

# INDEX

## Page

2	<b>The Basics of Drag Racing</b>	
5	<b>Supplementary Regulations</b>	<b>SR</b>
5	Organisation	
5	Officials and Their Duties	
5	Competitors	
6	Vehicles	
7	Scrutineering	
8	Noise Control Regulations	
9	Pits, Paddock and Track	
9	Practice and Qualification	
10	Penalties	
10	Instructions and Communications to Competitors	
10	Jurisdiction	
10	Race Procedures	
17	Points & Related Programmes	
19	<b>Drag Race Competition Licences</b>	
22	<b>General Safety Regulations</b>	<b>GSR</b>
26	Engine	GSR1
33	Drive Train	GSR2
40	Brakes & Suspension	GSR3
43	Frame	GSR4
58	Tyres & Wheels	GSR5
59	Interior	GSR6
60	Body	GSR7
62	Electrical/Control	GSR8
65	Support Group	GSR9
69	Driver	GSR10
73	<b>Class Regulations</b>	
73	Junior Dragster	JR
85	ET Bracket	ET
95	Super Modified	SM
101	Super Street	SST
108	Super Gas	SG
115	Street Eliminator	SE
118	Super Comp	SC
125	Competition Eliminator	
125	Dragsters	D
133	Altered	A
143	Jet Cars	JC
147	NFAA Altered	FA
155	Top Methanol Funny Car	TMFC
155	Top Methanol Dragster	TMD
155	Pro Stock	PS
155	Pro Modified	PM
156	Top Fuel Funny Car	FC
156	Top Fuel Dragster	TF
157	<b>Charts &amp; Formulas</b>	
158	<b>Contact Names Cars</b>	
159	<b>Bike Regulations Index</b>	

# The Basics of Drag Racing

## WHAT IS A DRAG RACE?

In basic terms, a drag race is an acceleration contest from a standing start between two vehicles over a measured distance. The accepted standard for that distance is either a quarter-mile (402.336m) or an eighth-mile (201.168m). These contests are started by means of an electronic device commonly called the "Christmas Tree". Upon leaving the starting line, each contestant activates a timer which is, in turn, stopped when the same vehicle reaches the finish line. The start-to-finish clocking is the vehicle's ET (elapsed time), which serves to measure performance and often serves to determine handicaps during competition.

## WHO CAN COMPETE?

Virtually anyone can compete in drag racing. Drivers are required to have a valid MSA Licence, and must be capable of the safe operation of the vehicle. The vehicle must meet basic safety criteria (i.e.: have good brakes, be equipped with a seat belt, etc.). This applies to most streetable type vehicles. Faster, all-out race cars must meet more stringent requirements as outlined throughout this rule book, and drivers of Dragsters, Altereds, etc., must hold the appropriate Licence.

## WHO WINS WHAT?

A drag racer's primary objective is to become the overall winner of the category of competition in which his/her car is classified. A series of two-car, tournament-style elimination's are conducted. The losing vehicle in each race is eliminated, while the winning drivers progress into succeeding rounds of competition. This series of races continues until one winning driver remains. That driver is declared the category's winner.

## RESPONSIBILITY

Prime responsibility for the condition and operation of a vehicle in competition rests with the vehicle's owner and driver. The track operator's and the organising clubs main concern is that of providing a place to conduct events. FIA produces guidelines based on experience gained in the production of events each year and circulates valid information to help perpetuate the sport and maintain good organisation. Total responsibility for drag racing's progress, however, must be shared by everyone associated with the sport. Close observance of the standards set forth in this rule book, the MSA Yearbook and the FIA Drag Racing Appendix in the FIA Yearbook is an important fundamental.

## ET HANDICAPPED RACING

While some racers choose to race vehicles they build to certain specifications to fit into a certain MSA class (outlined elsewhere in this rule book), an ever-growing number of racers choose to

race in categories divided on the basis of performance or ET (elapsed time) Brackets. This is known as ET Handicap racing. This form of drag racing offers a good starting point for the novice wishing to become involved in the sport. However, thousands of drag racers in the world enjoy ET Handicap Racing so much that they have participated in it for many years. In this form of racing, two vehicles of varying performance levels can race on a potentially even basis. The anticipated elapsed times for each vehicle are compared, with the slower car receiving a head start equal to the difference of the two. With this system, virtually any two vehicles can be paired in a competitive drag race. For example: car "A" has been timed at 17.78, 17.74 and 17.76 seconds for the quarter-mile (402.336m), and the driver feels that a "dial-in" of 17.75 is appropriate. Meanwhile, the driver of car "B" has recorded elapsed times of 15.27, 15.22 and 15.26 on the same track and he has opted for a "dial-in" of 15.25. Accordingly, car "A" will get a 2.5-second head start over car "B" when the "Tree" counts down to each car's starting green light. If both vehicles cover the quarter-mile in exactly the predetermined elapsed time, the win will go to the driver who reacts quickest to the starting signal. That reaction to the starting signal is called "reaction time". Both lanes are timed independently of one another, and the clock does not start until the vehicle actually moves. Because of this, a vehicle may sometimes appear to have a mathematical advantage in comparative elapsed times but actually lose the race. This fact makes starting line reflexes extremely important in drag racing.

## **THE STARTING SYSTEM**

Essentially, drag racing is a pairing of two vehicles against one another in a race through a straightaway course. Hence, the start is the key to its uniqueness, because all races start from a standstill. Today's modern starting system, commonly referred to as the "Tree", is a product of continued development, designed to provide each competitor with the fairest start possible. The system features a vertical series of lights, displaying a visual countdown for each driver. Most drivers try to make their move between the last amber light going off and the green light coming on. Technique in staging and starting is one of the most vital skills an ET Handicap drag racer can develop, since a majority of races are won or lost at the starting line. Close observation and lots of practice pays off.

## **TIMING METHODS**

Two separate performances are monitored for each run: the elapsed time and the speed. On an elapsed time run the car first leaves the starting line, connecting the beam which activates the electronic timer. As the car continues through the course, the timer records the elapsed seconds and fractions of seconds until the car breaks the finish line beam and stops the timer. Top speed is determined by the car breaking one additional light beam, at the finish line.

## **WHAT IS "BREAK-OUT" AND/OR "RED LIGHT"?**

Should a driver go quicker than his/her predetermined ET "dial-in" it is a "break-out," and grounds for disqualification. In the case of both vehicles making runs under their dial-ins, the win goes to the driver who breaks out the least. Another form of disqualification is a foul start (or "red-light"). This happens when the driver reacts to the "Tree" too quickly and drives away from the starting line before the green "go" signal. Should dual infractions occur, say a red-light and then a break-out, the red-light would be classified as the worst infraction.

## **FINAL TEXT**

The final texts for these regulations shall be the English version should any dispute arise over their interpretation. The rules for the classes covered by this publication (The White Book) are compiled by the MSA UK Drag Racing Committee and any disputes or requests for clarifications should be addressed to the chairman of the committee, Philip Evans. (pae@ardenhouse.uk.com). The final text for Top Fuel, Funny Car, Pro Stock, Top Methanol Dragster and Top Methanol Funny Car shall be the English current version of the FIA DRAG RACING REGULATIONS published in the current FIA YEAR BOOK, with changes published in the FIA monthly Bulletin.

# SR

## Supplementary Regulations

### 1. ORGANISATION

**1.1** The General Regulations of the Motor Sport Association Ltd (incorporating the provisions of the International Sporting Code of the FIA) and any subsequent amendments officially promulgated and issued and these Specific Regulations shall apply.

**1.2** Unless stated hereafter, Organisers must comply with Section B and L of the General Regulations.

**1.3** For any Technical or Safety criteria not provided for by the Specific Regulations the current NHRA or FIA Rule book shall be deemed to be the source of reference.

### 2. OFFICIALS AND THEIR DUTIES

**2.1** Unless stated hereafter, Officials must comply with Section C of the General Regulations.

**2.2** The Race Director shall have the same responsibilities, duties and powers of a Clerk of the Course and absolute discretion in general conduct and control of the event and the application of penalties for any infringement by participant or vehicle.

**2.3** Subject to the prescriptions of the General Regulations the decision of the Clerk of the Course shall be final. See also MSA Competitors Yearbook Section: C.

### 3. COMPETITORS

**3.1** Unless stated hereafter, Competitors must comply with Section E and L of the General Regulations.

**3.2** Participant shall be deemed to be any person within the meaning of Sections E1, E5 and E6 of the General Regulations.

**3.3** The display of any identification, badge or pass will be deemed to identify the person concerned with the entrant and will imply their acceptance of these regulations.

**3.4** Entrants and Drivers must ensure they have a Competition Licence valid for the event and category of vehicle in accordance with Appendix "A" of these regulations.

**3.5** Entrants and drivers must ensure they have a Medical Certificate valid for the event and category of vehicle.

**3.6** Where a driver is required to make an observed run prior to taking part in the competition (7.1 and 7.2) it is the drivers responsibility to report this fact when signing on and await the instructions of the Race Director.

**3.7** The Race Director may forbid a driver to take part in competition for reasons of safety or any apparent deficiency in performance.

**3.8** A driver may not drive more than one vehicle in the same category at the same event.

**3.9** Any driver deemed to have driven in a manner not compatible with general safety or whose behaviour or actions is prejudicial to the interests of the organisers or motor sport generally may be immediately excluded from the meeting. (See Section O of the General regulations).

## **4. VEHICLES**

**4.1** Unless stated hereafter, vehicles must comply with Section E and L of the General Regulations.

**4.1.1** Trucks or Commercial Vehicles are prohibited to take part in Drag Races without prior approval of the MSA. Series production truck vehicles of up to 1 ton payload permitted.

**4.1.2** Junior Dragsters may not be included in any event without the prior approval of the MSA.

**4.2** Classification, unless otherwise stated in the ASR's, shall be as prescribed in the Specific Class Regulations.

**4.3** Annual registration of vehicles and drivers with Organising Clubs is mandatory.

**4.4** Registration must be submitted on the official Race Vehicle Registration form issued by each Organising Club. Forms which are amended, incomplete or defaced are invalid.

**4.5** Re-registration may be required for any change made to the classification of vehicle.

**4.6** Vehicles may be given a permanent race number for the year.

**4.7** Numbers must be displayed in accordance with the specific class format; affixed in such a way to ensure their durability and legibility and be of sufficient contrast to their background. They shall be subject to the approval of Chief Timekeeper.

**4.8** The naming of vehicle will be subject to the approval of each Organising Club. Duplication of names will not be permitted.

**4.9** Decals must be displayed as required by the event or series organiser.

**4.10** Vehicles must be in clean and presentable condition throughout an event. Personnel attending a competing vehicle should be aware of the same considerations.

## **5. SCRUTINEERING**

**5.1** In presenting a vehicle for scrutineering, entrants will be deemed to have accepted the conditions of entry and these regulations and that the vehicles and personnel within their jurisdiction will comply with the regulations throughout the meeting.

**5.2** Entrants will be required to sign mandatory indemnities.

**5.3** No vehicle is permitted to take part in practice or a race without the approval of the Chief Scrutineer.

**5.4** Race Director may require:-

**5.4.1** the eligibility of an entrant, driver or vehicle to be checked at any time or prescribed place before or during the meeting or afterwards subject to the entrant being notified not later than half an hour after the publication of a valid provisional result.

**5.4.2** a vehicle to be re-scrutineered at any time throughout the meeting.

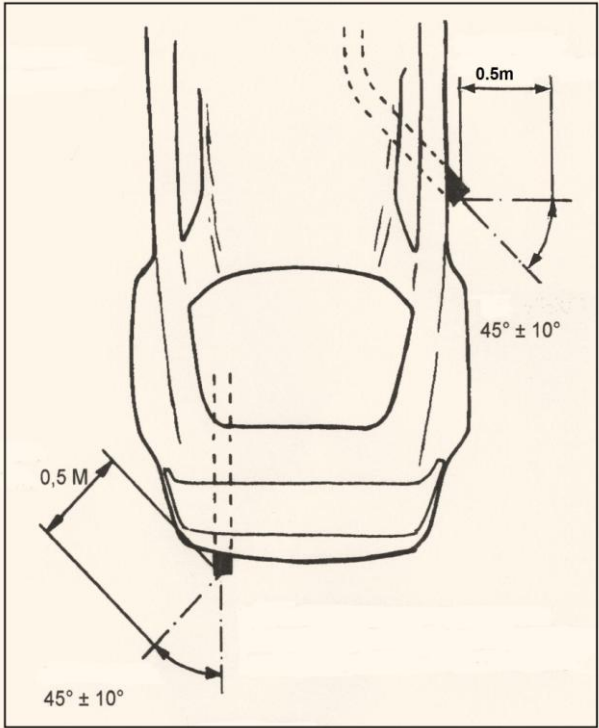
**5.4.3** a vehicle to be dismantled to ensure it complies with the regulations.

**5.4.4** an entrant to supply such components and or samples as may be required.

**5.4.5** a driver to be medically examined for reasons of safety,

**5.4.6** a car to practice before its eligibility is verified.

**5.5 NOISE CONTROL REGULATIONS** For the 2011 season mandatory noise limits are to be introduced on certain classes. The technical crew will be testing vehicles and advising competitors of what to do in order to comply with the noise limits. The limit for Junior Dragster, Sportsman ET and VW Sportsman ET is 113dba and 120dba for Street Eliminator, Pro ET, Super Gas, Super Street Car and VW Pro. The noise level will be measured using calibrated equipment positioned at ½ metre from the end of the exhaust pipe(s), at 45 degrees to the axis of the exit pipe. (See diagram) The tests will be conducted at an engine speed of 4500 rpm (Junior Dragster 2500rpm) and it is anticipated that they will be carried out in the open area in front of the entrance to the scrutineering building at Santa Pod and the entrance to the first return road at SCR. It is the intention of the Technical Crew to help competitors achieve the desired noise levels, giving advice and to be available for further testing to validate silencing modifications.



## **6. PITS, PADDOCK AND TRACK**

### **6.1 Fuel.**

**6.1.1** The handling and storage of fuel must comply with the law and local fire regulations.

**6.1.2** The ASR's shall specify the requirements of GR's J14.2.1 to 14.2.4 inclusive.

**6.1.3** The fuelling and draining of vehicles outside a designated fuelling area is forbidden.

**6.1.4** The engine must be stopped during fuelling and the driver must vacate the vehicle.

**6.1.5** The vehicle must be clear of any fuel handling or storage when starting the engine.

**6.1.6** The entrant must ensure that throughout fuelling a person will stand by the vehicle with an adequate fire extinguisher.

### **6.2 Engine starting and warm-ups.**

**6.2.1** It is mandatory for a driver or competent crew member to be seated in the normal driving position at any time the engine is running.

### **6.3 Medical and Rescue (See L5 and Section S)**

**6.3.1** The Rescue Unit and the Ambulance must be positioned to ensure unobstructed access to the course.

**6.3.2** An emergency vehicle equipped specifically for fire fighting with the following minimum equipment:

- 22lb (9kg) dry power fire extinguishers
- 2 fire resistant blankets 6ft x 6ft (2m x 2m)
- 2 pairs fire resistant/industrial gloves.

## **7. PRACTICE AND QUALIFICATION**

**7.1** A new driver who has not previously held a Competition Licence will be subject to a cockpit orientation (blindfold) test.

**7.2** A driver may be required to make runs under observation at any time.

## **8. PENALTIES**

**8.1** Exclude from the meeting any vehicle or driver found to be ineligible at any time before, during, or after qualifying or racing.

**8.2** A specific penalty mentioned in these regulations does not preclude the imposition of additional penalties as deemed appropriate.

## **9. INSTRUCTIONS AND COMMUNICATIONS TO COMPETITORS**

**9.1** Any additional instructions published will be deemed to be an Appendix to and have the same powers as these Regulations.

## **10. JURISDICTION**

**10.1** The general conduct and control of a meeting will be governed by the Powers of the Officials and the Judicial Procedure prescribed and published in the General Regulations and any subsequent amendments officially promulgated and issued and shall supersede all other Regulations.

**10.2** The Stewards of the Meeting may implement decisions on any matter not provided for by these Regulations.

## **11. RACE PROCEDURES**

### **11.1 FIA Competition Numbers**

All contestants in Top Methanol Funny Car, Top Methanol Dragster, Pro Stock, Funny Car and Top Fuel are required to display a permanent FIA driver number at all events.

#### **11.1.2 MSA Competition Numbers**

See SR 4.6 and 4.7.

### **11.2 Burnouts**

All pre-race burnouts are restricted to designated areas, using water only. If a contestant's car should break on a burnout and cannot back up or be pushed back, it is not permitted to turn on the track and drive back to the starting line. Crossing the centre line during a burnout is not a disqualification. Fire burnouts are strictly prohibited. No person is permitted to hold or touch cars during burnouts.

Top Fuel, Funny Car, Pro Stock, Pro Mod are allowed two (2) burnouts across the starting line under power. Top Methanol Dragster, Top Methanol Funny Car, Comp Eliminator, Super Comp and ET Cars running 7.49 (\*4.49) sec or quicker are allowed one burnout across the starting line under power. Length and time duration must be reasonable and, in concert with the

opponents procedures. Super Gas, Super Street and all ET categories (except for ADV. ET) may not cross the starting line on any burnout; stationary burnout limit: Five seconds.

### **11.2.1 Staging**

Once a car reaches the front of the staging lanes for a run, it must be prepared to fire and race. Vehicles in TF, FC, TMD and TMFC classes once started and having moved into the burnout area - may not re-start engines.

In order to be a legitimate race winner, a contestant's car must self-start and self-stage. This rule also applies to single runs.

Push-starting or push-staging a vehicle is prohibited. Staging must be done under the vehicle's own engine power.

The application or use of any device, mechanical or electronic that permits the driver to ascertain the position of their vehicle in relation to the starting line is prohibited. Only visual observation of track equipment may be used to ascertain the vehicle's position.

The practice referred to as "deep staging is prohibited in the Super Comp, Super Gas and Super Street categories (permitted in all other categories). Both pre-stage and stage lights must be activated to constitute a legal start in those categories. In dual deep-stage situation, both competitors will be disqualified- except in the final round of competition, in which case the two finalists will be rerun. When staging for any of the Super categories or ET Brackets, both contestants must have their pre-stage lights activated before either may advance into the stage beams, however if the first driver has activated both the pre-stage and the stage beams and the second driver chooses to go into both the pre-stage and the stage beams the official starter can declare it as a legal start. If both drivers of a race leave the line before the start system is activated-both are disqualified. A driver on a single run leaving before the starting system is activated would advance; however, any ET's posted would be void for lane choice or other considerations. THE FINAL STAGING MOTION, USING APPLIED POWER, MUST BE IN A FORWARD MOTION GOING FROM PRE-STAGED TO STAGED POSITION.

A reasonable amount of time will be allowed for drivers to stage. The time limit will be determined in the sole and absolute discretion of the Official Starter. Failure to stage upon the Starter's instructions is possible grounds for disqualification. After proper staging and receiving the Starter's signal to go, it is not allowable to re-stage for a second time. Any driver leaving the starting line before the start system is activated, including drivers on a single run, will have their time disqualified for the run.

### **11.2.3 Starting System**

Top Fuel, Funny Car, Pro Stock, Pro Mod, Top Methanol Dragster, Top Methanol Funny Car, Super Comp, Super Gas, Super Street utilise the three-amber "Pro Start" Tree. All amber lights are activated simultaneously, with a four-tenths of a second delay to green (except for Super Street which have a five-tenths

of a second delay to green). Competition Eliminator utilize a full tree-amber countdown with five-tenths delay between lights.

### **11.3 Qualifying**

In order to constitute an official qualifying attempt, all cars must self-start and self-stage. Competitors must have a valid elapsed time recorded under engine power to be placed into eliminator competition whether the first round ladder pairings are determined by qualification times or by random selection. A contestant cannot drive more than one car in the same category at the same event. Vehicles must remain in the category entered, with one registered driver for the duration of the event. The Clerk of the Course has the option of allowing driver or vehicle changes, but only under the following conditions:

- 1) All previous event times are void for vehicles and drivers involved.
- 2) Vehicle must pass a technical and safety scrutineering inspection.
- 3) Changes must be made, and driver must re-qualify, during the normal schedule, as posted, for the event. No changes are permitted after qualifying has been completed.
- 4) Driver must stay within original eliminator category entered, and have proper credentials to drive replacement vehicle.
- 5) Only one change permitted during the course of an event. Replacement vehicle must be of same class and category.

In the event of identical qualifying elapsed times in Top Fuel, Funny Car, Pro Stock, Pro Mod, Top Methanol Funny Car and Top Methanol Dragster, the driver with the faster top speed, recorded on the qualifying runs in question, will be awarded the higher qualifying position.

All qualifiers in Top Fuel, Funny Car, Pro Stock, Top Methanol Dragster, Top Methanol Funny Car, Pro Mod, Competition categories must have a valid elapsed time recorded to be placed into eliminator competition. Qualifying order Super Categories and ET Bracket: For all drivers that have a ET that is the same as the class index/personal dial in index, or slower, the time closest to that index is used to determine qualifying position. For drivers that have E.T.'s that are quicker than the class index/personal dial in index, the slowest time is awarded the higher qualifying position.

In the event of identical qualifying elapsed time with in 1/1000 of a second, the driver who made the run first will receive the better qualifying position. If qualifying can not take place, random pairing will be used.

If weather conditions or other event delays should disrupt posted lane rotation for qualifying runs, the Clerk of the Course has the option of reassigning lanes as necessary for remaining runs. Every effort will be made to see that qualifying contestants have the opportunity to run in each lane.

### 11.3.1 Ladders

Category pairings are based upon established FIA "Ladder" charts. Qualifying elapsed times determine ladder positions (16-car TF, FC, PRO, PM, TMD, and TMFC fields at FIA / MSA Events, example: 1 Vs 16; 2 Vs 15; 3 Vs 14; 4 Vs 13; 5 Vs 12; 6 Vs 11; 7 Vs 10; and 8 Vs 9). Once established, pairings are not changed unless clerk of the course determines there is adequate justification for a change. In situations where fields are not filled, such as 14 cars entering for a 16-car field, a 14-car ladder would be utilised, not a 16-car ladder. In Competition Eliminator, the Super categories and in ET categories the progressive Sportsman ladder system is used in which the top half of the field is matched to the lower half. (1 Vs 17; 2 Vs 18; 3 Vs 19 etc. in 32 car fields). In competition Eliminator the all run system is in use for 32 or less qualified drivers. The first round pairings would be determined by the first 32 qualification elapsed times. In the Super categories and ET Bracket the all run system is used. There may be two methods of establishing first round pairings at events. This would be either by qualification elapsed times or by random selection of first round pairings. Championship Regulations or Supplementary Regulations will specify which method is to be used at which event.

### 11.3.2 Handicapping

Competition Eliminator handicapping is based upon the European Index system. Handicap margins can be determined simply by comparing individual Class index elapsed time factors.

### 11.3.3 Competition Index Control (CIC)

In attempt to control runaway Index situations in Competition Eliminator, CIC will be in effect at all events. Any contestant running -.50 or quicker during elimination's (not during qualifying or time trials) will have there Index adjusted by the amount they exceed -.50 for the following round of elimination's.

Any competitor running -.610 or greater in elimination's will cause there class Index to be permanently adjusted, by an increment equal to the second decimal of the infraction, following the event as follows:

ET under Index	Adjustment of Index
0,610 - 0,619	0,01 sec
0,620 - 0,629 sec.	0,02 sec
0,630 - 0,639 sec.	0,03 sec
0,640 - 0,649 sec.	0,04 sec
0,650 - 0,709 sec.	0,05 sec
0,710 - 0,719 sec.	0,06 sec
0,720 - 0,729 sec.	0,07 sec
0,730 - 0,739 sec.	0,08 sec
0,740 - 0,749 sec.	0,09 sec
0,750 sec. Or more	0,10 sec

In cases where two cars of the same class are paired, the race is conducted on a heads-up basis, regardless of any CIC considerations.

### **11.3.4 Break-Out Rules**

In Super Comp, Super Gas, and Super Street categories, the break-out rules are enforced at any event except as follows:

- 1) When an opponent foul starts or crosses a boundary line.
- 2) On a single run.
- 3) When both drivers run under their Index, the driver that is the least under is the winner.
- 4) If two contestants run under by the same margin (with elapsed times extended to a thousandth of a second), the driver crossing the finish line first is the winner.

### **11.3.5 Single Runs**

In situations where a driver is making a single run, he is considered the winner once he stages and receives the start signal. If a competitor crosses the boundary line on a single run, the elapsed time is voided for lane choice determination.

### **11.3.6 Alternates**

Once qualifying has concluded and a ladder has been established, pairings will not be changed. However, should a qualified car and driver be unable to make the first round of elimination's (not reach the bleach box), an alternate will be inserted in their place. The quickest non-qualifier will take the first available space, the second quickest non-qualifier the next available space and so on. When and if this would happen is at the sole discretion of the race director/ clerk of the course.

### **11.3.7 Lane Choice**

In the Top Fuel, Funny Car, Pro Stock, Pro Mod, Top Methanol Funny Car, Top Methanol Dragster and Competition Eliminator categories, lane choice is determined by elapsed times. The driver with the better qualifying ET gets first-round lane choice, and in subsequent rounds, lane choice goes to the driver with the lower ET in the previous round. In all other categories lane choice will be given to the driver who was closest to his/her index in qualifying and during competition lane choice will be given to the driver who was closest to his/her index during the previous round. In the event of a rain off during qualifying or a dead heat in the previous round of competition then competing drivers are to determine lane choice by a coin flip or a random draw. In the event of a push back due to a track incident, the competitor with lane choice can change his/her preference up to the point that their vehicle is driven into the bleach box.

## **11.4 Penalties**

One of the rarities at an event is the situation in which two cars are disqualified during the same elimination race. In most cases, both offending contestants are disqualified. Those situations include: both drivers crossing the boundary lines, or both drivers leaving the line before the start system is activated. Should a driver receive a red-light foul start, and the opposing driver cross the lane boundary line, the latter infraction would prevail and the driver committing the foul start would be reinstated. In

determining lane boundary crossing violations, it is considered a disqualification when any portion of a tyre completely crosses the painted line surface. In cases where both opponents cross the centre line or outside line, both drivers will be disqualified. In situations where multiple boundary lines are utilised, the line directly adjacent to the competitors racing lane will be used for reference. Anytime it has been judged that excessive braking has resulted in the loss of control as to cause contact with the guard-rail, light fixtures, or crossing the centre boundary lines - INCLUDING PAST THE FINISH LINE - the contestant will be disqualified. Intentional crossing of boundary lines to leave the track or to avoid depositing debris on track is not grounds for disqualification. Additional grounds for disqualification, fines, suspensions, and/or expulsions are: 1) contact with guard-rail, barriers, or any other track fixture (rubber cones when used are considered visual aids, not fixtures); 2) unsportsmanlike conduct, improper language, or conduct detrimental to racing; 3) any condition considered unsafe, unfair, or out of order. If a driver is disqualified during competition for any reason prior to the actual start of a race, he cannot be reinstated.

Any driver and/or pit crew member found to be under the influence of alcoholic beverages or drugs, regardless of the amount, will be excluded from the event. Such a condition may be cause for suspension, fine and/or revocation of competition privileges.

Refer to MSA Competitors Year Book (Blue Book) regarding penalties, protests and appeals.

#### **11.4.1 Blue Line**

Should a crew member of a vehicle touch the vehicle after its front wheels have crossed the blue line in the starting line area, this will result in the automatic disqualification of that vehicle.

### **11.5 National Drag Racing Record Procedures**

The standard of excellence of performance in drag racing is the National Record. These records are established under controlled conditions at authorised record events throughout the season. ET and Speed Records can be set in Top Fuel, Funny Car, Pro Stock, Pro Mod, Top Methanol Dragster, Top Methanol Funny Car and in each Index classes in Competition Eliminator. Each record run is made under close observation of starting procedures, running, finish, and timing. Each car is thoroughly inspected to determine its compliance with class requirements, including weight, engine displacement, mechanical limitations, and fuel checks where necessary. In a sport where records play such a vital role, every effort is made to maintain their accuracy and validity. In order to insure the validity of all new records, a backup performance of within one percent of the new mark is required at the same event. In the event that two runs exceed the existing record but are not within one percent of each other, the quicker time or faster speed will be acceptable as the backup for the slower time, which will stand as the new record.

Elapsed time records will be recorded and listed to the thousandth of a second. Speed records will be to the hundredth of a mile-per-hour. If two contestants tie for the elapsed time record to the thousandth of a second at the same event, the tie-breaker will be the fastest mile-per-hour reading for the run that established the record. In the event a tie still exists, the contestant accomplishing the record run earlier in the event will be awarded the record. If the record is tied at a later race, the record will stay with the driver who set it first. Similarly, if two contestants tie for the speed mark, the tie-breaker will be the quickest elapsed time on the run that established the new National Record. Speed marks may be set independent of elapsed time record; records may only be set in qualifying and elimination, and only until the driver is eliminated from further competition; previous runs allowable as one-percent record backup. A contestant cannot set records with one vehicle, then compete in elimination's with another vehicle. Only the driver holding the record at the conclusion of the event will be credited with the record. A driver setting and then losing a record at the same event will not receive credit for establishing a record.

### **11.5.1 Timing Equipment**

A full electronic timing system is required, incorporating a handicap facility, individual Elapsed Time and Terminal Speed details for each lane, accurate to .001 second and .01 mile per hour (.016 km/h) respectively.

A full "Christmas Tree" starting system should be used, **with three amber lights.**

a) Pre-Stage Beam: Located 7 inches (17.8 cm) before the Stage Beam. Its only purpose is to show the competitor that the vehicle's front wheel is approaching the Stage Beam.

b) Stage Beam: Located 16 inches (40.6 cm) before the Guard Beam, it indicates that the vehicle is in the correct position for the start. The Stage Light 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.

c) 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.

d) Finish Line Beam: The Elapsed Time Beam is located at the Finish Line.

e) Speed Traps: These are located 66 feet (20.12 m) prior to and at the Finish Line in each lane.

f) Photocell Heights: Ideally, light sources 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 equal for both lanes, and all beams should be parallel.

## **11.6 POINTS AND RELATED PROGRAMMES**

### **11.6.1 Professional Championships / Series**

Contestants in the Top Fuel, Funny Car, Pro Stock, Pro Modified Top Methanol Funny Car and Top Methanol Dragster:

Points awarded as follows:

Winner	100
Runner-up	80
Semi-final loser	60
Quarter-final loser	40
Eight-final loser	20

Additional points are awarded as follows:

10 points to all contestants - 1 qualifying run required.

20 points for establishing an official MSA national ET record.

No points awarded for establishing an official MSA national Speed record.

Qualifying positions earn points as follows :

1st	8
2nd	7
3rd	6
4th	5
5th & 6th	4
7th & 8th	3
9th through 12th	2
13th through 16th	1

### **11.6.2 Sportsman Championships / Series**

See: Regulations for each Championship.

### **11.6.3 Points - General**

If at the season end a tie exists in a series, it shall be resolved as follows. If, after step one is followed a tie still remains, additional steps are to be followed until tie is broken.

A. Review full season of elimination racing between tied contestants. Driver with most "head to head" victories wins ties.

B. Review full season of elimination racing. Driver with most rounds won wins ties.

C. Apply tie breaker points to full season of event competition as follows:

Event Win	5
Runner-Up	3
Semi Finalist	2
Quarter Finalist	1

Driver with most points wins tie.

D. By decision of MSA

All points are awarded to the driver and cannot be transferred under any circumstances. Points are not transferable from one category to another. No part of an event can be rescheduled.

If the event is disrupted due to weather or other conditions, after elimination's of that category are in progress, points will be awarded to previous whole round of elimination's completed.

Attempts to set Low Elapsed Time will not be permitted after qualifying ends, with the exception of those cars remaining in category competition. The final run on which a driver is eliminated will be allowed as a Low Elapsed Time. For a driver to be eligible to earn points or prizes, they must display sponsors decals/stickers on their race vehicles as requested by Organising Club, Promoter, and/or sponsor- championship co-ordinators.

**Any contestant excluded for major mechanical non compliance loses all points for that particular event.**

#### **11.6.4 Alternates**

Once qualifying has concluded and a ladder has been established, pairings will not be changed. However, should a qualified car and driver be unable to make the first round of elimination's (not reach the burn out water area), an alternate will be inserted in their place. The quickest non-qualifier will take the first available space, the second quickest non-qualifier the next available space and so on. When and if this would happen is at the sole discretion of the race director/ clerk of the course. Under normal conditions, all first-round points and cash awards will remain with the qualified driver. Alternates will not be eligible for any round points, regardless of how far they advance past round one. The cash awards paid to the alternate will be less the amount paid to the original qualifier.

# Drag Race Competition Licences

## 1. GENERAL

**1.1** The conditions prescribed in L9.2 of the General Regulations do not apply.

**1.2** Drivers Licences will be specifically endorsed for the category of vehicle they are permitted to drive.

**1.2.1** For categories running an elapsed time of 11.50 seconds or slower, no endorsement is required.

**1.2.2** A new licence holder, before taking part in any Competition, must meet the requirements prescribed in paragraph 2 or as may be required by the observing panel.

**1.2.3** Drivers who have competed within the previous 24 months of the event and have a representative performance and known level of competence may be given the relevant endorsement without being required to qualify as in paragraph 2.

**1.3** A driver may not drive a vehicle of a higher category than for which a current endorsement applies but may drive any vehicle of a lower category.

**1.4** A driver may be required to make runs under observation at any time irrespective of the endorsement held.

**1.5** A category endorsement has no validity for or within any other type of event.

**1.6** A driver must retain all Licences and endorsements to substantiate any application for category or licence upgrading.

## 2. ENDORSEMENTS

**2.1** A panel of not less than three qualified persons, including the MSA Steward, shall observe and assess a driver's capability for the category of the application.

**2.2 For each category class A and B a driver must:-**

1. Complete a cockpit orientation test (blindfold)
2. Complete a cockpit escape test in under 8 seconds
3. Complete a parachute packing
4. Be conversant with the start procedure, start correctly and run under power for approximately 55 yards (1/32 mile)
5. Make one half pass (1/8 mile) under power
6. Make one moderate run (3/16 mile) under power

7. Make a full run (1/4 mile) representative of the performance expected within the category.

### **2.3 For each category class C, D, E and F a driver must:-**

1. Complete a cockpit orientation test (blindfold)
2. Complete a cockpit escape test under 8 seconds
3. Complete a parachute packing (if required by class regulations)
4. Be conversant with the start procedure, start correctly and run under power for approximately 55 yards (1/32 mile)
5. Make one half pass (1/8 mile) under power
6. Make a full run (1/4 mile) representative of the performance expected within the category.

### **2.4 For category class G and H a driver must:-**

1. Complete a cockpit orientation test (blindfold)
2. Be conversant with the start procedure, start correctly and run under power for approximately 55 yards (1/32 mile)
3. Make one half pass (1/8 mile) representative of the performance expected within the category
4. Make a full run (1/4 mile) representative of the performance expected within the category.

## **2.5 Jet Car Licensing**

A valid MSA competition licence is mandatory. In order to be allowed to run within a permitted event the following tests will have to be completed in the presence of a licensed driver and the race director:

- Two full passes without the afterburner activated.
- Three half passes with afterburner activated.
  - Five full passes up to maximum speed.

