 32.2 Fuel lines in the flywheel/bell housing area must be enclosed in a 3mm wall thickness; 450mm length of steel tubing securely mounted or alternatively re-routed outside the chassis or frame rails as a protection against fuel lines being severed in a clutch/flywheel explosion.
- 32.3 In the event of a fuel line passing the supercharger drive areas, a compulsory steel tube protection is required if braided steel line with suitable aircraft qualify fittings is not utilised.
- 32.4 Fuel tanks located in front of the vehicle's grille and outside the protected areas of the body, frame and wheels, must be protected against collision damage by some means of encasement, (i.e. steel bump bars).
- 32.5 All supercharged and/or fuel injected vehicles as well as vehicles using an altered fuel system (other than electric pumps), must have a quick action positive fuel shut-off valve of control within each reach of the driver and must be located in the main line between the fuel tank and carburettor(s) or injection unit.
- 32.6 It is mandatory that fuel pumps be located away from the flywheel area wherever possible.
- 32.7 Under no circumstances are any fuel tanks, lines, fuel pressure gauges or other units containing fuel permitted in the driver's compartment. All tanks must be completely isolated from the driver's compartment by a firewall completely sealed so as to prevent any fuel from entering. All vehicles where a fuel line passes the driver must be fitted with metal lines except for a maximum of 30cm of approved flexible fuel hose to allow for connection purposes only. Recognised steel braided flexible lines may be used in lieu of solid metal lines.
- 32.8 Top of fuel tank must be below top of vehicle's rear tyres. All fuel tanks must have a positive locking fuel cap and be vented to the outside of the body or have a built-in check valve.
- 32.9 When allowed by class requirements, all fuel cells must have a metal box protecting the part of the cell that would be outside bodylines or trunk floor. All fuel cells must have a pressure cap and be vented to the outside of the body, or have a built-in check valve.
- 32.10 Where the fuel tank is located in front of the driver and engine in the rear (rear-engined Dragsters) fuel lines must be isolated from the driver's compartment with a sub-floor or by use of steel braided liens. The adding of fuel while an engine is running is strictly prohibited and is grounds for exclusion.
- 32.11 Industry approved push lock hose and fittings where applicable without the use of hose clamps permitted.

#### **CR33 GOGGLES**

Windproof, shatterproof goggles or visors must be worn by all drivers of vehicles not having windscreens. Fire resistant goggles and/or facemask material are mandatory for supercharged or nitro-burning vehicles.

#### **CR34 HARMONIC BALANCERS**

- 34.1 All sedan or bakkie type vehicles running quicker than 11.99 seconds and all Dragsters, Funny Cars and vehicles where the engine is NOT enclosed must be fitted with either an explosion-proof harmonic balancer or an harmonic balancer scatter shield.
- 34.2 The harmonic balancer scatter shield must be constructed of 6mm thick steel plate securely fastened with at least two 10mm high tensile bolts in such a manner as to contain or deflect fragments should the balancer disintegrate. The width and circumference of the outer ring must be covered and the front of the shield should extend down at least to the level of the rubber ring in order to retain fragments or to prevent the outer ring from coming forward. A 10mm diameter hole may be drilled in the shield for timing mark purposes. No other openings are allowed.
- 34.3 Vehicles using a steel outer ring do not require a shield but the outer ring must have some positive means of preventing it from moving forward. This can be achieved by having a step on the back of the ring or a front retaining plate equal to the other diameter of the ring made from minimum 3mm steel plate or 6mm alloy plate.
- 34.4 All pulleys/crank hubs/harmonic balancers must be positively fixed to the crankshaft by bolts or pins.

**CR35 HEAD PROTECTION**

In any car where a roll bar or roll cage is installed, a padded head protector must be provided at the back of the driver's head and constructed to prevent whiplash upon impact. The roll bar or cage must be padded wherever it touches the driver's helmet or other body contact area. A seat, which incorporates a correctly adjusted headrest to within 100mm of the back of the helmet, is acceptable.

**CR36 HELMETS**

- 36.1 All drivers/riders in all classes must wear a properly affixed SABS approved, or its equivalent, safety helmet while in practice or competition on the Drag strip.
- 36.2 Open-faced helmets are permitted in closed cars provided it can be established that a face mask or respirator is necessary such as in FC vehicles and methanol burning sedans. However, full-face helmets with built-in respirators are the accepted norm for this purpose.

**Note: Helmets are inspected as an essential part of the vehicle's safety equipment. Helmet straps should be worn beneath the chin. Chin guards or other devices that prevent the proper location of helmet straps are prohibited. The helmet of any competitor involved in an accident, collision or upset must be surrendered to the SANDRA or MSA Steward at the event for inspection.**

**CR37 HYDRAZINE**

**No Hydrazine is allowed in any class under any circumstances.**

**CR38 IGNITION SYSTEMS**

- 38.1 Except for fuel injected vehicles with a mechanical fuel shut-off, all vehicles must have a positive action on/off switch in good working order within easy reach of the driver and clearly marked "ON/OFF".
- 38.2 Each car in competition must have a positive-action on/off switch, capable of de-energizing the entire ignition system, in good working order, located within easy reach of the driver. "Momentary contact" switch prohibited. Magneto "kill button"-type switches are prohibited. All ignition systems and/or components wiring harnesses and attachments must utilize those supplied by the ignition system manufacturer. The wiring harness must be used in an unaltered manner consistent with the manufacturer's installation and instruction books.

**CR39 INTERCOOLERS**

There is no restriction on intercoolers but no external cooling by any liquids that may leak onto the track may be used on the pre-race line-up area or on the track.

**CR40 INSPECTION**

Each vehicle, regardless of class, must complete and satisfactorily pass the inspection of the Technical Inspectors before being allowed a trial run or to participate in any Drag Racing event. All nuts, bolts and component parts on each vehicle's suspension system, chassis and running gear must be secured with lock nuts, lock washers, cotter pins or safety locking wire and must have at least one full thread showing through the nut.

**CR41 JACK AND JACKSTANDS (TRESTLES)**

No work may be done under any vehicle in the pit area while it is supported by only one jack. Additional safety devices such as jack stands are required to ensure safety in the event of jack failure.

- 41.1 Engines may not be started while driving wheels are off the ground and not supported by adequate jack stands.
- 41.2 Failure to observe these jack stand rules are grounds of instant exclusion.

**CR42 LATCHES**

Where a body is of the "flip-top" type, the latch must be located in the centre of the front face of the body. All vehicles with left-off doors must have safety pins or locks fitted to the hinges.

**CR43 LIFTING DEVICES**

Any form of mechanical, hydraulic or other leverage-type device for raising a vehicle's driving wheels and tyres off the strip surface in the starting area is prohibited.

**CR44 LIQUID OVERFLOW/CATCH TANKS**

All machines with any type of liquid capable of dumping or spilling on the track surface, must have a "catch can" to recover the excess liquids. Minimum capacity for all vehicles is one litre. Overflow may be routed into headers on cars, which are supercharged or burn nitro or methanol.

**CR45 MAGNAFLUX CERTIFICATES**

As protection against parts failure, each vehicle owner should voluntarily obtain a Magnaflux inspection certificate for altered or welded parts. Magnaflux certificates may be required by the scrutineer on any modified or welded parts.

**CR46 NITROUS OXIDE SYSTEMS**

- 46.1 Nitrous oxide bottles must be securely mounted in the boot or rear of the vehicle. Any such vehicle using a nitrous oxide system is required to have a leak-proof bulkhead between the boot of the vehicle and the driver's compartment.

- 46.2 Where no boot space exists in a vehicle (i.e. hatchbacks), the nitrous oxide bottle can be securely mounted (no hose clamps or cable ties) with steel brackets in the passenger's compartment.
- 46.3 All nitrous oxide systems not isolated from the driver by a leak-proof bulkhead must be equipped with a relief valve and be directly vented to the outside of the driver's compartment utilising a flexible fuel line to disperse gas leakage into the atmosphere.
- 46.4 Where nitrous lines pass the converter or flywheel area, they must be encased in 3mm thickness steel tubing for 450mm or alternatively be re-routed outside the chassis or frame rails. All flexible nitrous lines must have a high pressure rating of 1500psi as minimum.
- 46.5 The use of any agents other than nitrous oxide as part of, or mixed with this pressurised fuel system is strictly prohibited.
- 46.6 Bottle shut-off valves must be equipped with an on/off tap. Any bottles requiring a special key are not permitted. Only cylinders designed for the use and storage of nitrous oxide and that are equipped with a safety pressure valve are acceptable.
- 46.7 All bottles must be securely mounted, stamped with minimum DOT-1800 pound rating and identified as Nitrous Oxide. Nitrous Oxide bottle(s) located in the driver compartment must be equipped with a relief valve and vented outside of compartment. System must be commercially available and installed per manufacturers recommendations.
- 46.8 External heating of bottle(s) with open flame is prohibited.

**CR47 NIGHT LIGHTING**

All vehicles racing at night is recommended to be fitted with an operative red taillight or reflective tape. (Refer to class regulations.)

**CR48 NUTS AND BOLTS**

The use of ultra-high tensile Allen and star head bolts of the type commonly referred to as "unbrako" in areas where lateral impact may be experienced is not permitted.

**CR49 OCCUPANTS**

No more than one person is permitted in any vehicle during its participating in qualifying and/or competition run-offs. Any time a vehicle is started, whether in the pits, staging lanes or anywhere else on the Racing facility, a competent driver must be in the driver's seat.

**CR50 OIL CONTAINMENT DEVICE (ENGINE)**

Engine diaper or catch-pan device to capture oil and debris in event of engine failure is highly recommended or mandatory for vehicles doing 10.999 seconds or quicker when / as class require. (Refer to class regulations). If catch-pan device is used, the catch-pan must employ a lip of adequate height on all sides and must be curved inward, so as to contain oil.

**CR51 OIL SYSTEM**

Accu-sump, dry sump, oil filters, oil supply lines etc., are prohibited in the driver's compartment. Only an oil pressure gauge and line is permitted in the driver's compartment.

**CR52 PARACHUTES**

All parachutes to be manufactured by a recognized DRAG RACING EQUIPMENT MANUFACTURER and must be suitable sized and suitable mounted as per the manufacturer's instructions.

**52.1 (a) STOPPING DISTANCE EXCEEDING 600 METRES**

- Any car capable of exceeding 300km/h and with four wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 280km/h and with two wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 250km/h (and slower than 300km/h) and with four wheel brakes, a minimum of ONE parachute mandatory. (Two parachutes recommended).
- Any car capable of exceeding 230km/h (and slower than 280km/h) and with rear wheel brakes only, a minimum of ONE parachute mandatory. (Two parachutes recommended).

**52.1 (b) STOPPING DISTANCE LESS THAN 600 METRES (AND OVER 500 METRES)**

- Any car capable of exceeding 280km/h and with four wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 260km/h and with two wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 230km/h (and slower than 280km/h) and with four wheel brakes, a minimum of ONE parachute mandatory. (Two parachutes recommended).
- Any car capable of exceeding 220km/h (and slower than 260km/h) and with rear



wheel brakes only, a minimum of ONE parachute mandatory. (Two parachutes recommended).

**52.1 (c) STOPPING DISTANCE LESS THAN 500 METRES**

- Any car capable of exceeding 260km/h and with four wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 240km/h and with two wheel brakes, TWO parachutes mandatory.
- Any car capable of exceeding 230km/h (and slower than 260km/h) and with four wheel brakes, a minimum of ONE parachute mandatory. (Two parachutes recommended).
- Any car capable of exceeding 220km/h (and slower than 240km/h) and with rear wheel brakes only, a minimum of ONE parachute mandatory. (Two parachutes recommended).

52.2 Technical inspectors should observe the proper operation of the chute/s and also inspect the same for worn or ragged pilot or drogue chutes.

52.3 The parachute release cable should be mounted solidly to a frame tube or other suitable member, no further back than 25mm from the 'D' ring or release lever.

52.4 Drag chutes must have their own independent mounting brackets and must not be mounted to the same bracket as the safety harness.

52.5 If a safety release pin or hook is used, a clear indicator tag or flag must be attached to this item.

**CR53 PARACHUTE RELEASE/RIP CORD**

If the ripcord or release cable is attached to the frame or body and passes by the flywheel/clutch area, it must be enclosed in a protective steel pipe as explained in the section on BRAKES. (Article 10).

**CR54 PARACHUTE USE**

In all instances the 'chute' must be seen to be deployed by the end of the speed traps where considered necessary by stewards. Failure to deploy a 'chute' under competition conditions (where considered necessary by stewards) will be seen/treated as 'faulty' vehicle preparation and renders the driver liable to reprimand, or if failure continues, suspension. The onus is on the driver to ensure the 'chute/s' is packed and maintained correctly. The Safety Officer or MSA Steward may at his discretion ask for the parachute to be deployed during any run to satisfy himself that all parachutes are working correctly.

**CR55 PINION SUPPORT**

All vehicles using an open driveline must have radius arms, traction bars or some suitable pinion support to prevent rear-end housing rotation.

**CR56 PROPYLENE OXIDE**

The use of Propylene Oxide is prohibited in all classes/categories.

**CR57 PROTECTIVE CLOTHING**

57.1 All vehicles capable of running quicker than 10.99 seconds on the quarter-mile together with vehicles which have fabricated or modified firewalls and/or floor (which includes wheel wells) require the driver to wear Nomex or wool one/two piece driving suits as a minimum, plus non-flammable shoes and stocks.

57.2 Vehicles running slower than 10.99 seconds, which have not been modified either in the firewall or floor areas require the driver to wear at minimum, a long sleeved upper garment, long trousers, shoes and socks. The wearing of short pants and/or short sleeve shirts is prohibited and drivers are urged to wear a full overall that has been treated in the same manner as a fire blanket. (See FIRE extinguishers AND FIRE BLANKETS).

57.3 In both the above instances, drivers should note that "takkies" or any footwear capable of burning or melting are not permitted to be worn by any competitor while racing. No Nylon clothing is permitted under any circumstances.

57.4 Drivers of vehicles using Methanol as a fuel and/or capable of times faster than 9.99 seconds and speeds faster than 230 kph plus all mechanically-supercharged vehicles are required to wear a minimum two layer fire resistant one piece overall or two piece driving suit (pants and jacket). Nomex or wool socks and underwear, fire resistant boots, gloves and facemask are all mandatory. Onus of proof of compliance is on the entrant.

57.5 Drivers of vehicles using Ethanol as a fuel and/or capable of times faster than 9.99 seconds and speeds faster than 230 kph are required to wear a minimum two layer fire resistant one piece overall or two piece driving suit (pants and jacket). Nomex or wool socks and underwear, fire resistant boots, gloves and facemask are all mandatory. Onus of proof of compliance is on the entrant.

**57.6 Safety Apparel & Equipment (Clothing)**

Such fire retardant clothing must be in a good condition and should ideally carry an FIA stamp of approval or one of the identification labels as listed below:-

**Race Suits:**

As from 2008 all local **race suit** manufacturers will include a permanent visible identification label on the back collar, to indicate compliance with the following approved fire retardant fabrics and finishes:-

NOMEX	KERMAL
DIAMOND	TER
PYROVATEX	CARMYTH
AFLAMMIT	KARVIN
PROBAN	DELTA C

It's highly recommended that 100% Nomex sewing thread or a similar flame retardant thread is used in the manufacture of the garment for all stitching and box quilting.

**LEVEL 1:** Single layer one (1) piece race suit



**LEVEL 2:** Double layer one (1) piece race suit



**LEVEL 3:** Double layer one (1) piece race suit of which at least one (1) layer is comprised of Nomex / Diamond fabric



**CR58 PUSH BARS**

Tow or push starts not permitted. Each vehicle in competition should be equipped with a suitable bumper-height pushing attachment to facilitate emergency pushing. Push bars should be designed to prevent push car from riding up onto rear wheels of Dragster.

**CR59 REAR-END**

**(WELDED SPIDER-GEARS IN REAR-ENDS ARE PROHIBITED IN ALL CLASSES.)**

**CR60 ROLL BAR/CAGE GENERAL REGULATIONS**

The following regulations apply to all roll bars and roll cage specification requirements:

- 60.1 Steel tube shall be round in section and electrical resistance welded with full to penetration. Arc welding and in particular, TIG Heliarc welding preferred.
- 60.2 Welding must be free of slag and porosity whilst the process of flattening bars to necessitate joint welding is prohibited. All pipes must be notched to provide an acceptable joint where two bars meet.
- 60.3 No sleeving of roll bar/cage structure is permitted under any circumstances. All bending of pipes must be done with an approved process (e.g. Mandrel). Flush grinding of welds is prohibited.
- 60.4 All vehicles must have a 3mm sight hole drilled in relevant areas of the roll bar/cage structure to allow scrutineers to check wall thickness of tubing.
- 60.5 On enclosed vehicles (e.g. Sedans, Bakkies, Coupes, etc.) which are constructed in such a way that the body could separate from the chassis/roll cage in an accident, steel mesh or net of a maximum 75mm mesh is required to be fitted into the roll cage structure above the driver's head.
- 60.6 Threaded pipe or fittings, lap welded pipe, magnesium or aluminium pipe or tubing is not permitted.
- 60.7 On any vehicle where the standard flooring or any part of the standard structure has been removed, the roll cage must incorporate a rocker or sill bar to tie the front and rear of the cage together.
- 60.8 Any vehicle where standard flooring or any part of the standard structure has been removed or lightened (i.e. gutted), regardless of performance, must have a roll bar as a minimum requirement.
- 60.9 No material such as aluminium or copper will be allowed.

**CR61 "ROLL BAR" STRUCTURAL REQUIREMENTS – ALL ENCLOSED VEHICLES**

- 61.1 All enclosed vehicles (i.e. Sedans, Bakkies, Coupes, etc.) capable of running **faster than 12.00 seconds and slower than 10.50**seconds are required to fit a minimum three-point roll bar structure. All open vehicles, i.e. convertibles, sports cars, roadsters and the like, must have roll bar protection regardless of performance.
- 61.2 All roll bars must be a minimum of 42mm x 3mm wall thickness, mild steel, and be within 150mm of the rear of the driver's helmet. The main hoop must extend at least 75mm in height above the driver's helmet whilst in the normal driving position, and be at least as wide as the driver's shoulders.
- 61.3 The roll bar must be adequately supported to prevent forward or lateral collapse in case of a spin out, collision or upset. Braces must be of the same diameter and wall thickness as the roll bar and intersect at a point not more than 100mm from the top of the main hoop.
- 61.4 Roll bar mounting points must be securely fastened to frame or frame rails either by approved welding methods or by using a minimum 150mm x 150mm x 3mm steel plate on top and bottom of the floor securely bolted together with at least four 10mm or 3/8"8.8 grade high tensile bolts and nuts to sandwich the floor.
- 61.5 If the car has no frame structure, the roll bar must be fitted using a minimum 150mm x 150mm x 3mm steel plate as a foot to which each bar is welded then another steel plate of the same dimensions must be bolted under the body with at least 109mm nuts and bolts to sandwich the floor as an adequate anchorage.
- 61.6 No pop rivets or fastening bolts will be allowed for any structural support/fitting of roll bars unless it is FIA approved or OEM fitted.

**CR62 "ROLL BAR" STRUCTURAL REQUIREMENTS – ALL ENCLOSED VEHICLES**

- 62.1 All enclosed vehicles (i.e. Sedans, Bakkies, Coupes, etc.) capable of running **quicker than 10.50** seconds are required to be fitted with a roll cage designed to protect from any angle (360°) and mounted at a minimum six points to the following minimum specifications:
- 62.2 Main roll cage hoops – 38mm x 3mm wall thickness, mild steel, or alternatively 1 1/2" x 083" chrome moly.
- 62.3 Side/cross bars – 32mm x 2.6mm wall thickness, mild steel, or alternatively 1 1/4" x .065" chrome moly.
- 62.4 Roll cage mounting points must be securely fastened to frame or frame rails by approved welding methods, i.e. arc or preferably TIG Heliarc).
- 62.5 If the car has no frame structure the roll cage must be fitted using a minimum 150mm x 150mm x 3mm steel plate as a foot to which each bar is welded then another steel plate of the same dimensions must be bolted under the body using at least four 10mm nuts and bolts to sandwich the floor as an adequate anchorage.

**CR63 "ROLL CAGE" STRUCTURAL REQUIREMENTS – DRAGSTERS, FUNNY CARS, ETC.**

- 63.1 For all Dragster, Funny car and open-wheel, space frame type vehicles, specifically designed for Drag Racing, regardless of performance, the following minimum specifications will apply to the driver's compartment.
- 63.2 **Roll Cage:** Vehicles weighing under 370kg may use minimum 34mm x 3mm wall thickness, mild steel or 1<sup>3</sup>/<sub>8</sub> x .083" chrome moly. All vehicles over 370kg must use a minimum 38mm x 3mm wall thickness mild steel or alternatively 1<sup>1</sup>/<sub>4</sub> x .065" chrome moly for cage tubing. Cage must be attached to shoulder hoop at six points for Funny Cars or open wheelers and five points for Dragsters. Front of driver's helmet must be a minimum of 75mm behind the front roll cage hoop.
- 63.3 **Shoulder Hoop, Top and Bottom Frame Rails, Uprights and Cross-members:** A minimum 32mm x 3mm wall thickness, mild steel or alternatively 1<sup>1</sup>/<sub>4</sub> x .065" chrome moly.
- 63.4 **Diagonals:** A minimum of 19mm x 3mm wall thickness mild steel or alternatively <sup>3</sup>/<sub>4</sub> x .058" chrome moly.