**2.6** Subject to satisfactory fulfilling these conditions the MSA Steward is empowered to endorse the Licence for the relevant category.

## **3. UPGRADING**

**3.1** To obtain a Drag Race Licence of a higher grade than currently held, a driver must apply to the MSA Race Executive and provide written evidence of their competence to substantiate the application.

**3.2** Drag Race Licence will not be valid for any other type of event.

## **4. FOREIGN NATIONALS**

**4.1** Within the territory of the MSA, a Competitor must hold either:-

**4.1.1** An International grade licence when entered in an International status event,

or

**4.1.2** An EU Licence issued by a European ASN bearing the correct inscription and EU logo.

**4.2** Irrespective of the grade of Licence or the issuing ASN, it is mandatory for a Competitor to submit with their entry for an event a declaration of competence but this shall not absolve the Competitor from any additional conditions required by the Organisers or the MSA.

**4.3** Except for an International status event, organisers are only permitted to accept an entry from a holder of a Licence issued by a European ASN bearing the correct inscription and EU logo.

## **5. LICENCE GRADES**

“A” Top Fuel

“B” Fuel Funny Car

“C” Top Methanol Dragster

“D” Top Methanol Funny Car

“E” Pro Modified, Pro Stock, Full bodied and Funny Cars ET Cars running 7.49 (\*4.49) seconds or quicker, Competition Altered A/A, B/A, AA/A, BB/A, AT/A, BT/A, AN/A, BN/A

“F” ET Dragsters or Altereds running 7.49 (\*4.49) seconds or quicker, Competition Dragster A/D, B/D, AA/D, BB/D, BN/D

“G” Super Comp, Super Pro ET, Heavy ET, Super Gas and all other Competition Eliminator classes not stated above

“H” Super Street, Pro ET, Sportsman ET, Street ET

# **GSR**

## **General Safety Regulations**

Each car, regardless of class or category, must complete and satisfactorily pass inspection of a qualified scrutineer before being allowed to make a trial run or participate in any event

Throughout this Appendix, a number of references are made for particular products to meet certain specifications (i.e.: FIA, SFI, SNELL, DOT, etc.). It is important to realise that these products are manufactured to meet certain specifications, and upon completion, that manufacturer labels his product as meeting that spec. Therefore, except as outlined under SFI or FIA requirements, any change to the product voids that certification; under no circumstances may any certified product be modified, altered or in any way vary from the as-manufactured condition; such a practice is in violation of the FIA, SFI, SNELL, DOT, etc., program and in so doing voids such certification.

Cars that are imported and/or built to more current SFI specs than outlined in this rule book shall be deemed to comply with required regulations even if not specifically outlined in this rule book. Members will be informed of changes of spec as soon as possible and the changes incorporated in subsequent issues of the rule book.

For Top Methanol Funny Car, Top Methanol Dragster, Pro Stock, Funny Car and Top Fuel the current FIA Drag Racing rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time. All text in this rule book regarding these classes are to be seen as a guidance only.

## GSR 0:1 EXPIRATION PERIODS SFI SPECIFICATIONS, QUICK-GUIDE

SFI Spec. No.	DESCRIPTION	EXPIRATION PERIOD For specifics see class regulations	
		7.50 & Quicker or Comp classes with prefix A or B	All other classes included in this rulebook.
1.1	Replacement Flywheels and Clutch Assemblies	2 Years	4 Years
1.2	Multiple Disc Clutch Assemblies	2 Years	4 Years
1.3	Nitro-Methane Drag Race Multiple Disc Clutch Assemblies	1 Year	1 Year
1.4	Methanol Drag Race Multiple Disc Clutch Assemblies	1 Year	1 Year
1.5	Multiple Disc Clutch Assemblies for Supercharged, Nitrous Oxide-injected, and Turbocharged Vehicles	1 Year	1 Year
2.1A	Rear Engine Dragster Roll Cage – 5.99 Seconds & Quicker (Methanol)	FIA Only	FIA Only
2.2C	Front Engine Dragster Roll Cage – 5.99 Seconds & Quicker	FIA Only	FIA Only
2.3N	Rear Engine Dragster Chassis Structure (Top Fuel) – 6.29 Seconds & Quicker (Top Fuel)	FIA Only	FIA Only
2.4C	Front Engine Dragster Roll Cage - 6.00 to 7.49 Seconds	3 Years	3 Years
2.5C	Rear Engine Dragster Roll Cage - 6.00 to 7.49 Seconds	3 Years	3 Years
2.6A	Front Engine Dragster Roll Cage - 7.50 Seconds & Slower	N/A	3 Years
2.7C	Rear Engine Dragster Roll Cage - 7.50 Seconds & Slower	N/A	3 Years
3.2A	Driver Suits (3.2A/1, 3.2A/3, 3.2A/5)	N/A	N/A
3.2A	Driver Suits (3.2A/15,3.2A/20)	5 Years	5 Years
3.3	Driver Accessories Arm Restraints (2.3) Shoes (3.3/5) Drag Boots (3.3/15, 3.3/20) Gloves(3.3/5, 3.3/15, 3.3/20) Helmet Skirts(3.3/5) Hoods/Balaclavas (3.3) Neck Collar (3.3)	N/A	N/A
4.1	Automatic Transmission Shields, Rigid Type	5 Years	5 Years
4.1	Automatic Transmission Shields, Flexible Blanket Type	2 Years	2 Years

6.1	Containment Bellhousing for SFI 1.1 & 1.2 two disc maximum Clutch Assemblies or SFI 1.1 & 1.2 three disc (8-inch disc maximum) Clutch Assemblies used only on naturally aspirated vehicles	5 Years	5 Years
6.1W	Passenger Car Replacement Containment Bellhousing with adjustable Clutch Window for SFI 1.1 & 1.2 Single Disc Clutch or two disc (8-inch dia, Maximum) Clutch Assemblies Used Only on Naturally Aspirated Vehicles	2 Years	2 Years
6.2	Containment Bellhousing for SFI 1.3 & 1.4 Clutch Assemblies	2 Years	2 Years
6.3	Containment Bellhousing for SFI 1.2 <u>greater than two disc</u> Clutch Assemblies used on naturally aspirated vehicles or SFI 1.1 & 1.2 Clutch Assemblies used on supercharged/nitrous injected vehicles	2 Years	2 Years
7.1	Lower engine Containment Device	1 Year	1 Year
7.2	Lower Engine Containment Device	5 Years	N/A
9.1	Sport Compact Bellhousing Blanket	5 Years	5 Years
10.1E	Funny Car Roll Cage (Alcohol, Advanced ET, etc)	See Class Rules	See Class Rules
10.2	Altered Car Roll Cage – 6.00 to 7.49 Seconds	3 Years	3 Years
10.3	Altered Car Roll Cage – 7.50 Seconds & Slower	3 Years	3 Years
10.4	Side Steer Roadster Roll Cage, 7.50 Seconds E.T. and Slower	3 Years	3 Years
10.5	Fuel Funny Car Chassis	FIA Only	FIA Only
14.1	Supercharger Restraint Devices	2 Years	2 Years
14.2	Alcohol Supercharger Restraint Devices	2 Years	2 Years
14.21	Screw Type Supercharger Restraint Devices	2 Years	2 Years
14.3	Nitro-Methane Fuel Supercharger Restraint Devices	2 Years	2 Years
14.4	Containment Valve Covers/Valve Cover Shields	FIA Only	FIA Only
15.1	Drag Race Drive Wheels	N/A	N/A
15.2	Drag Race Front Wheels	N/A	N/A
15.3	High Horsepower Drag Race Drive Wheels	2 Years	2 Years
15.4	Top Fuel and Funny Car Drag Race Drive Beadlock Wheels	1 Year	1 Year
16.1	Driver Restraint Assemblies	2 Years	2 Years
17.1	On Board Fire Extinguishing Systems	2 Years (6 Years Max)	2 Years (6 Years Max)

18.1	Crankshaft Hub Harmonic Dampers	N/A	N/A
23.1	Supercharger Pressure Relief Assemblies	2 Years	N/A
24.1	Youth Helmets	N/A	N/A
25.1E	Full Bodied Car Tube Chassis Roll Cage - 7.49 Seconds and Quicker; 2,800 Lbs. Maximum	3 Years	3 Years
25.2	Full Bodied Car Tube Chassis Roll Cage - 7.49 Seconds and Quicker; 3,200 Lbs. Maximum	3 Years	3 Years
25.3	Full Bodied Car with Aftermarket Body Shell and Tube Frame, OEM Body Shell and OEM Frame with OEM or Modified Floorpan and Firewall, or Uni-body with OEM or Modified Floorpan and Firewall Roll Cage- 6.50 to 7.4 Seconds ET, 3,600 lbs Maximum	3 Years	3 Years
25.4	Full Bodied Car Tube Chassis Roll Cage - 7.50 to 8.49 Seconds; 3,600 Lbs. Maximum	3 Years	3 Years
25.5	Full Bodied Car Stock or Modified/OEM Floorpan and Firewall with OEM Frame or Uni-Body Construction - 7.50 to 8.49 Seconds; 3,600 Lbs. Maximum	3 Years	3 Years
27.1	Window Nets	2 Years	N/A
28.1	Fuel Cells	N/A	N/A
29.1	Automatic Transmission Flexplates	3 Years	3 Years
29.2	High Horsepower Automatic Transmission Flexplates	3 Years	3 Years
30.1	Automatic Transmission Flexplate Shields	5 Years	5 Years
31.1	Flame Resistant Motorsports Helmets	N/A	N/A
34.1	Screw Type Superchargers	3 Years	3 Years
38.1	Head and Neck Restraint Systems	N/A	N/A
40.1	Abrasion Resistant Driver/Rider Suits	N/A	N/A
41.1	Motorsports Helmets	N/A	N/A
42.1	Steering Wheel Quick Disconnect/Release	N/A	N/A
43.1	Drive Shafts	N/A	N/A
45.1	Roll Cage Padding	N/A	N/A
46.1	Nitro-Methane Fuel Motorcycle Engine Restraint Device	2 Years	2 Years
49.1	Top Fuel Rear Wing Assemblies	N/A	N/A
54.1	Non-Flammable Thermal Barrier Fire Extinguishing Coatings	Annual Recoating	Annual Recoating

Class rules and General Safety Rules have always priority over this quick-guide. For TF, FC, TMFC, TMD, PM and any other class not covered in this rule book see the current FIA regulations or special class regulations.

## **ENGINE: GSR 1**

### **GSR 1:1 COOLING SYSTEM**

All cooling systems/radiators must be installed in the stock location for body style used. Front engine Dragsters must have system installed in front of engine. Rear engine dragsters with radiator mounted in front of engine must install a deflector from frame rail to frame rail and to the top of the roll cage. Portion above top rail may be width of rear roll cage bars. **See GSR 4:3 DEFLECTOR PLATE**

### **GSR 1:2 ENGINE**

Classes limited to automotive engines only unless otherwise stated under Class Requirements. Contestants in weight-to-cubic-inch (weight to cubic centimetre) classes must claim cubic inch (cubic centimetre) displacement of engine used. No allowance for overbore; any part of a cubic centimetre (cubic inch) is rounded off to the next highest inch (i.e.: 301.2 = 302). If engine size is changed during a race, competitor must report to scrutineer before a run is attempted. Crankshaft centrelines must not exceed 610 mm (24-inch) from ground in any class, except OEM trucks, maximum height 914 mm (36-inches). Engine must be mounted to frame by a minimum of two 10 mm (3/8-inch) diameter grade 5 (or Class 8.8) bolts.

Valve train must incorporate conventional automotive coil spring design; use of pneumatic-type valve trains is prohibited in all classes.

All classes, with the exception of ET cars slower than 10.99-seconds (\*6.99), the use of a cast iron harmonic balancer is prohibited; units meeting SFI Spec 18.1 (always recommended on V8 engine) or steel billet harmonic balancer made in one piece mandatory. All cars with pressed-on front harmonic balancers must have such installed to prevent accidental loss (i.e.: drilled and bolted).

#### **GSR 1.2.1 ROTARY ENGINE**

For classification of engine size of rotary engines, the actual engine size is multiplied by 2.2

#### **GSR 1.2.2 DIAPER**

For cars running 7.50 or quicker a Lower Engine Containment Device (diaper) meeting SFI spec 7.2 is mandatory

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### **GSR 1:3 EXHAUST**

All cars must be equipped with exhaust collectors, headers or stacks installed to direct exhaust out of car body to rear of car, away from driver and fuel tank. Exhaust stacks must have a metal connecting strap to prevent loss of one or more stacks during competition. If silencers are used, they must be securely attached to exhaust system and car body or frame. Flexible tubing or flex pipe prohibited in all categories.

### **GSR 1:4 FLASH SHIELDS**

Carburettor inlet must not be openly exposed. In place of hood, carburetors must be equipped with a flash shield or velocity stacks which cover the top, back and sides, preventing fuel from being siphoned into the air stream or blown into driver's face.

Additionally, any car that is driven, not towed, through the pits, with open stack(s) not protected by hood or scoop, must have screening installed on open stack(s) to prevent items from entering stack.

### **GSR 1:5 FUEL SYSTEMS**

#### **Location**

All fuel tanks, lines, pumps, valves etc., must be outside of the driver's compartment and within the confines of the frame and/or steel body. Fuel tanks located in front of grille must be protected against collision damage by the frame or by a protection-bar with minimum dimension 32.0 x 3.0 mm mild steel or (1 ¼ x 0,065 inch) chrome moly tubing. (i.e.: steel nerf bars, frame rail extensions, etc.). Cool cans in full-bodied cars, must be mounted a minimum of 152 mm (6-inches) forward of firewall. Fuel blocks must be located at least 152 mm (6-inches) forward of the flywheel/bellhousing area.

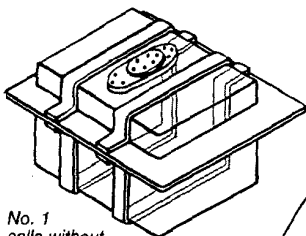
#### **Tanks**

All tanks must be mounted inside the body-line and isolated from driver compartment by a firewall completely sealed to prevent any fuel from entering the driver's compartment. When permitted by class regulations, fuel tanks located outside body and/or frame must be enclosed in a steel tube frame constructed of minimum

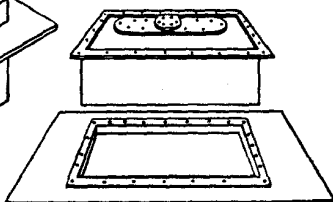
32.0 x 3.0 mm mild steel or (1 ¼ x 0,065 inch), (1.65 mm) chrome moly tubing. All fuel tanks must have a pressure cap and be vented outside of body. A positive-locking screw-on fuel tank cap is mandatory on all open-bodied cars. Insulated fuel tanks prohibited. When used, fuel cells must have a metal box protecting the part of the cell which is outside of body lines or trunk floor excluding hose connection area in rear. **See PIC. 6**

## TYPICAL FUEL CELL INSTALLATIONS

PIC. 6



No. 1  
cells without  
mounting flanges use .125"  
x 1" straps top and bottom  
bolted or welded to frame in  
trunk.



No. 2 weld 1" tube frame to trunk floor  
to bolt to cell frame

*Bottom of fuel cell must be covered with .024 steel or .032 aluminum  
sheet metal when fuel cell protrudes through floor.*

### Lines

All non-OEM fuel lines (including gauge and/or data recorder lines) must be metallic, steel-braided or FIA accepted "woven pushlock". A maximum of 305 mm (12-inches)(front to rear) of non-metallic or non-steel braided is permitted for connection purposes only; individual injector nozzle lines are excluded. Fuel lines (except steel braided lines) in flywheel/bellhousing area must be enclosed in a 406 mm (16-inch) length of steel tubing, 3.2 mm (1/8-inch) minimum wall thickness, securely mounted as a protection against fuel line rupture. It is mandatory that fuel lines passing supercharger drive belts be steel braided FIA accepted woven pushlock or be enclosed in protective steel tubing. FIA accepted woven pushlock fuel line: Aeroquip FC300, FC332 and Aeroquip Star Lite 200. Contact FIA for updates. Fuel lines must not be routed in the driveshaft tunnel.

### Pumps/valves

Cars with non-OEM type mechanical fuel pumps must have a quick-action fuel shut off valve within easy reach of driver and located in main fuel line between the fuel tank and the carburettor and/or injectors. Fuel recirculation systems not part of normal fuel/pump system prohibited. All cars in Competition Eliminator, Pro Stock and Pro Mod must be equipped with a drain valve located between the fuel tank and carburettor(s) or fuel injector to facilitate removal of fuel samples for fuel check purposes.

### Fuel/air

Any method of artificially cooling or heating fuel prohibited (i.e.: cool cans, ice, freon, wet rags, etc.), except as noted in Class Requirements. Cool cans, wet towels etc. are permitted in ET Handicap classes, Super Street, Super Gas and Super Comp. Wet towels, rags, ice etc. must be removed before vehicle leaves staging area. Ambient temperature air only; cooling or otherwise changing the conditions of the intake air prohibited.

### **GSR 1:5.1 INTERCOOLER**

Addition of fuel to intake air before intercooler prohibited.

## **GSR 1:6 GASOLINE/ PETROL**

Gasoline/ Petrol is defined for purposes of this Appendix as a mixture of hydrocarbons only. Non-hydrocarbons which do not increase the specific energy of the gasoline/ petrol are allowed to the extent that they do not exceed 0.15% by volume and are blended in the gasoline by the refiner or fuel manufacturer.

Gasoline/ petrol is a good electrical insulator, or dielectric, and its relative effectiveness as an insulator is represented by its Dielectric Constant. The average D.C. for the hydrocarbons which comprise gasoline/ petrol is 2.025. This is defined as a reading of "0" with the FIA/ MSA Fuel Check meter.

Gasoline/ petrol is tested and certified at FIA/MSA events through the application of various chemical analyses as considered appropriate by Fuel Check personnel. Gasoline/ petrol in a vehicle may be checked before use in competition. It is recommended to check unknown Gasoline/ petrol before competition use.

### **GSR 1.6.1 FIA/MSA Fuel Specifications**

**See: FIA Year Book and MSA Year Book.**

### **GSR 1.6.2 NITROMETHANE**

It is mandatory that all nitromethane fuel must contain a marker dye that will change colour when the fuel becomes sensitised or contaminated. Due to impending legislation regarding the supply of nitromethane and its possible misuse by subversive organisations, the following measures have been agreed with the Special Counter Terrorism Security department of the Home Office.

- **Any NM fuel container not in service (actually being used) shall not be within sight or reach of the general public. After use all NM fuel containers holding any measure of NM shall be hidden away.**
- **When a team vacates its pit area all NM fuels will be securely locked away or the pit area where the NM is stored is to be manned by an adult at all times to prevent unwanted intervention.**
- **All NM fuels are to be securely locked away overnight.**
- **Any NM container carrying marks such as; Fuel, Nitro, Nitromethane, NM, any numbers followed by the percentage sign (e.g. 88%), CH<sub>3</sub>NO<sub>2</sub>, UN1261, or any other marks indicating that the content is NM should have such marks removed and replaced with an alternative description and where necessary still conform to current hazard labelling requirements. (Consult fuel supplier if in doubt).**
- **Any possessor of NM must;**
  - a). **Refuse all requests to onward sell, supply or hand over NM to any persons, organisations or bodies not known to them.**

**b). Not donate, volunteer, lend, make available to or offer NM to any persons, organisations or bodies not known to them.**

**•If you notice anything that you may be connected with terrorist activity...call the Anti-Terrorist Hotline without hesitation on 0800 789321.**

### **GSR 1:7 LIQUID OVERFLOW**

All cars in competition with any type of water overflow capable of spilling water must have a catch-can to accumulate the excess liquids and not leak onto the track. Minimum catch-can capacity: 0,5 litre (1 pint) Catch-can must be securely fastened; i.e. bolted, clamped. Overflow may be routed into headers on cars that are supercharged or burn nitromethane or alcohol.

### **GSR 1:8 METHANOL**

Methanol is a clear, colourless liquid with a mild odour at ambient temperatures. Methanol is sold in two U.S. Federal Grades: A and AA. Either grade is acceptable for use in FIA and MSA competition, and racers should ensure that the alcohol they purchase meets Federal standards of purity. The purity standards for each grade are shown in the table below.

#### **SPECIFICATIONS FOR PURE METHANOL**

<b>Property</b>	<b>Grade A</b>	<b>Grade AA</b>
Methanol content; weight percentage, minimum	99.85	99.85
Acetone and aldehydes; parts per million, maximum	30	30
Acetone; parts per million, maximum	20	
Acid (as acetic acid), parts per million, maximum	30	30
Water content parts per million, maximum	1500	1000
Specific gravity; 20°C	7928	7928
Permanganate time; minutes	30	30
Odour	Characteristic	
Distillation range at 1010 hPa (760 mm Hg)	not more than 1°C, including 64.4±0.1°C at 760 mm Hg	
Colour; platinum-cobalt scale, mix	5	5
Appearance	clear-colourless	
Residual on evaporation, g/100 ml	.001	.001
Carbonizable impurities; colour platinum-cobalt scale, maximum	30	30

Methanol is tested and certified at FIA/MSA events through the application of various chemical analyses as considered appropriate by Fuel Check personnel who reserve the right to exchange Methanol from the tank of any vehicle waiting in the staging lanes for a control fuel and to take away the samples for analysis. To be considered legal, Methanol used in FIA/MSA

competition must meet the U.S. Federal standards of purity. Any deviation from these standards because of impurities (beyond the limits established in the U.S. Federal specification) in the fuel sample will result in disqualification. Since Methanol is a hygroscopic substance, it readily absorbs moisture from the air which rapidly renders Methanol illegal as a fuel for use in FIA competition. Racers are cautioned to keep Methanol containers tightly capped at all times to minimise the absorption of water. Racers are encouraged to have Fuel Check personnel check samples of their Methanol any time there may be doubt as to its purity.

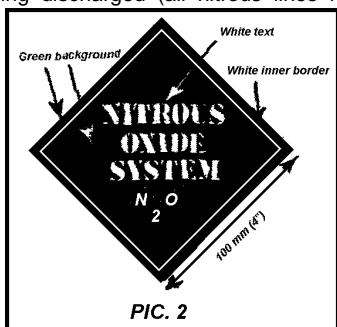
## GSR 1:9 NITROUS OXIDE

Nitrous oxide allowed in ET classes, Super Street, Super Gas, Super Comp, Comp Eliminator AN/A, BN/A, CN/A, DN/A, BN/D and Pro Modified. See specific Class Requirements & Specifications. The use of any agents other than nitrous oxide as part of, or mixed with, this pressurised fuel system is strictly prohibited. All bottles must be securely mounted, and only gas cylinders certified for use at the working pressure of the system as a fuel reservoir (also applicable to any vehicle with a pressurised gas system) permitted. All receiving cylinders should have rupture disc or safety valve to prevent over pressurisation. The bottle to solenoid supply pipe should be of steel or high quality steel braided Teflon hose e.g. Aeroquip and securely fastened every 6" (15.24 cm) with non-combustible clips and fasteners. Cars running 12 seconds or slower can use system manufacturers approved and supplied nylon pipe.

It must be routed outside the vehicle on closed cockpit cars and on open cockpit cars as far from the driver as possible. Where it passes the driver it must be of continuous length between front and rear bulkheads. All fittings must be of a screwed sealing type. All systems must include a device which prevents the system being activated before the throttle is operated. A 'Warning Light' clearly labelled N<sub>2</sub>O must be wired into the solenoid circuit so that it is illuminated when the N<sub>2</sub>O system is armed. Nitrous oxide bottle(s) located in driver compartment must be equipped with a relief valve and vented outside of compartment. System must be commercially available and installed per manufacturers recommendations. Bottle may not be mounted in engine compartment.

**Advisory check:** Generally check for leaks whilst the cylinder is turned on to verify gas tight connections. The shut off solenoid must be checked (with the gas cylinder turned on) by fully opening the throttle momentarily to determine whether N<sub>2</sub>O is being discharged (all nitrous lines must be disconnected and

discharged into the open air, and all fuel solenoids must be electrically unplugged). The throttle must then be released to about half throttle and held in that position. This



should release the solenoid, which is activated by the throttle switch and cut off the flow of gas. Further checks should be made to ensure that any slight hiss of escaping gas can be detected. All vehicles using a bottle of nitrous oxide must bear a mark in accordance with (*illustration PIC. 2.*)

The mark will be clearly visible and will be located in a place which is not likely to be damaged in the event of an accident and which is near to the competition number. Venting and refilling of N2O bottles should be undertaken with extreme caution. External heating of bottle(s) with open flame prohibited, only heating with hot water or electric blanket for the purpose permitted.

### **GSR 1:10 OIL SYSTEM**

Accu-sump, dry-sump tanks, oil filters, oil supply lines, etc., prohibited in driver compartment and outside of frame and/or steel body/fenders. Oil pressure gauge and line permitted in driver compartment. Metal or steel braided line is mandatory, maximum 5 mm (3/16-inch) inside diameter. Power enhancing additives prohibited.

### **GSR 1:11 PROPYLENE OXIDE**

The use of propylene oxide is prohibited in all categories.

### **GSR 1:12 SUPERCHARGER**

#### **ROOTS-TYPE:**

Maximum size permitted 14-71; 19-inch (483 mm) maximum rotor case length; 11 1/4-inch (286 mm) maximum case width; 1/4-inch (6.35 mm) minimum case thickness; 1/4-inch (6.35 mm) minimum front plate thickness; .300-inch (7.6 mm) minimum rear plate thickness. Maximum rotor cavity diameter is 5.840 inches (148.34 mm). Rotor helix angle may not exceed that of a standard 71-series GM-type rotor 4 degrees per inch (1.5748°/cm). Maximum overdrive may not exceed 70 percent. Aluminium studs (supercharger to manifold) mandatory. **See GSR 1.13** and Class Requirements for manifold burst panel and restraint specifications.

#### **ROOTS-TYPE HIGH HELIX:**

Must adhere to same maximum case dimensions and maximum rotor cavity diameter as standard Roots. Rotor helix angle may not exceed 6.5- degrees per inch (2.559°/cm), and 123.5 degrees total over 19-inch (483 mm) maximum rotor length. Use of High Helix supercharger is permitted for cars running 7.50 or quicker. Maximum overdrive may not exceed 70 percent. Aluminium studs (supercharger to manifold) mandatory. **See GSR 1.13** Class requirements for manifold burst panel and restraint specifications.

#### **SCREW-TYPE:**

Must meet SFI Spec 34.1. Maximum case length 16-inches (406 mm); maximum case width 16-inches (406 mm); minimum case and front plate thickness 1/4-inch (6.35 mm); minimum rear plate thickness .300-inch (7.6 mm). Use of Screw-type supercharger is

permitted for cars running 7.50 or quicker or when OEM fitted equipment. Under no circumstances may a screw supercharger overdrive exceed the manufacturers/SFI testing maximums. Manifold burst panel meeting SFI Spec 23.1 (in addition to supercharger panel) and restraint device meeting SFI Spec 14.21 mandatory. Aluminium studs (supercharger to manifold) mandatory. Overdrive limits, as determined appropriate by FIA or MSA, are subject to adjustment at any time as dictated by performance.

### **ALL SUPERCHARGERS**

Variable multi-speed supercharger devices prohibited regardless of supercharger type. A belt guard or other protection device is required when fuel and/or oil lines pass supercharger drive belt area.

### **GSR 1:13 SUPERCHARGER RESTRAINT DEVICE**

Supercharger restraint system meeting SFI Specs mandatory per class requirements. TF and FC require SFI 14.3; TMD, TMFC, PM and ET cars running 7.49 (\*4.49) or quicker Roots-type require an SFI 14.2 restraint. TMD, TMFC and ET quicker than 7.50 with Screw-type require SFI 14.21. Competition eliminator, Super Street, Super Gas, Super Comp and methanol burning ET cars require SFI 14.1. Restraint system must be updated at year intervals as per spreadsheet under GSR: 0:1 from date of manufacture. See also Class Requirements.

### **GSR 1:14 THROTTLE**

Regardless of class, each car must have a foot throttle incorporating a positive-acting return spring attached directly to the carburettor/injector throttle arm. A positive stop or override prevention must be used to keep linkage from passing over centre, 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 altered linkage systems except hydraulically or cable-operated systems. Per Class Requirements - Throttle control must be manually operated by driver's foot, electronics, pneumatics, hydraulics or any other device may in no way affect the throttle operation. FIA or MSA accepted hand controls for the physically challenged permitted. Commercially available cable throttle systems are allowed. Choke cables and brazed or welded fittings on steel cable are prohibited. No part of throttle linkage may extend below frame rails.

### **GSR 1:15 VENT TUBES, BREATHERS**

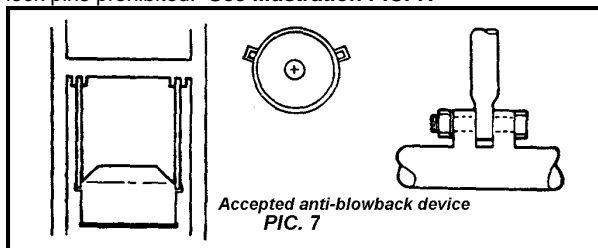
Mandatory as outlined in Class Requirements, permitted on all cars. Where used, the tubes must terminate into an acceptable, permanently attached catch-tank with a minimum capacity of 3.8 litre (one US gallon ) per engine (except as noted in Class Requirements). The catch-tank must be baffled to keep overflow off track. A sight glass or tube is recommended to verify that tank

is empty prior to run. Breather/vent tubes must be mechanically secured (tie-wraps prohibited) to the fittings and fittings locked at both ends.

## DRIVE TRAIN: GSR 2

### GSR 2:1 ANTI-BLOWBACK DEVICE

If mandated by Class Requirements a brace or device must be installed that will prevent the bellhousing or adapter shield from being blown rearward in the event of flywheel and/or clutch explosion. Material required is 4130 chrome moly (or Reynolds 531), minimum size is 22.2 mm(0.875-inch) O.D. x 2,1 mm (0.083-inch) wall tubing with 10 mm (3/8-inch) fasteners. Ball-lock pins prohibited. **See illustration PIC. 7.**



### GSR 2:2 AXLE-RETENTION DEVICES

All cars, except some ET cars as noted in Class Requirements, must be equipped with a satisfactory means of rear-axle retention; minimum .120-inch (3 mm) aluminium retainer or 0.090-inch (2.3 mm) steel bearing retainer is mandatory. Stock 'C' clip axle retention prohibited as outlined in class requirements.

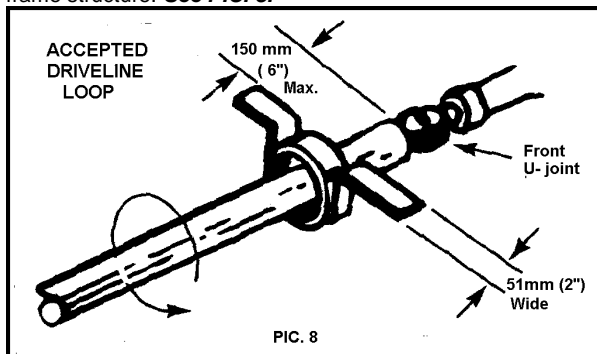
### GSR 2:3 CLUTCH

Each car in competition, except those with automatic transmissions, must be equipped with a foot-operated clutch incorporating a positive stop to prevent clutch from going over centre or past neutral as in the case of centrifugal units. All pedals must be covered with non-skid material. FIA accepted hand controls for physically challenged permitted. All slider clutches must meet SFI Spec 1.2, 1.3 or 1.4 as outlined under Class Requirements.

### GSR 2:4 DRIVELINE

On any car in which the driver sits over or in back of the rear-end centre section, a suitable protective shield of 3 mm (0.120-inch) minimum thickness steel plate must be installed for those units with universal joints securely mounted to the rear-end centre section and the bellhousing adapter. Where possible, couplers are recommended in place of U-joints. For straight couplers, the minimum requirement is 1.6 mm (0.063-inch) aluminium which must contain an inspection cover for removal and inspection of the coupler, securely mounted to the rear-end centre section and the bellhousing adapter, or as noted in Class Requirements. In

place of a crossmember, in the vicinity of the front universal joint, all cars in competition using open driveshafts, must have a retainer loop 360-degrees of enclosure, 6 mm (1/4-inch) minimum thickness and 51 mm (2-inches) wide, or 22 mm (7/8-inch) x 1,65 mm (0.065-inch) welded steel tubing, securely mounted and located within 152 mm (6-inches) of the front universal joint for support of the driveshaft in event of U-joint failure. It is recommended the loop be round rather than oblong to minimise loading on loop. Open drivelines passing any part of the driver's body must be completely enclosed in 3 mm (1/8-inch) minimum thickness steel plate, securely mounted to the frame or frame structure. **See PIC. 8.**



## GSR 2:5 FLYWHEEL

The use of stock-type cast iron flywheels and/or pressure plates prohibited. The use of aluminium flywheels in Top Fuel and Funny Car is prohibited. Units meeting SFI Spec 1.1, 1.2, 1.3 or 1.4 are mandatory except as noted in the Class Requirements.

## GSR 2:6 FLYWHEEL SHIELD & MOTOR PLATE:

### General

Absolutely no modifications to as-manufactured design are permitted on SFI Spec 6.1, 6.2 and/or 6.3 flywheel shields and/or liners. Titanium bellhousings must be re-inspected and re-certified yearly. SFI 6.2 and 6.3 steel bellhousings must be re-inspected and re-certified every two years in Top Fuel, Funny Car, Top Methanol Dragster, Top Methanol Funny Car, Pro Stock, Pro Mod and ET cars running 7.49 (\*4.49) or quicker, in all other classes every four years. SFI 6.1 steel bellhousings must be re-inspected and re-certified every five years in ET cars running 7.49 (\*4.49) or quicker, in all other classes every ten years. The flywheel shield must be fastened to the engine and motor plate with a full complement (all available engine bolt holes or as specified by the manufacturer) of grade 8 (or Class 12.9) bolts or high-strength studs. The use of Allen bolts to fasten the shield to engine or motor plate, to fasten covers, etc., is prohibited. All bolts (not studs or nuts) used for flywheel shield mounting, covers, etc., must be identifiable as to grade; all nuts and bolts associated with flywheel shield mounting, covers, etc., must be full standard depth, width, etc. (reduced thickness bolt

heads, hollow bolts, half nuts, thin wall nuts, etc., prohibited). Maximum depth of flywheel shield is 8 5/8-inches (219 mm) except TF and FC, maximum depth 9.4-inches (239 mm) (inside). Maximum thickness of all motor plates, mid-plates, mounting plates installed between engine and flywheel shield is 1/2-inch (12.7 mm). All covers and fasteners associated with the flywheel shield must be installed prior to starting engine at anytime, including warm-ups. Maximum spacing between flange fasteners in the flywheel shield is 7-inches (178 mm). Chemical milling or any other structure weakening procedures are prohibited. Welding to repair a flywheel shield is prohibited unless it is performed by the manufacturer and recertified by the manufacturer prior to use. Cooling holes in the motor plate are limited to a maximum of two 2-inch (51 mm) diameter holes ( to be outside of the oil pan area). SFI 6.2 flywheel shields may have one 2-inch (51 mm) maximum diameter hole in the bottom of the back face of the shield. The opening in the motor plate for the crankshaft flange may not exceed the crankshaft flange diameter by more than 1-inch (25.4 mm).

## **GSR 2:7 FLYWHEEL SHIELD:**

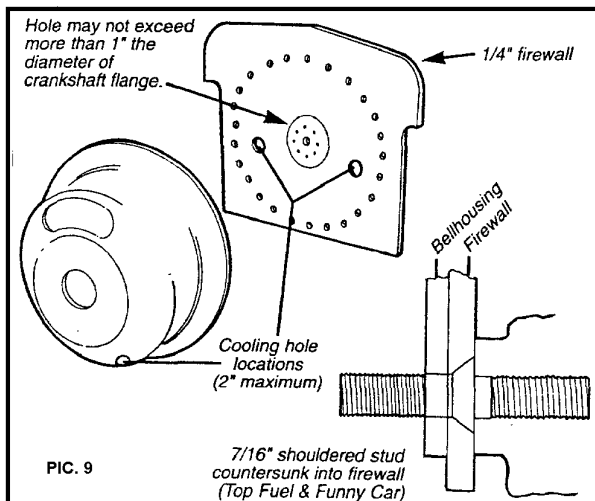
### **Top Fuel & Funny Car**

TF and FC cars equipped with a clutch must have a flywheel shield (bellhousing) that meets SFI Spec 6.2 and is labelled accordingly. A one-piece motor plate constructed of 1/4-inch (6.35 mm) minimum thickness 4130 chrome-moly (or Reynolds 531) steel and fitting between the engine and flywheel shield according to the requirements of SFI Spec 2.2B, 2.3K or 10.1D is required. The motor plate must be attached to the chassis at the four corners with at least two welded mounting points utilising minimum 3/8-inch (9.53 mm) diameter grade 8 (or Class12.9) bolts and full nuts. The remaining two motor plate mounting points must be at least saddles fitting around the frame rails and secured with aircraft-type clamps or bolts (hose clamps prohibited).

The flywheel shield and motor plate are to be fastened to the engine by at least seven high strength steel (or titanium) 7/16-inch (11.1 mm) diameter shouldered studs countersunk 3/4-inch (19.1 mm) outside diameter into the engine side of the motor plate and threaded into the engine 3/4-inch (19.1 mm) minimum and nuts (of a similar material) above the centreline of the crankshaft. The motor plate must be fastened to the flywheel shield with at least eight 7/16-inch (11.1 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel alloy (or titanium) studs and nuts below the centreline of the crankshaft. The flywheel shield must also be fastened to the motor plate by four 3/4-inch (19.1 mm) diameter grade 8 (or Class 12.9) shoulder bolts or high strength steel (or titanium) fasteners and nuts; one in each quadrant as required by SFI Spec 2.3K or 10.1.D.

A minimum .090-inch (2.3 mm) 4130 chrome moly (or Reynolds 531) steel or titanium liner (or as required by the manufacturer) must be fitted to the flywheel shield that is the width of the round body surface of the shield. It must be welded together so that it will fit into the body of the flywheel shield and rotate in order to absorb energy. A 1/4-inch (6.35 mm) bolt may be threaded into

the body of the flywheel shield to secure the liner(s) from movement during normal use. At least five fasteners, 3/8-inch (9.53 mm) diameter minimum, must be used to secure aftermarket planetary transmissions (and/or reversers) to flywheel shield. 1/2-inch (12.7 mm) thick rings, bosses, or nuts must be welded, or otherwise secured inside the back face of the flywheel shield through which the fasteners must be secured. As described in section GSR 2:6, any modifications or alterations to the bellhousing by anyone other than the original manufacturer, are prohibited. Bellhousing must be recertified by the original manufacturer or his agent following modification. Clutch adjustment slots, maintenance holes and covers, etc. must be installed by the original manufacturer. **See PIC. 9.**



## GSR 2:8 FLYWHEEL SHIELD:

### Top Methanol Dragster & Top Methanol Funny Car

TMD and TMFC cars equipped with a clutch must have a flywheel shield (bellhousing) that meets SFI Spec 6.2 and is labelled accordingly. All requirements for TMD and TMFC bellhousing installations are the same as TF & FC with the following exceptions:

A one-piece motor plate constructed of 1/4-inch or 6mm minimum thickness 2024T3 (or A-U4G1, AlCuMg2, L.97, L.98), 6061T6 (or H20) or 7075T66 (or A-Z5GU, AlZnMgCu1.5, L.95, L.96) or 6082T6 aluminium (or steel) and fitting between the engine and flywheel shield according to the requirements of SFI Spec 2.2B, 2.3K or 10.1D is required. The motor plate must be attached to the chassis with at least two welded mounting points utilizing minimum 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts and nuts. All other motor plate mounting points must be at least saddles fitting around the frame rails and secured with aircraft-type clamps or bolts (hose clamps prohibited).

The flywheel shield and motor plate are to be fastened to the engine by at least seven 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel (or titanium) studs threaded into the engine, 3/4-inch (19.1 mm) minimum, and nuts of a similar material, above the centreline of the crankshaft. The motor plate must be fastened to the flywheel shield with at least eight 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel alloy (or titanium) studs and nuts below the centreline of the crankshaft. The flywheel shield must also be fastened to the motor plate by four 3/4-inch (19.1 mm) diameter grade 8 shoulder bolts or high strength steel (or titanium) fasteners and nuts; one in each quadrant is required by SFI Spec 2.3K or 10.1D.

As described in Section 2.6, any modifications or alterations to the bellhousing by anyone other than the original manufacturer are prohibited. Bellhousing must be recertified by the original manufacturer or his agent following modification. Clutch adjustment slots, maintenance holes and covers, etc. must be installed by the original manufacturer.

### **GSR 2:9 FLYWHEEL SHIELD:**

Competition cars, **equipped with a single or dual disc clutch**, must have a flywheel shield that meets SFI Spec 6.1, 6.2 or 6.3 and is labelled accordingly. Competition cars equipped with multi (more than two) disc clutch must be equipped with a flywheel shield that meets SFI Spec 6.2 or 6.3 and is labelled accordingly. As described in section 2:6, any modifications or alterations to the bellhousing by anyone other than the original manufacturer are prohibited. Bellhousing must be recertified by the original manufacturer or his agent following modification. Clutch adjustment slots, maintenance holes and covers, etc. must be installed by the original manufacturer.

A motor plate of 1/8-inch (3.2 mm) minimum thickness steel, titanium, or 2024T3 (or A-U4G1, AlCuMg<sub>2</sub>, L.97, L.98), 6061T6 (or H20) or 7075T6 (or A-Z5GU, AlZnMgCu<sub>1.5</sub>, L.95, L.96) or 6082T6 aluminium is required. The flywheel shield must be fastened to the engine and motor plate with a full complement (all available engine bolt holes or as specified by the manufacturer) of minimum 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel studs above the centreline of the crankshaft. The motor plate must be fastened to the flywheel shield with at least eight 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel alloy (or titanium) studs and nuts below the centreline of the crankshaft. An opening in the motor plate for an alternative starter location is permitted but it may not exceed 2-inches (51 mm) in diameter and when such an opening is present only one cooling hole is permitted in the motor plate.

### **GSR 2:10 FLYWHEEL SHIELD: Other Classes**

Other class cars, except as noted in the ET Handicap Section using a clutch, must be equipped with an SFI Spec 6.1 (single-disc clutch) or 6.2 or 6.3 (multi-disc clutch) flywheel shield (bellhousing) labelled accordingly, complete with motor plate and

full complement of bolts (all available engine bolt holes or as specified by manufacturer) of minimum 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel alloy studs above centreline of crankshaft. The motor plate must be fastened to the flywheel shield with at least eight 3/8-inch (9.53 mm) diameter grade 8 (or Class 12.9) bolts or high strength steel alloy studs and nuts below the centreline of the crankshaft. Modifications or repairs to the flywheel shield prohibited except if performed and recertified by manufacturer.

Exceptions to this rule: Volkswagen and Porsche boxer engine cars are not required to have a shield when they are normally aspirated and gasoline burning, and Porsche engines must use a steel billet flywheel in lieu of a flywheel shield. Some engines for which an SFI 6.1 or 6.2 Spec adapter shield is not commercially available, must be equipped with a flywheel shield made of 1/4-inch (6.35 mm) minimum thickness steel plate, securely mounted to the frame or frame structure and completely surrounding the bellhousing 360 degrees. The flywheel shield shall not be bolted to either the bellhousing or engine. The flywheel shield must extend forward to a point at least 1-inch (25.4 mm) ahead of the flywheel and 1-inch (25.4 mm) to the rear of the rotating components of the clutch and pressure plate. Other engines, where an SFI 6.1, 6.2 or 6.3 flywheel shield is not available, may use an SFI 6.1, 6.2 or 6.3 flywheel shield from another application and mount it to a motor plate which is mounted to the engine block at all available bolt holes. Titanium flywheel shields are permitted.

### **GSR 2:11 REAREND**

Welded spider gear rearends prohibited in all classes. Four-wheel-drive allowed in all ET car classes. (REFERENCE UK SPORTS COMPACT RULES). Aftermarket axles and axle-retention device mandatory on TF, FC, TMD, TMFC, Competition Eliminator, Super Comp, Super Gas and 10.99 (\*6.99) or quicker ET cars; also mandatory on any car (regardless of class or ET) with a spool. Rear axle must be fully floating or live on any vehicle quicker than 6.50 seconds or faster than 210 mph.

### **GSR 2:12 TRANSMISSION**

All cars and trucks in competition except motorcycle or snowmobile powered dragsters, must be equipped with a reverse gear.

### **GSR 2.13 TRANSMISSION, AFTERMARKET PLANETARY**

A transmission shield covering transmission and reverser that meets SFI Spec 4.1 is mandatory if engine burns nitromethane, methanol or is supercharged, or on any overdrive unit. Air shifter bottles must be stamped with DOT -1800 pound or at a 124 bar rating (minimum), and be securely mounted (no tie wraps or hose clamps). At least three bolts, 3/8-inch (9.53 mm) minimum, must be used to secure aftermarket planetary transmissions to

bellhousing, except as noted in Top Fuel, Funny Car, Top Methanol Dragster and Top Methanol Funny Car.

## **GSR 2:14 TRANSMISSION, AUTOMATIC**

Any Non-OEM floor-mounted automatic transmission shifter must be equipped with a spring loaded positive reverse lockout device to prevent the shifter from accidentally being put into reverse gear. Functional neutral safety switch mandatory. All transmission lines must be metallic or high-pressure type hose. Triple Barb Hose fittings mandatory. All vehicles running quicker than 10.99 seconds (\*6.39) or faster than 217 km/h (135 mph) and using an automatic transmission must be equipped with a transmission shield meeting SFI Spec 4.1 and labelled accordingly. "Blanket" type shield, appropriately labelled as meeting SFI Spec 4.1 permitted. All non blanket type shields must incorporate two (or one, per manufacturer's instructions) 3/4-inch (19.050 mm) x 1/8-inch (3.2 mm) straps that bolt to the shield on each side, and pass under the transmission pan, or transmission pan must be labelled as meeting SFI Spec 4.1. Permitted in all classes where an automatic transmission is used. COMPETITION ELIMINATOR, SUPER COMP, SUPER GAS and 9.99 (\*6.39) or quicker ET cars, and 217 km/h (135 mph) or faster ET cars using an automatic transmission must be equipped with a flexplate meeting SFI Spec 29.1 and covered by a flexplate shield meeting SFI Spec 30.1. Only gas cylinders/bottles certified for use at the working pressure (minimum 124 bar rating) of the system as a fuel reservoir permitted (also applicable to any vehicle with a pressurised gas system). All receiving cylinders should have rupture disc or safety valve to prevent over pressurisation. All bottles must be securely mounted (hose clamps and/or tie wraps prohibited).

## **BRAKES & SUSPENSION: GSR 3**

### **GSR 3:1 BRAKES**

Brakes on each car, regardless of class, must be in good working order with two-wheel hydraulic brakes on rear wheels as a minimum requirement. Lightening of backing plates, brake drums and/or brake shoes by cutting or trimming metal prohibited. Cooling or lightening holes may not be drilled in cast iron disc brake rotors. Aluminium rotors prohibited (except FC and TMFC front rotors). If hand brake is used, brake handle must be inside car's body or driver compartment. Brake lines must be steel, steel braided or DOT (DIN/ISO) approved flexible and routed outside the frame rail, or enclosed in a 16-inch (406 mm) length of 1/8-inch (3.2 mm) minimum wall thickness steel tubing securely mounted where line(s) pass the flywheel bellhousing area and not routed in the driveline tunnel. All brake lines must be attached to chassis as per OEM-style; hoses must have mounting brackets; no tie wraps, tape, etc. All brake lines on any rear-engine car must be protected inside of tubing or be braided steel construction where they pass the engine. Automated and/or secondary braking systems prohibited; application and release of brakes must be a direct function of the driver; electronics, pneumatics or any other device may in no way affect or assist

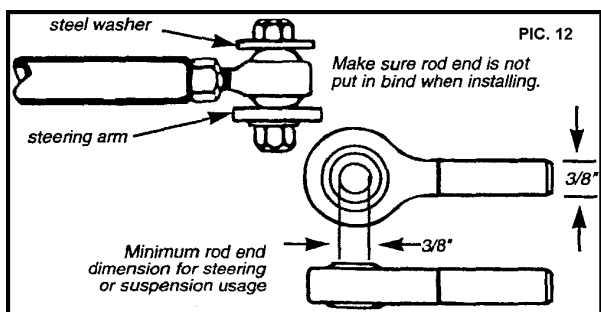
brake operation. All pedals must be covered with non-skid material. FIA accepted mechanical anti-lock braking systems (ABS) permitted in all classes. If brake system includes a differential pressure switch, line-lock installed on front brakes must have solenoid installed after the differential switch. All line-locks (electric or hydraulic) must be self returning to normal brake operating mode. All master cylinder reservoirs situated in the drivers compartment must be covered to prevent leakage onto the driver in the event of an upset.

### GSR 3:2 SHOCK ABSORBERS

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

### GSR 3:3 STEERING

Each car's steering system must be secure and free of defects. All welded parts must have additional visible reinforcement. Only conventional automotive steering systems are permitted; flexible steering shafts prohibited. All rod ends must be a minimum of 3/8-inch (9.53 mm) shank diameter and must be installed with flat washers to prevent bearing pull out **See: PIC 12.**

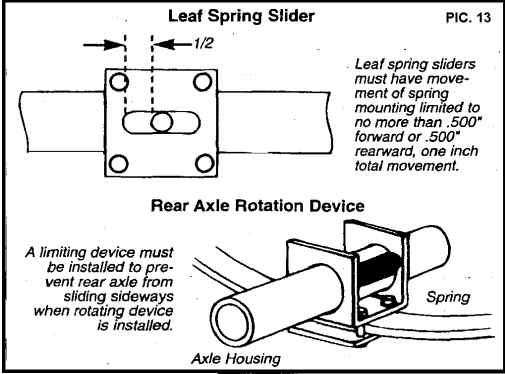


Hollow rod ends are prohibited. All steering boxes, sectors and shafts must be mounted to the frame or suitable crossmember and cannot be mounted in any case to the bellhousing and/or bellhousing adapter shield, motor plate or firewall. It is recommended that they be mounted to the rear of same. A secondary steering shaft stop must be installed to prevent long steering shaft from injuring driver in case of frontal impact (i.e.: collar or U-joint pinned at crossmember, bracket, etc.). Commercially available quick-disconnect steering wheels permitted (except as noted in Class Requirements). All fasteners should be Hex Grade 5 (9.8) or better, clearly identifiable. No Cap Heads or Set Screws.

### GSR 3:4 SUSPENSION

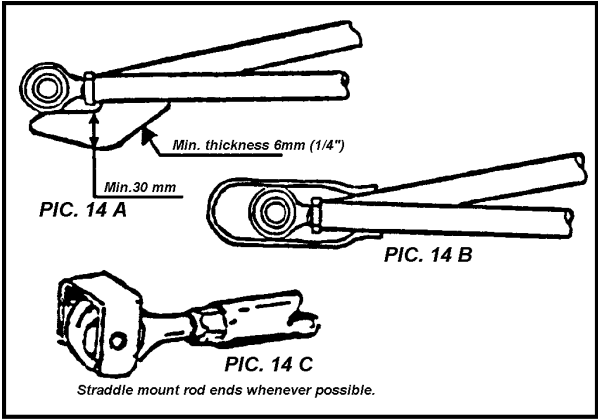
All cars must have a full suspension system of the type produced by an automobile manufacturer (i.e.: springs, torsion bars, etc.). Rigid-mount front and/or rear axles are permitted when so

indicated in Class Requirements. All rod ends must be installed with flat washers to prevent bearing pullout. Hollow rod ends are prohibited. Three-wheel vehicles are not eligible for competition in any class. Radius rods are not required on front axles which are rigidly mounted 18-inches (457 mm) or less from king pin axis. Any front suspension using a beam or tubular axle must have radius rods attached to frame. **See PIC: 13.**



**GSR 3:5 TRACTION BAR ROD ENDS**

Minimum requirement for rod ends on the front of all ladder-type traction bars is 3/4-inch (19.1 mm) thread 5/8 (16,87 mm) bore steel. A rod end strap to keep ladder bar secured in event of rod end failure mandatory in all classes. All traction devices that are not attached at front (i.e. slapper bars, etc.) must have a U-bolt or strap to prevent them from coming in contact with track. **See PIC: 14A, 14B and 14C**



**GSR 3:6 WHEELIE BARS**

Some classes limit length of wheelie bar, see Class Requirements. All wheelie bars, regardless of class, must have

non-metallic wheels (i.e.: rubber, plastic). Using wheelie bar wheels as "fifth wheel" sensing device prohibited.

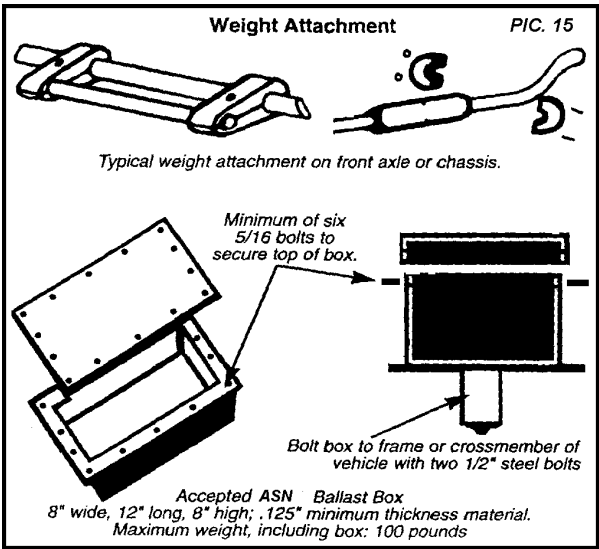
## **FRAME: GSR 4**

### **GSR 4:1 ALIGNMENT**

Each car in competition, regardless of class, must have sufficient positive front-end alignment to ensure proper handling of car at all speeds.

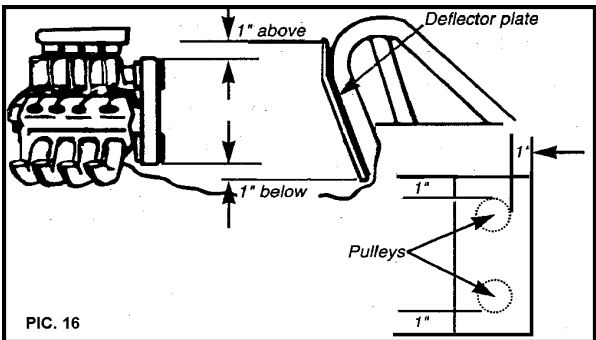
### **GSR 4:2 BALLAST**

As permitted in Class Requirements. Any material used for the purpose of adding to a car's total weight must be permanently attached to the car's structure and must not extend behind or in front of the car's body or above the rear tires. No liquid or loose ballast permitted (i.e.: water, sandbags, rocks, shot bags, metal weights, etc.). Weight boxes (2 maximum) made of 1/8-inch (3.2 mm) material (*see illustration - PIC. 15*) may be constructed to hold small items such as shot bags, lead bars, etc., as long as box and contents do not weigh more than 100 pounds (45,36 kg) or as outlined in Class Requirements. The box must be securely fastened to the car's frame or crossmember with at least two 1/2-inch (12.7 mm) diameter steel bolts. Any liquid other than engine fuel being used, located behind the front firewall, (on a front engine car) is considered ballast, and is prohibited. To permit "making a class" due to the difference in scale calibration, a maximum removable weight of 100 pounds (45.4 kg) (or as outlined in Class Requirement) is permitted. Removable weight must be securely mounted to the frame or frame structure by a minimum of two 1/2-inch (12.7 mm) diameter steel bolts per 100 pounds (45.4 kg), or one 3/8-inch (9.53 mm) bolt per 5 pounds (2.3 kg). Hose clamps, wire, strapping, tape, tie wraps etc. for securing weight or ballast prohibited. See illustration for attachment method. Recommended forms of ballast are: 1) Heavier gauge steel floors such as 16 or 18-gauge (1.30 or 1.00 mm) (heavier gauge and/or plate steel prohibited); 2) Frame reinforcing crossmembers; or 3) The addition of protective equipment such as roll bars, flywheel shield, etc. If additional ballast is needed, and is permitted according to class requirement, it must be permanently attached to frame, bolted with two 1/2-inch (12.7 mm) diameter bolts per 100 pounds (45.36 kg), with nuts welded to bolts. Maximum amount of removable and/or permanent ballast, regardless of class, is 500 pounds (227 kg), except for Junior Dragster only 25 pounds (11,3 kg)



### GSR 4:3 DEFLECTOR PLATE

All rear-engine cars must have a deflector plate to protect driver and fuel tank from engine. Plates must be made of minimum 1/8-inch (3.2 mm) aluminium or .060-inch (1.5 mm) steel or titanium. On supercharged cars, must extend from top blower pulley to bottom pulley and be at least 1-inch (25.4 mm) wider than each pulley. Other cars must have plate covering from shoulder height to bottom of chassis. On any enclosed engine/driver configuration a full bulkhead must be installed completely sealing the driver from the engine. Minimum attachment for any plate is four 5/16-inch (7.9 mm), Grade 5 (or Class 9.8) bolts. See 1:1 COOLING SYSTEM for additional requirements. **See PIC. 16.**



### GSR 4:4 FRAMES

TF, FC, PS, PM, TMD, TMFC, COMPETITION ELIMINATOR, SUPER COMP, SUPER GAS, and 9.99 or quicker ET chassis

(see Class Requirements) must have a serialised chassis sticker affixed to frame before participating in any event. Chassis certifications are available through MSA. For TF, FC, TMD, TMFC, PS, PM chassis inspection every 12 months mandatory. ET Cars running 6.00 (\*3.66) seconds or slower, chassis inspection every 36 months mandatory. All cars, except 11.00 or slower, logbook mandatory. Grinding of welds prohibited. All butt welds must have visible reinforcement (i.e. sleeve and rosette welds). Pressurisation of frame rails, roll bar or roll cage in lieu of air bottles is prohibited. Visible reinforcement around any hole in any SFI spec chassis (not just the roll cage) mandatory. Reinforcement must be of at least the same cross sectional area as the hole, at least .049 inch (1.2 mm) thick chrome moly, and completely welded around the outside.

See 4:10 ROLL BARS and 4:11 ROLL CAGES.

#### **GSR 4:5 GROUND CLEARANCE**

Minimum 3-inches (76 mm) from front of car to 12-inches (305 mm) behind centreline of front axle, 2-inches (51 mm) for remainder of car, except oil pan and exhaust headers where permitted. When allowed under Class Requirements, devices used for anti-rotation purposes (i.e.: wheelie bars) are exempt from the two-inch (51 mm) clearance rule.

#### **GSR 4:6 NON-DESTRUCTIVE TEST CERTIFICATES**

Non-destructive test inspection certificates may be required by the scrutineer on any altered or welded parts.

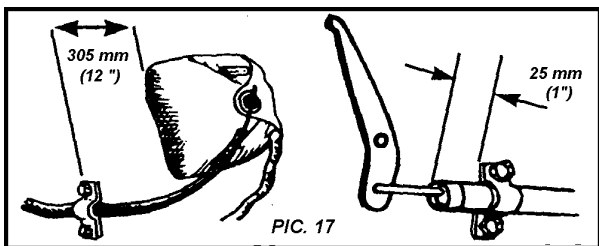
#### **GSR 4:7 MOUNTING HARDWARE**

Hose clamps and tie wraps may only be used to support hoses and wires; all other components must be welded, bolted, aircraft clamped etc. All Dzus fastener must be metallic.

#### **GSR 4:8 PARACHUTES**

If outlined in Class Requirements, it is mandatory to have a braking parachute produced by a recognised drag racing parachute manufacturer. Scrutineers may observe the proper operation of the parachute and inspect for worn or frayed shroud lines, ripped or dirty canopies and worn or ragged pilot chutes. Parachute release cable housings should be mounted solidly to frame tube or other suitable member no further back than 1-inch (25.4 mm) from the control. The release cable outer, must be attached within 12-inches (305 mm) of the parachute pack, and in a manner that will allow the inner cable to release the chute. When supercharged and/or using nitromethane as a fuel, it is mandatory that the parachute pack and unpacked shroud lines be protected with fire-resistant material from the mounting point into the pack. Parachutes must have their own independent mounting. The use of ball-lock pins for parachute mounting and/or strop anchorage are prohibited. See Class Requirements regarding use of two parachutes. Such applications require separate shroud-line mounting points for each parachute system.

**See PIC. 17.**



### **GSR 4:9 PINION SUPPORT**

All cars using an open driveline must have radius arms, traction bars or some suitable pinion support to prevent rearend housing rotation. It is recommended that a torque tube, steel, 1/8-inch (3.2 mm) minimum wall thickness, be used to enclose all drivelines.

## Quick-guide, Roll bar/ cage.

CLASS	In accordance with illustration PIC.					
	18	19	20	21-22	23-26	27-29
Junior Dragster	<b>See section Junior Dragster</b>					
ET> 12.00	C			O <sup>1)</sup>	O <sup>2)</sup>	O <sup>3)</sup>
ET 10.00 – 11.99	O			O <sup>1)</sup>	O <sup>2)</sup>	O <sup>3)</sup>
ET 8.50 – 9.99		O	O	O <sup>1)</sup>	O <sup>2)</sup>	O <sup>3)</sup>
ET 7.50 or slower	Dragsters could meet SFI spec 2.7					
ET 7.50 or slower	Full-bodied cars could meet SFI Spec 25.4					
ET 6.00 – 8.49	Roll cage/ chassis meeting SFI Spec. 2.3K. 2.2B, 2.4A, 2.5,10.1D or 25.1E					
SST with OEM frame/ floor	O	O				
SST with integrated Chassis			O			O <sup>3)</sup>
SG with OEM frame/ floor		O				
SG with integrated Chassis			O			O <sup>3)</sup>
SC Altered type-1				O		
SC Altered type-2 with OEM frame/ floor		O				
SC Altered type-2 with integrated Chassis			O			O <sup>3)</sup>
SC Dragster					O	
Comp Altered type -1. A/A, B/A, AA/A, BB/A, AT/A, AN/A, BN/A.	Roll cage/ chassis meeting SFI Spec. 10.1.D					
Comp Altered type-1. All other classes.				O		
Comp Altered type-2. A/A, B/A, AA/A, BB/A, AT/A, AN/A, BN/A	Roll cage/ Chassis meeting SFI Spec 25.1E					
Comp Altered type-2. All other classes Integrated chassis/roll cage.			O <sup>4)</sup>			O <sup>3)</sup>
Comp Dragster A/D, B/D, AA/D, BB/D, BN/D	Roll cage meeting SFI Spec 2.3K excl. wing and rearend mountings, or 2,4 <sup>3)</sup>					
Comp Dragster all other classes.					O <sup>4)</sup>	
Pro Modified	See current FIA rules.					
Pro Stock	See current FIA rules.					
Top Methanol Funny Car	See current FIA rules.					
Top Methanol Dragster	See current FIA rules.					
Funny Car	See current FIA rules.					
Top Fuel	See current FIA rules.					

**O = Mandatory**

**C = Mandatory on convertibles and cars without top.**

1): Illustrations 21-22 Alteredds, Funny cars

2): Illustrations 23-26 Dragsters

3): Illustrations 27-29 Roadsters

4): It is recommended that these chassis is built to meet SFI Specs.

**Class rules and General Safety Rules always have priority over this quick-guide.**

**Top Methanol Funny Car, Top Methanol Dragster, Pro Stock, Funny Car and Top Fuel Eliminator follow FIA International**

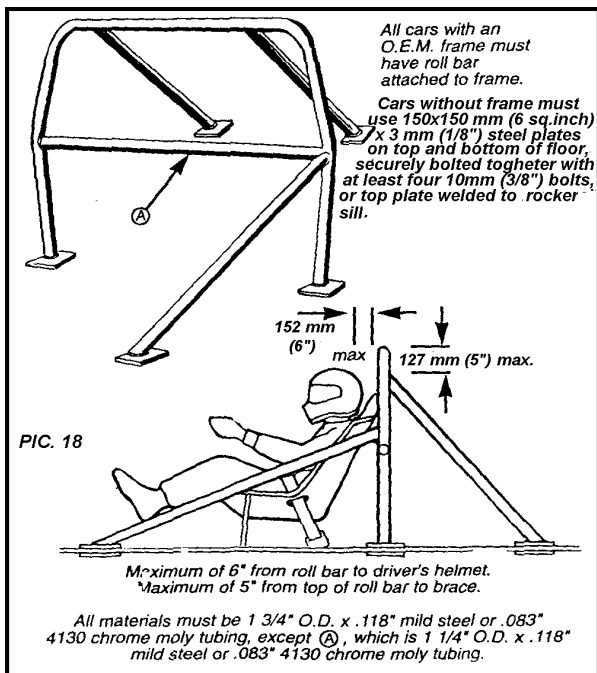
**Drag Racing Rules in the FIA Year Book, together with all changes published in the monthly FIA bulletin.**

### **GSR 4:10 ROLL BARS**

All roll bars must be within 6-inches (152 mm) of the rear, or side, of the driver's head, extend in height at least 3-inches (76 mm) above the driver's helmet with driver in normal driving position, and be at least as wide as the driver's shoulders or within 1-inch (25.4 mm) of the driver's door. Roll bar must be adequately supported or cross-braced to prevent forward or lateral collapse of roll bar. Rear braces must be of the same diameter and wall thickness as the roll bar and intersect with the roll bar at a point not more than 5-inches (127 mm) from the top of the roll bar. Sidebar must be included on driver's side. The side bar must pass the driver at a point midway between the shoulder and elbow. All vehicles with OEM frame must have roll bar attached to frame; installation of frame connectors on unibody cars does not constitute a frame and therefore it is not necessary to have the roll bar attached to the frame. Unibody cars with stock floor and firewall (wheel tubs permitted) may attach roll bar with 6-inch (150mm) x 6-inch (150mm) x 0.125-inch (3.2mm) steel plates on top and bottom of floor bolted together with at least four 3/8-inch (10mm) bolts and nuts or weld main hoop to rocker sill area with 0.125-inch (3.2 mm) reinforcing plates. All 4130 chrome moly tube welding must be done by approved TIG Heliarc process; mild steel ( or ST51) welding must be approved MIG wire feed or TIG heliarc process. Welding must be free of slag and porosity. Any grinding of welds prohibited. **See illustration (PIC. 18).** Roll bar must be padded anywhere driver's helmet may contact it while in driving position. Adequate padding must have minimum 1/4-inch (6.35 mm) compression or meet SFI Spec 45.1.

#### **GSR 4:10.1 MATERIAL & DIMENSION ROLL BAR**

Roll bar must be made of minimum O.D. of 1 3/4 inches (45mm) x 0.118 inch (3.00mm), or minimum OD 1 3/4 inches (45mm) x 0.083inch (2.1mm) chrome moly.



## GSR 4:11 ROLL CAGE

Roll Cage: All cage structures must be designed in an attempt to protect the driver from any angle, 360-degrees and be fully welded. All 4130 chrome moly tube welding must be done by approved TIG heliarc process; mild steel tube welding must be approved MIG wire feed or TIG heliarc process. Welding must be free of slag and porosity. Any grinding of welds prohibited. Roll Cage must be padded any where the driver's helmet may contact it while in the driving position. In Competition eliminator where SFI Spec on chassis is required, Pro Modified, Top Methanol Funny Car, Top Methanol Dragster, Pro Stock, Funny Car and Top Fuel padding must meet SFI Spec. 45.1 **See GSR 4:4 FRAMES for chassis certification procedures.**

### Open Bodied Cars

**See illustrations (PIC. 21, 22, 23, 24, 25, 26, 27, 28 and 29).**

When driver is in driving position in an open bodied car, roll cage must be at least 3-inches in front of helmet. Cars without cross member above driver's legs must have a strap or device to prevent legs from protruding outside chassis. On front-engine dragsters, seat uprights and back braces must be arranged such that a flat surface passed over any two adjacent members will not contact the driver seat or containment. Additional uprights, max 30-degrees from vertical, must be added until this criteria is satisfied. When non-vertical uprights or "running W" side bay designs are used (diagonals installed at greater than 30-degrees

from vertical), adjacent roll cage diagonals must be the same size as that required for the upright. Motor mount and/or rear end uprights (except rear engine dragster) may be rectangular tubing, 1 3/4-inch x 1-inch x 0.058-inch (44.5 x 25.4 x 1.5 mm) chrome moly or 0.118 inch mild steel minimum.

### **Full Bodied Cars**

#### ***See illustrations (PIC. 19, 20)***

On full bodied car, with driver in driving position, helmet must be in front of main hoop. If helmet is behind or under main hoop, additional tubing same size and thickness as roll cage must be added to protect driver. Main hoop may be laid back or forward but driver must be encapsulated within the required roll cage components.

All cage structures must have in their construction a cross bar for seat bracing, and as the shoulder harness attachment point; cross bar must be installed, not above and no more than 4-inches (102 mm) below the driver's shoulders. On 2 door road legal cars slower than 8.50 seconds the seat bar may be bolted in, as per diagram 20a. All required rear braces must be installed at a minimum angle of 30-degrees from vertical, and must be welded in. Side bar must pass the driver at a point midway between the shoulder and elbow.

Unless an OEM. frame rail is located below and outside of driver's legs (i.e. '55 Chevy, '65 corvette, etc.) a rocker or sill bar, minimum 1 5/8-inch (41.2 mm) x 0.083-inch (2.1 mm) chrome moly or 0.118-inch (3.0 mm) mild steel or 2-inch x 2-inch x 0.058-inch (50.8 x 50.8 x 1.5 mm) chrome moly or mild steel rectangular, is mandatory in any car with a modified floor or rocker box within the roll cage uprights (excluding six square feet (0.56 square meter) of transmission maintenance opening). Rocker bar must be installed below and outside of driver's legs, and must tie into the main hoop, the forward hoop, frame, frame extension or side diagonal. Rocker bar may not tie into swing out side bar support. If rocker bar ties into side diagonal more than 5-inches (127 mm) (edge to Edge) from forward roll cage support or main hoop, a 1 5/8-inch (41.2 mm) x 0.083 (2.1mm) chrome moly or 0.118 (3.0 mm) mild steel brace/gusset is mandatory between the diagonal and forward roll cage support or main hoop.