**CR64 SAFETY BELTS AND HARNESES**

- 64.1 All vehicles regardless of performance or age must be fitted with a minimum lap/sash, three-point quick release driver's seat belt in good operating condition and complying with the South African road ordinance requirements for safety belts.
- 64.2 Enclosed vehicles, vehicles (i.e. Sedans, Bakkies, Coupes, etc.) capable of running quicker than 11.99 seconds in any bracket or class are required to have a minimum four-point safety belt/harness in good operating condition fitted for driver protection.
- 64.3 All vehicles capable of running quicker than 11.00 seconds including heavily modified street cars and/or all space frame vehicles specifically designed for Drag Racing, i.e. Dragsters, Funny Cars, Altereds, etc., are required to have a centre locking, five point "inverted V" type racing harness as described below.
- 64.4 In all circumstances, belts must be in good condition and securely fastened to the frame or a suitably reinforced mounting so that all fittings are in a direct line with the direction of pull.
- 64.5 If the belt mounting point requires reinforcement, a minimum 75mm x 75mm x 6mm plate must be used to adequately anchor the harness at each mounting point.
- 64.6 Under no circumstances are bolts to be inserted through belt webbing. In any vehicle requiring a roll bar as minimum structural protection, inertia reel belt/harness assemblies are not permitted.
- 64.7 All harnesses must be installed in such a manner that they will limit the travel of the driver's body, both upward and forward. Shoulder straps mounted behind the driver must be above a theoretical line of 40° down from horizontal, but not above the horizontal.
- 64.8 Protective plates are mandatory where belts wrap around any frame area exposed to potential abrasion, especially in an accident or in the event of wheel loss.
- 64.9 Belts to be worn and securely fastened at all times while the vehicle is driven and propelled by its own engine.

**64.10 DEVICE SPECIFICS**

**(a)**

**APPROVED SPECIFICATION**

Only those harnesses which comply with one of the following standards will be approved by MSA for use in the specified categories:

- i 1. FIA
- ii 2. SFI
- iii 3. FMVSS

In all instances the relevant international standard / approval will be clearly indicated on the harness by means of an integral label.

**FIA LABEL**

The main label identifies the harness belt system and carries all information required by the FIA, i.e. Manufacturer, Last year of use and FIA homologation number. The label is sewn onto the harness belt portion permanently fixed to the buckle.

**Content of the FIA homologation number:**

- "B" = harness restraint with 4 straps in contact with the body.
- "C" = harness restraint with 5 straps in contact with the body.
- "D" = harness restraint with 6 straps in contact with the body.
- Homologation number issued by the FIA, e.g. 136.
- "T" = for rotary buckle version (Turn)

- “P” = for push button buckle version (Push)

Digits representing the year of issue in respect to the standard the harness belt is homologated under. In terms of the above international standards only those harnesses with a minimum of 3” (approx. 75mm) shoulder straps with 2” (approx. 50mm) or 3” (approx. 75mm) waist straps are approved. In terms of the approved international standards safety harnesses with 3/4/5/6 mounting points are permitted, although it is recommended that an anti-submarine (crutch) strap be utilized. The only exception to the above specification is the combination 2” / 3” shoulder straps fitted to those FIA approved safety harnesses specifically intended for use in conjunction with the HANS head restraint system, in which case the relevant FIA label will clearly state “FOR HANS USE ONLY”. It should be noted that approval of this particular harness is only valid should the product be used in conjunction with the HANS head restraint system which must be produced at scrutineering. The addition of shoulder pads is strongly recommended where the use thereof is practical within the specific application.

**(b) NON COMPLIANCE**

The approval of safety harnesses that comply with the above international standards will be considered to have expired in the event of the following:

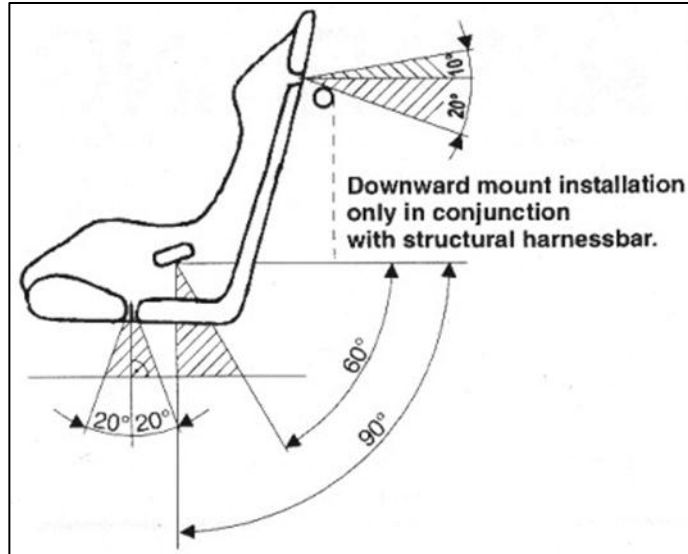
1. FIA approval - Date of expiry as indicated on label
2. SFI approval - Date of manufacture as indicated on label + 5 years
3. FMVSS approval - Date of manufacture as indicated on label + 5 years.

The approval of safety harnesses that comply with the above international standards will no longer be approved in the event of the following: Excessive wear (fraying) exceeding a total of 3mm on any of the shoulder and waist straps. It is apparent that the safety harness has been modified from its original form or repaired in some manner. The individual safety harness components (shoulder straps / waist straps) are different colours. Anti-submarine (crutch straps) are however exempt from this requirement. The date of expiry or manufacture as per the label that appears on each of the safety harness components differs.

**(c) INSTALLATION**

When installing a safety harness the manufacture installation instructions should be followed carefully so as to ensure that the performance of the product is optimised. All fittings, nuts, bolts, etc. used during the installation process must be suitable for the purpose of safety harness installation so as to allow the harness to perform as intended. Annexure J, Article 253-42 of the FIA regulations clearly specifies the correct installation procedure.

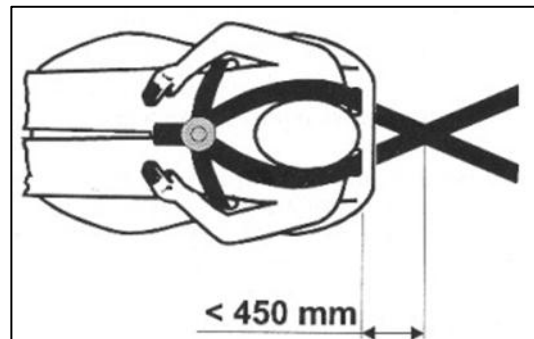
- Figure 1 shows the strap angles required for proper safety harness installation. In order to ensure correct anchorage and performance in the event of an incident it is important that these angles be met. Use of an improper anchorage or routing of any strap will reduce safety harness performance and increase the risk of serious injury or Death.



Never run the shoulder straps downwards from the backrest slots without a strap support bar which can withstand the load applied to it during a crash. The seat backrest is not designed to accommodate this load and may collapse in the event of an accident, thereby greatly increasing forward movement of the occupant which can cause serious injury or death.

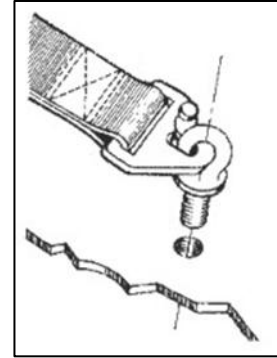
An anti-submarine (crutch) strap routed towards the rear may cause serious injury during a crash as it is not designed to be a body restraint and is only intended to keep the lap belt in place during a crash so as to reduce the risk of “submarining”. Similarly the anti-submarine strap should never be run over the front line of the seat as such an installation will eliminate its intended function.

In those instances where the shoulder straps anchorage points are located more than 450mm from the rear of the backrest, it is important that the shoulder straps cross each other at the same level as that which the shoulder straps pass through the seat. Improperly installed shoulder straps may slip the shoulders during a crash and thereby increase the risk of severe head and neck injury or even death.



**i. Eye-Bolt Installation (number)**

The minimum length of an eye-bolt used in the installation of a safety harness should be 25mm, ideally used in conjunction with a spring washer to secure the bolt from loosening. Always make sure that the eye-bolt is positioned in the direction the belt will pull in a head on collision. Eye-bolts should be tightened to a minimum torque of 40Nm using a reliable torque wrench.



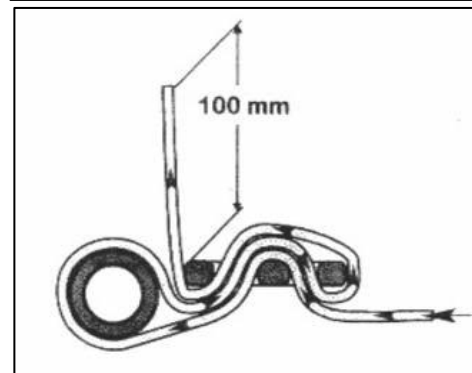
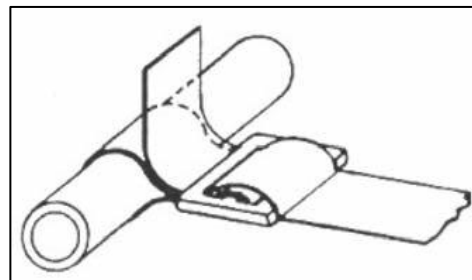
It is recommended that the anchorage points of the vehicle manufacturer be utilised wherever possible in respect to mounting of the safety harness. Any drilled anchor point must be properly reinforced to accept the load which will be applied thereto during a crash.

**ii. Wrap-around Installation**

Strap attachment to a weak roll cage can cause the bar to fail and result in serious injury or death. It is recommended that the roll cage manufacturer be contacted to ascertain crossbar strength and the ability thereof to withstand loads from the shoulder straps in the event of an accident.

Incorrect attachment of the strap to the adjuster can cause the belt to pull out of the adjuster in the event of an accident. Always follow the manufacturer installation instructions regarding the correct manner in which to run the strap through an adjuster when making use of a wrap-around installation.

The adjuster must be positioned as close as possible to the roll cage and the shoulder straps should be threaded through the adjuster with the protruding strap at least 100mm long.



**CR65 SAFETY HUBS**

- 65.1 All vehicles in competition, other than genuine streetcars with original engines, must be equipped with a satisfactory means of axle retention. A minimum of 3mm thick steel plate reinforcement for standard bearing retainers is required.

- 65.2 Whenever possible, approved aftermarket axles or internal safety hubs should be utilised in lieu of standard items.
- 65.3 In place of internal type safety hubs, a minimum of four hooks per driving wheel must be attached to the backing plate with a minimum of two 6mm high tensile bolts per hook.
- 65.4 Each hook must be made of 6mm minimum thickness steel plate at least 25mm width firmly mounted to retain the drum, hub and wheel in the event of axle failure. The attention of competitors is drawn to the possibility of handling hazards in the event of an axle shaft breaking while the vehicle is fitted with a locked rear-end.

**CR66 SEATING**

- 66.1 The driver's seat in any vehicle in competition must be so constructed, braced and mounted in such a way that it will give full back and shoulder protection to the driver in the event of a vehicle upset, spinout or collision.
- 66.2 The driver's seat must be supported on the bottom and back by a frame or cross member.
- 66.3 Plastic kitchen-type and magnesium seats are not permitted, however, properly braced, framed, supported and constructed seats of aluminium or fibreglass (accessory seats) are acceptable.
- 66.4 Rear seat may be removed if an approved roll cage is present in certain classes.

**CR67 SHOCK ABSORBERS**

Each car in competition must be equipped with one operative shock absorber for each sprung wheel. Shocks must be either hydraulic or friction type, securely mounted and in good working order. (See class requirements).

**CR68 STARTERS**

All vehicles must be self-starting, other than those competing in Top Eliminator Cars or Bikes.

**CR69 STEERING**

- 69.1 Each vehicle's steering system will be inspected to determine its condition and must be considered safe by the scrutineer. Steering wheel "play" must be at a minimum. Drag link and tie rods must be secured and keyed. All altered or modified steering systems will be closely checked for insecure welds and faulty parts.
- 69.2 All rod ends must be a minimum 10mm shank diameter and must be installed with flat washers to prevent bearing pull out. Hollow rod ends are prohibited. All tubes into which rod ends are inserted must be drilled for thread engagement inspection.
- 69.3 The use of female Heimi joints is not permitted except in the installation of rack and pinion steering where a Heimi joint is used to replace the original ball joint and no welding is involved. Any vehicle with rack and pinion steering and a beam or tube axle must have the steering mounted on the axle and incorporate a universal-joint steering shaft. The length of shaft forward of the joint must be equal to and travel through the same arc as the radius rods locating the axle.
- 69.4 All steering boxes, sectors and shafts must be mounted to the frame or suitable cross member and cannot be mounted in any case to the bell housing and/or bell housing adaptor shield.
- 69.5 On long wheelbase vehicles, a secondary steering shaft stop must be installed to prevent the long steering shaft from injuring the driver in case of frontal impact. A collar or U-joint pinned at cross member or bracket, etc. is acceptable.

**CR70 STEERING WHEELS**

- 70.1 A full steering wheel is required with a minimum of 300mm diameter.
- 70.2 Dragsters, Funny Cars and open-wheel, space frame vehicles designed specifically for Drag Racing may use a twin grip steering wheel having a minimum inside width of 180mm across the grips.
- 70.3 Commercially available quick-disconnect steering wheels are permitted.

**CR71 SUPERCHARGERS**

- 71.1 All vehicles equipped with belt driven superchargers must have a guard fitted to prevent fuel line damage in the event of belt loss. This is not required where steel braided hose is used in conjunction with aircraft quality connections or where lines themselves are shielded.
- 71.2 All superchargers used in competition must be correctly set up for high performance use incorporating heavy-duty components applicable to Drag Racing requirements.

**71.3 Types:**

**71.3.1 Roots-type:**

Maximum size permitted 14-71; 482.6mm maximum rotor case length; 285.75mm maximum case width; 6.35mm minimum case thickness; 6.35mm minimum front plate thickness. 300 minimum rear plate thickness. Maximum rotor cavity diameter is 148.34mm. Rotor helix angle may not exceed that of a standard 71-series GM-type rotor (4° per 25.4mm). Maximum overdrive may not exceed 70%.

**71.3.2 Roots-type High Helix:**



Must adhere to the same maximum case dimensions and maximum rotor cavity diameter as standard Roots. Rotor helix angle may not exceed 6.5° per 25.4mm, (123.5° total over 482.60mm maximum rotor length). Maximum overdrive may not exceed 70%.

**71.3.3 Screw-Type:**

Must meet SF1 Spec 34.1. Maximum case length 406.40mm, maximum case width 406.40mm, minimum case and front plate thickness 6.35mm, minimum rear plate thickness 7.62mm. Manifold pressure release mechanism (in addition to burst panel in supercharger) plus supercharger restraint system is mandatory. Under no circumstances may a screw supercharger overdrive exceed the following overdrive limits:

ENGINE DISPLACEMENT	MAXIMUM OVERDRIVE	
	WHIPPLE	PSI
8194 CUBIC CENTIMETRES OR LARGER	1.60	2.25
7375 - 8193 CUBIC CENTIMETRES	1.52	2.15
LESS THAN 7375 CUBIC CENTIMETRES	1.44	2.04

71.3.4 Variable multi-speed supercharger devices are prohibited regardless of the supercharger type.

71.3.5 Aluminium studs (supercharger to manifold) are mandatory on all superchargers.

71.3.6 Supercharger restraint systems are mandatory.

**CR72 SUPERCHARGER RESTRAINTS**

72.1 All belt-driven supercharger devices must have as a minimum, a supercharger restraint system in conjunction with aluminium shear bolts (strip studs) at all mounting points as mandatory to prevent the supercharger from being blown free of the engine.

72.2 All vehicles competing in Top Fuel, Top Fuel Funny Car or Top Fuel Competition Altered must be fitted with a ballistic supercharger protection device meeting SF1 specification 14.2.

**CR73 SUSPENSION**

73.1 All vehicles must have a full suspension of the type produced by automobile manufacturers, i.e. springs, torsion bars, etc.).

73.2 Rigid-mount front/rear axles are permitted when so indicated by class requirements. Where more than one pair of radius rods are used to locate a front axle, rods must be of the same length.

73.3 Traction bars or other devices used to transmit rear-axle torque to the frame, thus preventing violent rear-spring “wind-up” under acceleration or deceleration, are considered safety equipment and are therefore accepted where class permits. Traction devices, if used, may not be longer in overall length than one-half of the wheelbase of the vehicle on which they are installed. No portion of any traction device may extend lower than the level of the lower edge of the rear rim.

73.4 All rod ends (steel minimum) incorporated into either a “ladder bar” or “four link” suspension system must have a minimum 19mm shank diameter (chrome moly 16mm). Rod ends must thread a distance at least equal to 1.5 times the diameter of the shank into the bars they are inserted. Each bar must be drilled to allow for thread engagement inspection and either a strap or some other means of prevention must be attached at the front of both the “ladder bar” and/or “four link” system to stop them coming into contact with the track if the rod ends fail.

**CR74 THREAD ENGAGEMENT INSPECTION HOLE**

All bars which incorporate the use of rod ends must have a 3mm inspection hole drilled a minimum of 1.5 times the rod-end shank diameter along the bar to allow scrutineers to check for adequate thread engagement.

**CR75 THROTTLE LINKAGE**

Regardless of class, each vehicle must have a foot throttle incorporating a positive-acting return spring attached directly to the carburettor throttle arm. A positive stop or over-ride prevention must be used to keep linkage from passing over centre and sticking in an open position. In addition to return springs, some means of manually returning the throttle to a closed position by use of the foot must be installed on all vehicles using any other than standard or altered linkage system. All vehicles fitted with superchargers/blowers must have some means of returning the throttle to a closed position by use of the foot. Choke cables and brazed or welded fittings on steel cable are not allowed.

**CR76 TOWING RING/HOOK**

It is recommended that all cars have some kind of towing ring or hook affixed to the front of the vehicle so as to help reduce the time required to clear the track should a vehicle failure occur.

**CR77 TOW VEHICLE**

Any vehicle used as a tow car must have the competition number displayed prominently on the windscreen. Crewmembers must be inside the cab or completely inside the bed of the truck. Nobody is to be seated on the tailgate, standing on running boards or otherwise. They are all to be seated completely inside the vehicle.

**CR78 TRANSMISSION**

- 78.1 All vehicles in competition must be equipped with reverse gear.
- 78.2 Air shifter bottles must be stamped with Dot-1800 pound rating (minimum) and be securely mounted, i.e. no tie-wraps or hose clamps.

**CR79 TYRES**

- 79.1 Tyres will be visually checked for condition, pressure, etc. and must be considered safe by the scrutineer prior to any runs by the vehicle. Implement tyres are prohibited and all street tyres must have a minimum of 1mm tread depth over 100% of the tread area at the completion of the day's racing.
- 79.2 All street tyres must be Dot approved with grooves made by the tyre manufacturer.
- 79.3 All vehicles capable of exceeding 260kph are required to have front tyres specifically built for Drag Racing use, i.e. Goodyear or Mickey Thompson Front Runners etc.)
- 79.4 Any make or type of road tyre, racing tyre or drag slick (see class requirements) is permitted on vehicles slower than 260kph provided the speed rating of the tyre is adequate for that particular vehicle's performance.
- 79.5 Under no circumstances will re-threaded tyres be allowed on any vehicle.
- 79.6 Either steel or good condition rubber valve stem caps are required on all wheels and tyres.
- 79.7 Tyre pressure should be as per manufacturer's recommended pressure guidelines.
- 79.8 Dot approved tyres with no grooves will be classified as slicks.

**CR80 VENT TUBES/BREATHERS**

Mandatory on all Top Eliminator vehicles and accepted in all other classes. Where used, the tubes must terminate into an acceptable, permanently attached catch-tank with a capacity of four litres per engine. The catch-tank must be able to keep over-flow off the track and a sight glass or tube is recommended to verify that tank is empty prior to each run.

**CR81 WEIGHT**

- 81.1 All weights are applicable after a vehicle has completed a run and must include driver.
- 81.2 All Drag Racing venues (when and where applicable) must have available for the duration of a race meeting, a suitable weighing facility in accordance with the requirements of the Drag Racing Commission.
  - 81.2.1 Current certification and/or assizing certificate(s) must be present with the promoters.
  - 81.2.2 Suitable test weigh/s must be available.
  - 81.2.3 The scale/s present on the day **shall at the discretion of the Clerk of Course be deemed correct.**
  - 81.2.4 The weighing and measuring devices used by the event officials shall be the standards that will determine a vehicle's compliance with the rules.
  - 81.2.5 It is the onus of the competitor to ensure that his/her vehicle is weighed by officials if/when applicable to ensure their vehicle complies with the correct weights as laid out in the MSA Drag Racing Handbook for the current year e.g.:
    - After every record breaking run,
    - To class a vehicle when necessary prior to the start of the days racing and,
    - Prior to first round of eliminations if a competitor has dialed on the record.

**81.3 MINIMUM WEIGHTS**

- 81.3.1 SEDAN CARS (RE: ALTEREDS, PRO-STREET, STREET CARS, ETC.)**
  - a. INTERNAL COMBUSTION ENGINES (excluding Rotaries)**
    - i. Up to 2600cc Engine Capacity**

**FRONT WHEEL DRIVE**

- Normally Aspirated - 730kg
- One Power Adder - 820kg
- Two Power Adders - 910kg

**REAR WHEEL DRIVE**

- Normally Aspirated - 840kg
- One Power Adder - 870kg
- Two Power Adders - 960kg

ii. **Over 2600cc Engine Capacity**

- All vehicles - 1000kg

b. **ROTARY ENGINES**

- Normally Aspirated - 840kg
- One Power Adder - 950kg
- Two Power Adders - 1000kg

**81.3.2**

**FUNNY CARS**

- C/FC - 800 kg
- B/FC - 800 kg
- A/FC - from 8271cc up to 10130cc – 900 kg
- from 10131cc up to 13600cc – 1000 kg
- C/TFC - 800 kg
- B/TFC - 900 kg
- A/TFC - 1000 kg
- TA/FC - 818 kg
- TF/FC - 1100 Kg

**81.3.3**

**DRAGSTERS AND COMPETITION ALTEREDS:**

- D/D - 770 kg
- C/D - 770 kg
- B/D - 770 kg
- A/D - from 8178cc up to 9600cc – 850 Kg
- from 9601cc up to 13400cc – 950 Kg
- D/TD - 770 kg
- C/TD - 770 kg
- B/TD - 900 kg
- A/TD - 900 kg
- D/CD - 770 kg
- C/CD - 770 kg
- B/CD - 770 kg
- A/CD - 770 kg
- TA/D - 770 kg
- TF/D - 1000 kg
- C/CA - 750 kg
- B/CA - 800 kg
- A/CA - 850 kg
- CC/CA - 750 kg
- BB/CA - 800 kg
- AA/CA - 850 kg
- TF/CA - 1000 kg

**CR82 WEIGHT DISTRIBUTION**

82.1 Each vehicle must have an adequate percentage of its weight carried on the front wheels to ensure proper handling ability at all times. Additional front-end weight will be required by the scrutineer on vehicles experiencing excessive wheel stands or carrying the front wheels during acceleration.

**82.2 Weight Distribution on FWD vehicles**

On FWD vehicles special notice needs to be taken of the weight distribution of the vehicle for safety reasons. On de-acceleration or braking, a vehicle that is very light in the rear can become unstable and/or lock the rear wheels during hard braking.

If the weight distribution (percentage) Front to Rear, of a vehicle falls into the range of (F) 70 (R) 30 to (F) 80 (R) 20, a Parachute is mandatory as a supplementary brake-system regardless of speed

attained.

If the weight distribution Front to rear, is equal to or greater than (F) 80(R) 20, a parachute AND independently braked rear wheels are mandatory, regardless of speed attained.

**CR83 WHEELBASE**

Minimum wheelbase is 2.20 meters. Maximum wheelbase variation from left to right is 50mm. Refer to individual class requirements.

**83.1 Cars**

- a. All vehicles (except Factory Street) running under 11.99 and not quicker than 10.00, 2.2 meter minimum (Engine swap allowed).
- b. All vehicles (except Factory Street) running 9.99 and quicker, 2.3 meter minimum (Engine swap allowed).

**Note: Further restrictions and/or allowances may also apply, refer to individual class requirements.**

**CR84 WHEEL WELLS:**

See Class Requirements.

**CR85 WHEELS**

- 85.1 All hubcaps must be removed. Scrutineers must check for loose lugs, cracked wheels, worn or oversize lug holds, spindles, axle nuts, cotter pins, etc. Snap-on hubcaps are not permitted on any class of vehicle during competition. Stock mag wheels may use lug nuts as supplied from the factory.
- 85.2 Each vehicle must be equipped with automotive-type wheels with a minimum diameter of 1325mm unless class regulations state otherwise. Rim width for enclosed, i.e. Sedan, bakkie, Coupe, etc. vehicles must be a minimum of 75mm.
- 85.3 Motorcycle rims or lightweight automotive wire wheels acceptable on front of Dragster only, provided total weight of vehicle does not exceed 900kg including the driver. Each wire rim must be equipped with 3mm minimum diameter steel spokes properly cross-laced to provide maximum strength. All available spoke holes in rim and hub must be laced, and omissions to lighten wheels are not permitted.
- 85.4 Where it can be established that a "beam breaker" shield is required on wire rims, it is mandatory for a competitor to securely and permanently fit a device to clearly cut the start line staging beams before entering a competition.
- 85.5 Maximum rim width on any vehicle is 406mm.
- 85.6 No rear wheel discs or covers permitted in any category and the use of sports car or automotive wire wheels is restricted to vehicles to which they were originally fitted.
- 85.7 Either steel or good condition rubber valve stem caps are required on all wheels.

**CR86 WHEEL STUDS**

A wheel stud must protrude from the outer face of the wheel by a distance at least equal to the diameter of the stud. Scrutineers are required to check the fit by removing at least one lug nut on each rim if it is not readily recognizable that the stud extends through the rim far enough.

**CR87 WHEELIE BARS**

Wheelie bars are permitted as per class regulations. Wheels must be non-metallic. Wheelie-bar wheels must turn freely at starting line, any preload is prohibited. Wheelie bars must be fixed. Hydraulics, pneumatics, electronics, etc. or any adjustment or movement during run is prohibited. Using wheelie-bar wheels as "fifth wheel" sensing device is prohibited.

**CR88 WINDOW NETS**

- 88.1 All enclosed vehicles with doors, i.e. Sedans, Bakkies, Coupes, etc.), requiring the use of a "roll cage" (i.e. those capable of 10.50 or quicker) must be fitted with a driver-side ribbon-type window net with minimum dimensions of 450mm x 600mm or alternatively properly adjusted arm restraints.
- 88.2 Net must be attached to the inside of the roll cage top bar and also to the intrusion bar. The net must be permanently attached at the bottom either by hose clamping to the intrusion bar or some other acceptable method whilst the top must be clipped at each end to eyebolts or a seat belt-type fastener. Chief start line Marshall must ensure competitors have net or restrains correctly fastened before going into stage. Rubber shock cords are not acceptable for mounting net.

**CR89 WINDSCREENS AND WINDOWS**

- 89.1 On open bodied vehicles, a metal, plastic or Plexiglas deflector must be installed to divert wind, liquids, foreign matter, etc., over the driver's helmet. The wind deflector must be securely mounted and installed in such a manner that it does not in any way obstruct the driver's frontal view.
- 89.2 Windshields, when called for in class requirements, must be safety glass, Plexiglas or other

shatterproof material. The front screen must be clear, without tinting or colouring except factory-tinted safety glass.

- 89.3 Tinting of side windows cannot be such as to prevent visibility of driver through side windows at night events. Where Funny Cars have full side windows fitted, a 150mm diameter opening must be provided to facilitate access from the outside.

PS CLASS REGULATIONS

# PRO-STREET

These drag racing classes are mainly for championship Drag events taking place at various venues such as graded tracks that are sanctioned by MSA and consist of timing equipment capable of running both with and without Handicap Racing. They are reserved for vehicles based on normal production models with a factory produced automotive-type engine. The body, drive train, chassis and other components may be altered or modified in accordance with class requirements.

(This category can run either heads up (as individual classes) or handicap (as a category), depending on the type of event). At most Championship events these classes will fall under Super Competition Eliminator and Competition Eliminator categories. In order to determine correct classing below tracks must have weighing facilities available.

**DESIGNATION:**

SP, AP, BP, CP, DP, EP, FP, GP, HP, S/TP, A/TP, B/TP, C/TP, D/TP, E/TP, F/TP, G/TP, AR/P, BR/P, CR/P, DR/P, ER/P, FR/P, GR/P, HR/P, AR/TP, BR/TP, CR/TP, DR/TP, ER/TP, FR/TP, GR/TP, AF/P, BF/P, CF/P, DF/P, EF/P, FF/P, GF/P, HF/P, AF/TP, BF/TP, CF/TP, DF/TP, EF/TP, FF/TP, GF/TP, HF/TP followed by the competition number.

WEIGHT BREAKS					
SECTION 1: INTERNAL COMBUSTION, PISTON DRIVEN ENGINES, REAR WHEEL DRIVE VEHICLES					
SP	LESS THAN			0.110kg	
AP	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BP	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CP	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DP	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
EP	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FP	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
GP	FROM	0.340 kg/cc	-	0.399 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
HP	FROM	0.400 kg/cc	-	And Up	Nitrous, Supercharged – No Turbo's
	Or	0.360 kg/cc	-	And up	Normally Aspirated
S/TP	LESS THAN			0.160kg	
A/TP	FROM	0.160 kg/cc	-	0.189 kg/cc	
B/TP	FROM	0.190 kg/cc	-	0.219 kg/cc	
C/TP	FROM	0.220 kg/cc	-	0.279 kg/cc	All vehicles fitted with Turbochargers
D/TP	FROM	0.280 kg/cc	-	0.339 kg/cc	
E/TP	FROM	0.340 kg/cc	-	0.399 kg/cc	
F/TP	FROM	0.400 kg/cc	-	0.459 kg/cc	
G/TP	FROM	0.460 kg/cc	-	And Up	
SECTION 2: ROTARY ENGINES					
AR/P	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BR/P	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CR/P	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DR/P	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
ER/P	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FR/P	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
GR/P	FROM	0.340 kg/cc	-	0.399 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
HR/P	FROM	0.400 kg/cc	-	And Up	Nitrous, Supercharged – No Turbo's
	Or	0.360 kg/cc	-	And up	Normally Aspirated
AR/TP	FROM	0.160 kg/cc	-	0.189 kg/cc	
BR/TP	FROM	0.190 kg/cc	-	0.219 kg/cc	
CR/TP	FROM	0.220 kg/cc	-	0.279 kg/cc	
DR/TP	FROM	0.280 kg/cc	-	0.339 kg/cc	All vehicles fitted with Turbochargers
ER/TP	FROM	0.340 kg/cc	-	0.399 kg/cc	
FR/TP	FROM	0.400 kg/cc	-	0.459 kg/cc	
GR/TP	FROM	0.460 kg/cc	-	And Up	
SECTION 3: INTERNAL COMBUSTION, PISTON DRIVEN ENGINES, FRONT WHEEL DRIVE VEHICLES					
AF/P	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BF/P	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CF/P	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DF/P	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
EF/P	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FF/P	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's

	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
<b>GF/P</b>	<b>FROM</b>	<b>0.340 kg/cc</b>	-	<b>0.399 kg/cc</b>	<b>Nitrous, Supercharged – No Turbo's</b>
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
<b>HF/P</b>	<b>FROM</b>	<b>0.400 kg/cc</b>	-	<b>And Up</b>	<b>Nitrous, Supercharged – No Turbo's</b>
	Or	0.360 kg/cc	-	And up	Normally Aspirated
<b>AF/TP</b>	<b>FROM</b>	<b>0.110 kg/cc</b>	-	<b>0.129 kg/cc</b>	
<b>BF/TP</b>	<b>FROM</b>	<b>0.130 kg/cc</b>	-	<b>0.159 kg/cc</b>	
<b>CF/TP</b>	<b>FROM</b>	<b>0.160 kg/cc</b>	-	<b>0.189 kg/cc</b>	
<b>DF/TP</b>	<b>FROM</b>	<b>0.190 kg/cc</b>	-	<b>0.219 kg/cc</b>	
<b>EF/TP</b>	<b>FROM</b>	<b>0.220 kg/cc</b>	-	<b>0.279 kg/cc</b>	
<b>FF/TP</b>	<b>FROM</b>	<b>0.280 kg/cc</b>	-	<b>0.339 kg/cc</b>	
<b>GF/TP</b>	<b>FROM</b>	<b>0.340 kg/cc</b>	-	<b>0.399 kg/cc</b>	
<b>HF/TP</b>	<b>FROM</b>	<b>0.400 kg/cc</b>	-	<b>And Up</b>	

**CAPACITY INCREASES WILL BE CALCULATED AS FOLLOWS:**

**Single Power Adders:**

- Single Turbo charging only: -50%
- Twin Turbo charging only: -60%
- Single Supercharger only: (Standard Roots): -40%
- Single Supercharger only: (Roots Hi-Helix): -50%
- Single Supercharger only: (Screw type): -60%
- Nitrous Oxide: -0% (Zero)

**Two Power Adders:**

- Nitrous Oxide with single Turbocharging: -90%
- Nitrous Oxide with twin Turbocharging: -100%
- Nitrous Oxide with single Supercharger: (Standard Roots): -80%
- Nitrous Oxide with single Supercharger: (Roots Hi-Helix): -90%
- Nitrous Oxide with single Supercharger: (Screw type): -100%
- Nitrous Oxide with single Turbocharging:

**Other:**

In conjunction with the above (if applicable), the following capacity increases and/or penalties must also be calculated:

- Hemispherical and/or Pent Roof Heads: -20%
- Valves per Cylinder: -20%
- All-Wheel Drive: -10%

**Notes:**

1. Rotary engines will be classified as 1.8 x the swept volume.
2. All the capacity increases must be compounded before calculated.
3. All weights are applicable after a vehicle has completed a run and must include driver.
4. Note: One cubic inch measures 16.3872 cubic centimetres.
5. The following tolerances will be allowed for a margin of error during any inspection or teardown if or when applicable:
  - a. ENGINE CAPACITIES:
    - Capacity of engines when using capacity meter: As per correction factor in capacity meter manufacturer instructions.

or,

    - Capacity of engine when engine is stripped: overbore = 0.05mm or (0.002") and stroke = 0.125mm or (0.005")
  - b. WEIGHT OF VEHICLE:
    - Weight of vehicle: ½ of 1 percent OR 10kg
6. MINIMUM WEIGHTS
  - a. INTERNAL COMBUSTION ENGINES (excluding Rotaries)
    - i. Up to 2600cc Engine Capacity
      - FRONT WHEEL DRIVE
        - Normally Aspirated - 730kg
        - One Power Adder: - 820kg
        - Two Power Adders: - 910kg
      - REAR WHEEL DRIVE
        - Normally Aspirated - 840kg



- One Power Adder: - 870kg
- Two Power Adders: - 960kg
- ii. Over 2600cc Engine Capacity
  - All vehicles - 1000kg
- b. ROTARY ENGINES
  - Normally Aspirated - 840kg
  - One Power Adder: - 950kg
  - Two Power Adders: - 1000kg

ARTICLE	
<b>PS 1</b>	<b>BALLAST:</b> Ballast is permitted but must be securely mounted. (Refer to the Safety Regulations).
<b>PS 2</b>	<b>BATTERY: (Refer to the Safety Regulations).</b>
<b>PS 3</b>	<b>BODY/CHASSIS</b> 3.1 The complete original body must be retained except that the bonnet, boot-lid and fenders may be replaced with components of identical size and shape made from fiberglass or any similar non-flammable lightweight material. 3.2 Moderately customized vehicles may compete in this class but bodies may not be chopped, channeled, sectioned or otherwise altered in height, width or contour. Convertibles, panel vans, bakkies, cars and readily available, locally produced replicas, (i.e. Cobras), may compete in this class providing all requirements are met. All vehicles must have at least two fully operative doors with door handles that permit exit and / or entrance from both sides. 3.3 Stock automobile chassis for car body used must be retained, except where rear wheel “tubs” are installed, in which case adequate chassis reinforcing is required. Front to rear frame strengthening members may be added to any unibody, constructed vehicle to connect front and rear sub-frames. If material passes through the floor, the floor must be welded to the member leaving no holes. Floor boards/panels may be removed, cut or altered. (Refer floor boards).
<b>PS 4</b>	<b>BRAKES</b> All vehicles in this category must be equipped with four-wheel hydraulic brakes operated by a foot-mounted pedal in the conventional manner. A back-up brake system is mandatory on all vehicles, i.e. handbrake and/or parachute). Refer to Safety Regulations CR 10.
<b>PS 5</b>	<b>BUMPERS</b> Bumpers are mandatory. Any lightweight composite material may be used.
<b>PS 6</b>	<b>COOLING SYSTEM</b> A stock-type water pump is required but may be electrically driven. Catch tank/overflow must be securely fitted, completely leak proof, sealed and isolated from the driver. Radiator may be moved forward to permit the installation of longer engine. The use of Anti-Freeze is prohibited.
<b>PS 7</b>	<b>DIFFERENTIALS</b> Any rear axle assembly and any ratio may be used. Narrowed rear-ends are acceptable and locked rear-ends are permitted. (Refer to the Safety Regulations regarding “axle retention”) Fabricated rear linkage system is permitted. Front wheel drive cars (as per OEM) may not be converted to rear wheel drive cars and vice versa.
<b>PS 8</b>	<b>DRIVELINE</b> Any driveline with drive shaft loop is allowed. (Refer to the Safety Regulations)
<b>PS 9</b>	<b>DRIVE SHAFT HOOP</b> 360° front drive shaft loop is highly recommended on all cars running under 13.0 seconds and/or over 160kph. (Refer MSA Drag Racing Rules, Regulations and Specifications).
<b>PS10</b>	<b>DRIVER AND SAFETY</b> For all requirements regarding driver and safety regulations, see the appropriate “General and Safety Regulation” chapters. A full fire retardant suit, including gloves, racing shoes, balaclava, Etc. are required in some instances (Refer to Safety Regulations – CR 54.).
<b>PS11</b>	<b>ELECTRICAL</b> Each vehicle in this section must have a full working wiring harness. All lights and charging systems must be fully operational. Starter motor must be retained.
<b>PS12</b>	<b>ENGINE</b> 12.1 Only one automotive type engine is allowed. 12.2 Front mounted engine position must be such that the forward most spark plug does not fall behind the front spindle unless supplied as standard from the manufacturer. Engine swaps are

permitted and firewall/transmission tunnel/floor pan may be modified or altered to suit alternative driveline/engine providing the forward most spark plug does not fall behind the front spindle. (Refer to Firewall section). Any modification is permitted to installed engine and aftermarket cylinder heads are allowed. Refer to CR22.

**PS13 ENGINE RELOCATION**

Relocation of engine is not permitted, i.e. front engine cars may not be converted to rear engine cars and vice versa. Refer to CR22.

**PS14 EXHAUST**

Any extractor or exhaust system may be used, providing it adheres to safety regulations.

**PS15 FIRE EXTINGUISHER: Mandatory. (Refer to Safety Regulations).**

**PS16 FIREWALL**

Original firewalls must be retained but may be modified or altered to suit alternative engine/drivelines, but modifications must be of a permanent nature, i.e. welded back into position. All firewalls must be sealed. (Refer to the Safety Regulations).

**PS17 FLOORBOARDS**

Original floorboards must be retained but may be modified or altered to suit alternative drivelines, but modifications must be of a permanent nature, i.e. welded back into position and/or replacement panel of similar material and thickness as per the original floorboard.

The above ruling also applies to vehicles with loading bays, i.e. bakkies, panel vans and LDF's.

**PS18 FLYWHEEL: (Refer to the Safety Regulations)**

**PS19 FUEL**

Any fuel complying with general regulations. Racing fuel and Methanol is allowed. If Methanol is used, a Methanol indicator must be visible. The use of Nitromethane as a fuel or separate injection and/or additive is strictly prohibited. (Refer to Safety Regulations).

**PS20 FUEL SYSTEM AND FUEL TANKS**

20.1 The original fuel tank or an SFI approved fuel cell or a fabricated fuel tank of no less than 25 litres can be used but must be isolated from the driver compartment.

20.2 All fuel tanks must be positioned either in front or behind the driver.

20.3 Only SFI approved fuel cells will be allowed to be located in the driver compartment, if the vehicle is of such a nature that the tank cannot be isolated from the driver completely, i.e. hatchbacks, etc., in which case, full protective clothing is mandatory (Refer to the Safety Regulations).

20.4 No pressurised fuel lines are allowed in the driver compartment including mechanical fuel pressure gauges. (Refer to the Safety Regulations).

20.5 When used, fuel cells must have a metal box protecting the part of the fuel cell that is outside of body lines or trunk/boot floor excluding hose connection area in rear.

20.6 Non-metallic fuel cells or tanks must be grounded to frame. If any non-OEM fuel tank is used, refer to the Construction and Safety regulations.

20.7 Cool cans are permitted providing they are installed a minimum of 150mm forward of flywheel/bell housing and firewall area.

20.8 For fuel lines, (Refer to the Safety Regulations).

20.9 Re-positioning of fuel tanks is permitted. (Refer to the Safety Regulations).

**PS21 HOOD/BONNET SCOOP**

Permitted with a maximum height of 250mm as measured from the base of the scoop.

**PS22 INSTRUMENTS**

Dashboard and supplementary gauges may be installed at owner's discretion.

**PS23 INTERIOR**

Vehicle must be fitted with door panels and/or fabricated door panels are permitted. A full dashboard is mandatory, i.e. factory or aftermarket/fabricated.

**PS24 OIL CONTAINMENT DEVICE: (Refer to Safety Regulations – CR50.)**

**PS25 PARACHUTE: Permitted. (Refer to the Safety Regulations)**

**PS26 ROLL BARS: (Refer to the Safety Regulations)**

**PS27 SAFETY HARNESS: (Refer to the Safety Regulations)**

**PS28 SEATS: DRIVER'S SEAT**

May be relocated forward or backward not more than 100mm from stock location. A minimum of one front seats and/or one bench seat (bakkies) as a minimum is allowed. Removal of rear seats is permitted.