Swing out bar permitted on OEM. full bodied car 8.50 seconds and slower.

- a. 1 5/8-inch (41.2 mm) O.D. x 0.083-inch (2.1 mm) chrome moly or 0.118-inch (3.0 mm) mild steel minimum. Bolts/pins must be 3/8-inch (9.5 mm) diameter steel, minimum and in double shear at both ends.
- b. Male or female clevises permitted. Male clevis must use two minimum, 1/8-inch (3.2 mm) thick brackets (chrome moly or mild steel) welded to each roll cage upright; Female must use minimum 1/4-inch (5.4 mm) thick bracket (chrome moly or mild steel) welded to each roll cage upright. Pins must be within 8-inches (204 mm) of the vertical portion of both the

forward and main hoops. A half cup backing device must be welded to the vertical portion of the main hoop (inward side) or the upper end of the swing out bar (outward side), minimum 0.118-inch (3.0 mm) wall (chrome moly or Mild steel) extending at least 1 5/8-inch (41.2 mm) past the centre of the pins. A clevis assembly utilising a minimum 0.350-inch (8.9 mm) thick male components and two minimum 0.175-inch (4.45 mm) thick female components may use a 1/2-inch (12.7mm) diameter grade 5 bolt(9.8), and does not require a half cup backing device.

- c. Sliding sleeves of 1 3/8-inch (35 mm) x 0.083-inch (2.1 mm) chrome moly or 0.118 (3.0 mm) mild steel, with minimum 2-inch (51 mm) engagement, are permitted in lieu of the upper pin/cup.
- d. All bolt/pin holes in the swing out bar must have at least one hole diameter of material around the outside of the hole.

For all dragsters, funny cars and other cars requiring a funny car or dragster style roll cage, the upper roll cage members must be arranged such that a flat surface passes over any two adjacent members will not contact the driver's helmet while the helmet is held in contact with the inner side of the same roll cage members. If the roll cage members do not satisfy this criteria, head/helmet guards of 1inch x 0.058-inch (25.4 x1.50 mm) chrome moly or 1inch x .118 inch (25.4 x 3.00mm) round tube until the criteria is satisfied.

If OEM firewall has been modified ( in excess of 1 square foot (929 cm<sup>2</sup>) for transmission removal, not including bolted in components) a lower windshield or dash bar of 11/4 x 0.058-inch (32 x 1.5 mm 4130 chrome moly or 11/4 x 0.118 (32 x 3.0 mm) mild steel is mandatory connecting the forward cage support.

Unless attaching to a OEM floor or frame, the minimum requirements for a frame member to which a roll cage member is attached are 1 5/8-inch x .118-inch mild steel or .083-inch chrome moly round tubing, or 2-inch x 2-inch x 0.058-inch mild steel or chrome moly rectangular.

**GSR 4.11.1 FULL BODIED CARS IN ET CARS, SST, SG, SC AND ALTERED CARS TYPE-2.**

**EXCEPT WHERE SFI SPECS ARE MANDATORY, (8.49 seconds and quicker).**

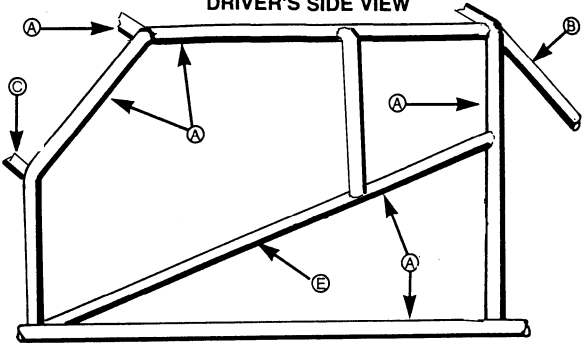
Roll cage must be manufactured in steel or chrome moly tubing. Minimum dimensions as in table for PIC. 19 and 20 below.

<b>Tube</b>	<b>O.D.</b>	<b>Chrome moly</b>	<b>Mild Steel</b>
<b>A</b>	42 mm (1 5/8 inch)	0.083 inch	3 mm (0.118 inch)
<b>B-1</b>	38 mm( 1 1/2 inch)	0.058 inch	3 mm (0.118 inch)
<b>B-2</b>	35 mm (1 3/8 inch)	0.049 inch	3 mm (0.118 inch)

<b>B-3</b>	32 mm (1 1/4 inch)	0.049 inch	3 mm (0.118 inch)
<b>C</b>	32 mm (1 1/4 inch)	0.065 inch	3 mm (0.118 inch)
<b>D</b>	32 mm (1 1/4 inch)	0.058 inch	3 mm (0.118 inch)

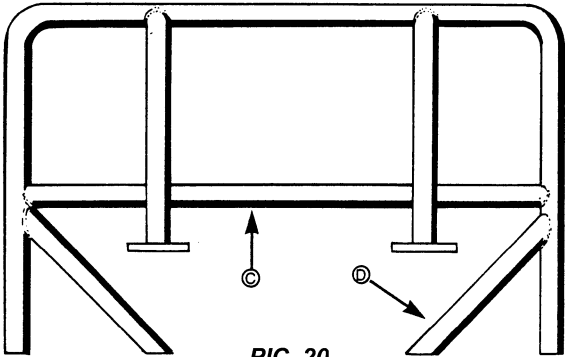
## ***FULL-BODIED CARS***

**DRIVER'S SIDE VIEW**

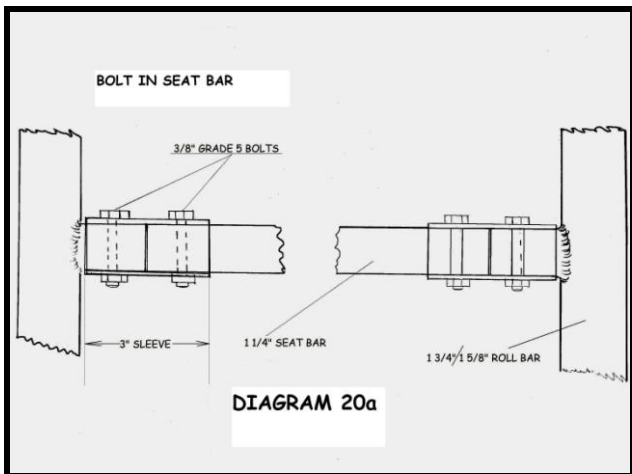


**PIC. 19**

**REAR VIEW**



**PIC. 20**



All cars with an OEM. frame must have roll cage welded to frame.

**B-** If A, two bars any length

If B1, 30" or less; must attach within 5-inches from top of main hoop.

If B2, minimum 4 bars. At least 2 bars must attach to horizontal portion of main hoop.

If B3, minimum 6 bars. At least 2 bars must attach to horizontal portion of main hoop.

**D-** 32 mm (1 1/4") x 1.47 mm (0.058") 4130 chrome moly or 3mm (0.118" ) mild steel, mandatory when main hoop welded to plates on floor, must be connected to sub frame.

**E-** May substitute an "X" brace of 38 mm (1 1/2" ) x 1.65 mm (0.065" ) 4130 chrome moly or 38 mm (1 1/2" ) x 3 mm (0.118" ) mild steel.

#### **Alternative main frame**

In SST, SG, SC(except dragster), ET cars slower than 8.50 seconds (except dragsters) and type 2 Altered cars in Competition Eliminator classes B to H and CC, DD, and DT; the main frame can be made of rectangular tubing minimum 60 x 40 x 3 mm (2 1/2" x 1 1/2" x 0.118").

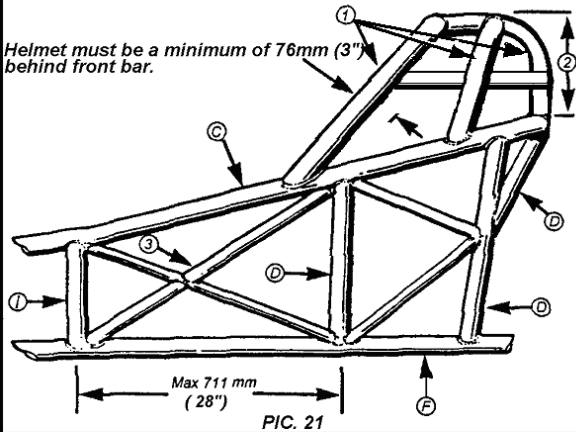
**GSR 4:11.2 ROLL CAGE ALL OTHER CARS 8.50 or slower, (EXCEPT WHERE SFI SPECS ARE MANDATORY (8.49 seconds and quicker)).** Rear engine Dragsters 8.50 or slower can alternatively meet SFI spec 2.7.

tube	O.D.	Chrome moly	Mild Steel
<b>A</b>	38 mm (1 1/2 inch)	0.065 inch	3 mm (0.118 inch)
<b>A1</b>	38 mm (1 1/2 inch)	0.058 inch	3 mm (0.118 inch)
<b>B</b>	42 mm (1 5/8inch)	0.065 inch	3 mm (0.118 inch)
<b>C</b>	35 mm (1 3/8 inch)	0.058 inch	3 mm (0.118 inch)
<b>D</b>	32 mm (1 1/4 inch)	0.058 inch	3 mm (0.118 inch)
	29 mm (1 1/8 inch)	0.065 inch	3 mm (0.118 inch)
<b>D1</b>	26 mm (1 inch)	0.049 inch	3 mm (0.118 inch)
<b>E</b>	19 mm (3/4 inch)	0.058 inch	3 mm (0.118 inch)
	26 mm (1 inch)	0.049 inch	3 mm (0.118 inch)
<b>E1</b>	16 mm (5/8 inch)	0.058 inch	3 mm (0.118 inch)
<b>F</b>	32 mm (1 1/4 inch)	0.058 inch	3 mm (0.118 inch)
	35 mm (1 3/8 inch)	0.049 inch	3 mm (0.118 inch)
<b>G</b>	16 mm (5/8 inch)	0.058 inch	3 mm (0.118 inch)
<b>H</b>	26 mm (1 inch)	0.058 inch	3 mm (0.118 inch)
<b>I</b>	32 mm (1 1/4 inch)	0.049 inch	3 mm (0.118 inch)

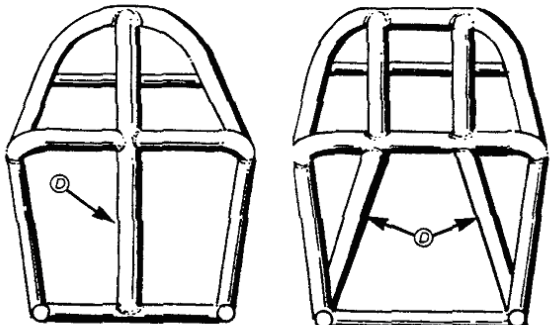
**Notes regarding numbers in illustrations PIC. 21-26:**

- #1. Rear engine dragster, 5 or 6 points attachment use tubing code A. Funny Car, Alters and Front engine Dragster with 6 points attachment use tubing code A, or with 5 points attachment use tubing code B. If using 5 points attachment upper frame rail must be tubing A1.
- #2 If over 457 mm (18 inches), dimension A becomes B, and C becomes A1.
- #3 If an X or K is used then E1, otherwise E.
- #4 If lower frame rails transition onto back brace uprights, there must be a tubing code D1 crossmember between back brace uprights (rear seat crossmember), min.127mm(5 inches) max. 254 mm (10 inches) above lower frame rails.
- #5 Kidney upright.
- #6 Helmet bars in all vehicles, 1" x .058" C/M or 1" x .118" M/S.
- N.B. Mild steel or chrome moly SFI chassis options for vehicles 7.50 secs or slower;-  
SFI 2.6 Rear Engine Dragster  
SFI 2.7B Front Engine Dragster  
SFI 10.3 Altered  
SFI 10.4 Side Steer Roadster  
SFI 25.4 Tube frame Car 3600lbs max  
SFI 25.5 OEM frame Car 3600lbs max

## ALTEREDS TYPE-1 AND FUNNY CAR



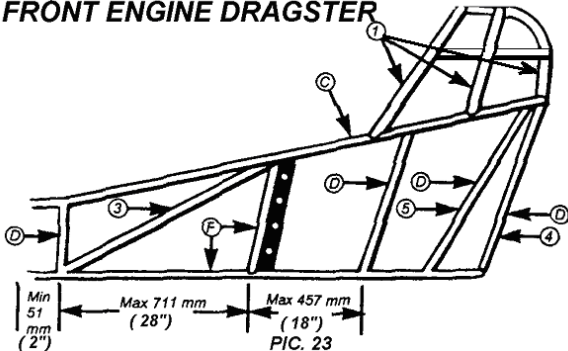
## REAR VIEWS ALTERED TYPE-1, FUNNY CAR AND DRAGSTER



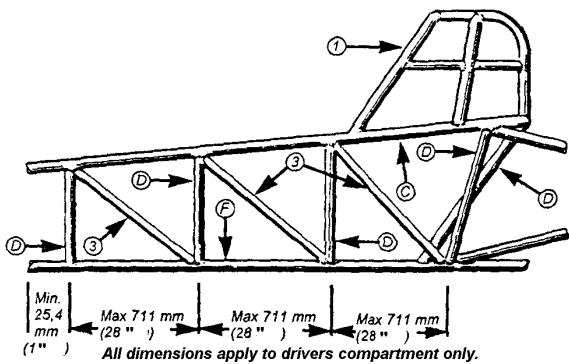
When using 2 uprights, they may be as (D1).

PIC. 22

## FRONT ENGINE DRAGSTER

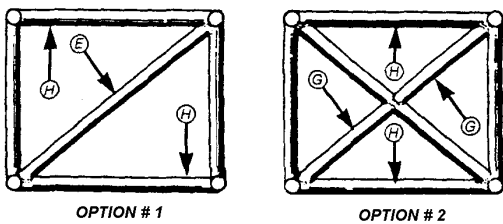


## REAR ENGINE DRAGSTER



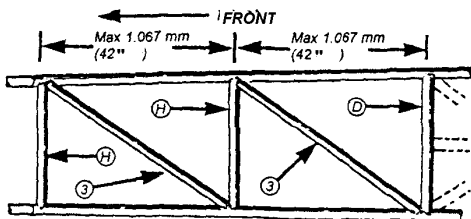
PIC. 24

## FRONT VIEWS REAR ENGINE DRAGSTER



PIC. 25

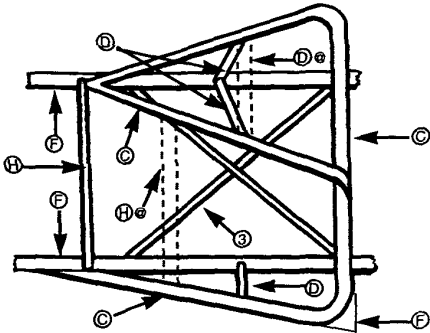
## BOTTOM VIEW REAR ENGINE DRAGSTER



PIC. 26

# STREET ROADSTER

**PIC. 27 TOP VIEW FROM ABOVE**  
(roll cage removed from drawing for clarity)



**H**- Foot box support 1 x .058"

**H⊙**- Retention for drivers legs, also can be a dash mount 1 x .058"

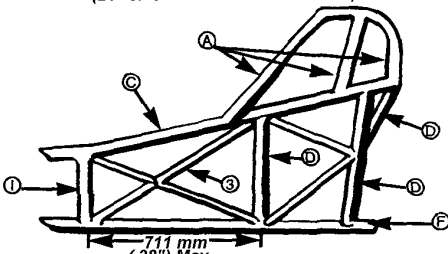
**F**- Lower frame - needs extension on left side when driver seat is overhanging lower frame rail.

**D** ⊙ - Horizontal, 1 1/4 x .058" used to tie inner and outer upper frame, only when no other support exists.

When 1 5/8 x .083" is used, for upper **C** and Lower **F** frame and uprights **D**, eliminates the need for inner frame diagonals **3**.

Diagonals **3** along outer frame and uprights still mandatory.

**PIC. 28 LEFT SIDE VIEW**  
(Driver is on left side of driveshaft)

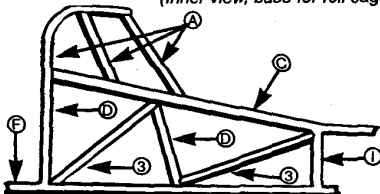


Helmet must be a minimum of 3" behind front bar.

- |                           |                        |                            |                   |
|---------------------------|------------------------|----------------------------|-------------------|
| <b>A</b> - Roll cage hoop | 1 5/8" x .065"         | <b>3</b> - Single Diagonal | 3/4" x .058"      |
|                           | 6 points of attachment | X- or K Design             | 5/8" x .058"      |
| <b>C</b> - Upper frame    | 1 1/2" x .058"         | <b>F</b> - Lower frame     | 1 1/4" x .058"    |
| <b>D</b> - Uprights       | 1 1/4" x .058"         |                            | or 1 3/8" x .049" |
|                           | or 1 1/8" x .065"      | <b>I</b> - Foot upright    | 1 1/4" x .049"    |

Mild steel construction requires .118" minimum wall thickness.  
Lower frame of square tubing minimum is 2" x 2" x .058".

**PIC. 29 RIGHT-SIDE VIEW**  
(Inner view, base for roll cage)



When this design is used for the inner structure, adjacent to the driver, then the outer structure has no minimum requirements.

### **GSR 4:11:3 Cars with engine behind rear axle centreline.**

Cars running 8.50secs – 12.99 secs to have 6 point roll cage per GSR 4:11.

All cars with altered roofs such as roof chops, cabriolets, and “Webasto type” sunroofs to have 6 point cage per GSR 4.11 regardless of E.T.

All cars running 14.99secs or quicker with GRP or non metallic “flip fronts” to have 6 point roll cage per GSR 4:11.

All cars running 13.00secs to 14.99secs to have roll bar per GSR: 4.10.

Any car running quicker than 8.49 secs must be fitted with a roll cage conforming to the relevant SFI spec.

### **GSR 4:12 WHEELBASE**

Minimum 2286 mm (90-inches). The exception to this is a car running no quicker than 9.99 (\*6.32) seconds and which is based on a production vehicle having a original wheelbase of less than 2286 mm (90-inches). This vehicle must retain the original manufactures wheelbase. Maximum wheelbase variation from left to right is 25,4 mm (1-inch), unless otherwise noted in Class Requirements.

## **TYRES & WHEELS: GSR 5**

### **GSR 5:1 TYRES**

Tyre will be visually checked for condition, pressure, etc., and must be considered free of defects by the technical inspector prior to any run. All street tyres must have a minimum of 1.6 mm, (1/16 inch) tread depth. Temporary spares, space saver spares, farm implement or trailer tyres prohibited. Metal, screw-in valve stems mandatory in tubeless tyres, front and rear, on cars running 11.00 sec or quicker. If not stated otherwise under class rules, cars running 200 km/h ( 124 mph) or faster must be equipped with front tyres classified minimum “HR” or with racing tyres type front-runners.

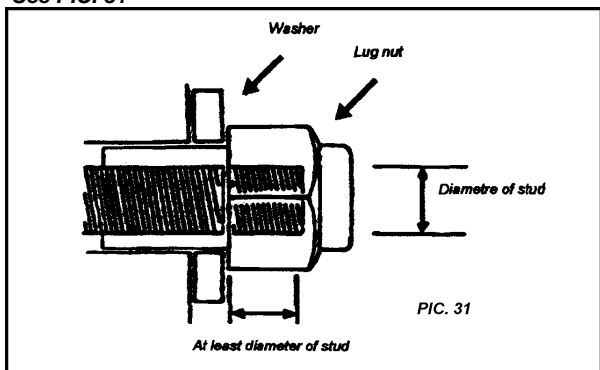
### **GSR 5:2 WHEELS**

Hubcaps must be removed for scrutineers, who will check for loose lugs, cracked wheels, worn or oversize lug- holes, and condition of spindles, axle nuts, cotter pins, etc. Snap-on hubcaps are prohibited on any class car. Each car in competition must be equipped with automotive type wheels with a minimum 12-inches (305 mm) diameter unless Class Requirements stipulate otherwise. Motorcycle wheels or lightweight automotive wire wheels must be equipped with .100-inch (2.5 mm) minimum diameter steel spokes, properly cross-laced to provide maximum strength. All spoke holes in rim and hub must be laced. Omissions to lighten wheels prohibited. All wheel studs must

project into the hex portion of the lug nut by a distance equal to one diameter of the stud.

Steel lug nuts mandatory. Maximum rim width on any car: 16-inches. No rear wheel discs or covers allowed in any category.

See PIC. 31



## INTERIOR: GSR 6

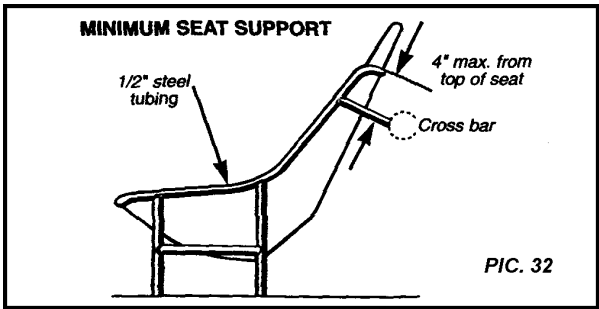
### GSR 6:1 DRIVER COMPARTMENT

All interior panels (firewalls, floors, wheel tubs, doors, etc.) within the driver compartment of enclosed-cockpit cars where the driver is located behind the engine must be constructed of materials other than magnesium. Driver compartment of any enclosed or full bodied car must be totally sealed from engine. All holes in firewall must be sealed with aluminium or steel. Openings around all linkages, lines, wires, hoses, etc. must be minimised.

See also GSR 7.5.

### GSR 6:2 UPHOLSTERY, SEATS

The driver's seat of any car in competition must be constructed, braced, mounted, and upholstered so that it will give full back and shoulder support. The driver's seat must be supported on the bottom and back by the frame or crossmember. Except as noted in SFI specifications, seats must be bolted with four bolts with nuts and washers on the bottom and one bolt in the rear into crossbar; all bolts must go into frame or crossbraces, ball-pins for seat attachment prohibited. All seats must be upholstered, or as noted under Class or SFI Requirements. Properly braced, framed, supported and constructed seats of aluminium, Fibreglas or double layer poly (accessory seats) or carbon fibre are allowed. Single layer Fibreglas seats must have steel tube framework, 1/2-inch (12.7 mm) min outside diameter, for support. Aftermarket aluminium seats must have reinforced head rest. Magnesium seats prohibited. See PIC. 32



## GSR 6:3 WINDOW NET

A ribbon type or SFI spec 27.1 mesh type window net is mandatory on any full-bodied car required by the rules to have a roll cage. Window net must be securely mounted on the inside of the roll cage, with the permanent attachment at the bottom. All attachment points must be designed in an attempt to protect the driver and avoid contact with the track surface or guardwall/guard rail. Eyelets, clips, dog leash, hose clamps, etc prohibited. Penetration of webbing, except as performed by manufacturer, prohibited. Any modification to net must be performed by manufacturer or approved in writing by MSA. See Class Requirements for any deviations.

## BODY: GSR 7

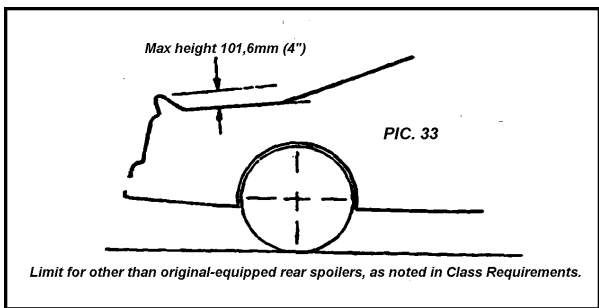
### GSR 7:1 ADVERTISING

FIA and/or MSA reserve the right to regulate the advertising which appears on the body of any car participating in FIA and/or MSA events.

### 7:2 AIR FOILS, WINGS

Air foils, canards, wings, and spoilers other than original factory equipment will only be allowed in open-bodied class cars (i.e.: Dragster, Street Roadster, and Altered) or as noted in Class Requirements. A positive locking device to prevent movement is mandatory. No part to be within 6-inches (152 mm) of rear tires. Spring-loaded spoilers, wings or canards prohibited. Adjustment of air foils, wings or spoilers during run prohibited.

NOTE: A spoiler is mounted directly to the deck lid of the vehicle, such that air only passes on the top side of the device. An airfoil or wing is mounted on stands, struts or pedestals, such that air passes over the top and underneath the device. Minimum fastener size on all front wings, canards, etc. is 1/4-inch (6.35 mm). Ball lock pins prohibited. **See PIC. 33**



### **GSR 7:3 COMPETITION NUMBERS**

Any car competing at FIA and/or MSA events must display the driver's Competition number. Numbers must be a minimum 152 mm (6-inches high) and 38 mm (1 1/2-inches) wide. Class designation letters must be a minimum 76 mm (3-inches) high and 25,4 mm (1-inch) wide. Driver's competition number and class designation must be displayed in a legible manner in a contrasting colour to the vehicle's background colour, or light colour on windows, in a prominent position, and be clearly visible to the Tower personnel. Class and numbers must be in the form of permanent decals or paint. The use of shoe polish in any form is prohibited.

### **GSR 7:4 FENDERS**

All vehicles in all classes must have re-rolled or beaded edges on altered fenders. Flaring or spreading external fender lines prohibited. Front fenders may not be "drooped" on full fendered cars, except as noted in Class Requirements.

### **GSR 7:5 FIREWALLS**

Each car in competition must be equipped with a minimum 0.032-inch (0.8 mm) aluminium or 0.024 (0.6 mm) steel firewall, extending from side to side of the body and from the top of the engine compartment's upper seal (hood, cowl, or deck) to the bottom of the floor and/or belly pan. Firewall must provide a bulkhead between the engine and/or fuel tank and driver compartment. All openings must be sealed with metal. In certain instances fibreglass, carbon fibre or other composites may be used. See Class requirements or consult the FIA/MSA. Use of magnesium prohibited.

### **GSR 7:6 FLOORS**

All cars without floors must be equipped with floor pans made of steel or aluminium which 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 Fibreglas or other breakable material must have metal subfloors. In all cars with OEM Fibreglas floors, a crossmember (minimum 51 mm (2-inches) x 51 mm (2-inches) 2,1 mm (0.083-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 subfloors enclosing engine or driver compartment must contain suitable drain holes so that liquids and foreign matter cannot collect, thus creating a fire hazard. Minimum 0,8 mm (0.032-inch) aluminium or 0,6 mm (0 .024-inch) steel. In certain instances, an FIA/ MSA accepted panel made of composite material may be substituted for steel or aluminium. Contact FIA/MSA for list of accepted composite panels. Use of magnesium prohibited.

### **GSR 7:7 HOOD SCOOP**

On full-bodied cars, where allowed, hood scoop may not extend more than 11-inches (279 mm) above height of original hood surface. On open-bodied, front-engine cars, scoop may not extend more than 11-inches (279 mm) above height of carburettor top. Scoop may have one inlet opening only. **See Class requirements for additional restrictions.**

### **GSR 7:8 WINDSCREEN**

On open-bodied cars, or any other class car without a windshield, a metal or other fireproof deflector must be installed. Minimum size on Street Roadster and Altered class cars is 5-inches (127 mm) x 12-inches (305 mm). The deflector should divert wind, liquids and foreign matter over the driver's head, be securely mounted and installed in such a manner that it does not obstruct the driver's frontal view in any way.

### **GSR 7:9 WINDSHIELD, WINDOWS**

Windshields and/or windows on all cars, when called for under Class Requirements, must be of safety glass, Plexiglas, Lexan (Polycarbonate), or other shatter-proof material. Windshields and/or windows must be clear, without tinting or colouring, except OEM factory-tinted safety glass. Competition number decals are allowed on any window, windshield or back light, except as noted in Class Requirements. Tape of any kind prohibited on any windshield or window.

## **ELECTRICAL/CONTROL: GSR 8**

### **GSR 8:1 BATTERIES**

All batteries must be securely mounted. Rear firewall of 0.6 mm (0 .024-inch) steel or 0.8 mm (0 .032-inch ) aluminium (including package tray) required when battery is re-located in trunk. In lieu of rear firewall, battery may be located in a sealed 0.6 mm (0.024-inch) steel or 0,8 mm (0.032-inch) aluminium or FIA accepted poly box. If sealed box is used in lieu of rear firewall, box may not be used to secure battery, and must be vented outside of body. A maximum of two automobile batteries, or 68 kg (150 pounds) combined maximum weight (unless otherwise specified in Class Requirements) is allowed. Metal battery hold-down straps mandatory. Strapping tape prohibited. Hold-down bolts must be minimum thread dia 10 mm (3/8-inch) if battery is relocated from stock and other than stock hold-downs are used. (J hooks prohibited or must have open end welded shut.

## **GSR 8:2 DELAY BOXES/DEVICES**

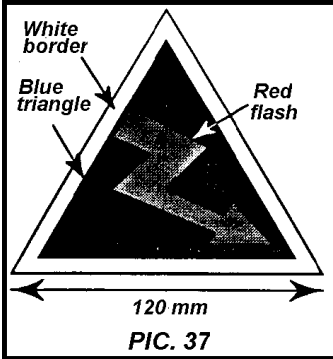
A Delay Box or Delay Device is defined as any device (electric, electronic, pneumatic, hydraulic, mechanical, etc.) built for the express purpose of creating a delay between release of trans-brake or line-lock button, or release of foot or hand brake, or release of clutch pedal/lever, and the resultant action of the vehicle. Delay Device may only display delay amount dialled in, analogue or digital display allowed. See Class requirements for number of boxes/devices permitted. Delay device may only serve to create a pre-set delay between release of trans brake, line-lock, etc. and resultant action of vehicle. Delay device may only be connected to systems; i.e. trans brake, and/or line-lock, and/or clutch, dependant on vehicle, and throttle stop. Delay device connected to shift timers, data recorders, or any other equipment prohibited. Wiring of delay box/device must be fully visible, labelled and traceable to scrutineer. Only delay boxes/devices fitting this description will be allowed.

Any system that does not fit the above description is prohibited, and must be corrected before the vehicle will be passed through pre-event scrutineering. Further, discovery of a prohibited device at any time following pre-event scrutineering will be grounds for immediate disqualification from the event, loss of all FIA and /or MSA points for the season, and suspension from all FIA, MSA and/or National Championship Drag Racing Events for remainder of season. Additional penalties may be imposed in accordance with the FIA and/or MSA International and/or National Sporting Code. (**See 9:1 COMPUTERS, 9:2 DATA RECORDERS**)

### GSR 8:3 IGNITION

Each car in competition must have a positive-action on/off switch, capable of de-energising 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.

### GSR 8:4 MASTER CUT-OFF



Mandatory when battery is relocated, or as outlined in Class Requirements. An electrical power cut-off switch (one only) must be installed on the rearmost part of each vehicle and be easily accessible from outside the car body. This cut-off switch must be connected to the positive side of the electrical system and must stop all electrical functions

including magneto ignition. The positions must be clearly indicated with the word "OFF". If switch is "push/pull" type, push must be the action for shutting off the electrical system, pull to turn it on. Any rods or cables used to activate the switch must be minimum 1/8-inch (3.2 mm) diameter. Plastic or keyed switches prohibited. Switches and/or controls must be located behind rear wheels on rear engine dragsters. The external control switch for this cut-off switch will be clearly indicated by a red flash inside a white-edged blue triangle with a base of at least 120 mm. **See illustration PIC. 37.**

### GSR 8:5 STARTERS

All cars must be self-starting. Rollers and/or push starts prohibited.

### GSR 8:6 TAIL LIGHTS

All vehicles in ET, SST, SG, SC and Comp Eliminator must have as minimum requirement one working tail light for night operations. Strobe, flashing, high intensity, laser, infrared, photo sensitive or other light emitting/receiving device prohibited. Any type of lights that may distract other drivers are prohibited. Also see Class Requirements.

## **SUPPORT GROUP: GSR 9**

### **GSR 9:1 COMPUTER**

Except those computers installed on stock vehicles by the new vehicle manufacturers for the proper operation of such vehicles, no vehicles may be equipped with computers which in any way effect the operation of the vehicle. Subject to class requirements, OEM or OEM-type electronic fuel injection permitted. All related wiring, sensors, etc. must be identifiable to the scrutineer. A computer is defined as any device (electrical, mechanical, pneumatic, hydraulic, etc.) that activates any function of, or in any way affects the operation of, the vehicle based on measurement, sensing, processing, etc., of any data related to the performance of the vehicle. Display or transmission of any data gathered or processed, to the driver or any remote location (telemetry), is prohibited (see 9:2 DATA RECORDERS).

### **GSR 9:1:1 AUTOMATED SHIFTERS**

Per class requirements timed or rpm activated shifters and the like permitted, but all automated functions must be preset before the run. Timer may only display timer amount dialled in, analogue or digital display permitted. Devices may be removed at any time at discretion of FIA, MSA and/or Club scrutineers.

### **GSR 9:2 DATA RECORDERS**

Data recorders may be used to record functions of a vehicle, so long as they do not activate any function on the vehicle. Data Recorder may not be activated by the throttle, clutch, brake, etc., mechanisms, nor by the Christmas Tree, radio transmitters, sensing of wheel speed, inertia, laser device, or transmission of track position, must be activated by separate switch. Fifth wheel sensing devices prohibited on all vehicles (includes wheelie bar wheels). All lines sensing flow, pressure, etc., of fuel or oil must be metallic or steel braided. Transmission or display of data gathered or processed by data recorder, to the driver or any remote location, prohibited. Data may only be reviewed (print out, replay, etc.) after the run.

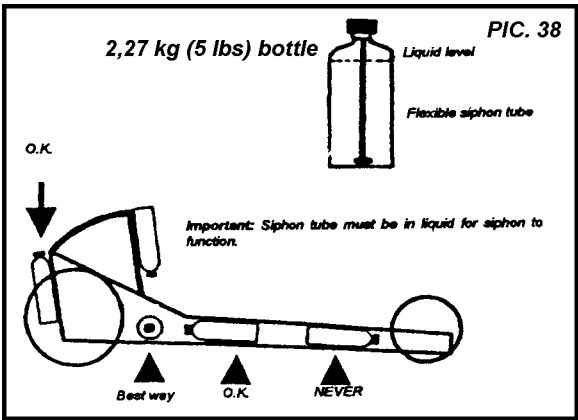
Any device (mechanical, hydraulic, pneumatic, electrical, optical, etc.) other than OEM. type, which assist in determining track location of the competitor's own vehicle or opponent's vehicle is prohibited. Only OEM. style mirrors, mounted in conventional fashion, permitted.

Discovery of a device which displays indicates or transmits "on track" or "track location", elapsed time type data will be grounds for immediate disqualification from the event. Additional penalties may be imposed in accordance with the FIA and/or MSA International and/or National Sporting Code.

## **GSR 9:3 FIRE EXTINGUISHER / SUPPRESSION SYSTEM**

On-board fire-extinguisher system is mandated under certain Class Requirements. If a hand-held fire extinguisher is carried on board the vehicle, it must be mounted in a secure manner; flip-open type clamps prohibited. DRY POWDER PROHIBITED.

On-board fire suppression systems must be manually controlled (pull-type only on FC and TMFC) Cold Fire 302 or Fire X plus and mounted per manufacturer's specifications with the primary nozzle(s) directed in an attempt to protect the driver. Other agents classified by the FIA/MSA as Acceptable Total Flooding Agents (Feasible for Use in Occupied Areas) may be used, contact FIA/RACMSA for listing. Bottles and lines must be mounted within the frame rails. Fire suppression bottle activation cables must be installed inside frame rail where cables pass engine/bellhousing area. Bottles must be certified for use at the working pressure and permanently mounted (no hose clamps or tie wraps). In the case of more than one bottle, each bottle must have its own distribution tubing and nozzles. The use of bottles, nozzles or tubing other than that recommended by the manufacturer is prohibited. Nozzle placement is extremely important; two nozzles are placed at the front of the engine, one on each side, and one nozzle is located in the driver compartment near the steering column, minimum. Upon activation of the system the contents of the bottle(s) must be totally discharged; partial-discharge systems prohibited. 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. Also, the position of the bottles in the vehicle must be high enough that they cannot come into contact with the track surface following loss of a tire or wheel. They should be protected from excessive temperature and mounted rigidly to the vehicle. **See PIC. 38** Remote cables must be metallic (plastic or plastic-wrapped cables prohibited) and installed so they are protected in the event of an upset or collision. Follow the manufacturer's recommendations regarding installation, especially on bend radius and protection from crimping or kinking. All fire suppression systems must use steel lines, steel or aluminium distribution nozzles and must be equipped with a pressure gauge. All bottles must be identified with a gross loaded weight figure. It is the responsibility of the competitor to weigh the bottle prior to each event. If there is an external lever for activating the extinguishers, this must be indicated with a mark which complies with illustration **PIC. 39**



**GSR 9:4 JACKS & JACKSTANDS**

No work may be done under any car in the pit area while the car is supported by only one jack. Additional safety devices such as jackstands are mandatory to provide additional protection in the event of jack failure. Failure to observe this rule is grounds for immediate disqualification. TF, FC, PS, PM, TMD and TMFC must use cradles/jackstand devices that attach to the frame (conventional jack stands prohibited) when working on and/or running engine in pits with vehicle in a raised position. Jack stand devices must be constructed as to provide a minimum ground clearance of 178 mm (7-inches) as measured from the ground to the outer diameter limit of the rear tires.

**GSR 9:5 LIFTING DEVICES**

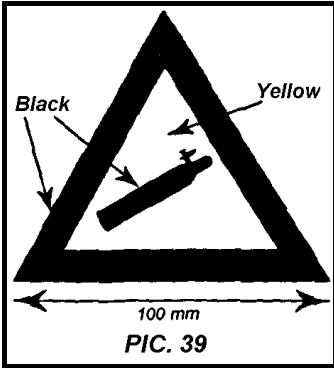
Any form of mechanical, hydraulic or other leverage-type device for raising a car's driving wheels off the starting line surface is prohibited.

**GSR 9:6 OVERSIZE TRAILERS**

Those contestants utilising semi-tractor/trailer equipment (18 wheelers) must close lift gate type rear doors after unloading/loading procedures are completed. Also, all extended ramps must be stowed after use. Maximum length of trailer and truck 20 meters (65 feet). Maximum width of trailer and awning combination - not to exceed 22-feet (6.705m).

### **GSR 9:7 PRESSURISED BOTTLES**

Only gas cylinders/bottles certified for use at the working pressure (minimum 124 bar rating) of the system as a fuel reservoir permitted (also applicable to any vehicle with a pressurised gas system). All receiving cylinders should have rupture disc or safety valve to prevent over pressurisation. All bottles must be securely mounted (hose clamps and/or tie wraps prohibited).



### **GSR 9:8 PUSH BARS**

Push or tow starts prohibited.

### **GSR 9:9 TOW VEHICLE**

Any vehicle used as a tow vehicle must have the driver's Competition Number displayed on the tow vehicle. Limit of six crew members in push-tow vehicle. Crew members must be inside cab or completely inside bed or truck, not to be seated on tailgate, standing on running boards or otherwise not completely inside vehicle.

### **GSR 9:10 TWO-WAY RADIO COMMUNICATION**

The use of two-way radios for the purpose of voice communication between driver and crew is acceptable in all classes. Telemetry may in no way be used for gathering data or performing control functions.

### **GSR 9:11 WARM-UPS**

It is mandatory that a driver be seated in the car in the normal driving position any time the engine is running. The practice of transbrake testing, converter stalls, line loc testing, and/or transmission warming is prohibited in all classes, in all areas of the event except in starting line approach areas beyond staging, or unless vehicle is on jack stands. Non-compliance is ground for disqualification. TOP FUEL & FUNNY CAR - When starting this category of vehicle in the Pit Area - the car must be fully within the assigned space. NO PART OF THE REAR TIRE MAY EXTEND PAST THE END OF YOUR TRAILER. When occupying the "end spot" pit space, or if the neighbouring trailer does not completely shield your car, it is mandatory to park a tow truck/car along side the race car while the engine is running.

## **DRIVER: GSR 10**

(ALSO, REFER TO FIA INTERNATIONAL SPORTING CODE, (APPENDIX L) AND MSA COMPETITORS YEAR BOOK ( BLUE BOOK))

### **GSR 10:1 APPAREL**

Each member of a participant crew must be fully attired when present in the staging, starting and competition areas of the race track. Shoes are mandatory. Shorts, bare legs, tank tops, or bare torsos are prohibited when driving in any class.

### **GSR 10:2 APPEARANCE**

Vehicles participating in drag racing events must be presentable in appearance at all times; those considered improperly prepared may be rejected by the scrutineer and/or the Clerk of the course/race director. The appearance of personnel attending contestant vehicles is equally important, and is subject to the same considerations.

### **GSR 10:3 ARM RESTRAINTS**

Where mandated by Class Requirements, arm restraints must be worn and adjusted in such a manner that driver's hands and/or arms cannot be extended outside of roll cage and/or frame rails. Arm restraints shall be combined with the driver restraint system such that the arm restraints are released with the driver restraints, Refer to manufacturer for instructions.

### **GSR 10:4 LICENCES**

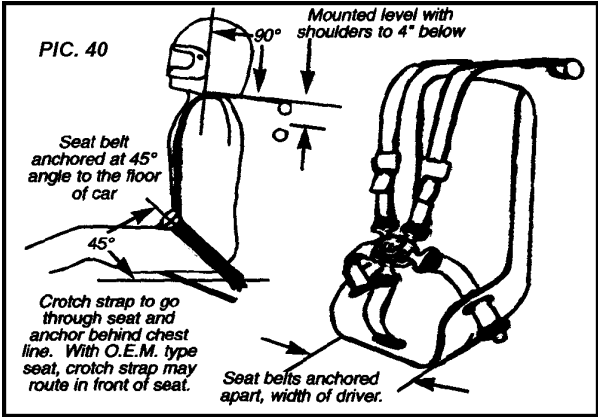
See Appendix "A" Drag Race Competition Licences.

### **GSR 10:5 DRIVER RESTRAINT SYSTEMS**

A quick-release, 76 mm (3-inch) driver restraint system meeting SFI Spec 16.1 is mandatory in all cars running quicker than 7.50 seconds. Must be clearly labelled as meeting SFI Spec 16.1 and be dated by the manufacturer. SFI 16.1 Certification is for 2 years. For sportsman classes running slower than 7.50 seconds with a roll cage then FIA spec 8854/98 and 8853/98 are acceptable although it should be noted that these belts are not supported under FIA rules in the rest of Europe. These belts have a 5 year certification life. Note that 3" belts intended for use with head and neck restraint systems can have a 2" section where they run over the shoulders but the belts must be presented with the restraint device at scrutineering. All seat belt and shoulder harness hardware and produced by the same manufacturer, and originally designed to be used with each other. For harness installation, **see illustration (PIC 40)**. Cars using OEM or OEM-type seat may route crotch strap in front of seat instead of through seat. Only those units that release all five attach points in one motion are permitted. When arm restraints are worn with a restraint system that utilises a "latch lever", a protective cover must be installed to prevent arm restraint from accidentally releasing the latch lever. Protective cover not required if system utilises "duck-bill" latch hardware. All harness

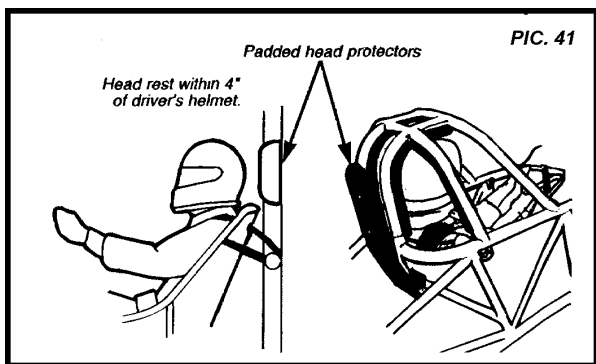
sections must be mounted to the frame, crossmember, or reinforced mounting, and installed to limit driver's body travel both upward and forward. Seat belts may not be wrapped around lower frame rails.

It is acceptable that all seats be mounted vertically and incorporates a compatible crotch strap. Under no circumstances are bolts inserted through belt webbing acceptable for mounting. Check manufacturer's instructions.



### GSR 10:6 HEAD PROTECTOR

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 in an attempt to prevent whiplash upon impact. The roll bar or cage must be padded wherever it may come in contact with the driver's helmet. Adequate padding should permit approximately 6 mm (1/4-inch) or meet SFI Spec 45.1. For chassis that have to meet SFI chassis specs, padding meeting SFI 45.1 is mandatory. The use of weather stripping and similar thin or low impact resisting materials is prohibited. A padded roll bar or cage alone is not acceptable as a padded head protector unless it is within 102 mm (4-inches) of the driver's helmet. A seat that incorporates a reinforced head rest is acceptable. **See PIC 41.**



### **GSR 10:7 HELMETS & GOGGLES**

See MSA Competitors Year Book ( Blue Book).

Drivers of any open bodied car wearing an "open face" helmet, must wear protective goggles. Modifications to helmet/visor/shield are prohibited. All helmets must have the appropriate certification sticker affixed inside the helmet. See also class requirements. The use of built in Pneumatic Helmet removal systems is recommended.

### **GSR 10:8 NECK COLLAR**

Must be commercially produced neck collar designed for racing. Two different types of collars are commercially available - a full 360-degree "donut" type or a pull-together "horseshoe" type - see Class Requirements for type specified. Modification according to manufacturer's recommendations, to fit helmet and driver's neck/shoulder spacing, permitted. It must be worn as per manufacturer's recommendations and must meet SFI Spec 3.3 as per Class Requirements. SFI 38.1 or FIA Homologated head and neck device can be used and is mandatory in all vehicles exceeding 200 mph.

### **GSR 10:9 OCCUPANTS**

No more than one person is permitted in any car during any run. All occupants of push cars must be inside of car or pickup in a seated position while push car is in operation. Any time a car is started, whether in the pits, staging lanes, with self-starter, or anywhere else on the race facility, a competent driver must be in the driver's seat, unless coupler or driveline is removed. Non-compliance is grounds for disqualification.

## **GSR 10:10 PROTECTIVE CLOTHING**

Drivers are required to have as minimum requirements protective clothing labelled as meeting the following standards as per specific Class Requirements:

3.2A/20	3.2A/15	3.2A/5 or 1986 FIA	3.2A/1 or 1986 FIA
FC	TF	PRO	SST
TMFC	TMD	COMP	ET (10.00 or slower)
	PM	S/C	
		S/G	
		ET(7.50 – 9.99)	

Junior Dragster use 3.2A/1, 1986 FIA or Proban

Except as outlined below.

Supercharged front-engine open-bodied car or any car with a torque converter in the driver compartment (i.e.: one without a floor over the transmission) must have a 3.2A/15 suit or as per Class Requirements.

All "suits" include a head sock, gloves and boots (3.2A/20 suit) or shoes (3.2A/15 suit). Suit can be one piece, or separate jacket and pants in the case of SFI approval. Jacket and pants must each be labelled as meeting SFI Spec. All gloves must have a full layer of Nomex inside the glove. Leather palm gloves without a full layer of Nomex separating leather from driver's hand prohibited. Drivers in all open bodied front engine cars with open face helmet must wear a breather style face mask and protective goggles. Drivers in all open-bodied cars must wear SFI spec 3.3 fire-resistant gloves. Drivers of any open bodied car wearing an "open face" helmet must wear "racing type" protective goggles and a dual eye port, flame retardant balaclava. If a "closed face helmet" is worn a balaclava is still required. See class Requirements.

## **GSR: 10:11 SEAT BELTS**

All cars not required by Class Requirements to use SFI Spec 16.1 driver restraint system must be equipped with an accepted quick release-type driver seat belt. Belts must be securely fastened to the frame, crossmember or reinforced mounting so that all fittings are in a direct line with the direction of pull. Seat belts may not be wrapped around lower frame rails (or any frame rail or crossmember). Steel castings of the type recommended by FAA, or U-bolt-type mounts are accepted. If used for installation, flat steel plates must be a minimum of 1/4-inch (6.35 mm) thickness and have rounded edges to prevent cutting seat belts. Under no circumstances can belts be installed with bolts through webbing. In all cars with Fiberglass floors, a crossmember of minimum 2-inch (51 mm) x 2-inch (51 mm) x .083-inch (2.1 mm) wall thickness square tubing must be installed between frame rails for proper driver's seat belt installation. All cars in competition requiring a roll bar or when a roll cage has been installed or as outlined by Class Requirements, require a SFI 16.1 restraint system.

**(See 10:5 DRIVER RESTRAINT SYSTEM).**

# Car Class Regulations

## JUNIOR DRAGSTER

Junior Dragster racing is restricted to competition in half-scale dragsters over a maximum distance of an eighth-mile. Competition is designed to be conducted on an E.T dial-your-own format or a preset index on a heads-up breakout basis. Breakout rules apply. Pairings are decided on reaction times from qualifying or by random. Drivers between 8 and 9 years are restricted to 12.90 seconds.

### CLASS DESIGNATIONS

**AGE REQUIREMENTS:** Drivers may compete in the MSA Junior dragster racing class from the day of their 8th birthday through the year of their 18th birthday.

**Junior Stock:** ages 8 and 9; dial-in restricted to 12.90 seconds or slower based on either an e.t. dial-your-own or heads-up basis: breakout rules apply. Any racer running quicker than 12.70 e.t. at any time during an event will receive one warning. If the same racer runs quicker than 12.70 e.t. again at the same event, he or she will be disqualified for the remainder of the event. The above penalties will be imposed regardless of whether the infraction(s) occur during qualifying or eliminations. If a driver has no previous experience in Junior dragster racing, he or she must successfully demonstrate driving proficiency prior to competition.

**Junior Modified:** ages 10-18; dial-in restricted to 8.90 seconds or slower based on either an e.t. dial-your-own or heads-up basis: breakout rules apply. Any racer running quicker than 8.70 e.t. at any time during the event will receive one warning. If the same racer runs quicker than 8.70 e.t. again at the same event, he or she will be disqualified for the remainder of the event. Any racer running quicker than 8.50 e.t. at any time during an event will be immediately disqualified for the remainder of the event. The above penalties will be imposed regardless of whether the infraction(s) occur during qualifying or eliminations. If a driver has no previous experience in Junior dragster racing, he or she must successfully demonstrate driving proficiency prior to competition.

**Junior Modified Advanced:** ages 13-18; dial-in restricted to 7.90 seconds or slower based on either an e.t. Dial-your-own or heads-up basis; breakout rules apply. **Any racer running quicker than 7.70 e.t. or faster than 85mph at any time during an event will be disqualified from the event.** If a driver has no previous experience in Junior dragster racing, he or she must successfully demonstrate driving proficiency prior to competition.

## **REQUIREMENTS AND SPECIFICATIONS**

### **ENGINE 1: JR1**

#### **JR 1.1 CAMSHAFT**

Any camshaft permitted; no overhead valves, no overhead cams. Any size valve, but must retain stock valve guide location. Any valve spring permitted.

#### **JR.2 Engine**

All vehicles restricted to a maximum of one rear-mounted, five-horsepower, single-cylinder, single-spark-plug, flathead-configured, four-cycle engine from a recognised OEM except in stock where an overhead valve configuration is also allowed. Must be MSA accepted. NHRA- accepted after market block permitted. Must retain original five-horsepower engine block configuration. Porting, polishing and relieving of block; boring of cylinder; machining of deck surface permitted. After market head permitted. Adding material to deck surface, installing a spacer between the block and cylinder head, or any other modification designed to increase the effective deck height of the cylinder is prohibited.

Accepted after market engines: Metro racing flathead, McGee racing flathead, Tecumseh flathead, LPW racing products monster racing block, JR race car flathead and Pure power racing flathead. All accepted after market engines must not exceed 271.5 mm (10 11/16 inches) from base to deck. Any measurement that exceeds that limit is prohibited.

#### **JR 1. 3 EXHAUST**

Regardless of design, no part of tailpipe may extend more than 685 mm (27 inches) past exhaust attachment point on rear of engine block. Outlet must be directed rear ward, away from driver and engine. For 2011 noise limits apply. **See SR 5.5**

#### **JR 1.4 FUEL**

Restricted to gasoline, alcohol, or gasohol. Nitrous oxide and/ or propylene oxide and / or nitromethane prohibited.

#### **JR 1.5 FUEL SYSTEM**

Any naturally aspirated carburettor. Fuel injection prohibited. Auxiliary vacuum fuel pump permitted; must be pulsed from manifold only. Pressurised fuel systems prohibited. Fuel tank must be located behind driver, below the shoulder hoop of roll cage and be securely mounted. Maximum capacity of fuel tank or cell, 3.78 litres (1 US gallon). Fuel tank/cell must be equipped with a screw-on or positive locking cap. All vents must routed downward and away from driver. Open hole(s) in fuel tank /cell prohibited.

#### **JR 1.6 IGNITION SYSTEM**

Battery ignition systems prohibited.

## **JR 1.7 OIL SYSTEM**

Oil additives for the intent of producing power prohibited.

## **JR 1.8 STARTER**

Pull-rope or remote starter mandatory. Any driver-activated/operated starting system prohibited.

## **JR 1.9 SUPERCHARGER, TURBOCHARGER**

Prohibited.

## **JR 1.10 THROTTLE**

All vehicles must be equipped with a positive throttle return spring, which shall close throttle when released. Throttle control must be manually operated by drivers foot: Electronics, Pneumatics, hydraulics, or any other device may in no way affect the throttle operation. Throttle stops, other than mechanical (i.e, a positive stop under throttle pedal), prohibited. Must be securely mounted ( no tie wraps.)

## **JR 1.11 VENT TUBES, BREATHERS**

Where used, must be securely fastened (no tie wraps). Container/ catch tank must be designed to prevent spillage onto racing surface ( no open-top containers).

## **DRIVE TRAIN : JR 2**

### **JR 2.1 BELT/ CHAIN GUARDS**

All cars must be equipped with a guard to cover the width and at least the top run to the forward and trailing centre line of the sprockets of any belts or Chains. Plastic belt guard permitted. Chain guards must be minimum 1.5mm (.060-inch) steel or 2.2mm (.090- inch) aluminium. Must be securely mounted (no tie wraps). Moving engine / drive train parts must be protected by frame rails or guards.

### **JR 2.2 CLUTCH**

Maximum one dry centrifugal-type engine clutch. Chain or belt drive only. Axle clutches prohibited. Clutch cover/ guard that provides 180-degree coverage over the top of the clutch made of 2.2mm (.090-inch) 2024T3, 6061T6 or 7075T6 aluminium or 1.5mm (.060-inch) steel is required.

### **JR 2.3 FLYWHEEL**

After market billet flywheel or MSA- accepted aftermarket flywheel shield mandatory unless original, stock carburettor is used when either an aftermarket billet or stock steel flywheel is allowed. Cast aluminium flywheel prohibited. Keyway modifications permitted. Lightening or modifications to stock flywheel prohibited.

## **JR 2.4 TRANSMISSION**

Gear-type prohibited. Torque converter belt assembly units permitted.

## **BRAKES AND SUSPENSION JR 3**

### **JR 3.1 BRAKES**

Two rear-wheel hydraulic drum or disc brakes, or MSA-accepted mechanical brakes are mandatory. Hydraulic brake lines must be steel or steel braided. High-pressure brake hose must be used with steel line for vibration connections. Front brakes permitted, but only in conjunction with rear brakes. Live axle may have brakes on one wheel only if 175mm (7-inch) minimum go-kart puck-type disc brake is used. Use of drive sprocket as a brake rotor is prohibited. Drilling of brake components is prohibited. Steel disc brake rotors are required and must be a minimum of 175mm (7-inch) diameter with a 6.4mm (1/4-inch) thickness minimum; dual steel brake rotors, 150mm (6-inch) diameter with a 5mm (3/16-inch) minimum thickness; or aluminium brake rotor, 280mm (11-inch) diameter with a 6.4mm (1/4-inch) minimum thickness. Line-locs prohibited. Hand brake permitted, but must be directly coupled to foot brake, hand brake cannot be independent of, or in lieu of foot brake. Application and release of brakes must be a direct function of the driver, electronics, pneumatics, or any other device may in no way affect or assist brake operation.

### **JR 3.2 SUSPENSION**

Suspension permitted; maximum upward suspension travel 50mm (2-inches).

### **JR 3.3 STEERING**

Set screw steering shaft couplers/ attachments prohibited. All components must have a positive "through" bolt connections; no roll or pressed pins, no ball-lock pins, set screws, etc. All rod ends must be installed with flat washers to prevent bearing pullout. Flexible steering shaft prohibited. Minimum spindle diameter 12.7 mm (1/2-inch) Cars running 8.89 to 7.90 must have rack and pinion steering only.

### **JR 3.4 WHEELIE BARS**

Permitted. Using wheelie-bar wheels as "fifth wheel" sensing device prohibited.

## **FRAME :JR 4**

### **JR 4.1 ALIGNMENT**

Each car in competition must have sufficient positive front-end caster to ensure proper handling of car at all speeds.

### **JR 4.2 BALLAST**

Maximum amount of removal ballast 11.3kg (25 pounds) maximum amount of total ballast (removable plus permanent ballast) is 45.4 kg (100 pounds) Removable ballast must be

secured to frame with minimum one 10 mm (3/8-inch) diameter bolt per 2.3 kg (5 pound) weight, or two 10 mm (3/8 inch) bolts for weights of 4.5-11.3 kg (10-25 pounds) hose clamps, wire, strapping, tape, tie wraps, etc. prohibited. If additional ballast is needed, it must be permanently attached to frame, bolted with minimum one 10 mm (3/8 inch) diameter bolt per 2.3 kg ( 5 pound) weight, or two 10 mm (3/8 inch) bolts for weights of 4.5-11.3 kg (10-25 pounds) With nuts welded to bolts. Ballast must be in the form of metal plates, bars, straps, etc, attached as described above. A steel pipe filled with shot may be substituted; must have screw-on, sealed cap(s). Ballast prohibited in cockpit. Disguised ballast prohibited. No part of ballast may be installed higher than top of rear tires.

#### **JR 4.3 DEFLECTOR PLATE**

A deflector plate of minimum 1.5 mm (1/16 inch) aluminium must be installed between roll cage and engine extending from lower frame rail to the top of driver`s helmet. Portion between shoulder hoop and top of helmet must be minimum 177 mm (7 inches) wide, may be narrowed or rounder above the helmet. Two- piece plate permitted with no air gap between the two. Carbon filter prohibited.

#### **JR 4.4 GROUND CLEARANCE**

Minimum 76 mm (3 inches) from front of car to 30.5 mm (12 inches) behind centreline of front axle; 51 mm (2 inches) for remainder of car.

#### **JR 4.5 MOUNTING HARDWARE**

Hose clamps and tie wraps may be used only to support hoses and wires; all other components must be welded, bolted, aircraft clamped, etc. All self- locking fasteners must be metallic.

#### **JR 4.6 ROLL CAGE**

Construction must conform to standard dragster configuration as outlined in illustration with minimum 5 -point roll cage mandatory. When driver is in driving position, roll cage must be at least 76 mm (3 inches) in front of helmet. Roll cage hoops, upper frame rails, and lower frame rails must be minimum 28.5 mm (1 1/8 inch) diameter by 2 mm (.083 inch) wall thickness round mild steel tubing. Uprights must be minimum 22 mm ( 7/8 inch) by 2 mm( .083-inch) Diagonals must be minimum 19 mm (3/4 inch) by 2 mm( .083 inch) Within the driver compartment (from foot box to back seat), the maximum distance between uprights is 508 mm (20 inches) Foot box must incorporate a minimum 19 mm( 3/4 inch) by 2 mm ( .083 inch) diagonal. Note 1.5 mm( .058-inch) chrome moly may be used in place of 2 mm ( .083 inch) mild steel. Chrome moly mandatory on any car running between 8.889 and 7.90 Roll cage must be padded wherever it may come in contact with driver`s helmet. Adequate padding should provide approximately 6 mm (1/4 inch) compression. Weather stripping prohibited. All cage structures must be designed in an attempt to protect the driver from any angle, 360 degrees. All chromoly welding must be done by approved TIG heliarc process; mild steel welding must be approved MIG wire feed or TIG heliarc

process. Welding must be free of slag and porosity. Any grinding of welds prohibited.

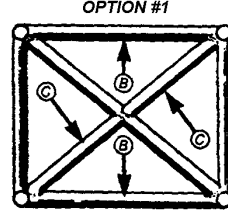
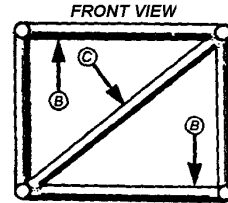
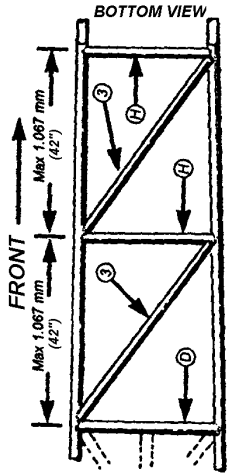
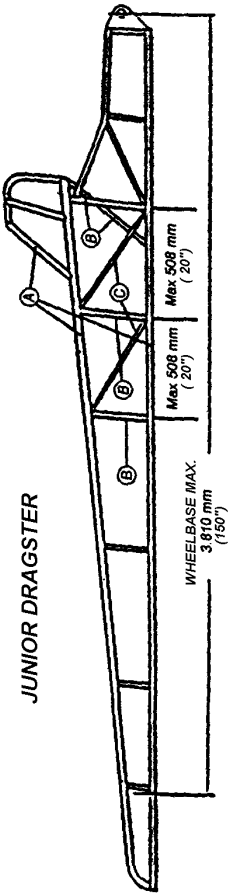
**JR 4.7 WEIGHT**

Minimum weight (without driver or driver apparel/equipment) is 102 kg (225 pounds)

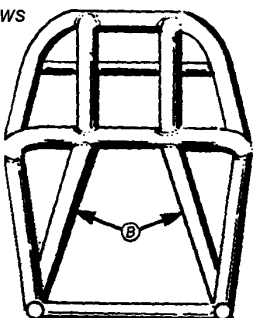
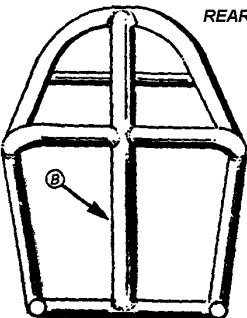
**JR 4.8 WHEELBASE**

Minimum 2286 mm (90 inch) maximum 3810 mm (150 inches)  
Maximum wheelbase variation from left to right 51 mm (2 inches).

JUNIOR DRAGSTER



REAR VIEWS



PIC. 45

## **TYRES AND WHEELS JR 5**

### **JR 5.1 TYRES**

Rear tyres minimum 457 mm (18inch) diameter by 190 mm (7 1/2 inches) wide, as noted by size designation on sidewall of tire or by physical measurement at widest or tallest point. All front tyres must have manufacturer's ratings. All tyres must be pneumatic; no solid tyres. Tyres will be visually checked for condition, pressure, etc, and must be considered free of defects by the technical inspector prior to any run.

### **JR 5.2 WHEELS**

Front wheels minimum 127 mm ( 5 inches) diameter; minimum spindle diameter 12.7 mm (1/2 inch) Spindle nut must utilise a cotter pin or be of the nylon - locking type. Wire spoke wheels must utilise 2540 mm (100 inch) minimum- diameter steel spokes. Rear wheels, minimum 203 mm( 8inch) diameter. Modifications to any wheel prohibited. The use of ``spinner``-style wheels or any designs that incorporate movable peices while the vehicle is in motion are prohibited.

## **INTERIOR JR6**

### **JR 6.1 FOOT- BOX BULKHEAD**

All cars must be equipped with a bulkhead in front of the drivers feet, minimum 0.6 mm (.024 inch) steel or 0.8 mm (0.32 inch) aluminium. Bulkhead must be directly in front or directly behind foot- box diagonal.

### **JR 6.2 SEAT**

Properly braced, framed and supported seat constructed of aluminium or fibreglass mandatory.

### **JR 6.3 SHEET METAL**

Driver- compartment interior must be aluminium, steel, fibreglass or carbon fibre. Magnesium prohibited.

### **JR 6.4 UPHOLSTERY**

Optional.

## **BODY JR 7**

### **JR 7.1 AIR FOILS, WINGS**

A positive locking device to prevent movement mandatory. No part may come in contact with tire or wheel at any time. Spring-loaded spoilers, wing or canards prohibited. Adjustment of air foils, wings or spoilers during run prohibited. Ball lock pins prohibited.

### **JR 7.2 BODY**

Body and cowl must be constructed of aluminium, fibreglass or carbon fibre and extend forward to foot- box bulkhead. Driver compartment, frame structure, roll cage and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system or track surface. Body may not cover top of engine, wheels or tires. Front overhang not to

exceed 380 mm (15 inches) measured from centreline of front spindle to forward most point of car. Body must be of accepted dragster style/ design but for 2011 a junior funny car class will be established(see JR 7.2.1) Only OEM- Style mirrors, mounted in the conventional fashion permitted. Cover or canopy over cockpit prohibited.

### **JR 7.2.1 Junior Funny Car**

Funny cars bodies are acceptable provided the design has been approved by the Technical Committee prior to competition. Junior Dragster construction regulations will apply. Maximum front overhang 25", minimum height (roof) 35", Maximum height (roof) 40", minimum roof hatch opening 15"x 10".

### **JR 7.3 COMPETITION NUMBERS**

Each car in competition must display the driver's permanent number. Minimum size 100 mm(4 inches). Driver's competition number and class designation must be displayed in a legible manner in a contrasting colour to the vehicle's background colour, or light colour on windows, in a prominent position and be clearly visible to the tower personnel.

### **JR 7.4 FLOOR**

Full floor, mounted on top of lower framerail cross braces, extending from the driver's seat forward to 150 mm (6 inches) Past pedals, mandatory.

### **JR 7.5 WIND DEFLECTOR**

All cars must be equipped with a wind screen or deflector to direct foreign matter over the drivers head.

### **JR 7.6 WINGS**

Wings must be bolted to frame structure. Pit pin attachment prohibited.

## **ELECTRICAL JR 8**

### **JR 8.1 BATTERIES**

Dry cell batteries only permitted. Maximum total weight 2.3kg (5 pounds). Must be securely mounted outside drivers compartment.

### **JR 8.2 BUTTONS/SWITCHES**

Entrants will be allowed to use a total of two buttons in the cockpit. One of these switches/ buttons is for the master cut-off, which cannot be momentary; the second is available for anything other than a momentary cut-off.

### **JR 8.3 DELAY BOXES/ DEVICES**

Prohibited.

### **JR 8.4 IGNITION SHUTOFF**

A positive shutoff, located within easy reach of driver, mandatory. Shutoff switches must be positive action ( no ``momentary

contact` switches) and must be clearly labelled `` on `` and ``off``. A second shutoff switch, located on the deflector plate 76 mm ( 3 inches) or less from the top of the roll cage, within easy reach of crew member or race official, mandatory. Second shutoff switch may not come in to contact with driver. All connections must use eyelet and screw- type connections; push-on-type connectors prohibited. A wire tie, minimum 150 mm ( 6 Inches) long must be attaches to the spark- plug wire within 25 mm ( 1 inch) of the spark plug.

## **SUPPORT GROUP JR9**

### **JR 9.1 COMPUTERS**

Prohibited. A computer is defined as any device (electrical) mechanical, pneumatic, hydraulic, etc,) that activates any function of or in any way affects the operation of the vehicle based on measurement sensing processing etc, of any data related to the performance of the vehicle. Display or transmission of any data gathered or processed, to the driver or any remote location is prohibited.

### **JR 9.2 DATA RECORDERS**

A data recorder may be used to record engine rpm, engine temperature, exhaust temperature and jack-shaft sensor data, may not activate or initiate any function of the vehicle. Data recorder may not be activated by the throttle, brake or other mechanisms nor by the Christmas tree radio transmitter sensing of wheel speed, inertia, laser devise or transmission of track position. Must be activated by separate switch. Transmission or display of data gathered or processed by data recorder to the driver( during the run) or any remote location is prohibited. Data may be reviewed after the run.

Discovery of a device that displays or transmits `` on track`` or ``track location``- type data will be grounds for immediate disqualification from event, loss of all points for the season , and suspension from all junior dragster racing events for remainder of season. Additional penalties may be imposed at the discretion of SPRC.

### **JR 9.3 GAUGES**

Tachometer, engine- temperature and cylinder-head-temperature gauge permitted. Playback- type gauge(s) permitted. Download capabilities classify unit as a data recorder and it must be relocated outside driver compartment( see also Data recorders) Analogue or digital display permitted. Gauges (display) may not be mounted on steering wheel.

### **JR 9.4 ELECTRONIC CONTROLS**

Prohibited. Electronic controls may in no way affect any functions ( i.e. line- locs, clutch, throttle, brakes, etc.) All controls must be a function of the driver.

## **JR 9.5 LIFTING DEVICES**

Any form of mechanical, hydraulic, or other leverage-type device for raising a cars driving wheels off the starting- line surface is prohibited.

## **JR 9.6 STAGING AID/DEVICES**

Mechanical, hydraulic, electric, pneumatic and similar devices to aid staging vehicle prohibited. Shutoff switches must be positive action (No momentary contact switches) and must be clearly labelled `on` and `off` .

## **JR 9.7 TOWING**

Anytime a junior dragster is being towed, the driver must be seated in the cockpit. No passengers. No full size tow vehicles permitted .A fluorescent or brightly coloured flag attached to junior dragster anytime vehicle is towed, mandatory. Minimum height above ground when attached 1.5m (5 feet). A junior dragster may not be pushed by a motorised vehicle. Tow strap may not be attached to any portion of the roll cage.

## **JR 9.8 TWO - WAY RADIOS**

Prohibited. Any communication to and/ or from the driver or any telemetry signals between driver/vehicle and/or any remote location prohibited. Use of two- way communication by driver and /or any crew member to any remote location prohibited . Use of headset or handheld radios by crew members in the starting up line area is prohibited.

## **JR 9.9 WARM -UPS**

Vehicle must be off ground and have a qualified junior dragster racing driver seated in the cockpit any time the engine is running.