**PS29 SUSPENSION: FRONT**

Full automotive-type front suspension is required. No solid axles allowed. Each point of suspension must be equipped with at least one effective shock absorber with a minimum of 25mm movement in each direction. Excessive cutting or machining of suspension parts is prohibited. Raising or lowering permitted but attention must be taken of minimum ground clearance requirements. A minimum of one hydraulic or pneumatic shock

absorber is required per wheel and rear suspension must be operative automobile type. (Refer to the Safety Regulations).

**PS30 SUSPENSION: REAR**

Four-link suspension/Ladder Bar etc. is permitted. Back halving is also allowed. (Refer to the Safety Regulations.)

**PS31 STEERING**

Properly fitted rack and pinion steering may be used in lieu of standard steering.

**PS32 TRACTION BARS: Permitted. (Refer to the Safety Regulations).**

**PS33 TRANSMISSION**

Manual transmissions may be either production or aftermarket assembled but must require the use of a clutch to shift gears. Full automatic and clutched automatic transmissions are acceptable. (Refer to the Safety Regulations).

**PS34 WHEELS AND TYRES**

Any size slicks or street tyres are permitted providing they do not protrude more than 50mm outside the fender flare measured at the top of the slick. Any wheels are permitted. No re-treaded, re-moulded or re-grooved tyres will be permitted. (Refer to the Safety Regulations).

**PS35 WHEEL BASE**

The wheelbase must not be altered more than 5% from standard measurement. All vehicles in these classes may not have a wheelbase variance from left to right of more than 25mm measured from centre of front wheel to centre of rear wheel.

35.1 All vehicles running under 11.99 and not quicker than 10.00, 2.2 meter minimum.

35.2 All vehicles running 9.99 and quicker, 2.3 meter minimum.

35.3 Wheel base may not be shortened more than 1% from original.

35.4 Wheel base may not be extended more than 5% from original.

35.5 Maximum wheel base variance of 25mm from left to right (measured from centre of front wheel to centre of rear wheel).

**PS36 WHEEL TUBS**

Wheel tubs may be enlarged or replaced to allow use of larger wheels and tyres. If new tubs are constructed, they shall completely cover the inside and top 180° of the tyre, and completely isolate the driver's compartment. While fenders may be cut to accommodate tyres, all new edges must be adequately beaded.

**PS37 WHEELIE BARS: Permitted. (Refer to the Safety Regulations)**

**PS38 WINDSCREENS AND WINDOWS**

38.1 A windscreen must be fitted on all vehicles. All windscreens must be transparent and in good condition. Other than factory tint, all front screens must be clear.

38.2 Plexiglas, Lexan, Perspex or similar lightweight material may be used provided it is of sufficient thickness and not flex at speed and it complies with the above conditions. The placing of advertising or other decals on either the front windscreen or front side windows must be restricted to a maximum of the top or bottom 10% of the area so as not to obstruct the visual passage of the driver.

SE CLASS REGULATIONS

# STREET ELIMINATOR

This category of Drag racing is mainly for championship Drag events taking place at various venues such as graded tracks that are sanctioned by MSA and consist of timing equipment capable of running both with and without Handicap Racing.

This category has been introduced to cater for basically stock vehicles where an engine swap has taken place. It is reserved for vehicles based on normal production models with a factory produced automotive-type engine. The body, drive train, chassis and other components may be altered or modified in accordance with class requirements. This category will run with Handicap in two categories. The minimum cut off in this category is 11.0 seconds and the maximum will be 17.00 seconds. Any vehicle/s running quicker than 11.00 seconds, regardless of whether it complies with these "Modified Street" class regulations will be classified as "Pro-Street" (at Championship events) and/or "Exhibition" vehicles (at non-Championship events) provided that all additional safety rules are met.

**STREET ELIMINATOR** consists of all "Street Modified 8,6,5 and 4 cylinder cars – Factory Street 8,6,5 and 4 cylinder cars – Front wheel drive, Rear wheel drive and All wheel drive – Normally Aspirated, one form of supercharging, two forms of supercharging – Rotary's.

The “STREET ELIMINATOR” category will consist of 2 (two) “Sub Categories”.

**SUPER STREET:** Minimum Dial-in 11.00 seconds. Maximum Dial-in 14.00 seconds.

- “ST” followed by the competition number.

**MODIFIED STREET:** Minimum Dial-in 13.50 seconds. Maximum Dial in 17.00 seconds.

- “MS” followed by the competition number.

<b>Notes:</b>	<b>1. MINIMUM WEIGHTS</b>																																
	<table border="0"> <tr> <td style="vertical-align: top;"><b>a. <u>INTERNAL COMBUSTION ENGINES (Excluding Rotaries):</u></b></td> <td></td> </tr> <tr> <td style="vertical-align: top;"><b>i. <u>Up to 2600cc Engine Capacity</u></b></td> <td></td> </tr> <tr> <td colspan="2"><b>FRONT WHEEL DRIVE</b></td> </tr> <tr> <td>- Normally Aspirated</td> <td style="text-align: right;">730kg</td> </tr> <tr> <td>- One Power Adder</td> <td style="text-align: right;">820kg</td> </tr> <tr> <td>- Two Power Adders</td> <td style="text-align: right;">910kg</td> </tr> <tr> <td colspan="2"><b>REAR WHEEL DRIVE</b></td> </tr> <tr> <td>- Normally Aspirated</td> <td style="text-align: right;">840kg</td> </tr> <tr> <td>- One Power Adder</td> <td style="text-align: right;">870kg</td> </tr> <tr> <td>- Two Power Adders</td> <td style="text-align: right;">960kg</td> </tr> <tr> <td style="vertical-align: top;"><b>ii. <u>Over 2600cc Engine Capacity</u></b></td> <td></td> </tr> <tr> <td>All vehicles</td> <td style="text-align: right;">1000kg</td> </tr> <tr> <td style="vertical-align: top;"><b>b. <u>ROTARY ENGINES</u></b></td> <td></td> </tr> <tr> <td>- Normally Aspirated</td> <td style="text-align: right;">840kg</td> </tr> <tr> <td>- One Power Adder</td> <td style="text-align: right;">950kg</td> </tr> <tr> <td>- Two Power Adders</td> <td style="text-align: right;">1000kg</td> </tr> </table>	<b>a. <u>INTERNAL COMBUSTION ENGINES (Excluding Rotaries):</u></b>		<b>i. <u>Up to 2600cc Engine Capacity</u></b>		<b>FRONT WHEEL DRIVE</b>		- Normally Aspirated	730kg	- One Power Adder	820kg	- Two Power Adders	910kg	<b>REAR WHEEL DRIVE</b>		- Normally Aspirated	840kg	- One Power Adder	870kg	- Two Power Adders	960kg	<b>ii. <u>Over 2600cc Engine Capacity</u></b>		All vehicles	1000kg	<b>b. <u>ROTARY ENGINES</u></b>		- Normally Aspirated	840kg	- One Power Adder	950kg	- Two Power Adders	1000kg
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ARTICLE	
<b>SE 1</b>	<b>BALLAST</b>
	Ballast is permitted but must be securely mounted. (Refer to the Safety Regulations).
<b>SE 2</b>	<b>BATTERY: (Refer to the Safety Regulations).</b>
<b>SE 3</b>	<b>BODY/CHASSIS</b>
	The complete original body must be retained except that the bonnet, boot-lid and fenders may be replaced with components of identical size and shape made from fiberglass or any similar non-flammable lightweight material.
3.1	
	Moderately customized vehicles may compete in this class but bodies may not be chopped, channeled, sectioned or otherwise altered in height, width or contour. Convertibles, panel vans, bakkies, cars and readily available, locally produced replicas, (i.e. Cobras), may compete in this class providing all requirements are met. All vehicles must have at least two fully operative doors with door handles that permit exit and / or entrance from both sides.
3.2	
	Stock automobile chassis for car body used must be retained. Front to rear frame strengthening members may be added to any unibody, constructed vehicle to connect front and rear sub-frames. If material passes through the floor, the floor must be welded to the member leaving no holes.
3.3	
<b>SE 4</b>	<b>BRAKES</b>
	All vehicles in this category must be equipped with four-wheel hydraulic brakes operated by a foot-mounted pedal in the conventional manner. A back-up brake system is mandatory on all vehicles, i.e. handbrake.
<b>SE 5</b>	<b>BUMPERS</b>
	Bumpers may not be removed. Fiberglass bumpers and lightweight mountings are permitted.
<b>SE 6</b>	<b>COOLING SYSTEM</b>
	A stock-type water pump is required but may be electrically driven. Catch tank/overflow must be securely fitted and completely leak proof. Radiator may be moved forward to permit the installation of longer engine. Anti-Freeze is not permitted.
<b>SE 7</b>	<b>DIFFERENTIAL</b>
	Any rear axle assembly and any ratio may be used. Narrowed rear-ends are not acceptable and locked rear-ends are not permitted. (Refer to the Safety Regulations regarding “axle retention”). Front wheel drive cars (as per OEM) may not be converted to rear wheel drive cars and vice versa.
<b>SE 8</b>	<b>DRIVELINE</b>
	Any driveline with drive shaft loop is allowed.

- SE 9 DRIVE SHAFT LOOP**  
360° front drive shaft loop is highly recommended on all cars running under 13.0 seconds and/or over 160kph. (Refer MSA Drag Racing Rules, Regulations and Specifications). For all requirements regarding driver and safety regulations, see the appropriate “General and Safety Regulation” chapters. A full fire retardant suit is highly recommended, including gloves, racing shoes and balaclava. If Methanol is utilized, a full fire retardant suit is mandatory, including gloves, racing shoes and balaclava. (Refer to the Safety Regulations).
- SE10 ELECTRICAL**  
Each vehicle in this section must have a full working wiring harness. All lights and charging systems must be fully operational. Starter motor must be retained.
- SE11 ENGINE**  
11.1 Only one automotive type engine is allowed.  
11.2 Front mounted engine position must be such that the forward most spark plug does not fall behind the front spindle unless supplied as standard from the manufacturer. Engine swaps are permitted.
- SE12 ENGINE RELOCATION**  
Relocation of engine is not permitted, i.e. front engine cars may not be converted to rear engine cars and vice versa. Only one engine is permitted.
- SE13 EXHAUST**  
Any exhaust system modification is allowed, i.e. free flow systems and branches with silencer/muffler.
- SE14 FIRE EXTINGUISHER**  
Recommended for all vehicles competing in this category/classes but mandatory for any vehicle running with methanol and/or vehicles running 13.99 or quicker. A minimum of 1kg capacity extinguisher, securely mounted (no tie straps), and within easy reach of the driver when he/she is wearing a safety harness is mandatory. (Refer to Safety Regulations).
- SE15 FIREWALL**  
The firewall may not be repositioned but can be modified to cater for distributor or water pipes only.
- SE16 FLYWHEEL (Refer to the Safety Regulations).**
- SE17 FLOORBOARDS**  
Original floorboards must be retained but may be modified or altered to suit alternative drivelines, but modifications must be of a permanent nature, i.e. welded back into position and/or replacement panel of similar material and thickness as per the original floorboard.
- SE18 FUEL**  
Any fuel complying with general regulations. Methanol is permitted however a methanol indicator must be visible. The use of Nitromethane as fuel or separate injection is strictly prohibited.
- SE19 FUEL SYSTEM AND FUEL TANKS**  
19.1 The original fuel tank or an SFI approved fuel cell or a fabricated fuel tank of no less than 25 litres can be used but must be isolated from the driver compartment.  
19.2 All fuel tanks must be positioned either in front or behind the driver as per OEM position, i.e. rear mounted engine cars (fuel tank at front side of vehicle) or front mounted engine cars (fuel tank at rear side of vehicle).  
19.3 Only SFI approved fuel cells will be allowed to be located in the driver compartment, if the vehicle is of such a nature that the tank cannot be isolated from the driver completely, i.e. hatch-backs, etc., in which case, full protective clothing is mandatory. (Refer to the Safety Regulations).  
19.4 No pressurized fuel lines are allowed in the driver compartment including mechanical fuel pressure gauges. (Refer to the Safety Regulations).  
19.5 When used, fuel cells must have a metal box protecting the part of the fuel cell that is outside of body lines or trunk/boot floor excluding hose connection area in rear.  
19.6 Non-metallic fuel cells or tanks must be grounded to frame.  
19.7 Cool cans are not permitted.
- SE20 HOOD/BONNET SCOOP**  
Permitted with a maximum height of 250mm as measured from the base of the scoop.
- SE21 INSTRUMENTS**  
Dashboard is required. Supplementary gauges may be installed at owner’s discretion.
- SE22 INTERIOR**  
A full interior is required.
- SE23 NITROUS OXIDE: (Refer to the Safety Regulations).**
- SE24 ROLL BARS/ROLL CAGES: (Refer to the Safety Regulations).**
- SE25 SAFETY HARNESS: (Refer to Safety Regulations).**
- SE26 SEATS: DRIVER’S SEAT**  
May be relocated forward or backward not more than 100mm from stock location. A minimum of two automotive-type (adult) front seats and/or one bench seat (bakkies) as a minimum is allowed on vehicles with roll cages only.

**SE27 SUSPENSION: FRONT**

Full automotive-type front suspension is required. No solid axles allowed. Each point of suspension must be equipped with at least one effective shock absorber with a minimum of 25mm movement in each direction. Excessive cutting or machining of suspension parts is prohibited. Raising or lowering permitted but attention must be taken of minimum ground clearance requirements. A minimum of one hydraulic or pneumatic shock absorber is required per wheel and rear suspension must be operative automobile type.

**SE28 SUSPENSION: REAR**

Aftermarket and/or fabricated four-link and/or ladder bar type suspension are not permitted. Back halving is also not allowed.

**SE29 STEERING**

Properly fitted rack and pinion steering may be used in lieu of standard steering.

**SE30 TRACTION BARS: (Refer to the Safety Regulations).**

**SE31 TRANSMISSION**

Manual transmissions may be either production or aftermarket assembled but must require the use of a clutch to shift gears. Full automatic and clutched automatic transmissions are acceptable. (Refer to the Safety Regulations).

**SE32 WHEELS AND TYRES**

Any size street tyres are permitted providing they do not protrude more than 50mm outside the fender flare measured at the top of the tyre. Tyres must be street legal and must meet Road Ordinance regulations at the completion of the day's racing, (i.e. not less than 1mm over 100% of area). Only DOT approved tyres with grooves will be permitted. Tyre pressure should be as per manufacturer's recommended pressure guidelines. No re-treaded, re-moulded or re-grooved tyres will be permitted. No racing slicks are allowed. Dot approved tyres with no grooves will be classified as slicks and are not allowed. (Refer to the Safety Regulations).

**SE33 WHEEL BASE**

33.1 All vehicles running under 11.99 and not quicker than 10.00, 2.2 meter minimum.

33.2 All vehicles running 9.99 and quicker, 2.3 meter minimum.

33.3 Wheel base may not vary more than 1% from original.

**SE34 WHEEL TUBS**

Wheel tubs are not permitted.

**SE35 WHEELIE BARS**

Wheelie bars are not permitted.

**SE36 WINDSCREENS AND WINDOWS**

These must be in good condition. All windows must be fully operational. All glassware must be stock as fitted by the manufacturer. No Plexiglas will be allowed unless it can be proved that it was originally fitted by the manufacturer.

AL CLASS REGULATIONS

# ALTERED

This category is reserved for four wheeled vehicles with production bodies specifically modified for Drag Racing. While basic standard appearance is maintained, engine, driveline, chassis etc., may be altered, modified or relocated as outlined in the class requirements. There are twenty three classes of competition, determined by dividing the total weight of the vehicle in racing trim, including the driver with the total engine displacement.

**DESIGNATION:**

SA, AA, BA, CA, DA, EA, FA, GA, HA, S/TA, A/TA, B/TA, C/TA, D/TA, E/TA, F/TA, G/TA, A/RA, B/RA, C/RA, D/RA, E/RA, F/RA, G/RA, H/RA, AR/TA, BR/TA, CR/TA, DR/TA, ER/TA, FR/TA, GR/TA, AF/A, BF/A, CF/A, DF/A, EF/A, FF/A, GF/A, HF/A, AF/TA, BF/TA, CF/TA, DF/TA, EF/TA, FF/TA, GF/TA, followed by competition number.

**Note:** One cubic inch measures 16.3872 cubic centimetres.



WEIGHT BREAKS					
SECTION 1: INTERNAL COMBUSTION, PISTON DRIVEN ENGINES, REAR WHEEL DRIVE VEHICLES					
SA	LESS THAN			0.110 kg/cc	
AA	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BA	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CA	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DA	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
EA	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FA	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
GA	FROM	0.340 kg/cc	-	0.399 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
HA	FROM	0.400 kg/cc	-	And Up	Nitrous, Supercharged – No Turbo's
	Or	0.360 kg/cc	-	And up	Normally Aspirated
S/TA	LESS THAN			0.160 kg/cc	
A/TA	FROM	0.160 kg/cc	-	0.189 kg/cc	All vehicles fitted with Turbochargers
B/TA	FROM	0.190 kg/cc	-	0.219 kg/cc	
C/TA	FROM	0.220 kg/cc	-	0.279 kg/cc	
D/TA	FROM	0.280 kg/cc	-	0.339 kg/cc	
E/TA	FROM	0.340 kg/cc	-	0.399 kg/cc	
F/TA	FROM	0.400 kg/cc	-	0.459 kg/cc	
G/TA	FROM	0.460 kg/cc	-	And Up	
SECTION 2: ROTARY ENGINES					
AR/A	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BR/A	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CR/A	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DR/A	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
ER/A	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FR/A	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
GR/A	FROM	0.340 kg/cc	-	0.399 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
HR/A	FROM	0.400 kg/cc	-	And Up	Nitrous, Supercharged – No Turbo's
	Or	0.360 kg/cc	-	And up	Normally Aspirated
AR/TA	FROM	0.160 kg/cc	-	0.189 kg/cc	All vehicles fitted with Turbochargers
BR/TA	FROM	0.190 kg/cc	-	0.219 kg/cc	
CR/TA	FROM	0.220 kg/cc	-	0.279 kg/cc	
DR/TA	FROM	0.280 kg/cc	-	0.339 kg/cc	
ER/TA	FROM	0.340 kg/cc	-	0.399 kg/cc	
FR/TA	FROM	0.400 kg/cc	-	0.459 kg/cc	
GR/TA	FROM	0.460 kg/cc	-	And Up	
SECTION 3: INTERNAL COMBUSTION, PISTON DRIVEN ENGINES, FRONT WHEEL DRIVE VEHICLES					
AF/A	FROM	0.110 kg/cc	-	0.129 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.070 kg/cc	-	0.089 kg/cc	Normally Aspirated
BF/A	FROM	0.130 kg/cc	-	0.159 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.090 kg/cc	-	0.119 kg/cc	Normally Aspirated
CF/A	FROM	0.160 kg/cc	-	0.189 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.120 kg/cc	-	0.149 kg/cc	Normally Aspirated
DF/A	FROM	0.190 kg/cc	-	0.219 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.150 kg/cc	-	0.179 kg/cc	Normally Aspirated
EF/A	FROM	0.220 kg/cc	-	0.279 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.180 kg/cc	-	0.239 kg/cc	Normally Aspirated
FF/A	FROM	0.280 kg/cc	-	0.339 kg/cc	Nitrous, Supercharged – No Turbo's

	Or	0.240 kg/cc	-	0.299 kg/cc	Normally Aspirated
GF/A	FROM	0.340 kg/cc	-	0.399 kg/cc	Nitrous, Supercharged – No Turbo's
	Or	0.300 kg/cc	-	0.359 kg/cc	Normally Aspirated
HF/A	FROM	0.400 kg/cc	-	And Up	Nitrous, Supercharged – No Turbo's
	Or	0.360 kg/cc	-	And up	Normally Aspirated
AF/TA	FROM	0.110 kg/cc	-	0.129 kg/cc	All vehicles fitted with Turbochargers
BF/TA	FROM	0.130 kg/cc	-	0.159 kg/cc	
CF/TA	FROM	0.160 kg/cc	-	0.189 kg/cc	
DF/TA	FROM	0.190 kg/cc	-	0.219 kg/cc	
EF/TA	FROM	0.220 kg/cc	-	0.279 kg/cc	
FF/TA	FROM	0.280 kg/cc	-	0.339 kg/cc	
GF/TA	FROM	0.340 kg/cc	-	0.399kg/cc	
HF/TA	FROM	0.400 kg/cc	-	And Up	

**CAPACITY INCREASES WILL BE CALCULATED AS FOLLOWS:**

**Single Power Adders:**

- Single Turbocharging only: -50%
- Twin Turbocharging only: -60%
- Single Supercharger only: (Standard Roots): -40%
- Single Supercharger only: (Roots Hi-Helix): -50%
- Single Supercharger only: (Screw type): -60%
- Nitrous Oxide: -0% (Zero)

**Two Power Adders:**

- Nitrous Oxide with single Turbocharging: -90%
- Nitrous Oxide with twin Turbocharging: -100%
- Nitrous Oxide with single Supercharger: (Standard Roots): -80%
- Nitrous Oxide with single Supercharger: (Roots Hi-Helix): -90%
- Nitrous Oxide with single Supercharger: (Screw type): -100%

**Other:**

In conjunction with the above (if applicable), the following capacity increases and/or penalties must also be calculated:

- Hemispherical and/or Pent Roof Heads: -20%
- Valves per Cylinder: -20%
- All-Wheel Drive: -10%

**Notes:**

1. Rotary engines will be classified as 1.8 x the swept volume.
2. All the capacity increases must be compounded before calculated.
3. All weights are applicable after a vehicle has completed a run and must include driver.
4. Note: One cubic inch measures 16.3872 cubic centimeters.
5. The following tolerances will be allowed for a margin of error during any inspection or teardown if or when applicable:
  - a. ENGINE CAPACITIES:
    - Capacity of engines when using capacity meter: As per correction factor in capacity meter manufacturer instructions.
 or,
    - Capacity of engine when engine is stripped: overbore = 0.05mm or (0.002") and stroke = 0.125mm or (0.005")
  - b. WEIGHT OF VEHICLE:
    - Weight of vehicle: ½ of 1 percent OR 10kg

**6. MINIMUM WEIGHTS**

a. INTERNAL COMBUSTION ENGINES (excluding Rotaries)

i. Up to 2600cc Engine Capacity

**FRONT WHEEL DRIVE**

- Normally Aspirated - 730kg
- One Power Adder - 820kg
- Two Power Adders - 910kg

**REAR WHEEL DRIVE**

- Normally Aspirated - 840kg
- One Power Adder - 870kg
- Two Power Adders - 960kg

ii. Over 2600cc Engine Capacity

- All vehicles - 1000kg

b. **ROTARY ENGINES**

- Normally Aspirated 840kg
- One Power Adder 950kg
- Two Power Adders 1000kg

**ARTICLE**

**AL 1 AEROFOIL**

This must be securely mounted. If adjustable, a positive locking device must be used to prevent accidental movement.