## **DRIVER JR 10**

### **JR 10.1 AGE REQUIREMENTS**

Minimum age 8 years. Drivers 8 and 9 years old restricted to 12.90 or slower e.t. Drivers 10-12 years restricted to 8.90 or slower e.t. Drivers 13-18 years old whose cars meet advanced class criteria restricted to 7.90 or slower e.t. and 85 mph or slower. Drivers 13-18 years old whose cars do **NOT** meet advanced class criteria restricted to 8.90 or slower e.t.

### **JR 10.2 APPAREL**

Each member of a participant crew must be fully attired when present in the staging, starting and competition areas on the racetrack. Shoes are mandatory.

### **JR 10.3 APPEARANCE**

Vehicles participating in drag racing events must be presentable in appearance at all times; those considered improperly prepared may be rejected by the technical inspector . The appearance of

the personnel attending contestant vehicles is equally important and is subject to the same considerations.

### JR 10.4 ARM RESTRAINTS

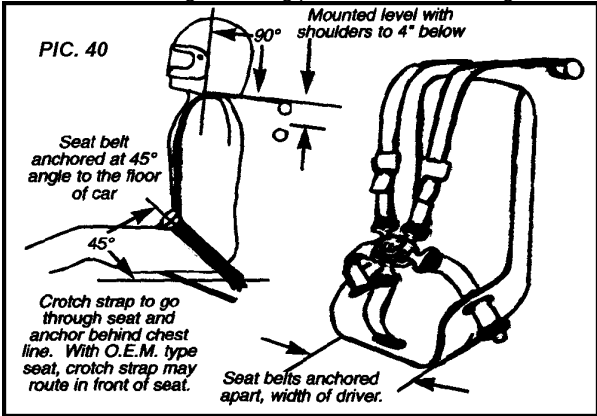
Mandatory. Must be worn and adjusted in such a manner that driver's hands and/ or arms cannot be extended outside of roll cage and / or frame rails. Arm restraints shall be combined with the driver restraint system such that the arm restraints are released with the driver restraints. Refer to manufacturer for instructions.

### JR 10.5 CREDENTIALS

MSA competition licence mandatory when taking part in competition.

### JR 10.6 DRIVER RESTRAINT SYSTEM

5-point 45 mm (1 ¾ inch) wide driver restraint systems mandatory. All seat-belt and shoulder-harness installations must be mutually compatible, originally designed to be used with each other. For harness installation, see instructions. Only units that release all five attachment points in one motion are permitted. When arm restraints are worn with a restraint system that uses a 'latch lever' a protective cover must be installed to prevent arm restraint from accidentally releasing the latch lever. Protective cover not required if system uses 'duck-bil' latch hardware. All harness sections must be mounted to the frame, cross member or reinforced mounting and installed to limit driver's body travel both upward and forward. Wrapping of belts around lower frame rail prohibited. Under no circumstances are bolts inserted through webbing permitted for mounting.



### JR 10.7 HELMET

Mandatory. Either a full face helmet shield or goggles mandatory. See MSA Competitors year book (Blue book)

### JR10.8 NECK COLLAR

Mandatory. Must be commercially produced neck collar designed for racing. Two different types of collars are commercially

available: a full 360-degree `donut` type or a pull-together `horseshoe` type. Modification according to manufacturers recommendations, to fit helmet and drivers neck/shoulder spacing, permitted. Must be worn as per manufacturers recommendations.

## **JR 10.9 PROTECTIVE CLOTHING**

All drivers are required to wear a jacket meeting SFI spec 3.2A/1 or 1 layer Proban, full-length pants, shoes, socks and gloves. Nylon or nylon -type clothing and open - toe shoes prohibited. Shorts, bare legs, tank tops or bare torsos prohibited.

# **ET BRACKET RACING. STOCK-BODY VEHICLES. ALTERED-BODY VEHICLES. FUNNY CARS AND DRAGSTERS.**

Each race track has the option of substituting its own selection of class titles, time limits and competition style. All cars must be checked and comply with safety rules for the time it is running. If a car is running quicker than what it is inspected for it must return to tech, to be checked for the quicker safety category. Since quarter-mile (402.336m) elapsed times would not apply for eighth-mile (201.168m) racing, a style of competition not uncommon to E.T. Handicap Racing, some pertinent quarter-mile elapsed times are converted to eighth-mile (201.168m) figures: 9.90 = \*6.30; 10.00 = \*6.40; 11.00 = \*7.00; 12.00 = \*7.50; and 14.00 = \*8.60.

NOTE: Asterisk (\*) indicates eighth-mile (201.168m) equivalent. Timed vehicle control devices (counters, time displays, etc.) except as outlined under Class Requirements, are prohibited. The display or transmission of track location, time/distance data, etc. is prohibited. Data recorders (except for "playback" type tachometers) are prohibited in all ET Brackets. Computers (except for OEM) are prohibited in all ET Brackets.

## **ET CARS**

### **DESIGNATIONS**

#### **Four safety categories.**

ET I	6.00 to 7.49 (*3.66-4.49)
ET II	7.50 to 11.99 (*4.50-7.49)
ET III	12.00 to 13.99 (*7.50-8.59)
ET IV	14.00 or slower (*8.60 and slower)

For Starting numbers: **See GSR: 7.3**

Please note these four safety categories are used to decide the level of safety construction rules. For 2010 Championship the racing categories in ET Brackets are: Super Pro ET 6.00-8.99, Pro ET 9.00-11.99 and Sportsman ET 12.00 or slower.

# **REQUIREMENTS AND SPECIFICATIONS**

## **ENGINE: ET 1**

### **ET 1.1 ENGINE**

One internal-combustion reciprocating automotive-type or one motorcycle engine permitted. Motorcycle powered vehicles without reverse may not burnout across starting line. The use of a cast iron harmonic balancer is prohibited in any car running 10.99 (\*6.99) or quicker; units meeting SFI Spec 18.1, or steel billet harmonic balancer made in one piece mandatory. On all ET cars running 7.49 (\*4.49) or quicker; units meeting SFI Spec. 18.1 mandatory. **See GSR: 1.2.** All supercharged, turbocharged and Nitrous oxide ET cars running 7.49 (\*4.49) or quicker must be equipped with approved lower engine ballistic restraint with absorbent lining meeting SFI Spec. 7.1. If restraint is not 51mm (2 inch) above the ground a shield firmly attached to frame rails must be used.

### **ET 1.2 EXHAUST SYSTEM**

Competition exhaust permitted. Exhaust must be directed out of car to rear, away from driver and fuel tank. On supercharged cars with full-body burning alcohol/methanol double pipe or thermal wrapped insulated headers mandatory: insulation must extend to start of bend in headers at bottom of body. For 2011 noise limits for Sportsman ET, VW Sportsman ET, Pro ET. **See SR 5.5 and GSR: 1.3.**

### **ET 1.3 FUEL**

Gasoline/petrol, methanol, ethanol and diesel accepted. Nitromethane prohibited. Only Nitrous Oxide in accordance with **GSR: 1.9** permitted. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

### **ET 1.4 FUEL SYSTEM**

All fuel tank filler necks located inside trunk must have filler neck vented to outside of body. Vented caps prohibited. All batteries, fuel lines, fuel pumps or filler necks located inside trunk require complete bulkhead of at least .024-inch (.6mm) steel or .032 (.8mm) aluminium to isolate driver compartment from trunk. Fuel lines must be located outside driver compartment. Fuel tanks not to be higher than top of rear tires. **See GSR: 1.5. and 1.5.1**

### **ET 1.5 LIQUID OVERFLOW**

Catch-can mandatory for coolant overflow; 0.5 litre (one pint) minimum capacity. **See GSR: 1.7.**

### **ET 1.6 NITROUS OXIDE**

Commercially available nitrous oxide permitted, including supercharged and turbocharged engines. Nitrous bottles in the driver's compartment must be equipped with a relief valve and vented outside of the driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to the solenoid must be high-pressure steel braided

hoses. External heating of the bottle(s), other than with the use of an approved electric blanket, is prohibited. **See GSR 1.9 and 9.7.**

## **ET 1.7 SUPERCHARGER, TURBOCHARGER**

Permitted on Methanol, petrol, racing-gas, diesel. If running Methanol or, regardless of fuel, quicker than than 7.50, restraint system on Rootes Type meeting SFI Spec 14.1 and Manifold Burst Panel meeting SFI Spec 23.1 mandatory. On 7.50 secs and quicker cars, High Helix and Screw-Type supercharger permitted. Screw-type supercharger manifold burst panel meeting SFI Spec 23.1 (in addition to panel in Supercharger) plus restraint system meeting SFI Spec 14.21 mandatory. Supercharger restraint straps must be covered with a fire-resistant material. The restraint straps and fuel lines must be installed such that when the straps are fully extended no load is placed on any of the fuel lines. Any OEM street-type Supercharger permitted.

**See GSR: 1.12, 1.13, 2.13 and 4.8.**

## **ET 1.8 VALVE COVERS**

Cast or fabricated metal valve covers, using all attachment bolt holes, mandatory on supercharged, methanol -burning cars.

## **DRIVE TRAIN: ET 2**

### **ET 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1, 1.2, 1.3 or 1.4 and flywheel shield meeting SFI Spec 6.1, 6.2 or 6.3 mandatory in all cars running 7.49 (\* 4.49) or quicker. Flywheel shield meeting SFI Spec 6.2 or 6.3 mandatory in all supercharged or turbocharged cars and all cars using nitrous oxide running 7.49 (\* 4.49) or quicker. Flywheel shield meeting SFI Spec 6.2 or 6.3 mandatory on all cars running 7.49 (\* 4.49) or quicker using SFI Spec 1.2 clutch with more than 2 discs or SFI Spec 1.3, 1.4 or 1.5 clutches with two discs maximum. Flywheel shield meeting SFI Spec 6.2 mandatory on all cars running 7.49 (\* 4.49) or quicker using SFI 1.3 or 1.4 clutches with more than two discs. Flywheel and clutch meeting SFI Spec 1.1 or 1.2 ( 2-disc maximum) and flywheel shield meeting minimum SFI Spec 6.1, 6.2 or 6.3 mandatory in all car running 9.99 (\*6.39) to 7.50 (\*4.50). Cars running 11.99 (\*7.49) to 10.00 (\*6.40) or cars with rotary engines must be equipped with a flywheel shield made of 6.35 mm (1/4-inch) minimum thickness steel plate surrounding the bell housing 360 degrees or a flywheel shield meeting SFI Spec 6.1,6.2 or 6.3.

**See GSR: 2.3, 2.5, 2.6 and 2,10**

### **ET 2.2 DRIVELINE**

OEM production line all-wheel-drive vehicles permitted. Drive shaft loop required on all cars running 13.99 (\*8.59) or quicker (except vehicles running 12.00 (\*7.50) or slower equipped with street tyres.) **See GSR: 2.4**

## **ET 2.3 REAREND**

After market axles and axle-retention device mandatory on any car running 10.99 (\*6.99) or quicker and any car with locked differential. Cars running 10.99 (\*6.99) or quicker that weigh more than 2,000 pounds (907 kg) and have independent rear suspension without upper and lower (both) control arms must replace swing axle rear end with conventional rear end housing (example 1963 through 1982 Corvette.) Cars with independent rear suspension using upper and lower (both) control arms may retain swing axle assembly, regardless of weight. Must have 360 degree, minimum 1-inch wide by ¼-inch thick axle retention loop on each axle. Alterations to cross members permitted when independent rear suspension is replaced. For all supercharged methanol burning ET cars running 7.49 (\*4.49) or quicker and all cars quicker than 6.50 seconds or exceeding 210 mph aftermarket full-floating or live axle assembly mandatory. **See GSR 2.2 and 2.11.**

## **ET 2.4 TRANSMISSION, Automatic**

Spring-loaded, positive reverse lockout device and functional neutral switch mandatory. Transmission shield meeting SFI Spec 4.1 mandatory on any car running 9.99 (\*6.39) or quicker or any car exceeding 135 mph (217km/h). Automatic transmission flex plate meeting SFI Spec 29.1 and flex plate shield meeting SFI Spec 30.1 mandatory on cars running 9.99 (\*6.39) or quicker or any car exceeding 135 mph (217 km/h). **See GSR: 2.14.**

## **ET 2.5 TRANSMISSION, After Market Planetary**

Transmission shield meeting SFI Spec 4.1 mandatory on any supercharged vehicle. **See GSR: 2.13**

## **BRAKES & SUSPENSION: ET 3**

### **ET 3.1 BRAKES**

Four-wheel hydraulic brakes mandatory on any bodied car running 7.99 (\*4.99) or quicker. Minimum two rear-wheel (one calliper per wheel) hydraulic brakes mandatory on Dragsters, Funny Cars, and any car running slower than 7.99 (\*4.99) seconds. Dragsters running slower than 10.99 (\*6.99) with a total car weight of 1,000 pounds (454 kg) or less and a one piece rear axle may use a single brake rotor with dual callipers. Hand brake, if used must be located inside of body or drivers compartment **See GSR: 3.1.**

### **ET 3.2 STEERING**

**See GSR: 3.3 and 4.1.**

### **ET 3.3 SUSPENSION, Altered, Dragsters**

Full automotive-type front suspension mandatory. Rigid mounted rear axles permitted. Minimum one hydraulic shock absorber per sprung wheel. Suspension optional on cars weighing 2,350 pounds (1066 kg) or less with 120-inch (3.05m) or more wheelbase. **See GSR: 3.2, 3.4 and 3.5.**

### **ET 3.4 SUSPENSION, Stock-bodied cars**

Full automotive-type suspension mandatory. Minimum one operating hydraulic shock absorber per wheel. Lightening of stock components prohibited. Rigid mounted suspensions prohibited. **See GSR: 3.2, 3.4, and 3.5.**

### **ET 3.5 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: ET 4**

### **ET 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **ET 4.2 DEFLECTOR PLATE**

Mandatory on rear-engine Dragsters. **See GSR: 1.1 and 4.3.**

### **ET 4.3 GROUND CLEARANCE**

Minimum 3-inches (76mm) from front of car to 12-inches (305mm) behind centreline of front axle, 2-inches (51mm) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

### **ET 4.4 PARACHUTE**

Mandatory on any car with top speed in excess of 240 km/h (149 mph). **See GSR: 4.8.**

### **ET 4.5 ROLL BAR**

Roll bar mandatory in all cars running 10.00 (\*6.40) to 11.99 (\*7.49) and in convertibles running 11.00 (\*7.00) to 13.99 (\*8.59). Permitted in all cars. **See GSR: 4.4, 4.10, 4.10.1, 4.10.2 and 10.7.**

### **ET 4.6 ROLL CAGE**

Roll cage mandatory in cars running 10.00 (\*6.40) or quicker, or any car exceeding 135 mph (217.2 km/h), and in convertibles running 10.99 (\*6.99) or quicker. Exception: Full bodied cars, with unaltered firewall, floor and body (from firewall rearward, wheel tubs permitted), running between 10.00 (\*6.40) and 10.99 (\*6.99) roll bar permitted. Cars running between 6.00 (\*3.66) and 9.99 (\*6.39) must have chassis inspected every three-years by the ASN and have a serialised sticker affixed to frame before participation. Must conform to specs for body style used, as listed in **GSR. See GSR: 4.4, 4.11, 4.11.1, 4.11.2 and 10.7.**

#### **ET 4.6.1 ROLL CAGE ET Cars**

**Cars running 8.49 (\*5.09) – 7.50 (\*4.50) or quicker**

**Door slammer spec:**

**SFI 25.4 Full tube chassis 4130 Chrome Moly or M/S**

**SFI 25.5 Full Bodied car Stock or Modified/OEM Floorpan and Firewall with OEM Frame or Unibody construction.**

**Funny Car and Altered Spec: SFI 10.3**

**Rear Engine Dragster: SFI 2.7A**

**Front Engine Dragster: SFI 2.6**

**Side Steer Roadster: SFI 10.4**

## **ET 4.6.1 ROLL CAGE ET Cars**

### **Cars running 7.49 (\*4.49) or quicker**

Full Bodied car chassis must meet SFI Spec 25.1E.

Funny Car chassis must meet SFI Spec. 10.1D.

Rear-engine Dragster chassis must meet SFI Spec. 2.5A.

Front-engine dragster chassis must meet SFI Spec 2.4B.

Chassis must be inspected every three-years by RACMSA / ASN and have a serialised sticker affixed to cage before participation.

## **ET 4.7 WHEELBASE**

Minimum 2286mm (90-inches), unless car has original engine in original location and is shorter in original. Maximum wheelbase variation from left to right: 25.4mm (1-inch). Dragsters: 51mm (2-inches). Minimum front tread width: 660mm (26-inches) on any Dragster.

## **TYRES & WHEELS: ET 5**

### **ET 5.1 TYRES**

Racing slicks permitted. Minimum diameter of 13-inches on front tyres of any Dragster. *See GSR: 5.1*

### **ET 5.2 WHEELS**

Must be automotive-type wheels suitable for street use. Minimum wheel size: 13-inches (330mm) (unless originally equipped with smaller wheels and vehicle is equipped with original engine). Wheel studs must be threaded into hex portion of lug nut a distance at least equal to the diameter of the stud. Automotive-type wire wheels or motorcycle wheels acceptable on front axle only of Dragsters weighing 816 kg (1,800 lbs) or less. **See GSR: 5.2.**

## **INTERIOR: ET 6**

### **ET 6.1 SEATS**

Properly braced, framed and supported seats constructed of aluminium, composite material, double layer poly, fibreglass or carbon fibre (automotive accessory seats) permitted.

**See GSR: 6.2.**

### **ET 6.2 SHEET METAL**

Driver compartment interior must be aluminium, steel or fibreglass. Magnesium prohibited. **See GSR: 6.1. and 7.5**

### **ET 6.3 UPHOLSTERY**

Optional.

### **ET 6.4 WINDOW NET**

Mandatory in any full-bodied car required by the rules to have a roll cage, or in cars running 9.99 (\*6.39) or quicker, or any car

exceeding 135 mph (217 km/h) and in convertibles running 10.99 (\*6.99) or quicker. **See GSR: 6.3.**

## **BODY: ET 7**

### **ET 7.1 AIRFOIL, Altered, Dragsters**

A positive-locking device mandatory on all airfoils. Side-mount canard-type wings permitted. No part of wing may be within 6-inches (152mm) of a tire. Front overhang not to project more than 30-inches (762mm) forward of front spindle. Movement of any air foils/wings during run prohibited.

**See GSR: 7.2.**

### **ET 7.2 AIR Foils, Full-bodied Cars.**

Non OEM airfoils or wings permitted on stock bodied vehicles, must be permanently attached to frame or roll cage. non adjustable during run. **See GSR: 7.2.**

### **ET 7.3 BODY, Altered-body vehicles**

May be chopped, channelled, sectioned, streamlined, etc. Sedan delivery, 1-ton max trucks or sedan pickups (Ranchero, El Camino) permitted. Fibreglass bodies permitted. Door hinges on any lift-off door must have safety pins or locks.

### **ET 7.4 BODY, Dragsters**

Body and cowl must be constructed of metal, fibre or composite material and extend forward to firewall. Driver compartment must be designed to prevent driver's body or limbs from making contact with wheels, tyres, exhaust system or track surface if an incident should occur. Sub-flooring inside, but independent of car body, is mandatory in Dragsters which allow driver's legs to rest on belly pan or chassis. On front-engine cars, intake scoop may not extend more than 11-inches (279 mm) above height of carburettor top. Front wheel fairings prohibited.

### **ET 7.5 BODY, Stock-bodied vehicles**

Must have full top and windshield. All full-bodied cars must have two driver exits. Four stock production fenders mandatory, fibreglass duplicates permitted. Fenders may be trimmed for tire clearance, altered fenders must have edges re-rolled or beaded.

### **ET 7.6 FIREWALL**

Mandatory. **See GSR: 1.1, 4.3, 6.1, and 7.5.**

### **ET 7.7 FLOOR**

Mandatory. **See GSR: 6.1 and 7.6.**

### **ET 7.8 HOOD**

Optional. Carburettors must be covered by flash shield or scoop. Hood scoop may not extend more than 11-inches (279 mm) above height of hood surface. **See GSR: 1.4 and 7.7.**

## **ET 7.9 WINDSHIELD, WINDOWS,**

### **Altered, Dragsters**

Optional. Windscreen mandatory. **See GSR: 7.8.**

## **ET 7. 10 WINDSHIELD, WINDOWS,**

### **Stock-bodied vehicles**

Mandatory must be in good condition and free from cracks. May be replaced with shatterproof material, 1/8-inch (3.2 mm) minimum thickness. Windshield may not be cut for scoops, carb, etc. Windshield/window tint must meet the applicable government requirements. Windows must be closed during races, need not be operable. Identification decals permitted on rear quarter windows, rear window, upper corner passenger side front windscreen.

**See GSR: 7.8 and 7.9.**

## **ELECTRICAL: ET 8**

### **ET 8.1 BATTERY**

Batteries must be securely mounted, may not be located in driver compartment. **See GSR: 8.1.**

### **ET 8.2 DELAY BOX/ DEVICE**

Prohibited. **See GSR: 8.2.**

### **ET 8.3 IGNITION**

Timed ignition interruption devices (stutter boxes) prohibited. Starting line and/or "high side" rev limiters permitted. Two-Steps, Rev limiters or any other rpm limiting devices, legal unto themselves but altered or installed so as to function as a down-track rpm controller, prohibited. **See GSR: 8.3.**

### **ET 8.4 MASTER CUT-OFF**

Mandatory on any car with a battery running 9.99 (\*6.39) or quicker, or any car exceeding 135 mph (217.2 km/h) or on any car where the battery is relocated into the trunk area. **See GSR: 8.4.**

### **ET 8.5 TAIL LIGHTS**

Must have one functional tail light for night operations. Flashing, blinking or strobe lights prohibited. **See GSR: 8.6.**

## **SUPPORT GROUP: ET 9**

### **ET 9.1 COMPUTER**

Prohibited. **See GSR: 9.1.**

#### **ET 9.1.1 AUTOMATED SHIFTERS**

Permitted. **See GSR 9.1.1**

#### **ET 9.2 DATA RECORDER**

Prohibited, except for cars running 10.00 (\*6.40) or quicker. **See GSR: 9.2.**

## **ET 9.3 FIRE EXTINGUISHER SYSTEM**

Permitted, must be securely mounted. **See also GSR: 9.3**

## **ET 9.4 TOW VEHICLES**

Permitted for ET cars running 11.99 (\*7.49) or quicker only. **See GSR: 9.9.**

## **ET 9.5 WARMUPS**

**See GSR: 9.4 and 9.11.**

## **DRIVER: ET 10**

### **ET 10.1 ARM RESTRAINTS**

Mandatory in open-bodied cars running 11.99 (\*7.49) or quicker. **See GSR: 10.3.**

### **ET 10.2 CREDENTIALS**

Drag Race Licence mandatory. **See GSR: 10.4.**

### **ET 10.3 DRIVER RESTRAINT SYSTEM**

Seat belt of at least three-point type mandatory in all cars. Four piece driver restraint system mandatory in all cars running 11.99 (\*7.49) or quicker. Three-inch driver restraint system meeting SFI Spec 16.1 with crotch strap mandatory in cars running 9.99 (\*6.39) or quicker. All belts used in front-engine supercharged or turbocharged cars burning alcohol/methanol must be covered with a fire-resistant covering. **See GSR: 10.5, 10.5.2, 10.6. and 10.11**

### **ET 10.4 HEAD PROTECTOR**

Mandatory on any car with a roll bar or cage. **See GSR: 10.6 and 10.7.**

### **ET 10.5 HELMET**

**See GSR: 10.7 and MSA Competitors year book ( Blue book).**

### **ET 10.6 NECK COLLAR**

Mandatory in all cars running 10.99 (\*6.99) or quicker. ET Cars running 7.49 (\*4.49) seconds or quicker neck collar meeting SFI Spec. 3.3 mandatory. SFI 38.1 or FIA Homologated head and neck restraint are mandatory in cars exceeding 200 mph **See GSR: 10.9.**

### **ET 10.7 PROTECTIVE CLOTHING 7.50 SECONDS OR SLOWER:**

Shorts, bare legs, tank tops, or bare torsos are not acceptable when driving in competition. Gloves mandatory.

**All unblown vehicles running 10.00 (6.40) seconds or slower:** All drivers, jackets and pants or suit meeting SFI spec 3.2A/1 or 1986 FIA standard mandatory.

**Vehicles running 9.99 (\*6.39) to 7.50 (4.50) seconds or any vehicle exceeding 135 mph:** Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard mandatory.

**All Open Body Vehicles running 11.99 or quicker:** In addition to suit and pants or suit as outlined above gloves meeting SFI spec 3.3/1 or 1986 FIA standard and arm restraints mandatory.

**Dune-Buggy or Dune-buggy type vehicles, running 12.00 (\*7.50) seconds or slower:** Jacket and pants or suit meeting SFI spec 3.2A/1 or 1986 FIA standard, gloves meeting SFI spec 3.3/1 or 1986 FIA standard mandatory.

**Front engine, supercharged or turbocharged, open bodied car, OR any car with a torque converter in drivers compartment (no floor covering transmission)-** jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**9.99 (\*6.39) to 7.50 (4.50) seconds** Front engine open bodied or closed bodied car without an OEM or steel firewall, with nitrous oxide and/or supercharger/ turbocharger: Jacket and pants or suit meeting SFI spec 3.2A/15, gloves and shoes/boots meeting SFI spec 3.3/5 mandatory.

## **ET 10.7.1 PROTECTIVE CLOTHING 7.49 SECONDS AND QUICKER:**

**Front engine, supercharged or turbocharged, closed bodied car, OR any car with an automatic transmission in driver compartment (no floor covering transmission):** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine, supercharged or turbocharged open bodied car:** Jacket and pants or suit meeting SFI spec 3.2A/20, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine car equipped with nitrous oxide:** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Rear engine car equipped with nitrous oxide and/or turbocharged or supercharged:** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Naturally aspirated car: i.e. all others:** Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard and gloves meeting SFI spec 3.3/5 or 1986 FIA standard mandatory.

# SUPER MODIFIED

For safety and construction regulations for this class please see ET Bracket class regulations, specifically ETI or ETII depending on performance.

A heads up no breakout eliminator embracing the use of both naturally aspirated and nitrous oxide enhanced engines, clutch style transmissions and data logging combined with limited tuning.

## DESIGNATION

SM, followed by car number

For Starting numbers: **See GSR: 7.3**

## REQUIREMENTS AND SPECIFICATIONS

### ENGINE: SM 1

#### SM 1.1 CARBURETTOR

Any automotive carburetors with any internal modifications permitted. Any mechanical fuel injection system permitted. Maximum 8 throttle bores. No electronic fuel injection. No superchargers. No turbochargers.

#### SM 1.2 CYLINDER HEADS

Hemi, canted valve or wedge heads permitted. No overhead camshafts. Production style canted valve or wedge heads will be defined by the intake port roof height. Any canted valve or wedge head that measures 3.05" or less, measured vertically to the highest point of the intake port entry on the intake face with the head laid flat on it's head gasket surface, shall be classed as production style. All other types of canted valve or wedge heads shall be classed as Raised-port style. All heads must be cast with water jackets. No billet heads. No port plates. All heads must retain original valve cover height and profile. Maximum 2 valves per cylinder. Small block engines may use wedge head only with minimum 20 degree angle as measured between valve head and head gasket face.

#### SM 1.3 INTAKE AND EXHAUST VALVES

Any material may be used but with maximum head diameter as follows,

Intake:

Raised-port and all Hemi heads: 2.40"

Production canted valve heads: 2.30"

Small Block engines: 2.10"

All Rover and Wildcat: 2.10"

Tolerance .010"

Exhaust:

**Minimum** exhaust valve head diameter can be calculated as follows:

Intake valve head diameter x .75

### **SM 1.4 VALVE SPRINGS**

Single or dual valve springs only may be used (not including flat wound dampers) with a maximum O.D. as follows,  
Big Block engines: 1.650"  
Small Block and Rover engines: 1.55"  
Tolerance .025" measured as installed with valve seated

### **SM 1.5 CRANKSHAFT STROKE**

Minimum stroke in inches for all engine combinations can be calculated as follows,  
Cylinder bore x .862  
Stroke tolerance .005"

### **SM 1.6 CYLINDER BLOCK**

All cylinder blocks, **excluding** standard Rover and Wildcat Rover, must retain their standard pre 1980 head bolt pattern. All blocks must retain standard cylinder bore and lifter spacing. No dry sump systems. Maximum bore size as follows,  
Big Block engines: 4.650"  
Small Block engines: 4.190"  
Rover based engines: 4.070"  
Tolerance .005"

### **SM 1.7 NITROUS OXIDE**

Any commercially available nitrous oxide system may be used in conjunction with the following size supply bottles,  
All Big and Small Block engines: 1 X 5lb bottle  
Rover based engines: 1 X 10lb bottle

Big Block Nitrous Engines - Maximum of 2 nitrous solenoids with maximum .090" orifice per solenoid and 2 fuel solenoids, all of which must open simultaneously. (This will be verified by tech inspectors confirming that earth wires from all solenoids share a common earthing point and live wires share a common feed).

Small block engines- May use 1 extra nitrous solenoid with a maximum 0.078" diameter orifice and 1 extra fuel solenoid. These must again fire simultaneously but can be fired independently of first 4 solenoids. "Solenoids" include, but are not limited to, electronic, hydraulic and pneumatic devices to manipulate flow to the nitrous and nitrous fuel system. During any technical inspection the inspectors decision as to what is and is not a solenoid will be final.

Up to two purge solenoids are permitted and must vent exclusively to atmosphere behind carburetors and outside of all bodywork. Solenoids must be mounted in a position suitable for easy tech access.

Nitrous bottle in driver's compartment must be equipped with a relief valve and vented outside of driver's compartment. Bottle must be permanently mounted (no hose clamps or tie wraps). One -4 or -6 supply line only. Must be appropriate length (no

storage coils). External heating of bottle other than with electric blanket for the proper use prohibited. No Push systems. **See GSR: 1.9 and 9.7**

### **SM 1.8 ENGINE SETBACK**

Maximum 10 percent of finished wheelbase, measured from the centre-line of front spindle to front spark plug hole.

### **SM 1.9 EXHAUST SYSTEM**

Competition type exhaust systems required. Exhaust gases must be directed out of the car body, rearward, away from driver and fuel tank.

### **SM 1.10 LIQUID OVERFLOW**

Mandatory. **See GSR: 1.7**

### **SM 1.11 FUEL**

Gasoline/petrol, methanol and ethanol accepted. Only nitrous oxide in accordance with GSR: 1.9 permitted. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

### **SM 1.12 FUEL SYSTEM**

All fuel cells must have pressure cap and be vented to outside of body. Fuel cells mounted inside trunk require complete bulkhead of at least .024" (.6mm) steel or .032" (.8mm) aluminium to isolate driver compartment from trunk. Fuel lines must be located outside of driver's compartment. Fuel tanks are not to be higher than that of rear tyres. Front mounted cells permitted, must be protected from collision damage by the frame or by a protective bar of minimum dimensions 1 1/4" o.d. x .065" chrome moly or 1 1/4" o.d. x .118" mild steel tubing **See GSR 1.5.**

## **DRIVE TRAIN: SM 2**

### **SM 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Maximum 2 disc clutch. Pressed steel clutch cover plates only. Flywheel and clutch must meet SFI spec. 1.1 or 1.2. Flywheel shield must meet SFI spec 6.1 or 6.3. Clutch release must be manually operated by the drivers foot. Electronics, pneumatics, hydraulics or any other device may in no way affect the clutch operation. **See GSR: 2.3, 2.5, 2.6 and 2.10**

### **SM 2.2 DRIVELINE**

Drive shaft loop mandatory. **See GSR: 2.4**

### **SM 2.3 REAREND**

No independent rear suspension. After market axles and axle-retention device mandatory. **See GSR: 2.2 and 2.11.**

## **SM 2.4 TRANSMISSION, automatic**

Maximum of 5 forward speeds. Spring-loaded, positive reverse lockout device and functional neutral switch mandatory. Transmission shield meeting SFI spec 4.1 mandatory. Automatic transmission flex-plate meeting SFI spec 29.1 and flex-plate shield meeting SFI spec 30.1 mandatory. **See GSR: 2.14.**

## **BRAKES AND SUSPENSION: SM 3**

### **SM 3.1 BRAKES**

Four wheel disc brakes mandatory. **See GSR: 3.1**

### **SM 3.2 STEERING**

See GSR: 3.3 and 4.1

### **SM 3.3 SUSPENSION**

Full automotive-type suspension mandatory. Minimum one operating hydraulic shock absorber per wheel. Lightening of stock components prohibited. Rigid mounted suspensions prohibited. **See GSR: 3.2, 3.4 and 3.5.**

### **SM 3.4 WHEELIE BARS**

Permitted. Wheels must be non metallic. **See GSR: 3.6.**

## **FRAME: SM 4**

### **SM 4.1 BALLAST**

Permitted. **See GSR: 4.2**

### **SM 4.2 GROUND CLEARANCE**

Minimum 3 inches (76mm) from front of car to 12 inches (305mm) behind centre line of front axle, 2 inches for remainder of car, except oil pan and headers. **See GSR: 4.5**

### **SM 4.3 PARACHUTE**

Mandatory. **See GSR: 4.8**

### **SM 4.4 ROLL CAGE**

All cars must have chassis inspected every 3 years by the ASN and have serialised sticker affixed to frame before participation. See GSR: 4.4, 4.11 and 4.11.1

### **SM 4.5 WHEELBASE**

Minimum 90 inches (2286mm)  
Cars Maximum 115 inches (2921mm)  
Trucks maximum 125 inches (3175mm)

## **TYRES AND WHEELS: SM 5**

### **SM 5.1 TYRES**

Racing slicks permitted. **See GSR: 5.1**

### **SM 5.2 WHEELS**

Must be automotive type wheels suitable for street use. Maximum rim diameter 15 inches. Wheel studs must be threaded into hex portion of lug nut a distance at least equal to the diameter of the stud. **See GSR: 5.2**

## **INTERIOR: SM 6**

### **SM 6.1 SEATS**

Properly braced, framed and supported seats constructed of aluminium, composite material, double layer poly, fibreglass or carbon fibre (automotive accessory seats) permitted. **See GSR: 6.2**

### **SM 6.2 SHEET METAL**

Driver compartment interior must be aluminium, steel or fibreglass. Magnesium prohibited. **See GSR: 6.1 and 7.5**

### **SM 6.3 WINDOW NET**

Mandatory. **See GSR: 6.3**

## **BODY: SM 7**

### **SM 7.1 AIRFOILS**

Non OEM. airfoils or wings permitted. Must be permanently attached to frame or roll cage. Non adjustable during run. **See GSR: 7.2**

### **SM 7.2 BODY**

All cars must have full body. Original OEM. body or replica shell mandatory. Chopping, channelling, sectioning or other alterations to contour length or width permitted as long as the body can be identified with original appearance. One piece bodies prohibited. Funny car bodies prohibited. Driver must sit on either left or right side of driveshaft. There must be two driver exits.