**AL 2 ARM RESTRAINTS: (Refer to the Safety Regulations).**

**AL 3 BALLAST: (Refer to the Safety Regulations).**

**AL 4 BATTERY: (Refer to the Safety Regulations).**

**AL 5 BODY**

- 5.1 Must be a production car body with at least two driver exit or entry points. Bodies may be altered in height to a maximum of 100mm but not in width, length or contour. Streamlining must not change the outward appearance of the vehicle. Bumpers are not required. Sedan, coupe, convertibles, roadsters, panel vans and bakkies may all compete in this class providing all requirements are met.
- 5.2 The use of fiberglass or aluminum replacement panels is acceptable providing the vehicle's standard appearance is retained. Body set back must not exceed 10% of the original wheelbase as measured from rear axle to centre of the original wheel well location. Rear wheel wells may be altered for clearance to permit the use of larger tyres but new edges must be adequately beaded.
- 5.3 Replacement floors are permitted providing a cross member of a minimum 50mm x 3mm wall thickness is installed between the frame rails for adequate driver's seat and harness anchoring.
- 5.4 In certain instances a steel or aluminium floor-board may be substituted with a Carbon Fibre or Kevlar panel, for example FWD vehicles with tubular rear sub-frame/suspension for coverage. Refer to CR18, 26.
- 5.5 All vehicles are required to fit a bonnet of standard appearance through which bonnet scoops, injector tubes or superchargers are permitted to extend.

**AL 6 CHASSIS/FRAME**

The chassis from radiator to rear of vehicle may be totally or partially replaced. Any properly reinforced frame is accepted. Additional members may be added for strength and/or roll cage installation. (Refer to the Safety Regulations). The frame may be modified to fit any alternative engine/gearbox/differential units.

**AL 7 DRIVER**

The driver's body must be completely isolated from the driveline, differential and wheels by suitable nonflammable body panels. The seat may be relocated a maximum of 200mm back from the standard position and must be mounted either left or right of the centre line.

**AL 8 ENGINE**

Must be of an internal combustion type, but capacity, make, model and year are free. Any modification may be made to the engine. Maximum engine set back must not exceed 10% of the wheelbase as measured from the front wheel centre line to the forward most spark plug position. Rear-engine location permitted providing the engine used is the same number of cylinders as the original and fitted in the same location.

**AL 9 EXHAUST**

An open exhaust is permitted. Split manifolds, branches or individual pipes are permitted provided they are permanently and securely attached with a metal connecting strap to prevent loss.

**AL10 FUEL**

Any fuel complying with the General Regulations.

**AL11 FUEL SYSTEM**

Accessory tanks may be fitted and fuel blocks can be used. Any type of mechanical and/or electrical pumps may be used. (Refer to the Safety Regulations).

**AL12 FIRE EXTINGUISHER: Mandatory. (Refer to the Safety Regulations).**

**AL13 FIREWALL: Mandatory. (Refer to the Safety Regulations).**

**AL14 FLYWHEEL/FLYWHEEL SHIELDS: (Refer to the Safety Regulations).**

**AL15 HEAD PROTECTION: (Refer to the Safety Regulations).**

**AL16 HOOD SCOOP**

Scoop must not exceed 300mm in height as measured from the base of the scoop.

- AL17 IGNITION**  
Any ignition may be used.
- AL18 INDUCTION SYSTEM**  
Any carburettor and fuel injection system is permitted.
- AL19 INSTRUMENTS**  
Dashboard instruments may be installed at the owner's discretion.
- AL20 LIQUID OVERFLOW/CATCH TANKS**  
Catch tanks must be fitted and be completely leak-proof and must be securely mounted to a chassis member.
- AL21 OIL CONTAINMENT DEVICE: (Refer to Safety Regulations CR50.)**
- AL22 RADIATOR AND GRILLE**  
The Radiator is optional. Grilles are required either in original, painted or fabricated form. The replacements must at least be as large as the original frontal area. Reduction in height or frontal area is not permitted.
- AL23 REAR END: (Welded spider gears are not permitted).**  
Front drive cars may be converted to conventional rear-wheel drive (Front Engine). Quick change, limited slip or spooled differential assemblies are permitted. The attention of competitors is drawn to the possibility of handling hazards in the event of an axle shaft breaking while the vehicle is fitted with a "locked" rear-end. Four-wheel drive is permitted. (Refer to the Safety Regulations).
- AL24 ROLL BARS/CAGES: (Refer to the Safety Regulations).**
- AL25 SAFETY BELTS/HARNESSES: (Refer to the Safety Regulations).**
- AL26 SAFETY EQUIPMENT: For all driver and vehicle safety, (Refer to the Safety Regulations).**
- AL27 STARTERS**  
Self-starting is required with the exception of Super Altered. Push starts are not permitted.
- AL28 STEERING/ALIGNMENT**  
Steering units may be relocated and/or substituted. (Refer to the Safety Regulations).
- AL29 STEERING**  
Properly fitted rack and pinion steering may be used in lieu of standard steering.
- AL30 STREET EQUIPMENT**  
Alternator, windshield, wipers, fans, fan belts, horns, etc., are optional. Headlights must be original size and in original location but need not be operative. Painted or simulated headlights are permitted however a minimum of one operative red taillight is required for night events.
- AL31 SUSPENSION**  
Full automotive-type front and rear suspension is required. No solid axles allowed. Each point of suspension must be equipped with at least one effective shock absorber with a minimum of 25mm movement in each direction. Excessive cutting or machining of suspension parts is prohibited. Raising or lowering permitted but attention must be taken of minimum ground clearance requirements. (Refer to the Safety Regulations).
- AL32 TRACTION BARS: (Refer to the Safety Regulations).**
- AL33 TRANSMISSION/GEARBOX**  
Aftermarket or production automobile transmissions of any year, make, model or ratio are permitted in all classes. Operative reverse gear is required. Transmission must remain in conventional location determined by the engine used. All gearshift levers (if used) must be topped with a ball or blunt handle. (Refer to the Safety Regulations).
- AL34 TURNAROUND**  
Cars in these classes must be capable of achieving 30-minutes turnaround time with the exception of Super Altered.
- AL35 UPHOLSTERY**  
Upholstery is optional but where used, must be of fireproof material.
- AL36 WHEELBASE**  
Wheelbase must not be altered more than 5% from standard measurement. All vehicles in these classes may not have a wheelbase variance from left to right of more than 25mm measured from centre of front wheel to centre of rear wheel.
- 36.1 All vehicles running under 11.99 and not quicker than 10.00, 2.2 meter minimum
- 36.2 All vehicles running 9.99 and quicker, 2.3 meter minimum.
- 36.3 Wheel base may not be shortened more than 1% from original.
- 36.4 Wheel base may not be extended more than 5% from original.
- 36.5 Maximum wheel base variance of 25mm from left to right (measured from centre of front wheel to centre of rear wheel).
- AL37 WHEELS AND TYRES**  
All tyres must have sufficient clearance to allow for body movement and a minimum of 100mm all round must be allowed for tyre growth. Magnesium and other alloy racing wheels are permitted. Any type of road tyre or slick is permitted providing the speed rating is adequate for the vehicle performance. (Refer to the Safety Regulations).

**AL38 WHEEL WELLS/TUBS**

Wheel wells or tubs may be enlarged or replaced to allow use of larger rear tyres. If new wheel wells are constructed, they shall completely cover the inside and top 180° of the wheel and tyre and also completely isolate the driver compartment.

**AL39 WINDSCREENS AND WINDOWS**

39.1 A windscreen must be fitted on all vehicles. Minimum height of front screen is 125mm as measured vertically. All windscreens must be transparent, clear and in good condition. Other than factory tint, all front screens must be clear.

39.2 Plexiglas, Lexan or Poly Carbonate may be used provided it is of sufficient thickness to not flex at speed and it complies with the above conditions. The placing of advertising or other decals on either the front windscreen or front side windows must be restricted to a maximum of the top or bottom 10% of the area so as not to obstruct the visual passage of the driver.

Note: Any modifications or safety measures not listed in “Altered” specifications are either not allowed or covered in “General” and/or “Safety Regulations.”

CAL CLASS REGULATIONS

# COMPETITIONALTERED

This is a new category for South Africa, which has been derived from overseas and is based on the altered wheelbase hot rods. It is specifically for vehicles designed only for Drag Racing with highly modified replica production automotive bodies. Body, engine drive train, chassis, etc., may be altered, modified or relocated in compliance with the following class requirements.

**DESIGNATION:**

**TF/CA, AA/CA, BB/CA, CC/CA, A/CA, B/CA, C/CA, followed by competition number. The minimum weight for any vehicle in this category is 750kg including the driver.**

**Note: One cubic inch measures 16.3872 cubic centimetres.**

<b>C/CA</b>	Any engine up to and including six (6) cylinders, normally aspirated.
<b>B/CA</b>	Small block V8, normally aspirated.
<b>A/CA</b>	Big block V8, normally aspirated.
<b>CC/CA</b>	Any supercharged (one form only) engine up to a maximum of 370 cubic inches that incorporates a standard production block. Only true wedge configuration cylinder heads including aluminium and aftermarket castings are permitted.
<b>BB/CA</b>	Any supercharged (one form only) engine that exceeds 370 cubic inches and has cast iron production block and heads. Only standard stroke crankshafts are permitted and a maximum cubic inch capacity of 454 + .100 overbore is allowable.
<b>AA/CA</b>	Any supercharged (one form only) engine for which the cubic inch capacity exceeds 454 + .100 overbore or any supercharged (one form only) engine incorporating either/or aluminium block or heads. Any stroke/bore combination is allowed. Hemi heads do not incur a penalty. Maximum cubic capacity is 565 cubic inches (9258 cubic centimetres).
<b>TF/CA</b>	Any supercharged vehicle of a maximum 500 cubic inches (8193 cubic centimetres) using Nitromethane in the fuel, regardless of the percentage. Hemi heads and/or any form of supercharging do not incur a penalty in this class.

- Notes:**
- The following tolerances will be allowed for a margin of error during any inspection or teardown if or when applicable:
    - ENGINE CAPACITIES**
      - Capacity of engines when using capacity meter: As per correction factor in capacity meter manufacturer instructions.
      - or,
      - Capacity of engine when engine is stripped: overbore = 0.05mm or (0.002") and stroke = 0.125mm or (0.005")
    - WEIGHT OF VEHICLE**  
Weight of vehicle: ½ of 1 percent OR 10kg
  - Refer to Individual classes or "CR81" for minimum weights  
ALL minimum weights include the driver and will apply after a run.

#### ENGINE ARTICLE COMPONENTRY

<b>CAL 1</b>	<b>ENGINE</b> Must be an automobile type engine. Year make and model are optional. Any modification may be made to the engine; however, no more than one engine is permitted. Any engine setback is allowed. Rear-engine location is not permitted. Maximum two magnetos, two spark plugs per cylinder.
<b>CAL 2</b>	<b>EXHAUST SYSTEM: (Refer to the Safety Regulations).</b>
<b>CAL 3</b>	<b>FUEL</b> Any fuel complying with General Regulations.
<b>CAL 4</b>	<b>FUEL SYSTEM</b> Any carburetion or fuel injection system is permitted. Maximum of two fuel pumps. (Refer to the Safety Regulations).
<b>CAL 5</b>	<b>SUPERCHARGERS</b> Only one form of supercharging is allowed, either mechanical belt driven (maximum 14-71 supercharger or turbocharger or nitrous oxide may be used but not a combination. All belt-driven supercharger devices must have as a minimum a supercharger restraint system in conjunction with aluminium shear bolts (strip studs) at all mounting points as mandatory to prevent supercharger from being blown free of engine. (Refer to the Safety Regulations).

#### CHASSIS BODY AND COMPONENTRY

<b>CAL 6</b>	<b>AIR DAM</b> A maximum protection ahead of the front axle of 762mm measured from the centre of the front wheel is permitted. Width cannot exceed front tyre width and spill plates may not exceed 220mm in height from the ground. Air dam maximum rise at front axle will be 250mm and no projection behind front axle is allowed.
<b>CAL 7</b>	<b>BALLAST: (Refer to the Safety Regulations).</b>
<b>CAL 8</b>	<b>BATTERIES</b> All wet cell batteries must be isolated from the driver and must be securely mounted. (Refer to the Safety Regulations).
<b>CAL 9</b>	<b>BELLY PANS</b> Belly pans are permitted but streamlining may not be added.
<b>CAL10</b>	<b>BONNET</b> Optional, however, flash shields are required over any open carburettor systems. (Refer to the Safety Regulations).
<b>CAL11</b>	<b>BODY</b> 11.1 Body and cowl must be constructed of metal, fiberglass or other flame resistant material. All replicas and/or bodies in this section must originally have been produced by an automobile manufacturer before 1965.

- 11.2 Tops may be chopped and bodies channeled, sectioned, trimmed or lengthened but vehicle body must resemble the original manufacturer's shape. Excessive narrowing or other modifications are not permitted. Open front wheels are mandatory. Enclosing wheel openings or use of wheel fairings is prohibited. Rocker panel extensions may be used as long as they meet ground clearance requirements. Body setback is permitted but a limit of 500mm as measured from the rear axle to the centre of the original wheel well locations is a maximum.

- 11.3 All vehicles in this section must have at least one means of exit and the driver must be able to escape unaided from a fully belted position in a maximum of 25 seconds without tilting the body.

**CAL12 DRIVER**

The driver must sit behind the engine on the centre line of the vehicle. Driver's body must be completely within the vehicle's body contour and no part of the driver may extend behind the rear axle. Any vehicle that has no cross member above the driver's legs must have a strap or device to prevent driver's legs from projecting outside the chassis. Properly adjusted arm restraints are mandatory in this category of Racing.

**CAL13 FRAME**

Any type of chassis allowed, however, tubular "space frame" construction methods are the accepted practice. Minimum wheelbase length is 2336mm and a maximum of 3175mm will be applied. Wheelbase variation from left to right is a maximum of 50mm. A full six-point roll cage must surround the driver capsule using a minimum 38mm x 3mm wall thickness mild steel tubing and driver's helmet must be at least 75mm behind the front roll cage bars. (Refer to the Safety Regulations).

**CAL14 HEAD PROTECTOR**

Required to protect driver against impact. (Refer to the Safety Regulations).

**CAL15 RADIATOR/GRILLE: This is optional.**

**CAL16 TARPAULIN**

Covers may be used over the driver's compartment and or "pickup" beds only if they do not restrict the entry of exit of the driver. Metal, fiberglass or other flame resistant material must be used.

**CAL17 UPHOLSTERY: Optional. (Refer to the Safety Regulations)**

**CAL18 WINDSHIELD AND WINDOWS**

A windscreen or windshield is required in all circumstances. Windscreens in all coupes or sedans must maintain a minimum 100mm height measured vertically. (Refer to the Safety Regulations).

**DRIVETRAIN**

**CAL19 BRAKES: (Refer to the Safety Regulations).**

**CAL20 CLUTCH: (Refer to the Safety Regulations).**

**CAL21 DRIVELINE COVER**

In addition to the floor or belly pan, drive shaft failure loops must be fitted. A 2mm thick steel plate extending the full length of the driveline and securely fastened to the frame rails or suitable cross member is mandatory.

**CAL22 FIRE EXTINGUISHERS**

All TF/CA, AA/CA, BB/CA and CC/CA vehicles must be equipped as per extinguisher regulations for Funny cars. (Refer to the Safety Regulations).

**CAL23 FLYWHEEL: (Refer to the Safety Regulations).**

**CAL24 OIL CONTAINMENT DEVICE: (Refer to Safety Regulations CR50.)**

**CAL25 PARACHUTE: (Refer to the Safety Regulations).**

**CAL26 REAR END: (Welded spider gears are not permitted).**

Quick change rear-ends are acceptable. Locked (spool type) rear ends are permitted. Fully floating hubs are required in conjunction with locked rear ends in any of the supercharged TF/CA, AA/CA, BB/CA, CC/CA classes. Rear wheel drive only. The attention of competitors is drawn to the possibility of handling hazards in the event of an axle shaft breaking while a vehicle is fitted with a locked rear end. (Refer to the Safety Regulations).

**CAL27 SAFETY BELTS/HARNESSES: (Refer to the Safety Regulations).**

**CAL28 SAFETY EQUIPMENT**

For all driver and vehicle safety, refer to the "Safety Regulations" chapter.

**CAL29 STARTING**

Push starts are not permitted.

**CAL30 STEERING: (Refer to the Safety Regulations).**

**CAL31 SUSPENSION**

Operative automotive type front suspension is required on vehicles less than 2900mm wheelbase. Solid front ends allowed on 2900mm or more wheel base. Solid rear ends are permitted on all vehicles in this section.

**CAL32 TRANSMISSION**

Optional. Vehicles must employ some positive system to disengage engine from final drive. Air shifter bottles must be permanently mounted.

**CAL33 WHEELS/TYRES**

Wheel wells may be enlarged to permit the use of larger tyres only if the new wheel wells are constructed to completely isolate wheels and tyres from driver's compartment.



FC CLASS REGULATIONS

# FUNNYCARS

This category is reserved for four wheeled vehicles with replicas of production coupe or sedan bodies mounted on a chassis solely for Drag Racing. Engine, drive train and chassis may be modified, altered relocated or re-fabricated if in compliance with class requirements. Supercharging, turbo charging, fuel injection or any form of carburetion is permitted. Nitrous oxide is permitted in some cases.

**DESIGNATION:**

**C/FC, B/FC, A/FC, C/TFC, B/TFC, A/TFC, TA/FC, TF/FC, followed by competition number.**

**The minimum weight for any vehicle in this category is 800kg (including the driver after a run.) unless specified otherwise under individual classes.**

SECTION 1 : ALL FUNNY CARS WITH SUPERCHARGERS / NITROUS		
<b>C/FC</b>	Up to 6901cc inclusive of "capacity increases". 800kg minimum weight	Roots type Supercharger or Screw Type Supercharger or Nitrous or Normally Aspirated
<b>B/FC</b>	From 6902cc up to 8270cc inclusive of "capacity increases."	
<b>A/FC</b>	From 8271cc up to 10130cc (inclusive of capacity increases) supercharged with Roots-type High Helix supercharger, methanol burning. 900kg minimum weight.	Roots type Supercharger or Nitrous or Normally Aspirated
	Or	
	From 10131cc up to 13600cc inclusive of capacity increases supercharged with Roots-type supercharger. (Not High Helix). Methanol burning. 1000kg minimum weight.	NO Screw Type Superchargers
<b>TA/FC</b>	0.110 or more kg's per cubic centimeter, supercharged, methanol burning only, 818kg's minimum weight.	Roots Type Supercharger or Screw Type Supercharger
<b>TF/FC</b>	Any supercharged vehicle of a maximum 8193 cubic centimetres using Nitromethane in the fuel regardless of the percentage. Hemi heads and/or any form of supercharging do not carry a penalty in this class. Vehicles in this class will only do exhibition runs. 1100 Kg minimum weight.	
SECTION 2 : ALL FUNNY CARS FITTED WITH TURBO CHARGERS		
<b>C/TFC</b>	Up to 5750cc inclusive of "capacity increases". 800kg minimum weight	
<b>B/TFC</b>	From 5751cc up to 6600cc inclusive of "capacity increases". 900 Kg minimum weight	Turbochargers
<b>A/TFC</b>	From 6601 cubic centimeters and up inclusive of "capacity increases". 1000kg minimum weight	

**Notes:**

- a. Only one (1) form of supercharging is permitted. Whether it is mechanical, belt driven supercharging, turbo charging or nitrous oxide is the entrant's option, if class allows it.
- b. Engine capacity (where applicable) is increased as follows:
  - Single Turbo: -80%
  - Twin Turbo: -100%
  - Roots Type Supercharger: -40%
  - Roots Type (High Helix) Supercharger: -50%
  - Screw Type Supercharger: -60%
  - Nitrous Oxide: -30%
  - Hemi Heads: -20%
  - 4 Valves/Cyl: -20%
- c. The use of Nitromethane fuel is restricted to Top Fuel Funny Car (TF/FC) or exhibition vehicles only.
- d. Wankel rotary engines will be assessed at 1.8 x the swept volume.
- e. One cubic inch measures 16.3872 cubic centimetres
- f. The following tolerances will be allowed for a margin of error during any inspection or teardown if or when applicable:
  - i. ENGINE CAPACITIES
    - Capacity of engines when using capacity meter: As per correction factor in capacity meter manufacturer instructions.
    - or,
    - Capacity of engine when engine is stripped: overbore = 0.05mm or (0.002") and stroke = 0.125mm or (0.005")
  - ii. WEIGHT OF VEHICLE
    - Weight of vehicle: ½ of 1 percent OR 10kg
- g. Refer to Individual classes or "CR 81" for minimum weights  
ALL minimum weights include the driver and will apply after a run.

ARTICLE	
FC 1	<p><b>AEROFOIL</b></p> <p>This must be securely mounted and braced. If adjustable, a positive locking device must be used to prevent accidental movement.</p>
FC 2	<p><b>ARM RESTRAINTS: (Refer to the Safety Regulations).</b></p>
FC 3	<p><b>BALLAST: Permitted. (Refer to the Safety Regulations).</b></p>
FC 4	<p><b>BATTERY: Permitted. (Refer to the Safety Regulations).</b></p>
FC 5	<p><b>BODY</b></p> <p>5.1 Must be a full body of type originally produced by a known manufacturer. Bodies may be lengthened, narrowed and streamlined but should resemble the shape of the original. Tops may be chopped a maximum of 100mm. Complete removal of the roof section is not permitted. Front overhang not to exceed 1016mm measured from spindle of front wheel. Vehicles must be equipped with a grille or simulated grill of same configuration and design for the specific vehicle body utilized.</p> <p>5.1 Four standard type fenders are required. Alterations to permit axle relocation are permitted. Front fender extensions for tyre clearance may not exceed 150mm as measured from a flat portion of the fender line to the top of the extension.</p> <p>5.3 A full bonnet panel must also be incorporated into the one-piece body; however, a hole through which injection, supercharger or carburetors may protrude is allowed. A box cover, full scoop or flash shield must be used to prevent fuel from being siphoned back into the driver's face.</p> <p>5.4 All bodies with enclosed windows must incorporate a minimum 500mm x 500mm escape hatch through which a driver must be able to exit from a fully belted position unaided in a maximum of 30 seconds without tilting the body. (Refer to the Safety Regulations).</p>
FC 6	<p><b>BODY LATCHES/HOLD DOWN DEVICES</b></p> <p>All body hold down devices must be easily identifiable and accessible on the front of the body. (Refer to the Safety Regulations).</p>
FC 7	<p><b>BRAKES</b></p> <p>Minimum requirement of two rear wheel hydraulic brakes. Brake lines must be shielded in specific areas of the chassis. (Refer to the Safety Regulations).</p>
FC 8	<p><b>CLUTCH: (Refer to the Safety Regulations).</b></p>
FC 9	<p><b>DRIVER</b></p> <p>The driver's seat must be located within the confines of the vehicle's passenger area, not in the engine compartment or boot. The driver must be completely isolated from the engine, wheels, tyres, etc. All vehicles are required to have at least two openings for driver entry/exit (i.e. side window spaces, escape hatch, etc.). A driver must be able to exit from a fully belted position unaided in a maximum of 30 seconds without tilting the body. (Refer to the Safety Regulations).</p>
FC10	<p><b>DRIVELINE COVER</b></p> <p>In addition to the floor or belly pan, drive shaft failure loops must be fitted. A 2mm thick steel plate extending the full length of the driveline and securely fastened to the frame rails or suitable cross member is mandatory.</p>
FC11	<p><b>ENGINE</b></p> <p>Any internal combustion automotive engine is allowed. Only one engine is permitted. Any engine setback is allowed.</p>
FC12	<p><b>EXHAUST: (Refer to the Safety Regulations).</b></p>
FC13	<p><b>FIRE EXTINGUISHER SYSTEMS: (Refer to the Safety Regulations).</b></p>
FC14	<p><b>FIREWALL: Mandatory. (Refer to the Safety Regulations).</b></p>
FC15	<p><b>FLYWHEEL: (Refer to the Safety Regulations).</b></p>
FC16	<p><b>FLYWHEEL SHIELD: (Refer to the Safety Regulations).</b></p>
FC17	<p><b>FRAME/CHASSIS</b></p> <p>17.1 Any type of frame construction is permitted. Material recommended is tubular steel or chrome moly. Roll cage must be an integral part of the framework. (Refer to the Safety Regulations for minimum diameter and wall thickness tubing requirements).</p> <p>17.2 The minimum wheelbase length is 1930mm and a maximum of 3175mm will be applied. Wheelbase variation from left to right is a maximum of 50mm. A full six-point roll cage must surround the driver capsule using a minimum 38mm x 3mm wall thickness mild steel tubing and driver's helmet must be at least 75mm behind the front roll cage bars. (Refer to the Safety Regulations).</p> <p>17.3 Rear tread width must be such that any part of the tyre is not outside of the bodyline or more than 75mm inside the body line. Front tread width must be such that the tyre is located no more than 100mm inside the bodyline. Measurements will be taken from the outside edge of the tyre to the closest inside edge of the body.</p>

<b>FC18</b>	<b>FUEL SYSTEM</b> Where the engine is located in the rear of the vehicle and the fuel supply is in the front or vice versa, all tanks and fuel lines must be totally isolated from the driver's compartment through the use of sub-flooring and/or steel braided fuel lines. Any carburetion or fuel injection system is allowed, maximum two fuel pumps.
<b>FC19</b>	<b>HEAD PROTECTOR: Mandatory. (Refer to the Safety Regulations).</b>
<b>FC20</b>	<b>LIQUID OVERFLOW/CATCH TANKS</b> All machines with any type of liquid capable of dumping or spilling on the track surface, must have a "catch can" to recover the excess liquids. Minimum capacity is one-litre. Overflow may be routed into headers on cars, which are supercharged or burn nitro or methanol.
<b>FC21</b>	<b>OIL CONTAINMENT DEVICE: (Refer to Safety Regulations CR50.)</b>
<b>FC22</b>	<b>REAR END: (Welded spider gears are not permitted).</b> Quick change rear-ends are acceptable. Locked (spool type) rear-ends are permitted. Fully floating hubs are required in conjunction with locked rear-ends in any of the supercharged or TF/FC, TA/FC and B/FC classes. Rear wheel drive only. The attention of competitors is drawn to the possibility of handling hazards in the event of an axle shaft breaking while a vehicle is fitted with a locked rear-end. (Refer to the Safety Regulations).
<b>FC23</b>	<b>SAFETY BELTS/HARNESSES: Mandatory. (Refer to the Safety Regulations).</b>
<b>FC24</b>	<b>SAFETY EQUIPMENT</b> For all driver and vehicle safety regulations, refer to the "Safety Regulations" chapter.
<b>FC25</b>	<b>SPOILERS</b> Spoilers are permitted front and rear. Airflow past the underside of the spoiler other than hinged taillights is prohibited. A minimum of 75mm ground clearance is required between spoiler and track. (Refer to the Safety Regulations).
<b>FC26</b>	<b>SUPERCHARGERS: (Refer to the Safety Regulations).</b>
<b>FC27</b>	<b>SUSPENSION</b> Front and rear suspension is optional front and rear. Wheelie bars may be fitted but must run non-metallic wheels.
<b>FC28</b>	<b>THROTTLE</b> On rear-engine vehicles, the throttle actuating method must be protected and shielded. (Refer to the Safety Regulations). It is mandatory that a positive throttle return device, (Refer to the Safety Regulations) and fuel cut-off is fitted in the event of the throttle pedal overriding or failure of the throttle linkage.
<b>FC29</b>	<b>TRANSMISSION/GEARBOX</b> Optional. Vehicles must employ some positive system to disengage engine from final drive. A clutch hold down device is suggested on all vehicles without transmissions or with in-out boxes. Air shifter bottles must be permanently mounted. (Refer to the Safety Regulations).
<b>FC30</b>	<b>UPHOLSTERY</b> Optional, however, only steel or aluminium is allowed in the driver's compartment. Magnesium is prohibited. Any upholstery must be of non-flammable material.
<b>FC31</b>	<b>VENT TUBES/BREATHERS</b> Mandatory on all mechanically supercharged Funny cars. Where used, the tubes must terminate into an acceptable, permanently attached catch-tank with a capacity of four liters. The catch tank must be able to keep overflow off the track and a sight glass or tube is recommended to verify that the tank is empty prior to each run.
<b>FC32</b>	<b>WHEEL WELLS</b> Wheel wells (tubs) may be enlarged to allow use of larger wheels and tyres. If new wheel wells are constructed, they shall completely cover the inside and top 180° of the tyre and wheel as well as completely isolate the driver's compartment.
<b>FC33</b>	<b>WHEELS/TYRES</b> Any size slicks are permitted however maximum width for rear rims is 406mm. For front tyres, (Refer to the Safety Regulations).
<b>FC34</b>	<b>WINDSHIELD AND WINDOWS</b> A windscreen or windshield, refer to the Safety Regulations, is required in all circumstances. Side windows are optional, however, if fitted they must be clear and provide a 150mm diameter opening adjacent to the driver. (Refer to the Safety Regulations).

D CLASS REGULATIONS

# DRAGSTERS

This category is reserved for four wheeled vehicles built exclusively for all-out Racing competition. The Dragster is a vehicle unique to, and symbolic of the sport of Drag Racing. Classes of competition are determined by engine capacity in cubic centimetres, plus a class specifically for Nitromethane burning Dragsters.

**DESIGNATION:**

TF/D, TA/D, AD, BD, CD, DD, A/CD, B/CD, C/CD, D/CD, followed by competition number.

**Note:** One cubic inch measures 16.3872 cubic centimetres.

<b>SECTION 1 : ALL DRAGSTER VEHICLES WITH ROOTS / SCREW TYPE SUPERCHARGERS OR NITROUS</b>		
<b>D/D</b>	Up to 4200 cubic centimetres inclusive of "capacity increases". 770 Kg Minimum weight	Roots-type Supercharger or Screw-Type Supercharger or Nitrous only
<b>C/D</b>	From 4201cc up to 5900 cubic centimetres inclusive of "capacity increases". 770 Kg Minimum weight	
<b>B/D</b>	From 5901cc up to 8177 cubic centimetres inclusive of "capacity increases". 770 Kg Minimum weight	Roots-type Superchargers or Nitrous Only.  NO Screw-type Superchargers
<b>A/D</b>	From 8178cc up to 9600 cubic centimetres inclusive of "capacity increases", supercharged with Roots-type High Helix supercharger, methanol burning, 850kg minimum weight. Or From 9601cc up to 13400 cubic centimetres inclusive of "capacity increases" with Roots-type supercharger, (not High-Helix) methanol burning, 950kg minimum weight.	
<b>TA/D</b>	0.122 or more kg's per cubic centimeter, supercharged single engine, for all hemi or canted valve head engines, methanol burning only; 770kg minimum weight.	Roots-type Supercharger or Screw-type Supercharger.
<b>TF/D</b>	Any supercharged vehicle of a maximum 8193 cubic centimetres, using Nitromethane in the fuel, regardless of the percentage. Hemi heads and/or of supercharging (one form only), does not incur a penalty in this class. Vehicles in this class will do exhibition runs only. 1000 Kg minimum weight.	Roots-type Supercharger ONLY NO Screw-type Supercharger or Nitrous or Turbo's
<b>SECTION 2 : ALL DRAGSTER VEHICLES WITH TURBO CHARGERS</b>		
<b>D/TD</b>	Up to 4200 cubic centimeters inclusive of "capacity increases" 770 Kg minimum weight.	Turbochargers
<b>C/TD</b>	From 4201 up to 5900 cubic centimeters inclusive of "capacity increases" 770 Kg minimum weight.	
<b>B/TD</b>	From 5901 up to 8177 cubic centimeters inclusive of "capacity increases" 900 Kg minimum weight.	
<b>A/TD</b>	From 8178 cubic centimeters and up inclusive of "capacity increases" 900 Kg minimum weight.	
<b>SECTION 3 : ALL DRAGSTER VEHICLES NORMALLY ASPIRATED ONLY – NO FORM OF SUPERCHARGING</b>		
<b>D/CD</b>	Any normally aspirated engine from 2000cc up to 4200cc inclusive of "capacity increases". 770 Kg minimum weight.	Normally Aspirated ONLY
<b>C/CD</b>	Any normally aspirated engine from 4201cc up to 5900cc inclusive of "capacity increases". 770 Kg minimum weight.	
<b>B/CD</b>	Any normally aspirated engine from 5901cc up to 6665cc inclusive of "capacity increases". 770 Kg minimum weight.	
<b>A/CD</b>	Any normally aspirated engine from 6666cc and up/or any normally aspirated big block engine regardless of engine capacity. Capacity increases (where applicable) will apply for multi-valve and Hemi/Pent roof heads. 770 Kg minimum weight.	

- Notes:**
- a. Only one (1) form of supercharging is permitted. Whether it is mechanical, belt driven supercharging, turbo charging or nitrous oxide is the entrant's option, if class allows it.
  - b. Engine capacity (where applicable) is increased as follows:
    - Single Turbo: -80%
    - Twin Turbo: -100%
    - Roots-type Supercharger: -40%
    - Roots-type (High Helix) Supercharger: -50%
    - Screw-type Supercharger: -60%
    - Nitrous Oxide: -30%
    - Hemi Heads: -20%
    - 4 Valves/Cyl: -20%
  - c. The use of Nitromethane fuel is restricted to Top Fuel (TF/D) or exhibition vehicles only.
  - d. Wankel rotary engines will be assessed at 1.8 x the swept volume.
  - e. One cubic inch measures 16.3872 cubic centimetres
  - f. The following tolerances will be allowed for a margin of error during any inspection or teardown if or when applicable:

- i. **ENGINE CAPACITIES**
    - Capacity of engines when using capacity meter: As per correction factor in capacity meter manufacturer instructions.
    - or,
    - Capacity of engine when engine is stripped: overbore = 0.05mm or (0.002") and stroke = 0.125mm or (0.005")
  - ii. **WEIGHT OF VEHICLE**
    - Weight of vehicle: ½ of 1 percent OR 10kg
- g. Refer to Individual classes or "CR81" for minimum weights  
ALL minimum weights include the driver and will apply after a run.

ARTICLE	
<b>D 1</b>	<b>AEROFOIL</b>
17.1	Any type of frame construction is permitted. Material recommended is tubular steel or chrome moly. Roll cage must be an integral part of the framework. (Refer to the Safety Regulations for minimum diameter and wall thickness tubing requirements).
17.2	The minimum wheelbase length is 1930mm and a maximum of 3175mm will be applied. Wheelbase variation from left to right is a maximum of 50mm. A full six-point roll cage must surround the driver capsule using a minimum 38mm x 3mm wall thickness mild steel tubing and driver's helmet must be at least 75mm behind the front roll cage bars. (Refer to the Safety Regulations).
17.3	Rear tread width must be such that any part of the tyre is not outside of the bodyline or more than 75mm inside the body line. Front tread width must be such that the tyre is located no more than 100mm inside the bodyline. Measurements will be taken from the outside edge of the tyre to the closest inside edge of the body.
<b>D 2</b>	<b>ARM RESTRAINTS: (Refer to the Safety Regulations)</b>
<b>D 3</b>	<b>BALLAST: Permitted. (Refer to the Safety Regulations)</b>
<b>D 4</b>	<b>BATTERY: Permitted. (Refer to the Safety Regulations)</b>
<b>D 5</b>	<b>BELLYPAN: (Refer to the Safety Regulations)</b>
<b>D 6</b>	<b>BODY</b>
	Body and cowl must be constructed from a suitable non-flammable material as a minimum requirement. Frame structure, roll cage, body and floor panels must be constructed to prevent driver's body or limbs from making contact with the wheels, exhausts, engine driveline parts or strip surface should an accident, spin out or collision occur. (Refer to the Safety Regulations).
<b>D 7</b>	<b>BRAKES</b>
	All classes must have a minimum two-rear wheel hydraulic brake system and one backup braking device must be fitted. Brakes can be either hand or foot operated. Handbrake must be inside the driver's compartment. Brake lines must be shielded.(Refer to the Safety Regulations).
<b>D 8</b>	<b>CLUTCH: (Refer to the Safety Regulations).</b>
<b>D 9</b>	<b>DEFLECTOR PLATE: (Refer to the Safety Regulations).</b>
<b>D10</b>	<b>DRIVER</b>
	Location of the driver in the vehicle is unrestricted, if in compliance with the safety regulations.
<b>D11</b>	<b>DRIVELINE</b>
	Open drivelines are not permitted in the driver's compartment. In front-engine Dragster instances, in addition to the floor or belly pan, drive shaft failure loops must be fitted. A 2mm thick steel plate extending the full length of the driveline and securely fastened to the frame rails or suitable cross member is mandatory.
<b>D12</b>	<b>DRIVELINE COVER</b>
	In addition to the floor or belly pan, drive shaft failure loops must be fitted. A 2mmthick steel plate extending the full length of the driveline and securely fastened to the frame rails or suitable cross member is mandatory.
<b>D13</b>	<b>ENGINE</b>
	Any internal combustion automotive engine is allowed. A maximum of two engines may be used. Any modification may be made to the engine(s) and they may be in any location.
<b>D14</b>	<b>EXHAUST</b>
	Any exhaust system is permitted. Must be equipped with exhaust collectors or stacks, installed in such a manner as to direct the exhaust gasses out of the body to the rear of the vehicle away from the driver, fuel tank and tyres. Exhaust stacks must have a connecting strap to prevent loss of one or more stacks during competition (Refer to the Safety Regulations).

- D15** FIRE EXTINGUISHER: (Refer to the Safety Regulations).
- D16** FIREWALL: Mandatory. (Refer to the Safety Regulations).
- D17** FLYWHEEL/CLUTCH: (Refer to the Safety Regulations).
- D18** FLYWHEEL SHIELD: (Refer to the Safety Regulations).
- D19** FRAME  
Construction methods for other than Top Fuel are at the option of the builder providing safety requirements are met. Top Fuel must meet NHRA specifications and be of chrome moly tube. A minimum of 1000mm track as measured from the centre of the tyre treads must be maintained on at least one axle. Minimum wheelbase of any vehicle in this category is 2300mm whilst maximum is 7620mm. An allowable wheelbase variation of 50mm is permitted on vehicles in this category.
- D20** FUEL SYSTEM  
Any carburetion or fuel injection system is permitted. A maximum of two fuel pumps is allowed. All fuel lines and tanks must be isolated from the driver's compartment unless lines are of steel braided construction. (Refer to the Safety Regulations).
- D21** FUEL  
Nitromethane is permitted in Top Fuel only. All other classes are restricted to any allowable fuel with the exception of nitro based fuels and additives.
- D22** HEAD PROTECTION: Mandatory. (Refer to the Safety Regulations).
- D23** LIQUID OVERFLOW/CATCH TANKS  
All machines with any type of liquid capable of dumping or spilling on the track surface, must have a "catch can" to recover the excess liquids. Minimum capacity is one-litre. Overflow may be routed into headers on cars, which are supercharged or burn nitro or methanol.
- D24** OIL CONTAINMENT DEVICE: (Refer to Safety Regulations CR50.)
- D25** PARACHUTE: (Refer to the Safety Regulations).
- D26** PUSHBARS: (Refer to the Safety Regulations).
- D27** REAR-END/DIFFERENTIAL: (Welded spider gears are not permitted).  
Quick change rear-ends are acceptable. Locked (spool type) rear-ends are permitted. Fully floating hubs are required in conjunction with locked rear-ends in any of the supercharged or TF/D, TAD and A/D and B/D classes. Rear wheel drive only. The attention of competitors is drawn to the possibility of handling hazards in the event of an axle shaft breaking while a vehicle is fitted with a locked rear-end. (Refer to the Safety Regulations).
- D28** SAFETY BELTS/HARNESSSES: Mandatory. Refer to the Safety Regulations.
- D29** SAFETY EQUIPMENT  
For all driver and vehicle safety regulations, refer to the "Safety Regulations" chapter.
- D30** STEERING  
Rear-engine vehicles must have some device to prevent steering shaft from injuring the driver in case of a frontal impact. (Refer to the Safety Regulations).
- D31** SUPERCHARGERS: (Refer to the Safety Regulations).
- D32** SUSPENSION  
Any type of automotive suspension is permitted. Rigid mounted front and rear axles are permitted where the wheelbase is 2920mm or more or the vehicle weighs less than 370kg. Any front beam axle must have its radius rods attached to the frame. Dragster oil pans must be of sufficient height so as not to hit track surface due to excessive frame or axle flex.
- D33** THROTTLE  
On rear-engine vehicles, the throttle actuating method must be protected and shielded. (Refer to the Safety Regulations). It is mandatory that a positive throttle return device, (Refer to the Safety Regulations), and fuel cut-off is fitted in the event of the throttle pedal overriding or failure of the throttle linkage.
- D34** TRANSMISSION/GEARBOX  
Optional. Vehicles must employ some positive system to disengage engine from final drive. A clutch hold down device is suggested on all vehicles without transmissions or with in-out boxes. Air shifter bottles must be permanently mounted. (Refer to the Safety Regulations).
- D35** UPHOLSTERY  
Optional, however, only steel or aluminium is allowed in the driver's compartment. Magnesium is prohibited. Any upholstery must be of non-flammable material.
- D36** VENT TUBES/BREATHERS  
Where used, the tubes must terminate into an acceptable, permanently attached catch-tank with a capacity of five litres. The catch tank must be able to keep overflow off the track and a sight glass or tube is recommended to verify that the tank is empty prior to each run.