### **SM 7.3 FIREWALL**

Mandatory. **See GSR: 1.1, 4.3, 6.1 and 7.5**

### **SM 7.4 FLOOR**

Mandatory. **See GSR: 6.1 and 7.6**

## **SM 7.5 WINDSHIELD, WINDOWS**

Mandatory. Must be in good condition and free from cracks. May be replaced with shatterproof material, 1/8" (3.2mm) minimum thickness. **See GSR: 7.8 and 7.9**

## **ELECTRICAL: SM 8**

### **SM 8.1 BATTERY**

Batteries must be securely mounted, may not be located in driver compartment. **See GSR: 8.1**

### **SM 8.2 MASTER CUT OFF**

Mandatory. **See GSR: 8.4**

### **SM 8.3 TAIL LIGHTS**

Must have one functional tail light for night operations. Flashing, blinking or strobe lights prohibited. **See GSR: 8.6**

## **SUPPORT GROUP: SM 9**

### **SM 9.1 COMPUTER/DATA RECORDERS**

Data recorders permitted. **See GSR 9.1 and 9.2**

#### **SM 9.1.1 AUTOMATED SHIFTERS**

Permitted **See GSR 9.1.1**

### **SM 9.2 FIRE EXTINGUISHER SYSTEM**

Mandatory. **See GSR: 9.3**

### **SM 9.4 TOW VEHICLES**

Permitted. **See GSR: 9.9**

### **SM 9.5 WARMUPS**

**See GSR: 9.4 and 9.11**

## **DRIVER: SM 10**

**See GSR 10.1, 10.2, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 10.10.**

## **SM WEIGHT BREAKS**

Minimum weight - Big Block, 2,300lbs

Small block 2,250lbs

Rover Wildcat heads, 2,150lbs

Rover standard heads, 1,850lbs

Big block engines using production heads- normally aspirated  
3.80 lbs/cubic inch.

Big block engines using raised port heads- normally aspirated  
4.33 lbs/cubic inch.

Big block engines using production heads- using nitrous oxide  
5.07 lbs/cubic inch.

Big Block engines using raised port heads- using nitrous oxide  
5.53 lbs/cubic inch.

Small block and Rover V8 engines-using nitrous oxide  
5.84 lbs/cubic inch.

All big block engines using nitrous oxide restricted to 0.600" net  
intake valve lift measured at zero lash (0.025" tolerance).

Cars using clutch add 225 lbs.

## **SUPER STREET**

### **DESIGNATION:**

S/ST, preceded by car number.

For Starting numbers: **See GSR: 7.3**

Designed as an entry level category and patterned after the popular Super Gas concept with a 10.90 (6.90 eighth mile) index 0.5 second Pro Tree. Reserved for full-body cars, with full fenders, hood, grille, top, windshield and functional doors. Coupes, Sedans, Sports cars, Street Roadsters, Vans, Pickups, Estates and Panel trucks permitted. Open wheel Alters, Dragsters, Funny Cars, or motorcycles prohibited. Minimum weight including driver: 8-cylinder cars 998 kg (2200 lbs.) 6-cylinder cars, 907 kg (2000 lbs.) 4-cylinder and rotary cars, 544 kg (1200 lbs.)

Any other timed vehicle control devices ( counters, time displays, etc.) except as outlined under Class Requirements, are prohibited. Display or transmission of track location, time/ distance data, etc. prohibited.

## **REQUIREMENTS AND SPECIFICATIONS**

### **ENGINE: SST 1**

#### **SST 1.1 ENGINE**

Any automotive engine permitted. Supercharger, turbocharger and nitrous oxide permitted, but never as combination.

Cast harmonic balancer prohibited. Harmonic balancer meeting SFI spec 18.1, or steel billet harmonic balancer made in one piece mandatory. **See GSR: 1.2.**

#### **SST 1.2 EXHAUST SYSTEM**

Maximum two outlets, pointed away from the driver and fuel tank. For 2011 mandatory noise limits apply.

**See SR 5.5 and GSR: 1.3.**

#### **SST 1.3 FUEL**

Only Gasoline/Petrol, methanol, ethanol and diesel meeting MSA specifications permitted. Nitrous oxide permitted. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

## **SST 1.4 FUEL SYSTEM**

Aftermarket fuel tanks or cells permitted. ( recommended)

Must be located outside drivers compartment. If fuel tank or filler neck is in trunk, a bulkhead of at least minimum .8 mm (.030 inch) aluminium or steel must be used between trunk and driver compartment and tank must be vented to outside of car. Fuel distribution blocks may not be mounted on the engine fire wall.

**See GSR: 1.5 and 1.5.1**

## **SST 1.4.1 INDUCTION**

Any induction permitted. Electronic fuel injection must be a "closed system, i.e. only monitors engine functions, does not monitor vehicle speed, wheel speed, etc.

## **SST 1.5 LIQUID OVERFLOW**

Minimum catch-can capacity 0,5 litres ( 1-pint). Mandatory. **See GSR: 1.7**

## **SST 1.6 NITROUS OXIDE**

Commercially available nitrous oxide permitted, including supercharged and turbocharged engines. Nitrous bottles in the driver's compartment must be equipped with a relief valve and vented outside of the driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to the solenoid must be high-pressure steel braided hoses. External heating of the bottle(s), other than with the use of an approved electric blanket, is prohibited. **See GSR 1.9 and 9.7.**

## **SST 1.7 SUPERCHARGER, TURBOCHARGER**

Permitted only when gasoline, petrol, methanol, ethanol or diesel is used as fuel. Restricted to standard Roots type.

**See GSR: 1.12, 1.13, 2.13 and 4.8.**

## **SST 1.8 THROTTLE**

Throttle control must be manually operated by driver's foot . Electronics, pneumatics, hydraulics, lasers or any other devices may in no way affect the throttle operation. Timed throttle stops, which are pre-set before the run permitted.

**See GSR: 1.14**

## **SST 1.9 VALVE COVERS**

Cast or fabricated metal valve covers using all attachment bolt holes mandatory.

## **DRIVE TRAIN: SST 2**

### **SST 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1, 1.2, 1.3, or 1.4 (2-discs maximum) mandatory. Flywheel shield meeting SFI Spec 6.2 or 6.3 mandatory on all cars using SFI Spec 1.3 or 1.4 clutches. Flywheel shield meeting minimum SFI Spec 6.1 mandatory on all other cars. Cars with rotary engines must be

equipped with a flywheel shield made of 6.35 mm (1/4-inch) minimum thickness steel plate surrounding the bell housing 360 degrees or a flywheel shield meeting SFI Spec 6.1,6.2 or 6.3. **See GSR: 2.3, 2.5, 2.6 and 2.10.**

## **SST 2.2 DRIVELINE**

Driveline loop mandatory. **See GSR: 2.4**

## **SST 2.3 REAREND**

After market axles and axle retention device mandatory on any car running 10.99 (\*6.99) or quicker and any car with locked differential. Cars running 10.99 (\*6.99) or quicker that weigh more than 2000 pounds (907 kg) and have independent rear suspension without upper and lower (both) control arms must replace swing axle rear end with conventional rear end housing (example 1963 to 1983 Corvette). Cars with independent rear suspension using upper and lower (both) control arms may retain swing axle assembly regardless of weight. Cars must have 360 degree, minimum 1-inch wide by 1/4-inch thick retention loop on each axle. Quick-change and/or locked differential permitted. **See GSR 2.2 and 2.11.**

## **SST 2.4 TRANSMISSION, AUTOMATIC**

Spring-loaded, positive reverse lockout device and functional neutral safety switch mandatory. Transbrake permitted. Automatic transmission flexplate meeting SFI Spec 29.1 recommended. **See GSR: 2.14.**

## **SST 2.5 TRANSMISSION SHIELD, AUTOMATIC**

Automatic transmission shield meeting SFI Spec 4.1 recommended. **See GSR: 2.14.**

## **BRAKES & SUSPENSION: SST 3**

### **SST 3.1 BRAKES**

Four-wheel hydraulic brakes mandatory. **See GSR: 3.1**

### **SST 3.2 STEERING**

Conventional steering system only. Minimum steering wheel diameter, 279 mm ( 11 inch). **See GSR: 3.3 and 4.1.**

### **SST 3.3 SUSPENSION**

Must have automotive-type front suspension commonly used by an automobile manufacturer. Must have one operating hydraulic shock absorber for each sprung wheel. **See GSR: 3.2, 3.4 and 3.5**

### **SST 3.4 TRACTION BARS**

Permitted. **See GSR: 3.5.**

## **SST 3.5 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: SST 4**

### **SST 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **SST 4.2 BUMPERS**

Optional.

### **SST 4.3 FRAME**

**See GSR: 4.4.**

### **SST 4.4 GROUND CLEARANCE**

Minimum 76 mm (3 inch) from front of car to 305 mm (12 inch) behind centreline of front axle, 51 mm (2 inch) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

### **SST 4.5 PARACHUTE**

Permitted. **See GSR: 4.8.**

### **SST 4.6 ROLL CAGE, ROLL BAR**

Mandatory. Type depending on body style. **See GSR: 4.4, 4.10, 4.10.1, 4.11, 4.11.1, 4.11.2, 10.6 and 10.7.**

### **SST 4.7 WHEELBASE**

Minimum wheelbase 2286 mm (90 inch). Maximum wheelbase 3048 mm (120 inch) unless otherwise produced by automobile manufacturer. Maximum wheelbase variation from left to right: 25 mm (1 inch).

## **TYRE & WHEELS: SST 5**

### **SST 5.1 TYRES**

Racing slicks permitted. Front tyres **See GSR: 5.1.**

### **SST 5.2 WHEELS**

Wire or motorcycle wheels prohibited. Minimum wheel size 13-inches (unless originally equipped with smaller wheels and vehicle is equipped with original engine). **See GSR: 5.2**

## **INTERIOR: SST 6**

### **SST 6.1 SEATS**

Properly braced, framed and supported seats constructed of aluminium, Fiberglas, double layer poly or carbon fibre (automotive accessory seats permitted). One seat mandatory. **See GSR: 6.2.**

## **SST 6.2 SHEET METAL**

Drivers compartment interior must be aluminium or steel. Magnesium prohibited.

## **SST 6.3 TONNEAU COVER**

Covers over driver compartment and/or pickup bed permitted if driver entry or exit is not restricted.

## **SST 6.4 UPHOLSTERY**

Optional.

## **SST 6.5 WINDOW NET**

Mandatory in full bodied car when roll cage is required.

**See GSR: 6.3.**

## **BODY: SST 7**

### **SST 7.1 BODY**

Must be full-bodied car. Coupes, Sedans, Sports cars, Street Roadsters, Vans, Pickups, Estates and Panel trucks permitted. Fibreglas bodies permitted. Door hinges on any lift-off door must have safety pins or locks. cars with top and windshield must have two driver exits. Convertibles and cars that came with removable tops may run without top. Tops may be chopped. Cars without tops do not require working doors. Bodies may be channelled or sectioned. Street Roadsters, Sports Cars and Convertibles may remove top and windshield. Bodies may be set back. Body rear wheel opening may not extend into door opening. On full-bodied cars, hood scoop may not extend more than 279 mm (11 inch) above height of original hood surface. **See GSR: 1.4 and 7.7.**

### **SST 7.2 FENDERS**

Mandatory. Lightweight replacement fenders permitted. Front fenders may be lengthened to fit extended wheelbase. Rear fenders may be cut for tire clearance. Altered fenders must have edges re-rolled or beaded. On roadsters it is allowed to raise the rear fenders by as much as the body has been lowered over the frame. Front inner fenders permitted.

### **SST 7.3 FIREWALL**

Mandatory. **See GSR: 6.1 and 7.5.**

### **SST 7.4 FLOOR**

Mandatory. **See GSR: 7.6.**

### **SST 7.5 STREET EQUIPMENT**

One working taillight is mandatory. Headlights recommended, may be required at some race tracks. **See GSR: 8.6**

## **SST 7.6 SPOILERS/ WINGS**

Rear spoiler permitted. Non-OEM wings except MSA approved prohibited on all body styles. Roof-mounted spoilers, other than original for body used, prohibited. Front air dams or spoilers permitted on Street Roadsters, may not project more than 762 mm (30-inches) ahead of front spindle centreline. Any adjustment or movement during run prohibited. **See GSR: 7.2.**

## **SST 7.7 TOP**

Tops may be removed if car came with removable top. Convertibles may run with top down. Top may be chopped on other cars.

## **SST 7.8 WINDSCREEN**

Convertibles and roadsters may remove windshield, mandatory on all others. Cars without a windshield must have a metal or other flame-proof windscreen installed. **See GSR: 7.8.**

## **SST 7.9 WINDSHIELD, WINDOWS**

Cars with top and windshield must be equipped with all windows. All windshields and windows except for windscreen must be clear, factory tinted safety glass or clear Plexiglas or other shatterproof material, 3 mm (1/8-inch) minimum thickness. Plexiglas in windscreen prohibited, must be made of polycarbonate (Lexan or equal). Original Safety glass permitted. Identification decals permitted on rear quarter windows, rear window and upper corner passenger side front windscreen. **See GSR: 7.9.**

## **ELECTRICAL: SST 8**

### **SST 8.1 BATTERIES**

All batteries must be securely mounted with metal hold-downs outside the driver compartment. **See GSR: 8.1.**

### **SST 8.2 DELAY BOX/ DEVICE**

Permitted, one box/ device only, attached to trans-brake, shift timer and/or throttle timer only. Any other attachment prohibited. Delay box may only display delay amount dialled in, analogue or digital display permitted. All direct wiring must be clearly identifiable to tech inspector.

**See GSR: 8.2.**

### **SST 8.3 IGNITION**

Timed ignition interruption devices (stutter boxes) prohibited. Starting line and/or "high side" rev limiters permitted. Two-step, rev-limiters or any other rpm limiting device, legal unto themselves but altered or installed so as to function as a down-track rpm controller, prohibited. **See GSR: 8.3 and 8.5.**

## **SST 8.4 MASTER CUT-OFF**

Mandatory. *See GSR: 8.4.*

## **SUPPORT GROUP: SST 9**

### **SST 9.1 COMPUTER**

Prohibited. *See GSR: 9.1 and 9.2*

#### **SST 9.1.1 AUTOMATED SHIFTERS**

Permitted. *See GSR: 9.1.1*

### **SST 9.2 TOW VEHICLES**

Prohibited.

### **SST 9.3 FIRE EXTINGUISHER SYSTEM**

Permitted, must be securely mounted. *See also GSR: 9.3*

### **SST 9.4 WARM-UPS**

*See GSR: 9.4 and 9.11.*

## **DRIVER: SST 10**

### **SST 10.1 ARM RESTRAINTS**

Mandatory in all open-bodied cars. *See GSR: 10.3.*

### **SST 10.2 LICENCE**

Drag Race Licence mandatory. *See GSR: 10.4.*

### **SST 10.3 DRIVERS LOCATION**

Drivers main torso must be positioned on the left or right side of the driveshaft in original location. Seat may be moved rearwards maximum 254 mm ( 10 inch) from original location but driver must remain in front of differential.

### **SST 10.4 DRIVER RESTRAINT SYSTEM**

Four piece driver restraint system mandatory in all cars with roll bar. Three-inch driver restraint system meeting SFI Spec 16.1 or FIA Approved mandatory in car with roll cage.

*See GSR: 10.5.*

### **SST 10.5 HEAD PROTECTOR**

Mandatory. *See GSR: 10.6.*

### **SST 10.6 HELMET**

*See GSR: 10.7 and MSA Competitors year book ( Blue book).*

### **SST 10.7 NECK COLLAR**

Mandatory. SFI 38.1 or FIA Homologated head and neck restraint device can be used. *See GSR: 10.8.*

### **SST 10.8 PROTECTIVE CLOTHING**

All drivers, jackets or suit meeting SFI spec 3.2A/1 or 1986 FIA standard mandatory.

Front engine, supercharged or turbocharged, open bodied car, OR any car with an automatic transmission in drivers compartment ( no floor covering transmission)- jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**See GSR: 10.10.**

## **SUPER GAS**

### **DESIGNATION:**

S/G, preceded by car number.

For Starting numbers: **See GSR: 7.3**

A 9.90 standard index (6.30 eighth mile). Reserved for full-body cars, with full fenders, hood, grille, top, windshield and functional doors. Bumpers optional. Grille may be replaced by flat panel. Coupes, Sedans, Sports cars, Street Roadsters, Vans, Pickups, Estates and Panel trucks permitted. Open wheel Alters, Dragsters, Funny Cars, or motorcycles prohibited.

Any other timed vehicle control devices ( counters, time displays, etc.) except as outlined under Class Requirements, are prohibited. Display or transmission of track location, time/ distance data, etc. prohibited.

## **REQUIREMENTS AND SPECIFICATIONS**

### **ENGINE: SG 1**

#### **SG 1.1 ENGINE**

Any automotive engine permitted. Supercharger, turbocharger and nitrous oxide permitted, but never as combination.

Cast harmonic balancer prohibited. Harmonic balancer meeting SFI spec 18.1, or steel billet harmonic balancer made in one piece mandatory. **See GSR: 1.2.**

#### **SG 1.2 EXHAUST SYSTEM**

Maximum two outlets, pointed away from the driver and fuel tank.

For 2011 mandatory noise limits apply.

**See SR 5.5 and GSR: 1.3.**

#### **SG 1.3 FUEL**

Only Gasoline/Petrol, Methanol, ethanol and diesel meeting MSA specifications permitted. Nitrous oxide permitted.

**See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

#### **SG 1.4 FUEL SYSTEM**

Aftermarket fuel tanks or cells permitted. ( recommended)

Must be located outside drivers compartment. If fuel tank or filler neck is in trunk, a bulkhead of at least minimum .8 mm (.030 inch) aluminium or steel must be used between trunk and driver compartment and tank must be vented to outside of car. Fuel distribution blocks may not be mounted on the engine fire wall. .

**See GSR: 1.5 and 1.5.1**

### **SG 1.4.1 INDUCTION**

Any induction permitted. Electronic fuel injection must be a "closed system, i.e. only monitors engine functions, does not monitor vehicle speed, wheel speed, etc.

### **SG 1.5 LIQUID OVERFLOW**

Minimum catch-can capacity 0,5 litres (1 pint). Mandatory.

**See GSR: 1.7**

### **SG 1.6 NITROUS OXIDE**

Commercially available nitrous oxide permitted, including supercharged and turbocharged engines. Nitrous bottles in the driver's compartment must be equipped with a relief valve and vented outside of the driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to the solenoid must be high-pressure steel braided hoses. External heating of the bottle(s), other than with the use of an approved electric blanket, is prohibited. **See GSR 1.9 and 9.7.**

### **SG 1.7 SUPERCHARGER, TURBOCHARGER**

Permitted only when gasoline, petrol, methanol, ethanol or diesel is used as fuel. Restricted to standard Roots type.

**See GSR: 1.12, 1.13, 2.13 and 4.8.**

### **SG 1.8 THROTTLE**

Throttle control must be manually operated by driver's foot. Electronics, pneumatics, hydraulics, lasers or any other devices may in no way affect the throttle operation. Timed throttle stops, which are pre-set before the run permitted. **See GSR: 1.14**

### **SG 1.9 VALVE COVERS**

Cast or fabricated metal valve covers using all attachment bolt holes mandatory.

## **DRIVE TRAIN: SG 2**

### **SG 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1, 1.2, 1.3, or 1.4 (2-discs maximum) mandatory. Flywheel shield meeting SFI Spec 6.2 or 6.3 mandatory on all cars using SFI Spec 1.3 or 1.4 clutches. Flywheel shield meeting minimum SFI Spec 6.1 mandatory on all other cars. Cars with rotary engines must be equipped with a flywheel shield made of 6.35 mm (1/4-inch) minimum thickness steel plate surrounding the bell housing 360 degrees or a flywheel shield meeting SFI Spec 6.1,6.2 or 6.3.

**See GSR: 2.3, 2.5, 2.6 and 2.10.**

### **SG 2.2 DRIVELINE**

Driveline loop mandatory. **See GSR: 2.4**

### **SG 2.3 REAREND**

After market axles and axle retention device mandatory on any car running 10.99 (\*6.99) or quicker and any car with locked differential. Cars running 10.99 (\*6.99) or quicker that weigh

more than 2000 pounds (907 kg) and have independent rear suspension without upper and lower (both) control arms must replace swing axle rear end with conventional rear end housing (example 1963 to 1983 Corvette). Cars with independent rear suspension using upper and lower (both) control arms may retain swing axle assembly regardless of weight. Cars must have 360 degree, minimum 1-inch wide by ¼-inch thick retention loop on each axle. Quick-change and/or locked differential permitted. **See GSR 2.2 and 2.11.**

### **SG 2.4 TRANSMISSION, AUTOMATIC**

Spring-loaded, positive reverse lockout device and functional neutral safety switch mandatory. Transbrake permitted. Automatic transmission flexplate meeting SFI Spec 29.1 recommended. **See GSR: 2.14.**

### **SG 2.5 TRANSMISSION SHIELD, AUTOMATIC**

Automatic transmission shield meeting SFI Spec 4.1 recommended. **See GSR: 2.14.**

## **BRAKES & SUSPENSION: SG 3**

### **SG 3.1 BRAKES**

Four-wheel hydraulic brakes mandatory. **See GSR: 3.1**

### **SG 3.2 STEERING**

Conventional steering system only. Minimum steering wheel diameter, 279 mm ( 11 inch). Butterfly steering wheels prohibited. **See GSR: 3.3 and 4.1.**

### **SG 3.3 SUSPENSION**

Must have automotive-type front suspension commonly used by an automobile manufacturer. Rigid-mount front axles permitted if wheelbase is 3048 mm ( 120 inches). Shock absorbers optional. Rear Suspension optional. With rear suspension shock absorbers mandatory in rear. **See GSR: 3.2, 3.4 and 3.5**

### **SG 3.4 TRACTION BARS**

Permitted. **See GSR: 3.5.**

### **SG 3.5 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: SG 4**

### **SG 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **SG 4.2 BUMPERS**

Optional.

### **SG 4.3 FRAME**

**See GSR: 4.4.**

## **SG 4.4 GROUND CLEARANCE**

Minimum 76 mm (3 inch) from front of car to 305 mm (12 inch) behind centreline of front axle, 51 mm (2 inch) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

## **SG 4.5 PARACHUTE**

Mandatory on cars running faster than 240 km/h ( 149 mph). **See GSR: 4.8.**

## **SG 4.6 ROLL CAGE**

Mandatory. Type depending on body style. Chassis must be checked every three years. **See GSR: 4.4, 4.11, 4.11.1, 4.11.2, 10.6 and 10.7.**

## **SG 4.7 WHEELBASE**

Minimum wheelbase 2286 mm (90 inch). Maximum wheelbase 3048 mm (120 inch) unless otherwise produced by automobile manufacturer. Maximum wheelbase variation from left to right: 25 mm (1 inch).

## **TYRE & WHEELS: SG 5**

### **SG 5.1 TYRES**

Racing slicks permitted. Front tyres **See GSR: 5.1.**

### **SG 5.2 WHEELS**

Wire or motorcycle wheels prohibited. Minimum wheel size 13-inches (unless originally equipped with smaller wheels and vehicle is equipped with original engine). **See GSR: 5.2.**

## **INTERIOR: SG 6**

### **SG 6.1 SEATS**

Properly braced, framed and supported seats constructed of aluminium, Fiberglas, double layer poly or carbon fibre (automotive accessory seats permitted). One seat mandatory. **See GSR: 6.2.**

### **SG 6.2 SHEET METAL**

Drivers compartment interior must be aluminium or steel. Magnesium prohibited.

### **SG 6.3 TONNEAU COVER**

Covers over driver compartment and/or pickup bed permitted if driver entry or exit is not restricted.

### **SG 6.4 UPHOLSTERY**

Optional

### **SG 6.5 WINDOW NET**

Mandatory. **See GSR: 6.3.**

## **BODY: SG 7**

### **SG 7.1 BODY**

Must be full-bodied car. Coupes, Sedans, Sports cars, Street Roadsters, Vans, Pickups, Estates and Panel trucks permitted. Fiberglass bodies permitted.

Door hinges on any lift-off door must have safety pins or locks. cars with top and windshield must have two driver exits. Convertibles and cars that came with removable tops may run without top. Tops may be chopped. Cars without tops do not require working doors. Bodies may be channelled or sectioned. Street Roadsters, Sports Cars and Convertibles may remove top and windshield. Bodies may be set back. Rear wheel opening may not extend into door opening. On full-bodied cars, hood scoop may not extend more than 279 mm (11 inch) above height of hood surface. **See GSR: 1.4 and 7.7.**

### **SG 7.2 FENDERS**

Mandatory. Lightweight replacement fenders permitted. Front fenders may be lengthened to fit extended wheelbase. Rear fenders may be cut for tire clearance. Altered fenders must have edges re-rolled or beaded. On roadsters it is allowed to raise the rear fenders by as much as the body has been lowered over the frame. Front inner fenders permitted.

### **SG 7.3 FIREWALL**

Mandatory. **See GSR: 6.1 and 7.5.**

### **SG 7.4 FLOOR**

Mandatory. **See GSR: 7.6.**

### **SG 7.5 STREET EQUIPMENT**

One working taillight mandatory. Headlights recommended, may be required at some race tracks. **See GSR: 8.6.**

### **SG 7.6 SPOILERS/ WINGS**

Rear spoiler permitted. Non-OEM wings except MSA approved prohibited on all body styles. Roof-mounted spoilers, other than original for body used, prohibited. Front air dams or spoilers permitted on Street Roadsters, may not project more than 762 mm ( 30-inches) ahead of front spindle centreline. Any adjustment or movement during run prohibited. **See GSR: 7.2.**

### **SG 7.7 TOP**

Tops may be removed if car came with removable top. Convertibles may run with top down. Top may be chopped on other cars.

## **SG 7.8 WINDSCREEN**

Convertibles and roadster may remove windshield, mandatory on all others. Cars without a windshield must have a metal or other flame-proof windscreen installed. **See GSR: 7.8.**

## **SG 7.9 WINDSHIELD, WINDOWS**

Cars with top and windshield must be equipped with all windows. All windshields and windows except for windscreen must be clear or factory tinted safety glass or clear Plexiglas or other shatterproof material, 3 mm (1/8-inch) minimum thickness.

Plexiglas in windscreen prohibited, must be made of polycarbonat (Lexan or equal). Original Safety glass permitted. Identification decals permitted on rear quarter windows, rear window, upper corner passenger side front windscreen. **See GSR: 7.9.**

## **ELECTRICAL: SG 8**

### **SG 8.1 BATTERIES**

All batteries must be securely mounted with metal hold-downs outside the driver compartment. **See GSR: 8.1.**

### **SG 8.2 DELAY BOX/DEVICE**

Permitted, one box/device only, attached to trans brake, shift timer and/or throttle timer only. Any other attachment prohibited. Delay box may only display delay amount dialled in, analogue or digital display permitted. All direct wiring must be clearly identifiable to tech inspector.

**See GSR: 8.2.**

### **SG 8.3 IGNITION**

Timed ignition interruption devices (stutter boxes) prohibited. Starting line and/or "high side" rev limiters permitted. Two-steps, rev-limiters or any other rpm limiting device, legal unto themselves but altered or installed so as to function as a down-track rpm controller, prohibited. **See GSR: 8.3.**

### **SG 8.4 MASTER CUT-OFF**

Mandatory. **See GSR: 8.4.**

## **SUPPORT GROUP: SG 9**

### **SG 9.1 COMPUTER**

Prohibited. **See GSR: 9.1 and 9.2.**

#### **SG 9.1.1 AUTOMATED SHIFTERS**

Permitted. **See GSR:9.1.1**

### **SG 9.2 TOW VEHICLES**

Prohibited.

### **SG 9.3 FIRE EXTINGUISHER SYSTEM**

Permitted, must be securely mounted. **See also GSR: 9.3**

## **SG 9.4 WARM-UPS**

See **GSR: 9.4 and 9.11.**

## **DRIVER: SG 10**

### **SG 10.1 ARM RESTRAINTS**

Mandatory in all open-bodied cars. See **GSR: 10.3.**

### **SG 10.2 LICENCE**

Drag Race Licence mandatory. See **GSR: 10.4.**

### **SG 10.3 DRIVERS LOCATION**

Drivers main torso must be positioned on the left or right side of the driveshaft. Seat may be moved rearwards maximum 254 mm ( 10 inch) from original location but driver must remain in front of differential.

### **SG 10.4 DRIVER RESTRAINT SYSTEM**

Three-inch five point driver restraint system meeting SFI Spec 16.1 or FIA Approved mandatory. Crotch strap mandatory.

See **GSR: 10.5.**

### **SG 10.5 HEAD PROTECTOR**

Mandatory. See **GSR: 10.6.**

### **SG 10.6 HELMET**

See MSA Competitors year book ( Blue book).

### **SG 10.7 NECK COLLAR**

Mandatory. See **GSR: 10.8.**

SFI 38.1 or FIA Homologated head and neck restraint device can be used

### **SG 10.8 PROTECTIVE CLOTHING**

Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard mandatory.

Front engine, supercharged, open bodied car, OR any car with an automatic transmission in drivers compartment ( no floor covering transmission)- jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory. See **GSR: 10.10**

Front engine open bodied or closed bodied car without an OEM or steel firewall, with nitrous oxide and/or supercharger/ turbocharger: Jacket and pants or suit meeting SFI spec 3.2A/15, gloves and shoes/boots meeting SFI spec 3.3/5 mandatory.

# Street Eliminator

For safety and construction regulations for this class please see ET Bracket class regulations, specifically ETI,ETII or ETIII depending on performance.

## DESIGNATION

SE, followed by car number

For Starting numbers: **See GSR: 7.3**

The car that has been entered for racing must have valid tax, MOT and insurance. You will be expected to produce these documents during scrutineering.

All racers must display prominently any sponsor's decals as supplied by the organisers. Decals must be displayed on both sides of the car and be clearly visible. Strictly no trimming of decals is permitted.

There must be no changes to the car between the cruise and the eliminations other than changing the plugs or repairing damage. Damage repairs must utilise the same engine block and heads, same transmission case and the same torque converter (or clutch) that was used on the cruise. Engine or transmission changes are not allowed after the cruise. If you cruise with the bonnet off then you race with the bonnet off. The same applies to roofs on convertible cars. Cars that use grill plugs at the track must use them on the cruise. Nitrous cars do not have to carry nitrous bottles on the street cruise. Engine tuning on race day is encouraged but no changes are allowed to core components.

## REQUIREMENTS AND SPECIFICATIONS

In addition or as a compliment to ET Bracket class regulations

### **ENGINE: SE 1**

#### **SE 1.2 EXHAUST SYSTEM**

The car must have an exhaust system that incorporates mufflers and exits behind the front wheels. Collector mufflers may be used but only in addition to system mufflers. For 2011 mandatory noise limits apply. *See SR 5.5, ET: 1.2 and GSR: 1.3.*

#### **SE 1.3 FUEL**

The car must run on widely available pump fuel. Specifically unleaded, super unleaded petrol, LPG, diesel(any forecourt available grade or E85). The use of high octane pump petrol as available at many of the circuit race tracks is forbidden. Commercially available octane booster is OK, but not C16 or other 'exotic' fuels. At each event a car/cars will be randomly selected for the fuel substitution. The driver will be informed, usually after the last session of qualifying, at what point on the following day that the substitution will take place. Any additives **MUST** be declared and added directly from an unopened vessel at the point of substitution. This fuel will be provided by the Street Eliminator Driver's Association and will be exchanged for an equal quantity of fuel to be provided by the racer. For this reason it is strongly recommended that any octane booster is not

added until after the selection is made. There is no limit to the number of occasions that a racer may be asked to co-operate in this validation process. The testing of fuel in no way suggests anything improper in the racer's preparation. Cars that fail to perform to their known potential using association fuel are likely to be targeted for continued fuel testing at subsequent rounds. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11**

## **SE 1.4 FUEL SYSTEM**

Only one fuel cell is permitted in each car unless equipped to use LPG in addition to petrol. No separate fuel systems for nitrous systems are allowed. **See ET 1.4 and GSR: 1.5. and 1.5.1**

## **SE 1.6 NITROUS OXIDE**

Legal Power adders: Nitrous Oxide, Supercharging or Turbo charging. A combination of turbo charging and nitrous oxide injection is not permitted apart from

1.0 engines of less than 3080cc's which may use any combination of power adders  
or

2.0 Supercharged cars of any displacement which may also employ nitrous oxide injection but only where no intercooler or charge cooler is fitted.

Compressed air/gas cylinders (except fire extinguishers) are not permitted in turbo cars.

**See ET 1.6 and GSR 1.9 and 9.7.**

## **SE 1.7 SUPERCHARGER, TURBOCHARGER**

Permitted, but cannot be used together.

**See ET 1.7 and GSR: 1.12, 1.13, 2.13 and 4.8.**

## **BRAKES & SUSPENSION: SE 3**

### **SE 3.5 WHEELIE BARS**

Prohibited.

## **TYRES & WHEELS: SE 5**

### **SE 5.1 Rear Tyres**

Legal Rear Tyres;

Hoosier Quick Time (Full tread pattern).

Mickey Thompson Sportsman.

Mickey Thomson Sportsman Pro.

BFGoodrich g-Force T/A Drag Radial.

Mickey Thompson ET Street Radial limited to maximum 315 width in 60 profile or 325 width in 50 profile.

Any E marked tyre.

All tyres must maintain a tread depth of at least 1.6 mm across 75% of the tyre at all times. The cutting or re-cutting of any tyre is not permitted.

Legal Front tyres: Any appropriately speed-rated tyres may be fitted.

**See also Section ET5.1 and GSR 5.**

## **INTERIOR: SE 6**

### **SE 6.1 SEATS**

The car must have a minimum of two seats.

**See also ET6.1 & GSR: 6.2.**

## **BODY: SE 7**

The car, unless a roadster, must have a minimum of two doors.

**See also ET7**

### **SE 7. 10 WINDSHIELDS, WINDOWS,**

The car, unless a roadster, must have wind down, sliding, or removable side windows. **See also ET7 and GSR7**

## **DRIVE TRAIN: SE 2**

### **SE 2.4 TRANSMISSION**

Transmissions must be based on production factory options. Examples of acceptable transmissions are, Powerglide, Turbo 400, Turbo 350, C4, C6, and Torqueflight. Aftermarket cases or bell housings that negate the need for trans or Flexplate shields such as the Dedenbear option are acceptable. Aftermarket manual transmissions that require clutch actuation between shifts such as Doug Nash, Richmond or clutched Jerico are permitted, however, clutchless manual transmissions are not allowed. For clarity, Drag Race only, Jerico, Liberty, Clutched Turbo 400, Bruno-Lenco or Lenco transmissions are prohibited in this class. **See ET 2.1, 2.4, 2.5 and GSR: 2.3, 2.5, 2.6 and 2.10, 2.13 and 2.14**

## **DRIVER: SE 10**

### **SE 10.1 ARM RESTRAINTS**

Mandatory in all open-bodied cars. **See GSR: 10.3.**

### **SE 10.2 LICENCE**

Drag Race Licence mandatory. **See GSR: 10.4.**

### **SE 10.4 DRIVER RESTRAINT SYSTEM**

Three-inch five point driver restraint system meeting SFI Spec 16.1 or FIA Approved mandatory. Crotch strap mandatory.

**See GSR: 10.5.**

### **SE 10.5 HEAD PROTECTOR**

Mandatory. **See GSR: 10.6.**

### **SE 10.6 HELMET**

See MSA Competitors year book ( Blue book).