**D37 WINDSHIELD: (Refer to the Safety Regulations).**

**D38 WHEELS/TYRES**

- 38.1 Any size slicks are permitted; however, maximum width for rear rims is 406mm. For front tyres, (Refer to the Safety Regulations). Motorcycle rims or light weight automotive wire wheels are acceptable on front of Dragsters only, provided the total weight of the vehicle does not exceed 900kg including the driver. Each wire rim must be equipped with 3mm minimum diameter steel spokes properly cross-laced to provide maximum strength. All available spoke holes in the rim and hub must be laced and omissions to lighten the wheel are not permitted.
- 38.2 Where it can be established that a “beam breaker” shield is required on wire rims, it is mandatory for a competitor to securely and permanently fit a device to cleanly cut the Startline staging beams before entering competition.

SD CLASS REGULATIONS

# STREET DRAGRACING

FOR NON-CHAMPIONSHIP  
EVENTS

This category of Drag racing is mainly for championship Drag events(Club Events) taking place at various venues such as graded tracks that are sanctioned by MSA and consist of timing equipment capable of running both with and without Handicap Racing.

This category has been introduced to cater for basically stock vehicles where an engine swap has taken place. It is reserved for vehicles based on normal production models with a factory produced automotive-type engine. The body, drive train, chassis and other components may be altered or modified in accordance with class requirements. This category can run either heads up (as individual classes) or handicap (as a category), depending on the type of event. The minimum cut off in this category is 11.0 seconds and the maximum will be 16.5 seconds. Any vehicle/s running quicker than 11.00 seconds, regardless of whether it complies with these "Streetcar" class regulations will be classified as "Pro-Street" (at Championship events) and/or "Exhibition" vehicles (at non-Championship events).

**DESIGNATION:**

8A, 8B, 8C, 6AF, 6AR 6BF, 6BR, 6CF, 6CR, 5AF, 5AR 5BF, 5BR, 5CF, 5CR, 4AF, 4AR, 4BF, 4BR, 4CF, 4CR, followed by the competition number.

CLASSES: There are twenty one classes of competition determined as follows:	
<b>8 CYLINDERS</b>	
<b>8A</b>	Any 8-cylinder normally aspirated.
<b>8B</b>	Any 8-cylinder with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>8C</b>	Any 8-cylinder fitted with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>6 CYLINDERS FRONT AND REAR WHEEL DRIVE</b>	
<b>6AF</b>	Any 6-cylinder [FWD] normally aspirated
<b>6BF</b>	Any 6-cylinder [FWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>6CF</b>	Any 6-cylinder [FWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>6AR</b>	Any 6-cylinder [RWD] normally aspirated
<b>6BR</b>	Any 6-cylinder [RWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>6CR</b>	Any 6-cylinder [RWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>5 CYLINDERS FRONT AND REAR WHEEL DRIVE</b>	
<b>5AF</b>	Any 5-cylinder [FWD] normally aspirated
<b>5BF</b>	Any 5-cylinder [FWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>5CF</b>	Any 5-cylinder [FWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>5AR</b>	Any 5-cylinder [RWD] normally aspirated
<b>5BR</b>	Any 5-cylinder [RWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>5CR</b>	Any 5-cylinder [RWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>4 CYLINDERS FRONT AND REAR WHEEL DRIVE</b>	
<b>4AF</b>	Any 4-cylinder [FWD] normally aspirated
<b>4BF</b>	Any 4-cylinder [FWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>4CF</b>	Any 4-cylinder [FWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).
<b>4AR</b>	Any 4-cylinder [RWD] normally aspirated
<b>4BR</b>	Any 4-cylinder [RWD] with one form of supercharging (i.e. turbo or nitrous or supercharger)
<b>4CR</b>	Any 4-cylinder [RWD] with two forms of supercharging (i.e. turbo/nitrous, supercharger/nitrous).

- SD 1 BALLAST**  
Ballast is permitted but must be securely mounted. (Refer to the Safety Regulations).
- SD 2 BATTERY: (Refer to the Safety Regulations).**
- SD 3 BODY/CHASSIS**
- 3.1 The complete original body must be retained except that the bonnet, boot-lid and fenders may be replaced with components of identical size and shape made from fiberglass or any similar non-flammable lightweight material.
  - 3.2 Moderately customized vehicles may compete in this class but bodies may not be chopped, channeled, sectioned or otherwise altered in height, width or contour. Convertibles, panel vans, bakkies, cars and readily available, locally produced replicas, (i.e. Cobras), may compete in this class providing all requirements are met. All vehicles must have at least two fully operative doors with door handles that permit exit and / or entrance from both sides.
  - 3.3 Stock automobile chassis for car body used must be retained. Front to rear frame strengthening members may be added to any unibody, constructed vehicle to connect front and rear sub-frames. If material passes through the floor, the floor must be welded to the member leaving no holes.
- SD 4 BRAKES**  
All vehicles in this category must be equipped with four-wheel hydraulic brakes operated by a foot-mounted pedal in the conventional manner. A back-up brake system is mandatory on all vehicles, i.e. handbrake
- SD 5 BUMPERS**  
Bumpers may not be removed. Fiberglass bumpers and lightweight mountings are permitted
- SD 6 COOLING SYSTEM**  
A stock-type water pump is required but may be electrically driven. Catch tank/overflow must be securely fitted and completely leak proof. Radiator may be moved forward to permit the installation of longer engine. Anti-Freeze is not permitted.
- SD 7 DIFFERENTIAL**  
Any rear axle assembly and any ratio may be used. Narrowed rear-ends are not acceptable and locked rear-ends are not permitted. (Refer to the Safety Regulations regarding "axle retention"). Front wheel drive cars (as per OEM) may not be converted to rear wheel drive cars and vice versa.
- SD 8 DRIVELINE**  
Any driveline with drive shaft loop is allowed.

- SD 9 DRIVE SHAFT LOOP**  
360° front drive shaft loop is highly recommended on all cars running under 13.0 seconds and/or over 160kph. (Refer MSA Drag Racing Rules, Regulations and Specifications).
- SD10 DRIVER AND SAFETY**  
For all requirements regarding driver and safety regulations, see the appropriate “General and Safety Regulation” chapters. A full fire retardant suit is highly recommended, including gloves, racing shoes and balaclava. If Methanol is utilized, a full fire retardant suit is mandatory, including gloves, racing shoes and balaclava. (Refer to the Safety Regulations).
- SD11 ELECTRICAL**  
Each vehicle in this section must have a full working wiring harness. All lights and charging systems must be fully operational. Starter motor must be retained.
- SD12 ENGINE**  
12.1 Only one automotive-type engine is allowed.  
12.2 Front mounted engine position must be such that the forward most spark plug does not fall behind the front spindle unless supplied as standard from the manufacturer. Engine swaps are permitted.
- SD13 ENGINE RELOCATION**  
Relocation of engine is not permitted, i.e. front engine cars may not be converted to rear engine cars and vice versa. Only one engine is permitted.
- SD14 EXHAUST**  
Any exhaust system modification is allowed, i.e. free flow systems and branches with silencer/muffler.
- SD15 FIRE EXTINGUISHER**  
Recommended for all vehicles competing in this category/classes but mandatory for any vehicle running with methanol and/or vehicles running 13.99 or quicker. A minimum of 1kg capacity extinguisher, securely mounted (no tie straps), and within easy reach of the driver when he/she is wearing a safety harness is mandatory. (Refer to Safety Regulations).
- SD16 FIREWALL**  
The firewall may not be repositioned but can be modified to cater for distributor or water pipes only.
- SD17 FLYWHEEL (Refer to the Safety Regulations).**
- SD18 FLOORBOARDS**  
Original floorboards must be retained but may be modified or altered to suit alternative drivelines, but modifications must be of a permanent nature, i.e. welded back into position and/or replacement panel of similar material and thickness as per the original floorboard.
- SD19 FUEL**  
Any fuel complying with general regulations. Methanol is permitted however a methanol indicator must be visible. The use of Nitromethane as fuel or separate injection is strictly prohibited.
- SD20 FUEL SYSTEM AND FUEL TANKS**  
20.1 The original fuel tank or an SFI approved fuel cell or a fabricated fuel tank of no less than 25 liters can be used but must be isolated from the driver compartment.  
20.2 All fuel tanks must be positioned either in front or behind the driver as per OEM position, i.e. rear mounted engine cars (fuel tank at front side of vehicle) or front mounted engine cars (fuel tank at rear side of vehicle).  
20.3 Only SFI approved fuel cells will be allowed to be located in the driver compartment, if the vehicle is of such a nature that the tank cannot be isolated from the driver completely, i.e. hatch-backs, etc., in which case, full protective clothing is mandatory (Refer to the Safety Regulations).  
20.4 No pressurised fuel lines are allowed in the driver compartment including mechanical fuel pressure gauges. (Refer to the Safety Regulations).  
20.5 When used, fuel cells must have a metal box protecting the part of the fuel cell that is outside of body lines or trunk/boot floor excluding hose connection area in rear.  
20.6 Non-metallic fuel cells or tanks must be grounded to frame.  
20.7 Cool cans are not permitted.
- SD21 HOOD/BONNET SCOOP**  
Permitted with a maximum height of 250mm as measured from the base of the scoop.
- SD22 INSTRUMENTS**  
Dashboard and supplementary gauges may be installed at owner’s discretion.
- SD23 INTERIOR**  
A full interior is required.

- SD24** NITROUS OXIDE (Refer to the Safety Regulations).  
**SD25** ROLL BARS/ROLL CAGES (Refer to the Safety Regulations).  
**SD26** SAFETY HARNESS (Refer to Safety Regulations).  
**SD27** SEATS: DRIVER'S SEAT  
May be relocated forward or backward not more than 100mm from stock location. A minimum of two automotive-type (adult) front seats and/or one bench seat (bakkies) as a minimum is allowed on vehicles with roll cages only.
- SD28** **SUSPENSION: FRONT**  
Full automotive-type front suspension is required. No solid axles allowed. Each point of suspension must be equipped with at least one effective shock absorber with a minimum of 25mm movement in each direction. Excessive cutting or machining of suspension parts is prohibited. Raising or lowering permitted but attention must be taken of minimum ground clearance requirements. A minimum of one hydraulic or pneumatic shock absorber is required per wheel and rear suspension must be operative automobile type.
- SD29** **SUSPENSION: REAR**  
Aftermarket and/or fabricated four-link and/or ladder bar type suspension is not permitted. Back halving is also not allowed.
- SD30** **STEERING**  
Properly fitted rack and pinion steering may be used in lieu of standard steering.
- SD31** **TRACTION BARS: (Refer to the Safety Regulations).**  
**SD32** **TRANSMISSION**  
Manual transmissions may be either production or aftermarket assembled but must require the use of a clutch to shift gears. Full automatic and clutched automatic transmissions are acceptable. (Refer to the Safety Regulations).
- SD33** **WHEELS AND TYRES**  
Any size street tyres are permitted providing they do not protrude more than 50mm outside the fender flare measured at the top of the tyre. Tyres must be street legal and must meet Road Ordinance regulations at the completion of the day's racing, (i.e. not less than 1mm over 100% of area). Only DOT approved tyres with grooves will be permitted. No re-treaded, re-moulded or re-grooved tyres will be permitted. No racing slicks are allowed. (Refer to the Safety Regulations). Tyre pressure should be as per manufacturer's recommended pressure guidelines. Dot approved tyres with no grooves will be classified as slicks and are not allowed.
- SD34** **WHEEL BASE**  
All vehicles running under 11.99 and not quicker than 10.00, 2.2 meter minimum.  
All vehicles running 9.99 and quicker, 2.3 meter minimum.  
Wheel base may not vary more than 1% from original.
- SD35** **WHEEL TUBS**  
Wheel tubs are not permitted.
- SD36** **WHEELIE BARS**  
Wheelie bars are not permitted.
- SD37** **WINDSCREENS AND WINDOWS**  
These must be in good condition. All windows must be fully operational. All glassware must be stock as fitted by the manufacturer. No Plexiglas will be allowed unless it can be proved that it was originally fitted by the manufacturer.

JNR CLASS REGULATIONS

# JUNIOR REGULATIONS

FOR NON-CHAMPIONSHIP EVENTS

## JUNIOR CLASS CARS

**Categories:**

**Club Status only**

**Age Limit:**

**Minimum 14 years up to 18 years**

1. Cars must not be faster than 14 seconds.
2. No burnouts allowed
3. May not compete with an engine bigger than 1400cc.
4. All motors to be normally aspirated.
5. The numbers must have the letter "J" prefixed.
6. Junior competitors will run exclusively against junior cars only.
7. Only 1 competitor at a time – solo runs.
8. All competitors in the junior class to be assessed by officials before entering in competition.

DRAG RACING RULES

# MOTORCYCLES

National/Regional Motorcycle Drag Racing will consist of (5) five categories as listed below.

**SS: Supersport Shootout**

(Minimum 10 Competitors for National Status and 6 competitors for Regional Status)

**SB: Superbike Elimination (Bracket Class)**

(Minimum 10 Competitors for National Status and 6 for Regional Status)

**P/ST: Pro Street**

(Minimum 10 Competitors for National Status and 6 for Regional Status)

**Q: Quads (Bracket Class)**

(Minimum 6 Competitors Regional Status Only)

Age limits for classes:

SS	minimum age of 16 years
SB	minimum age of 13 years
P/ST	minimum age of 16 years
TB	minimum age of 18 years
Q	minimum age of 16 years

The primary objective is to become the overall winner in the class. A series of two-bike, tournament style eliminations is conducted. The losing motorcycle in each race is eliminated, and the winning rider progresses into succeeding rounds of the competition. The series of races continues until one winning rider remains. That rider is declared the class winner. SS, PST and Top Bike will run heads up. SB and Quads will run on a handicap bracket racing system. Environmental mats are compulsory as per the environmental code in the GCR handbook.

## GENERAL RULES

1. **BATTERIES**  
Must be securely mounted.
2. **BREATHERS**  
OEM or additional oil breather may be fitted.
3. **CHAIN GUARD**  
Full length chain guards are mandatory.
4. **CLOTHING**  
All riders will wear a full face helmet with visor that meets SABS specification. All riders will wear a full leather race suit, one piece or two piece, full leather gloves and leather boots which have ankle protection.
5. **ENGINE**  
Nitrous Oxide may not be used in conjunction with any turbocharged or supercharged entrants.
6. **FUEL SHUT OFF VALVES**  
All motorcycles will have an electrical or mechanical fuel shut off system subject to "TC" approval.
7. **HANDLE BARS**  
Must be OEM or a registered aftermarket substitute.
8. **IGNITION**  
Positive kill switch must be fitted on the handlebars.
9. **LIGHTS**  
All motorcycles must have functional front and rear lights and must be clearly visible.
10. **MIRRORS**  
May be removed.
11. **MUDGUARDS**  
Front mudguards must be fitted. Rear mudguards may be removed.
12. **STEERING STOPS**  
Minimum of 5 mm between thumb and tank at full lock.
13. **THROTTLE**  
Must be spring loaded to the closing position. No overrides are permitted.

**14 TYRES**

Minimum of 1mm tread depth at the commencement of the race meeting.

**OTHER**

**15. NUMBER BOARDS**

The number board must be placed on the swing arm on both sides of the motorcycle. The letter size must be 40 mm high x 10 mm thick. The number size must be 80 mm high and 20 mm thick black on a white background. Number boards must be a minimum of 200 mm wide x 150 mm high. The number board must display the class designation and competitor's number. No white shoeshine numbers will be allowed at National events. All competitors must carry series sponsors on the number boards, should there be any. If series sponsors are not displayed on the number board the competitor will not be disqualified.

**16. QUALIFYING**

SS, SB, PST motorcycles and Quads must do a minimum of 1 qualifying run in each lane e.g. qualifying run 1 in left lane, qualifying run 2 in right lane.

**17. TECHNICAL INSPECTION**

All motorcycles entered must pass an MSA technical inspection and riders must comply with and pass an MSA race gear safety inspection.



SS CLASS REGULATIONS

# SUPERSPORTSHOOTOUT

Whatever is not specifically allowed is disallowed.

Minimum Age: 16 years

Heads-up racing only.

**Class designation "SS" followed by competitor's race number.**

ARTICLE	
1	<b>BRAKES</b> OEM only. Pads and hoses may be replaced.
2	<b>CHAIN GUARD</b> Mandatory.
3	<b>CLUTCH</b> Clutch plates and springs may be replaced with aftermarket parts provided the number and type of plates is as per standard machine. Aftermarket quick access clutch cover is allowed. No slider or lockup clutches allowed. Modification or replacement of the OEM back torque limiting slipper clutch components is only allowed. OEM clutch basket (outer) and OEM clutch hub (inner).
4	<b>CONTROLS</b> Handlebars may be modified.
5	<b>ELECTRICAL</b> May be modified or replaced. Charging system must operate. Engine must start with own OEM starter. Battery may be moved or replaced. Motorcycle must have an operational front light to be minimum diameter of 40 mm and white in colour. Rear light must be a minimum of 40 mm diameter, red in colour. Both must be clearly visible. Motorcycle must start under own power. Modifications to the stock starting and charging systems are not allowed. OEM starters and complete charging system must be in place, connected and functional during the event.
6	<b>ENGINE</b> <b>Bore and Stroke are allowed to be 1 (one) oversize ONLY.</b> <b>Note: Except as noted or stated. External engine parts and mounting points must remain OEM as per make and model.</b>
7	<b>EXHAUST</b> May be modified or replaced.
8	<b>EXTERNAL GEAR RATIOS/GEARING</b> No restrictions to sprockets and chain.
9	<b>FAIRINGS</b> May be modified or replaced. OEM silhouette only. Aftermarket fairings/bodywork may be used but must conform to the original silhouette. Holes may be cut in the fairing to accommodate the exhaust system should you use a sidewinder. Mirrors and indicators may be removed. Passenger seat pad may be removed and replaced with OEM cover. Fairings must be mounted in original mounting points. Screens may be modified or replaced. OEM lights may be removed.
10	<b>FRAME</b> <b>Swing arm allowed to be extended. Centre of back wheel are not allowed to move more than 16 (sixteen) cm.</b>
11	<b>FUEL</b> Must comply with AMA specification.
12	<b>FUEL INJECTION</b> May be modified.
13	<b>FUEL TANK</b> No modification. May be filled with Explosafe Foam.
14	<b>GEARBOX</b> OEM only. No modifications. Undercutting of gears is allowed. No OTHER modification allowed.
15	<b>GEARSHIFT SYSTEM</b> May be modified for race pattern type gear change. An electronic inline cutout system operated by the gear linkage may be fitted.
16	<b>GROUND CLEARANCE</b> Minimum of 50 mm with the rider seated on the motorcycle, feet on the foot pegs and a minimum of 0.7 bar pressure in each tyre.
17	<b>IGNITION SYSTEM</b> Must have OEM ignition with OEM ECU. Piggyback system allowed i.e. Power Commander and White Band. No launch control or stutter boxes allowed.
18	<b>INDUCTION</b> Internal modification to the throttle bodies is allowed. No aftermarket turbo or nitrous system allowed. Air filter may be removed or replaced. Air box and intake pipes to remain as per the standard OEM motorcycle.
19	<b>REARSETS AND PEDALS</b> May be modified or replaced. Passenger foot pegs and mounts may be removed.
20	<b>SEAT</b> May be modified or replaced.

- 21 SUSPENSION**  
May be modified. Strapping is allowed. Weight may be added to the front forks ONLY if swing arm is not extended, to a maximum of 5 kgs per side and must be securely mounted with a minimum of 2 x 8 mm bolts per weight.
- 22 TYRES**  
Only DOT approved road tyres allowed. No Slicks.
- 23 WATER PUMPS**  
External water pumps will be permitted.
- 24 WHEELS**  
OEM only. Polishing and painting is permitted. Lightening or skimming of wheels is not allowed.
- 25 WHEEL BASE**  
Wheelbase can be extended 16 (sixteen) cm from OEM position.

SB CLASS REGULATIONS

# SUPERBIKE ELIMINATION

Whatever is not specifically allowed is disallowed.

Minimum Age: 13 years

Bracket Racing only

DIAL – IN

All competitors will enter a dial-in time within 1% of their best qualifying time. If a time is not entered the rider will be disqualified. The maximum dial-in time will be 13.50 seconds. Rider must qualify in both lanes.

There is no Record in this class and therefore all breakout rules apply.

**Class designation "SB" followed by competitor's race number.**

ARTICLE	
1	<b>BRAKES</b> OEM only. Pads and hoses may be replaced.
2	<b>CHAIN GUARD</b> Full length is mandatory.
3	<b>CLUTCH</b> OEM only. Plates and springs may be replaced.
4	<b>ECU</b> Flashing is allowed to optimize settings.
5	<b>ELECTRICAL</b> OEM starters and complete charging system must be in place and functional as well as OEM headlight and taillight must be connected and functional during the event. OEM wiring harness to be used.
6	<b>ENGINE</b> Internal modifications only.
7	<b>EXHAUST</b> May be modified or replaced.
8	<b>EXTERNAL GEAR RATIOS/GEARING</b> No restrictions to sprockets and chain.
9	<b>FAIRINGS</b> OEM only. The screen may be modified or replaced. Mirrors and indicators may be removed. Passenger seat pad may be removed and replaced with OEM cover. Fairings must be mounted in original mounting points.
10	<b>FRAME</b> No modification. Must have VIN plate. Rear number plate holder may be removed.
11	<b>FUEL</b> Must comply with MSA GCR's. Any commercially available 93 & 95 octane pump fuel are allowed (Shell, Sasol, Engen, Total ), 97 octane VP Racing Fuels (MR9 and MR12).
12	<b>FUEL TANK</b> No modification. May be filled with Explosafe Foam.
13	<b>GEARBOX</b> OEM only. No modifications. Undercutting of gears is allowed. No OTHER modification allowed.
14	<b>GEARSHIFT SYSTEM</b> May be modified for race pattern type gear change.
15	<b>GROUND CLEARANCE</b> Minimum of 75 mm with the rider seated on the motorcycle, feet on the foot pegs and a minimum of 0.7 bar pressure in each tyre.
16	<b>IGNITION SYSTEM</b> No modifications. Must have OEM ignition with OEM. ECU's and standard wiring harness. The use of "Power Commander" and "Wide Band" is allowed. No launch control or stutter boxes allowed.
17	<b>INDUCTION</b> Internal modification to the throttle bodies is allowed. No aftermarket turbo or nitrous system allowed. Air filter may be replaced. Air box and intake pipes to remain as per the standard OEM motorcycle.
18	<b>REARSETS AND PEDALS</b> May be modified or replaced. Passenger foot pegs and mounts may be removed.
19	<b>SUSPENSION</b> May be modified. Weights or strapping not allowed. Linkage may be modified or replaced. Solid struts not allowed. Aftermarket rear shocks allowed, e.g. Ohlins.
20	<b>SWING ARM</b> Motorcycles manufactured before 1990 may use an OEM swing arm from another model of the same manufacturer. Swing arms must be OEM and remain original specification for the make and model and year of motorcycles concerned.
21	<b>TYRES</b> Only DOT approved road tyres allowed. No Slicks.
22	<b>WATER PUMPS: External water pumps will be permitted.</b>
23	<b>WHEELS</b> OEM only. Polishing and painting is permitted. Lightening or skimming of wheels is not allowed.
24	<b>WHEEL BASE</b> Wheel base must be OEM as per make and model of the motorcycle concerned

PST CLASS REGULATIONS

# PRO-STREETBIKES

Whatever is not specifically allowed is disallowed.

Minimum Age: 16 years

Heads-Up Racing only

**Class designation "PST" followed by competitor's race number.**

ARTICLE	
1	<b>BRAKES</b> OEM or better. Pads and hoses may be replaced. Subject to "TC" approval.
2	<b>CATCH PAN</b> Must be equipped with a ballistic oil blanket or catch pan. The blanket or pan must cover the lower section of the engine. The catch pan must be able to hold all the oil from the engine.
3	<b>CHAIN GUARD</b> Full length is mandatory.
4	<b>CLUTCH</b> May be modified or replaced.
5	<b>ELECTRICAL</b> May be modified or replaced. Charging system must operate and may be assisted with external charging system. Engine must start with own OEM starter. Battery may be moved or replaced. Motorcycle must have operational front and rear lights with a minimum diameter of 40 mm. Front light to be white in colour, rear light to be red in colour and must clearly be visible. OEM lights may be removed or replaced. Motorcycle must have hand strapped kill switch, maximum length of strap to be 500 mm. Use of control devices to prevent front wheel lift or launch control or 2-step system or stutter boxes are not allowed.
6	<b>ENGINE</b> Internal modifications only.
7	<b>EXHAUST</b> May be modified or replaced.
8	<b>EXTERNAL GEAR RATIOS/GEARING</b> No restrictions to sprockets and chain.
9	<b>FAIRINGS</b> May be modified or replaced. Seat and tail section may be modified or replaced and must be extended to cover the rear wheel. Original profile of the motorcycle to be retained.
10	<b>FRAME</b> OEM only. Modifications for strengthening the frame allowed. Accessory brackets may be removed or replaced. Frames may be polished. All modifications subject to "TC" approval.
11	<b>FUEL</b> Must comply with AMA specification.
12	<b>FUEL TANK</b> May be modified or replaced. Must retain original shape. Sloping at the rear of the tank is allowed.
13	<b>GEARBOX</b> May be modified or replaced. No automatic transmissions allowed. Air or electric shifters allowed.
14	<b>GROUND CLEARANCE</b> Minimum of 50 mm with the rider seated on the motorcycle, feet on the foot pegs and a minimum of 0.7 bar pressure in each tyre
15	<b>IGNITION SYSTEM</b> May be modified or replaced.
16	<b>INDUCTION</b> Turbo or supercharger or nitrous oxide system allowed.
17	<b>NITROUS OXIDE MOTORCYCLES</b> Nitrous bottles to be fitted to nitrous motorcycles only and must be securely mounted within the frame rails and mechanically fastened. Hose clamps prohibited.
18	<b>REARSETS AND PEDALS</b> May be modified or replaced. Passenger foot pegs and mounts may be removed.
19	<b>SUSPENSION</b> Front forks may be modified. Rear suspension may be modified or replaced. Swingarm may be modified or replaced. Original mounting points must be used and may be enlarged. Solid struts or wheelie bars are not allowed. Ballast may be added.
20	<b>TURBO OR SUPERCHARGE MOTORCYCLES</b> Turbo or Supercharged motorcycles may not have any nitrous oxide fitted to the motorcycle. Turbocharged or Supercharged entrants are prohibited from using nitrous as a cooling source.
21	<b>TYRES</b> Front tyre must be DOT approved road tyre. Rear tyre must be DOT approved road tyre or maximum 7 inch wide slick.
22	<b>WATER INJECTION</b> Competitors using water injection may only pressurize the water tank with air. The water tank must be mounted in a manner as to allow easy access for the "TC" to inspect its contents. No other substance other than water is allowed to be in the tank.

**23** **WHEEL BASE**

Maximum 1727 mm. Measured from centre front axle to centre rear axle.



TB CLASS REGULATIONS

# TOPBIKE

Minimum Age: 18 years

Heads-Up Racing only

QUALIFYING:

Riders of TB must hold a MSA Top Class license of P/ST

Class designation "TB" followed by competitor's race number.

Reserved for the top classes of bikes currently in SA, Funny Bike, Pro Stock or Pro Mod as in AMA Prostar rules and comply with the rules below. Top Fuel is excluded in this class. It is for single-engine motorcycles, turbocharged Nitrous, alcohol or gasoline. Modifications are unlimited with no appearance restrictions. Turbo and blowers will be considered the same. Turbo and Nitrous Permitted. All bikes must have front and rear fenders. Normally TB is run "heads up" with a qualified field up to 4 motorcycles.

ARTICLE	
<b>1</b>	<b>BODY</b> All main body parts must have stock appearance and shape and cannot be mixed among models. Fairings must match body design (I.e. Suzuki body with Suzuki fairing, Kawasaki body with Kawasaki fairing, etc.) rear wings prohibited.
<b>2</b>	<b>BRAKES AND SUSPENSION</b>
2..1	<u>Brakes</u> Hydraulic type, front and rear, mandatory. Minimums: front: dual, 203 mm (8 inches) diameter x 3/16 inch width, single 254 mm (10 inches) diameter x 3/16 inch width. Rear brake rotor minimum 254 mm (10 inches) diameter x 3/16 inch thick with single rotor front brake, 203 mm (8 inches) diameter x 3/16 inch thick with dual rotor front brake. Line-loc prohibited.
2.2	<u>Suspension</u> Only ridged suspension on rear allowed, at least 25 mm travel on the front forks.
<b>3</b>	<b>ENGINE</b> Accepted aftermarket cases permitted using original crankshaft design (I.e., roller bearing or plain bearing). Original cylinder head design must be used. Cases must fit in stock engine location. Aftermarket cylinder heads permitted with prior approval and consent of the MSA bike technical department.
<b>4</b>	<b>FRAME CONSTRUCTION</b>
4.1	All welding shall be TIG Heliarc method. Material should be 4130 chrome molly steel. The minimum diameter for all sections, except braces, brackets and gussets, shall be 25 mm (1 inch). If the top main tube is of a one-piece design it must be a minimum of 50 mm (2 inches) in diameter. Minimum wall thickness of all tubing is 1.5 mm (0.58 inches). Aluminum chassis are prohibited without prior approval by MSA bike technical department 1,727 mm (0.68 inch) minimum wheelbase. Wheelbase 2.082 mm (82 inch) maximum. Stock Minimum seat height (with rider in position and seat compressed) measured from lowest point of seating position to ground, 400 mm.
4.2	Wheelbase measurements will be done as follows: Measure from the center of the front axle in a straight line to the center of the rear axle at the most extendible point on the swing arm.
<b>5</b>	<b>FUEL</b> Progressive nitrous permitted. Steel braided fuel lines mandatory on all pump driven fuel systems. All non-braided fuel lines must be fastened with a metal clamp, band or fitting (no wire). Be careful not to over tighten. Fuel must comply with AMA specifications.
<b>6</b>	<b>KILL SWITCH</b> When the lanyard is pulled, ignition, fuel pump and nitrous solenoids must be disarmed.
<b>7</b>	<b>RIDER</b>
7.1	<u>Handling Problems</u> Any motorcycle deemed to have questionable handling characteristics may be required, before further competition, to make a solo pass during qualifying to demonstrate motorcycle and rider stability. Terms and conditions of pass will be determined on an individual basis. If a rider crosses the centerline or outer boundary line for a second time in qualifying, the rider will be disqualified from that event.
<b>8</b>	<b>STEERING DAMPER</b> Mandatory on all bikes, and may not act as fork stops.
<b>9</b>	<b>TYRES &amp; WHEELS</b> Minimum rear tyre size width is 254 mm (10 inches), maximum rear tyre width 305 mm (12 inches). All car tyres must utilize a bead lock or screw tyres to wheel. Bead lock highly recommended.
9.1	<u>Wheels</u> Front wheel must be minimum 406 mm (16 inches) diameter. It is highly recommended that all car tyres utilize a bead lock or rim screws, to attach tyres to wheel. Non-bead lock wheels should utilize locking screws and should be installed at 45 to 90 degree angle in addition to side-mounted screws only. It is recommended that Drag slick mounting screws are only used to prevent tyre bead from unseating at high speed. Follow instructions from screw manufacturer. Holes drilled in wheel must have enough clearance to allow screws to pass freely through wall. Four screws per side minimum with eight per side recommended. For safety, tyre width should not exceed rim width by more than two inches, bead seat to bead seat.
<b>11</b>	<b>WHEELIE BARS</b> Mandatory in TB class for safety, where the lowest point of the wheelie bar wheels may not be more than 76 mm (3 inches) from the ground. May not exceed the wheelbase of bike and must be sufficiently cross-braced to prevent side whip. On all mounting bars, butt welds or inner sleeved bar designs must have visible welded reinforcement (I.e., inner sleeve with rosettes, clam shells, bolted, etc.). Wheels must be non-metallic. All side panels must be securely fastened at 609 mm (24 inches) intervals minimum.

Q CLASS REGULATIONS

# QUADBIKES

Whatever is not specifically allowed is disallowed.

Minimum Age: 16 years

This class to have a minimum of 6 competitors and is bracket racing.

**Class designation "Q" followed by competitor's race number.**

## ARTICLES

### GENERAL

- Wheelie bars may be used
- Heal guards are compulsory
- Reasonable additional safety features may be allowed
- All quads must have some form of body plastics

### 1 BRAKING SYSTEM

- 1.1 Hydraulic disk brakes to be fitted front and rear.
- 1.2 Front brakes to be single or multiple calipers.
- 1.3 Rear brakes to be single or multiple calipers.
- 1.4 Standard or braided brake hoses to be used.
- 1.5 Brake lights must be in working order and they must reflect red.

### 2 CHAINS

520 or 530 pitch chains are allowed.

### 3 ELECTRICAL CONTROL SYSTEM

- 3.1 All quads must be fitted with an ignition for starting and a cutout switch for safety. Cut off switch to be attached to the handle bars).
- 3.2 Batteries must be fitted securely.
- 3.3 For night racing all quads must be fitted with a red rear facing light.

### 4. ENGINE CAPABILITIES

#### 4.1 Q Class:

Normally aspirated up to and including 1150cc                      4 stroke  
Normally aspirated up to and including 575cc                      2 stroke

#### 4.2 QX Class:

Any form of forced induction i.e. Turbo, Nitrous, supercharger and engine cc of 1151 cc or bigger 4 stroke up to and including 1500cc 4 stroke or 576 cc 2 stroke or bigger up to and including 756 cc 2 stroke.

**Note: Any competitor in the Q class may elect to participate in the QX class provided his ET time is quicker than 11.50 seconds. All competitors may only run in one class on the day.**

### 5. EXHAUST SYSTEMS

Exhaust systems to be covered where potential exists for the rider to come into contact with the pipes while in the riding position.

### 6. FRAME MODIFICATION

All frame modifications are to be professionally completed with adequate reinforcing to support the engine, no cracks allowed on frames.

### 7. FUEL

Must comply with MSA specifications.

### 8. FUEL TANK

Regular or race fuel may be used with accordance to MSA Ruling.

### 9. GROUND CLEARANCE DIMENSIONS

- 9.1 Maximum ground clearance allowed is 220 mm; this will be measured from the ground to the frame. Belly plates not to be considered part of the chassis.
- 9.2 Minimum ground clearance, measured in the same manner as maximum ground clearance to be 30 mm.

### 10. HANDLEBARS

- 10.1 Minimum length, not shorter than 750 mm.
  - 10.2 Maximum length, not longer than 850 mm.
- Note: These distances measured from the furthest point either way.**

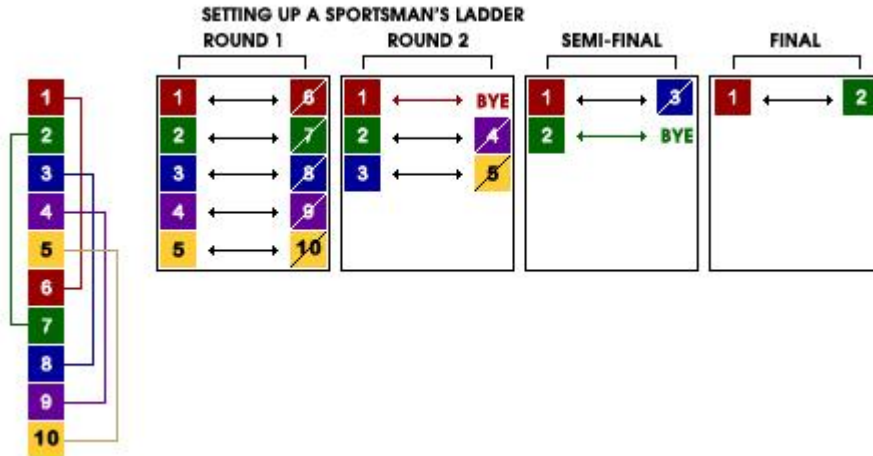
### 11. OVERALL DIMENSIONS

- 11.1 Maximum length measured from centre of front hub to centre of rear hub, this may not exceed 1550 mm.
- 11.2 Minimum length using same criteria and basis as for maximum length, this may not be shorter than 1250 mm.
- 11.3 Maximum wheel base front, this measurement to be taken from the outside of one rim to the outside of the other rim across the same axle, this may not exceed 1400mm.
- 11.4 Minimum wheel base front, using the same criteria and basis, as for maximum wheel base front, this may not be less than 1100 mm.
- 11.5 Maximum wheelbase rear, using the same criteria and basis, as for maximum wheelbase front, this may not exceed 1200 mm.

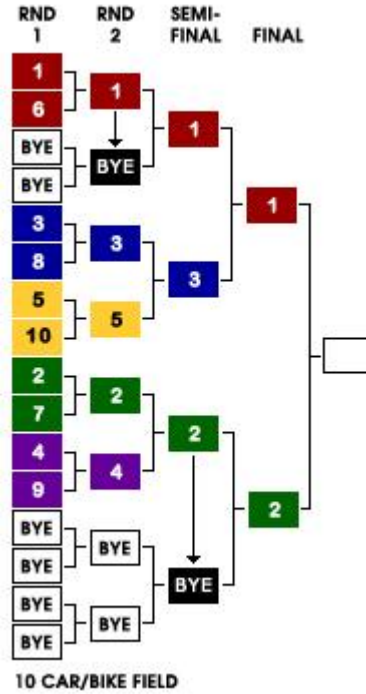
- 11.6 Minimum wheel base rear, using the same criteria and basis for maximum wheel base front, this may not be less than 1000 mm.
- The use of wheel spacers on front hubs and rear axle is not allowed.
  - Power transfer from the axle to the wheels must be done via a “single piece billet” machined or cast, no welded or fabricated components to be used as wheel hubs.
  - The rear axle may not protrude further than the outside of the wheel rim.
- 12. RIMS**
- 12.1 Rear rims may have a minimum diameter of 8 inches (203 mm)
- 12.2 Rear rims may have a minimum width of 15 inches (381 mm)
- 12.3 Front rims may have a minimum diameter of 8 inches (203 mm)
- 12.4 Front rims may have a minimum width of 150 mm.
- 12.5 Front rims may have a maximum width of 250 mm.
- 13. SAFETY CLOTHING**
- 13.1 Full racing genuine leather, Kevlar or road rated gear must be worn at all times.
- 13.2 Motor cycle riding boots must be used.
- 13.3 Leather gloves must be used.
- 13.4 Full face helmets to be worn, (no MX off road helmets), all helmets must be SANS Approved.
- 14. SEATS**
- Genuine/original seats are mandatory and must be retained by means of standard conventional methods and must mount on the original mounting brackets on the frame.
- 15. SEAT HEIGHT**
- 15.1 For the exercise of safety and to achieve an acceptable centre of gravity the seat must mount in the original OEM mounting positions of the frame. No cutting or modifications allowed to the frame where the seat mounts.
- 15.2 Centre of Gravity: Maximum 770mm - Minimum 750mm
- 16. SUSPENSION**
- 16.1 Must have a minimum travel of 10 mm.
- 16.2 Standard or aftermarket shocks may be used, they may not have more than 100 mm travel.
- 16.3 Front and rear shocks must be set on a firm setting to minimize travel.
- 16.4 No strapping down of front or rear suspensions will be allowed.
- 17. TYRES**
- Road tyres or slicks (NO Off road tyres may be used)
- 18. WHEEL HUBS**
- 18.1 Split pins must be used on all hubs.
- 18.2 Split pins must be used on all tie rod ends.
- 18.3 All hubs used must be standard spec hubs.

QUALIFYING, PAIRINGS AND LADDERS

1. During the qualifying session, each competitor is required to complete at least one run in order to be paired for main eliminations. Qualifying is purely to gauge what times a vehicle is capable of running in order to set a dial-in time for main racing. Red Lighting does not disqualify a competitor from main racing. Failing to complete a run during this session does. Please note that practice runs do not count.
2. Race Control manually monitors each run during qualifying. The best time is taken and deducted from the class record. Ranking is then done sequentially, starting from the competitor who ran closest to the class record. With the exception of the SBS class who run on Pro-Ladders, all other classes are then paired on Sportsman's Ladders.
3. As previously stated in DR 6, [6.1], Bye Runs are compulsory and are awarded in progressive order, e.g. if a field produces three Bye Runs, the Top Qualifier would receive the first, the No. 2, the second and the No. 3, the third. On an uneven field, the Top Qualifier always receives a Bye Run. The breakout rule does not apply during a Bye Run but Red Lighting does.
4. In order to set up a **Sportsman's Ladder** so that the Number 1 and 2 qualifiers meet in the final, a proposed conclusion needs to be arrived at. Assuming that the slowest qualifiers will fall away, the following example shows how to set up a 10 car/bike field.

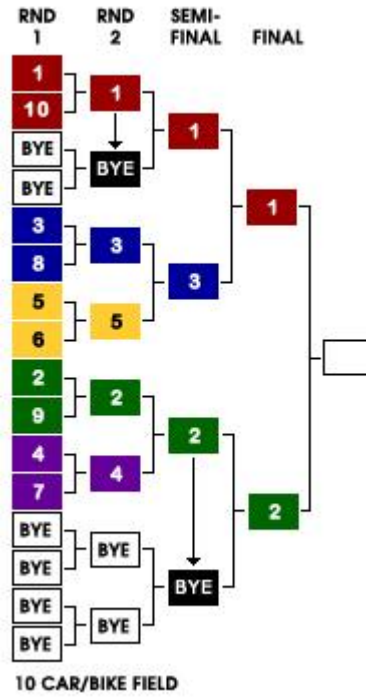


Working backwards from the final round, the ladder will appear as follows:



- 1 There are only four instances where the top qualifiers will not meet in the final. It is unavoidable and that occurs on Fields, 9, 18, 19 and 21.
- 2 In order to set up a **Pro-Ladder**, the same principle is applied, however, fastest is paired against slowest as per the following example.





**NOTE:** This system is applied regardless of whether the competition has been set up for handicap or heads up racing. Dial-in times do not affect the ladders in any way.