### **SE 10.7 NECK COLLAR**

Mandatory. **See GSR: 10.8.**

SFI 38.1 or FIA Homologated head and neck restraint device can be used

## **SE 10.8 PROTECTIVE CLOTHING**

Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard mandatory.

Front engine, supercharged, open bodied car, OR any car with an automatic transmission in drivers compartment ( no floor covering transmission)- jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory. **See GSR: 10.10**

## **ADDITIONAL REGULATIONS: SE11**

### **SE 11.1 Racing**

- 11.1.1. The qualifying will be finalised by MSA officials, after the last qualifying pass
- 11.1.2. All cars race in street trim.
- 11.1.3. Rolling burn outs permitted.
- 11.1.4. Elimination and qualifying will be based on a Pro 0.5 tree
- 11.1.5. All cars must run 13.5 seconds or quicker to qualify for Street Eliminator competition..
- 11.1.6. After the Cruise cars must be re-scrutinised before taking in eliminations.

### **SE 11.2 Cruise**

- 11.2.1. The cruise is organised by the Street Eliminator Drivers Association and is not under the jurisdiction of this year book.

## **SUPER COMP**

### **DESIGNATION:**

S/C, preceded by car number.

For Starting numbers: **See GSR: 7.3**

An 8.90 standard index (5.70 for eighth-mile). Heads-up, pro start. For Dragsters, Funny Cars, roadsters, Pro Stock type cars, Pro Mod type cars and Altered Type 1 and Type 2. Motorcycles prohibited.

Any other timed vehicle control devices ( counters, time displays, etc.) except as outlined under Class Requirements, are prohibited. Display or transmission of track location, time/ distance data, etc. prohibited.

## **REQUIREMENTS AND SPECIFICATIONS**

### **ENGINE: SC 1**

#### **SC 1.1 ENGINE**

Any automotive engine permitted. Supercharger, turbocharger and nitrous oxide permitted, but never as combination.

Cast harmonic balancer prohibited. Harmonic balancer meeting SFI spec 18.1, or steel billet harmonic balancer made in one piece mandatory. **See GSR 1.2.**

## **SC 1.2 EXHAUST SYSTEM**

Maximum two outlets, pointed away from the driver and fuel tank. Silencers may be required in the future **See GSR 1.3.**

## **SC 1.3 FUEL**

Only Gasoline/Petrol, methanol, ethanol and diesel meeting MSA specifications permitted. Nitrous oxide permitted. **See GSR 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

## **SC 1.4 FUEL SYSTEM**

Aftermarket fuel tanks or cells permitted. ( recommended)  
Must be located outside drivers compartment. If fuel tank or filler is in trunk, a bulkhead of at least minimum .8 mm (.030 inch) aluminium or steel must be used between trunk and driver compartment and tank must be vented to outside of car. Fuel distribution blocks may not be mounted on the engine fire wall.  
**See GSR: 1.5 and 1.5.1**

### **SC 1.4.1 INDUCTION**

Any induction permitted. Electronic fuel injection must be a "closed" system, i.e. only monitors engine functions, does not monitor vehicle speed, wheel speed, etc.

## **SC 1.5 LIQUID OVERFLOW**

Minimum catch-can capacity 0,5 litres (1 pint). Mandatory.  
**See GSR: 1.7**

## **SC 1.6 NITROUS OXIDE**

Commercially available nitrous oxide permitted, including supercharged and turbocharged engines. Nitrous bottles in the driver's compartment must be equipped with a relief valve and vented outside of the driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to the solenoid must be high-pressure steel braided hoses. External heating of the bottle(s), other than with the use of an approved electric blanket, is prohibited. **See GSR 1.9 and 9.7.**

## **SC 1.7 SUPERCHARGER, TURBOCHARGER**

Permitted only when gasoline, petrol, methanol, ethanol or diesel is used as fuel. Restricted to standard Roots type. **See GSR: 1.12, 1.13, 2.13 and 4.8.**

## **SC 1.8 THROTTLE**

Throttle control must be manually operated by driver's foot . Electronics, pneumatics, hydraulics, lasers or any other devices may in no way affect the throttle operation. Timed throttle stops, which are pre-set before the run permitted.  
**See GSR: 1.14**

## **SC 1.9 VALVE COVERS**

Cast or fabricated metal valve covers using all attachment bolt holes mandatory.

## **DRIVE TRAIN: SC 2**

### **SC 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1, 1.2, 1.3, or 1.4 (2-discs maximum) mandatory. Flywheel shield meeting SFI Spec 6.2 or 6.3 mandatory on all cars using SFI Spec 1.3 or 1.4 clutches. Flywheel shield meeting minimum SFI Spec 6.1 mandatory on all other cars. Cars with rotary engines must be equipped with a flywheel shield made of 6.35 mm (1/4-inch) minimum thickness steel plate surrounding the bell housing 360 degrees or a flywheel shield meeting SFI Spec 6.1, 6.2 or 6.3.

**See GSR: 2.3, 2.5, 2.6 and 2.10.**

### **SC 2.2 DRIVELINE**

Driveline loop mandatory.

**See GSR: 2.4**

### **SC 2.3 REAREND**

After market axles and axle retention device mandatory on any car running 10.99 (\*6.99) or quicker and any car with locked differential. Cars running 10.99 (\*6.99) or quicker that weigh more than 2000 pounds (907 kg) and have independent rear suspension without upper and lower (both) control arms must replace swing axle rear end with conventional rear end housing (example 1963 to 1983 Corvette). Cars with independent rear suspension using upper and lower (both) control arms may retain swing axle assembly regardless of weight. Cars must have 360 degree, minimum 1-inch wide by 1/4-inch thick retention loop on each axle. Quick-change and/or locked differential permitted.

**See GSR 2.2 and 2.11.**

### **SC 2.4 TRANSMISSION, AFTERMARKET PLANETARY**

Transmission blanket meeting SFI Spec 4.1 mandatory on cars using Nitrous Oxide, Turbocharger or Supercharger. **See GSR: 2.13.**

### **SC 2.5 TRANSMISSION, AUTOMATIC**

Spring-loaded, positive reverse lockout device and functional neutral safety switch mandatory. Transbrake permitted. Automatic transmission flexplate meeting SFI Spec 29.1 mandatory. **See GSR: 2.14.**

### **SC 2.6 TRANSMISSION SHIELD, AUTOMATIC**

Automatic transmission shield meeting SFI Spec 4.1 mandatory. Automatic transmission flexplate shield meeting SFI Spec 30.1 mandatory. **See GSR: 2.14.**

## **BRAKES & SUSPENSION: SC 3**

### **SC 3.1 BRAKES**

Minimum two rear-wheel hydraulic brakes (disc brake) mandatory. Four-wheel brakes are recommended. Four-wheel brakes mandatory on cars with rear suspension. Hand brake, if used must be located inside of body or drivers compartment. **See GSR 3.1**

### **SC 3.2 STEERING**

**See GSR: 3.3 and 4.1.**

### **SC 3.3 SUSPENSION**

Any automotive suspension permitted. Rigid-mount front axles permitted if wheelbase is 3048 mm (120 inch) or more. Rigid-mounted rear axles permitted. Any front suspension using a beam or tubular type axle must have radius rods attached to frame. Radius rods not required on front axles rigidly mounted 457 mm (18 inch.) or less from front king pin axis. **See GSR: 3.2, 3.4 and 3.5.**

### **SC 3.4 TRACTION BARS**

Permitted. **See GSR: 3.5.**

### **SC 3.5 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: SC 4**

### **SC 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **SC 4.2 DEFLECTOR PLATE**

Must be installed between roll cage and engine on all rear-engine cars to protect driver and fuel tank. Minimum material thickness: 3 mm (1/8 inch) T6 aluminium or 1.5 mm (0.06 inch) steel. Optional. **See GSR: 1.1 and 4.3.**

### **SC 4.3 GROUND CLEARANCE**

Minimum 76 mm (3 inch) from front of car to 305 mm (12 inch) behind centreline of front axle, 51 mm (2 inch) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

### **SC 4.4 PARACHUTE**

Mandatory. **See GSR: 4.8.**

### **SC 4.5 PINION SUPPORT**

Mandatory on all front-engine cars. **See GSR: 4.9.**

## **SC 4.6 ROLL CAGE**

Mandatory. Type depending on body style. Chassis must be checked every three years. **See GSR: 4.4, 4.11, 4.11.1, 4.11.2, 10.6 and 10.7.**

## **SC 4.7 WHEELBASE & TREAD WIDTH**

Minimum wheelbase 2286 mm (90 inch). Maximum wheelbase variation from left to right: 51 mm (2 inch). Minimum front tread width 660 mm (26 inch) on any Dragster.

## **TYRE & WHEELS: SC 5**

### **SC 5.1 TYRES**

Racing slicks permitted. Minimum diameter of 13-inches on front tyres of any Dragster. Front tyres **See GSR: 5.1.**

### **SC 5.2 WHEELS**

Wire wheels permitted on front of Dragsters only, provided total weight of car does not exceed 817 kg (1800 lbs). **See GSR: 5.2.**

## **INTERIOR: SC 6**

### **SC 6.1 SEATS**

Properly braced, framed and supported seats constructed of aluminium, Fibreglas, double layer poly or carbon fibre (automotive accessory seats permitted). One seat mandatory. **See GSR: 6.2.**

### **SC 6.2 SHEET METAL**

Drivers compartment interior must be aluminium or steel. Magnesium prohibited.

### **SC 6.3 TONNEAU COVER**

Covers over driver compartment and/or pickup bed permitted if driver entry or exit is not restricted.

### **SC 6.4 UPHOLSTERY**

Optional.

### **SC 6.5 WINDOW NET**

Mandatory in full bodied cars. **See GSR: 6.3.**

## **BODY: SC 7**

### **SC 7.1 AIR FOILS, WINGS**

Permitted. Aftermarket or home made front spoilers or air dam may not project more than 762 mm (30 inch) ahead of front spindle centreline. On Funny Car type cars and full bodied cars the body, or anything else may not project more than 1016 mm (40 inch) ahead of front spindle centreline. **See GSR: 7.2.**

## **SC 7.2 BODY**

Body and cowl must be metal, Fiberglass or carbon fibre and must extend to firewall. Driver compartment, frame structure, roll cage and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system or track surface. If driver's body is in contact with bellypan, a crossmember and sub-floor are mandatory. On full-bodied cars, hood scoop may not extend more than 279 mm (11 inch) above height of original hood surface. On open bodied, front-engine cars, hood scoop may not extend more than 279 mm (11 inch) above height of carburettor top. **See GSR: 1.4 and 7.7.**

## **SC 7.3 FIREWALL**

Mandatory. **See GSR: 6.1 and 7.5.**

## **SC 7.4 FLOOR**

Mandatory. **See GSR: 7.6.**

## **SC 7.5 WINDSCREEN**

Cars without a windshield must have a metal or other flame-proof deflector installed. **See GSR: 7.8.**

## **SC 7.6 WINDSHIELD, WINDOWS**

Cars with top and windshield must be equipped with all windows. All windshields and windows except for windscreen must be clear or factory tinted safety glass or clear Plexiglas or other shatterproof material, 3.0mm (1/8-inch) minimum thickness. Plexiglas in windscreen prohibited, must be made of polycarbonate ( Lexan or equal). Original Safety glass permitted. Identification decals permitted on rear quarter windows, rear window, upper corner passenger side front windscreen. **See GSR: 7.9.**

## **ELECTRICAL: SC 8**

### **SC 8.1 BATTERIES**

All batteries must be securely mounted with metal hold-downs outside the driver compartment. **See GSR: 8.1.**

### **SC 8.2 DELAY BOX/DEVICE**

Permitted, one box/device only, attached to trans brake, shift timer and/or throttle timer only. Any other attachment prohibited. Delay box may only display delay amount dialled in, analogue or digital display permitted. All direct wiring must be clearly identifiable to tech inspector. **See GSR: 8.2.**

### **SC 8.3 IGNITION**

Timed ignition interruption devices (stutter boxes) prohibited. Starting line and/or "high side" rev limiters permitted. Two-steps, rev-limiters or any other rpm limiting device, legal unto

themselves but altered or installed so as to function as a down-track rpm controller, prohibited. **See GSR: 8.3 and 8.5.**

#### **SC 8.4 MASTER CUT-OFF**

Mandatory. **See GSR: 8.4.**

#### **SC 8.5 TAIL LIGHTS**

All cars must have one functional tail light for night operations. **See GSR: 8.6.**

### **SUPPORT GROUP: SC 9**

#### **SC 9.1 COMPUTER**

Prohibited. **See GSR: 9.1 and 9.2.**

##### **SC 9.1.1 AUTOMATED SHIFTERS**

Permitted. **See GSR: 9.1.1**

#### **SC 9.3 FIRE EXTINGUISHER SYSTEM**

Permitted, must be securely mounted. **See also GSR: 9.3**

#### **SC 9.3 PUSH START**

Prohibited. **See GSR: 9.8.**

#### **SC 9.4 TOW VEHICLES**

Permitted. **See GSR: 9.9.**

#### **SC 9.5 WARM-UPS**

**See GSR: 9.4 and 9.11.**

### **DRIVER: SC 10**

#### **SC 10.1 ARM RESTRAINTS**

Mandatory in all open-bodied cars and Funny Cars. **See GSR: 10.3.**

#### **SC 10.2 LICENCE**

Drag Race Licence mandatory. **See GSR: 10.4.**

#### **SC 10.3 DRIVER RESTRAINT SYSTEM**

Three-inch five point driver restraint system meeting SFI Spec 16.1 or FIA Approved mandatory. Crotch strap mandatory **See GSR: 10.5.**

#### **SC 10.4 HEAD PROTECTOR**

Mandatory. **See GSR: 10.6.**

#### **SC 10.5 HELMET**

**See GSR: 10.7 and MSA Competitors year book ( Blue book).**

#### **SC 10.6 NECK COLLAR**

Mandatory. SFI 38.1 or FIA Homologated head and neck restraint device can be used

**See GSR: 10.8.**

## SC 10.7 PROTECTIVE CLOTHING

Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard mandatory.

Front engine, supercharged, open bodied car, OR any car with an automatic transmission in drivers compartment ( no floor covering transmission)- jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory. **See GSR: 10.10**

## COMPETITION ELIMINATOR

Competition Eliminator category is for qualified cars in A/D, B/D, C/D, D/D, E/D, F/D, G/D, DT/D, ET/D, FT/D, AA/D, AB/D, BA/D, BB/D, CA/D, CB/D, DA/D, DB/D, EA/D, EB/D, FA/D, FB/D and BN/D Dragster; A/A, B/A, C/A, D/A, E/A, F/A, G/A, H/A, I/A, AT/A, BT/A, CT/A, DT/A, AA/A, AB/A, BA/A, BB/A, CA/A, CB/A, DA/A, DB/A, AN/A, BN/A, CN/A, DN/A, A/PM and AA/PM Altered (51 Classes). Eliminations are based on a handicap start utilising class index system, breakout does not apply.

## DRAGSTERS

### DESIGNATION:

A/D, B/D, C/D, D/D, E/D, F/D, G/D, DT/D, ET/D, FT/D, AA/D, AB/D, BA/D, BB/D, CA/D, CB/D, DA/D, DB/D, EA/D, EB/D, FA/D, FB/D and BN/D preceded by car number. For Starting numbers: **See GSR: 7.3**

24 classes for Dragsters built for competition only. Class is decided from the cars weight incl. driver divided with the size of the engine.

Class	Kg /litre	Min. weight (kg)	Note
A/D	94 - 110	612	
B/D	111 - 124	612	
C/D	125 - 137	612	
D/D	138 - 193	1), 2), 3)	
E/D	194 - 231	2), 3)	Max. 6-cyl.
Alt	219 - 231	386	Max 4-cyl, four valve.
F/D	232 -	386	Max 2.54 litre
G/D	232-	386	Max 2.54 litre, opposed 4-cyl. Engine only.
DT/D	255 - 358	1), 2), 3)	Only Turbocharged
ET/D	359 - 428	2), 3)	Only Turbocharged Max. 6-cyl.
FT/D	429 -	386	Only Turbocharged Max. 4-cyl.
AA/D	150 - 177	1), 2), 3)	Only Supercharged, Roots High Helix
AB/D	150 - 177	1), 2), 3)	Only Supercharged, Standard Roots
BA/D	178 - 199	1), 2), 3)	Only Supercharged, Roots High Helix
BB/D	178 - 199	1), 2), 3)	Only Supercharged, Standard Roots

CA/D	200 - 220	1), 2), 3)	Only Supercharged, Roots High Helix
CB/D	200 - 220	1), 2), 3)	Only Supercharged, Standard Roots
DA/D	200 - 220	1), 2), 3)	Only Supercharged, Roots High Helix
DB/D	221 - 309	1), 2), 3)	Only Supercharged, Standard Roots
EA/D	200 - 220	1), 2), 3)	Only Supercharged, Roots High Helix
EB/D	310 - 370	1), 2), 3)	Only Supercharged, Standard Roots
FA/D	200 - 220	1), 2), 3)	Only Supercharged, Roots High Helix
FB/D	371 -	1), 2), 3)	Only Supercharged, Standard Roots
BN/D	160 -	612	Only Nitrous Oxide

### Minimum Weight

1) 612 kg (1349 lbs), Cars with V8.

2) 454 kg (1000 lbs), Cars with maximum 6 cylinders.

3) 386 kg (850 lbs), Cars with maximum 4 cylinders.

**Maximum weight:** 1100 kg. (2425 lbs)

For calculations from kg to lbs use: 1 kilogram = 2.2045855 lbs.

## **REQUIREMENTS AND SPECIFICATIONS**

### **ENGINE: D 1**

#### **D 1.1 ENGINE**

Any automotive engine permitted, maximum one engine. Supercharger, turbocharger and nitrous oxide prohibited, except for where the class definition permits, but never as a combination. Cast harmonic balancer prohibited. Harmonic balancer meeting SFI spec 18.1, or steel billet harmonic balancer made in one piece mandatory. **See GSR: 1.2.**

#### **D 1.2 EXHAUST SYSTEM**

Competition exhaust systems permitted. Exhaust must be directed out of body to rear, away from driver and fuel tank.

**See GSR: 1.3.**

#### **D 1.3 FUEL**

Only Gasoline, petrol and methanol meeting MSA specifications permitted. Nitrous oxide prohibited except in BN/D Dragster. Propylene oxide prohibited. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

#### **D 1.4 FUEL SYSTEM**

Electronic fuel injection system of OEM type produced by car manufacture for original use permitted. Fuel injection is only allowed to monitor information from engine. Fuel lines must be isolated from drivers compartment. Artificial cooling or heating of fuel prohibited. Circulating pumps and/or systems is prohibited if it isn't part of OEM fuel system. **See GSR: 1.5 and 1.5.1**

##### **D 1.4.1 INDUCTION**

Any induction system permitted. Electronic fuel injection must be OEM. type, i.e. may only monitor engine functions.

##### **D 1.5 LIQUID OVERFLOW**

Mandatory. **See GSR: 1.7**

## **D 1.6 OIL SYSTEMS**

Dry sump oil system permitted. External single-stage oil pumps permitted, may be combined with other pump functions. Minimum catch-can capacity 0,5 litres. Mandatory. **See GSR: 1.10.**

## **D 1.7 THROTTLE**

Throttle control must be manually operated by driver's foot . Electronics, pneumatics, hydraulics, lasers or any other devices may in no way affect the throttle operation. **See GSR: 1.14**

## **D 1.8 SUPERCHARGER**

Only permitted in AA/D, AB/D, BA/D, BB/D, CA/D, CB/D, DA/D, DB/D, EA/D, EB/D, FA/D and FB/D Dragster. **See GSR: 1.12, 1.13, 2.13 and 4.8. See also ET1.7**

## **D 1.9 TURBOCHARGER**

Only Commercially available turbochargers permitted and only in DT/D, ET/D and FT/D Dragster. All grinding and/or altering of turbocharger housing prohibited. **See GSR: 2.13 and 4.8.**

## **D 1.10 VENT TUBE BREATHERS**

Mandatory. **See GSR: 1.15.**

## **D 1.11 NITROUS OXIDE**

Only Commercially available nitrous oxide systems permitted, in BN/D Dragster only. Prohibited in all other classes. Nitrous bottle(s) must be equipped with a relief valve and vented outside of the car. Nitrous bottles in driver compartment must be equipped with a relief valve and vented outside of driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to solenoid must be high pressure steel braided hoses. External heating of bottle(s) other than with electric blanket for the proper use prohibited. **See GSR: 1.9 and 9.7.**

## **DRIVE TRAIN: D 2**

### **D 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1 or 1.2 ( 2-disc maximum) and flywheel shield meeting SFI Spec 6.1, 6.2 or 6.3, or flywheel and clutch meeting SFI Spec 1.2 (3 or more discs) and flywheel shield meeting minimum SFI Spec 6.2 or 6.3 mandatory. The use of multi-stage, lock-up-type clutches is prohibited. Flywheel shield cannot be welded into the car and/or (used as crossmember) frame. Frame and/or body braces cannot be welded to flywheel shield. Clutch release must be manually operated by driver's foot; electronics, pneumatics, hydraulics or any other device may in no way affect the clutch operation. **See GSR 2.3, 2.5, 2.6 and 2.9.**

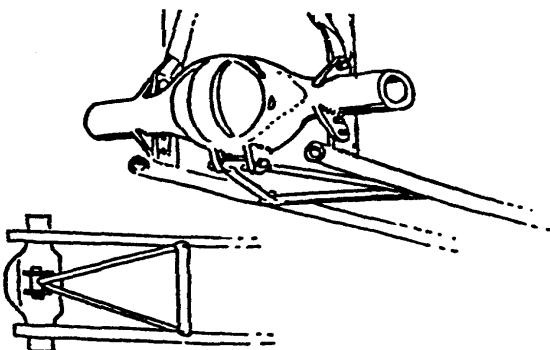
## D 2.2 DRIVELINE

Anti-blowback device mandatory in A/D, B/D, C/D, D/D, DT/D, ET/D, FT/D, AA/D, AB/D, BA/D, BB/D, CA/D, CB/D, DA/D, DB/D, EA/D, EB/D, FA/D, FB/D and BN/D Dragster. **See GSR: 2.1 and 2.4**

## D 2.3 REAREND

Aftermarket axles and axle-retention device for drag racing use mandatory. Spool permitted. Full-floating or live axle assembly recommended. **See GSR: 2.2, 2.11. and PIC. 46.**

### **EXAMPLE: RIGID MOUNTED REAREND**



PIC. 46

## D 2.4 TRANSMISSION

Clutchless transmissions permitted. Any automotive type aftermarket planetary or manual-type transmission with maximum of five forward speeds permitted. Maximum 3 forward speeds allowed for automatic type transmissions. Reverse gear mandatory. Automated shifters and/or timer-type shifting devices on manual-type transmissions prohibited, each individual shift must be a function of the driver. Shifting of a manual-type transmission may only be controlled by either manual or pneumatic means; electric or electronics may in no way affect the shifting mechanism. Air shifter bottles must be securely mounted. Automatic transmissions must have a inside oil pump and clutch packs which control the gearing along with bands to be deemed as an automatic transmission. Overdrive/under drive units, motorcycle, snowmobile or farm implements type transmission are prohibited. **See GSR: 2.12, 2.13, 2.14 and 9.7.**

### D 2.4.1 WEIGHT ADJUSTMENT, AUTOMATICS

Cars with automatic transmission, and fully working converter are allowed to take off weight from the calculated class weight as follows: A/D 45 kg, B/D 65 kg, C/D 85 kg, D/D 100 kg, E/D, F/D and G/D 45 kg. All other classes are not allowed to take off any weight. To be noticed is that cars can never weigh less than minimum weight.

## **D 2.5 TRANSMISSION SHIELD, AUTOMATIC**

Automatic transmission shield meeting SFI Spec 4.1 mandatory. Automatic transmission flexplate meeting SFI Spec 29.1 mandatory. Automatic transmission flexplate shield meeting SFI Spec 30.1 mandatory. **See GSR: 2.14.**

## **BRAKES & SUSPENSION: D 3**

### **D 3.1 BRAKES**

Minimum two rear-wheel hydraulic brakes (disc brake) mandatory. Four-wheel brakes are recommended. Hand brake, if used must be located inside of body or drivers compartment. Steel brake lines, steel braided or in accordance with DOT, DIN/ISO mandatory. All brake lines passing engine on any car must be shielded. **See GSR: 3.1**

### **D 3.2 STEERING**

A device must be used to prevent long steering shaft from injuring driver in case of frontal impact. **See GSR: 3.3 and 4.1.**

### **D 3.3 SUSPENSION**

Any automotive suspension permitted. Rigid-mount front axles permitted if wheelbase is 3048 mm (120 inch) or more. Rigid-mounted rear axles permitted. Any front suspension using a beam or tubular type axle must have radius rods attached to frame. Radius rods not required on front axles rigidly mounted 457 mm (18 inch.) or less from front king pin axis. **See GSR: 3.2, 3.4 and 3.5.**

### **D 3.4 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: D 4**

### **D 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **D 4.2 DEFLECTOR PLATE**

Must be installed between roll cage and engine on all rear-engine cars to protect driver and fuel tank. Minimum material thickness: 3 mm (1/8 inch) T6 aluminium or 1.5 mm (0.06 inch) steel. Optional. **See GSR: 1.1 and 4.3.**

### **D 4.3 GROUND CLEARANCE**

Minimum 76 mm (3 inch) from front of car to 305 mm (12 inch) behind centreline of front axle, 51 mm (2 inch) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

### **D 4.4 PARACHUTE**

Mandatory. **See GSR: 4.8.**

## **D 4.5 PINION SUPPORT**

Mandatory on all front-engine cars. **See GSR: 4.9.**

## **D 4.6 ROLL CAGE**

Mandatory in accordance with picture 22-26 **GSR 4.11.2.** Cars in classes A/D, B/D, AA/D, AB/D, BA/D, BB/D and BN/D must meet SFI Spec 2.3K or 2.2B, 2.5 or 2.4A.

Chassis must be inspected every three years. **See GSR: 4.4, 4.11, 4.11.1, 4.11.2, 10.6 and 10.7.**

### **D 4.6.1 ROLL CAGE**

**Cars running 8.49 (\*5.09) – 7.50 (\*4.50) or quicker**

**Rear Engine Dragster: SFI 2.7A**

**Front Engine Dragster: SFI 2.6**

## **D 4.7 WHEELBASE & TREAD WIDTH**

Minimum wheelbase 2286 mm (90 inch). Maximum wheelbase variation from left to right: 51 mm (2 inch). Minimum front tread width 660 mm ( 26 inch).

## **TYRE & WHEELS: D 5**

### **D 5.1 TYRES**

Racing slicks mandatory. Minimum diameter of 13-inches on front tyres of any Dragster. **See GSR: 5.1.**

#### **D 5.1.1 FRONT TYRES**

Motorcycle tyre for high speed use Avon 2,25 S17 or 2,50 S17 are permitted only in E/D, F/D and G/D Dragster. **See GSR: 5.1.**

### **D 5.2 WHEELS**

Wire wheels permitted on front of Dragsters only, provided total weight of car does not exceed 817 kg (1800 lbs). **See GSR: 5.2.**

## **INTERIOR: D 6**

### **D 6.1 UPHOLSTERY**

Optional. Magnesium prohibited.

### **D 6.2 SEATS**

**See GSR: 6.2.**

## **BODY: D 7**

### **D 7.1 AIR FOILS, WINGS**

Side-mounted canard-type units permitted, securely mounted. No part of canards/wings may be within 152 mm ( 6 inch) of any tire. Frontal air dam permitted. Maximum projection ahead of spindle centre-line: 762 mm ( 30 inch). Width cannot exceed front tread width. Maximum rise: 254 mm (10 inch). Projection behind front axle, outside of frame rails prohibited. Spill plates permitted, not to exceed 229 mm (9 inch) in height. Ground clearance must be

76 mm(3 inch). Maximum wing size 0,645 m<sup>2</sup> (1000 square inches). Any adjustment or movement during run prohibited. **See GSR: 7.2.**

## **D 7.2 BODY**

Body and cowl must be metal, Fiberglas or carbon fibre and must extend to firewall. Driver compartment, frame structure, roll cage and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system or track surface. If driver's body is in contact with belly pan, a crossmember and sub-floor are mandatory. Altered-type bodies prohibited.

Driver's legs must be retained inside frame by sub-flooring, or other retaining device that is independent of car's body. On open-wheeled, front-engine cars, hood scoop may not extend more than 279 mm (11 inch) above height of carburettor top. **See GSR: 1.4 and 7.7.**

## **D 7.3 FRONT-WHEEL FAIRINGS**

Prohibited.

## **D 7.4 WINDSCREEN**

Mandatory. **See GSR: 7.8.**

## **ELECTRICAL: D 8**

### **D 8.1 BATTERIES**

All batteries must be securely mounted with metal hold-downs outside the driver compartment. **See GSR: 8.1.**

### **D 8.2 DELAY BOX/DEVICE**

Prohibited. **See GSR: 8.2.**

### **D 8.3 IGNITION**

**See GSR: 8.3.**

### **D 8.4 MASTER CUT-OFF**

Mandatory on all cars with a battery. **See GSR: 8.4.**

### **D 8.5 TAIL LIGHTS**

All cars must have one functional tail light for night operations. **See GSR: 8.6.**

## **SUPPORT GROUP: D 9**

### **D 9.1 COMPUTER**

Permitted. **See GSR: 9.1 and 9.2.**

### **D 9.2 FIRE EXTINGUISHER**

Permitted. Mandatory on cars with closed drivers compartment. Minimum capacity 2,5 kg. Hand held fire extinguisher prohibited. **See GSR: 9.3.**

### **D 9.3 PUSH START**

Prohibited. **See GSR: 9.8.**

### **D 9.4 TOW VEHICLES**

Permitted. **See GSR: 9.9.**

### **D 9.5 WARM-UPS**

**See GSR: 9.4 and 9.11.**

### **D 10.1 ARM RESTRAINTS**

Mandatory. **See GSR: 10.3.**

### **D 10.2 LICENCE**

Drag Race Licence mandatory. **See GSR: 10.4.**

### **D 10.3 DRIVER**

Any location permitted if in compliance with **GSR**. Any car with no crossmember above driver's legs must have a strap or device to prevent legs from projecting outside chassis.

### **D 10.4 DRIVER RESTRAINT SYSTEM**

Three-inch five point driver restraint system meeting SFI Spec 16.1 or FIA/ ISO 8853 mandatory. Crotch strap mandatory. **See GSR: 10.5.**

### **D 10.5 HEAD PROTECTOR**

Mandatory. **See GSR: 10.6.**

### **D 10.6 HELMET**

See GSR: 10.7 and MSA Competitors year book ( Blue book).

### **D 10.7 NECK COLLAR**

Mandatory. SFI 38.1 or FIA Homologated head and neck restraint device can be used

**See GSR: 10.8.**

### **D 10.8 PROTECTIVE CLOTHING**

**Front engine, supercharged or turbocharged, closed bodied car, OR any car with an automatic transmission in driver compartment (no floor covering transmission):** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine, supercharged or turbocharged open bodied car:** Jacket and pants or suit meeting SFI spec 3.2A/20, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine car equipped with nitrous oxide:** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Rear engine car equipped with nitrous oxide and/or turbocharged or supercharged:** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Naturally aspirated car: i.e. all others:** Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard and gloves meeting SFI spec 3.3/5 or 1986 FIA standard mandatory.  
**See also GSR 10:10**

## ALTERED CARS

### DESIGNATION:

A/A, B/A, C/A, D/A, E/A, F/A, G/A, H/A, I/A, AT/A, BT/A, CT/A, DT/A, AA/A, AB/A, BA/A, BB/A, CA/A, CB/A, DA/A, DB/A, AN/A, BN/A, CN/A, DN/A, A/PM and AA/PM preceded by car number.  
 For Starting numbers: **See GSR: 7.3**

**Altered type 1:** Open Alteredds and Funny Cars built for competition use only, The body of a type originally produced by an automobile manufacturer. Typical for these cars is central steering and flip-body. For A/A, B/A, AA/A, AB/A, AT/A, AN/A and BN/A, chassis must meet SFI Spec. 10.1D

**Altered type 2:** Very modified or special made cars. With Stock appearance. Full body with operating doors, or Roadsters with fenders that cover all wheels. Must have Suspension and brakes at each wheel. For A/A, B/A, AA/A, AB/A, AT/A, AN/A, BN/A, A/PM and AA/PM chassis must meet SFI Spec. 25.1E

27 Classes. Class is determined from the car's weight incl. driver divided by the size of the engine.

Class	Kg /litre	Min. weight (kg)	Note
A/A	94 - 129	1), 2)	
B/A	130 - 149	1), 2)	
C/A	150 - 179	680	
D/A	180 - 207	3), 4), 5)	
E/A	208 - 234	3), 4), 5)	
F/A	235 - 262	3), 4), 5)	
G/A	263 - 290	3), 4), 5)	
H/A	291 - 317	3), 4), 5)	
I/A	318 -	3), 4), 5)	
AA/A	150 - 207	1), 2)	Only Supercharged, Roots High Helix
AB/A	150 - 207	1), 2)	Only Supercharged, Standard Roots
BA/A	208 - 299	3), 4), 6)	Only Supercharged, Roots High Helix
BB/A	208 - 299	3), 4), 6)	Only Supercharged, Standard Roots
CA/A	300 - 399		Only Supercharged, Roots High Helix
CB/A	300 - 399		Only Supercharged, Standard Roots
DA/A	400 -		Only Supercharged, Roots High Helix
DB/A	400 -		Only Supercharged, Standard Roots
AT/A	163 - 226	1), 2)	Only Turbocharged

BT/A	227 - 349	3), 4), 6)	Only Turbocharged
CT/A	350 - 499		Only Turbocharged
DT/A	500 -		Only Turbocharged
AN/A	110 - 139	1), 2)	Only Nitrous Oxide
BN/A	140 - 169	1), 2)	Only Nitrous Oxide
CN/A	170 - 199	1), 2)	Only Nitrous Oxide
DN/A	200 -		Only Nitrous Oxide
A/PM	*	1077	Only Nitrous Oxide Max. 716 cui
AA/PM	*	1225	Only Supercharged Max. 527 cui

\*A/PM and AA/PM class, technical & safety regulations as per Pro Modified.

### Minimum Weight

- 1) Altered Cars type 1. 680 kg (1499 lbs)
- 2) Altered Cars type 2. 1066 kg (2350 lbs)
- 3) V8-cars, 950 kg (2095 lbs).
- 4) Maximum 6-cylinders, 900 kg (1984 lbs).
- 5) Maximum 4-cylinders, 500 kg (1102 lbs).
- 6) Maximum 4 cylinders, 612 kg (1349 lbs)

**Maximum weight:** 1350 kg. (2976 lbs)

For calculations from kg to lbs use: 1 kilogram = 2.2045855 lbs.

## REQUIREMENTS AND SPECIFICATIONS

### ENGINE: A 1

#### A 1.1 ENGINE

One internal combustion, reciprocating, automobile-type engine permitted. Super-charger, turbocharger and nitrous oxide prohibited, except for where the class definition permits, but never as a combination. Engine must be in front of driver (rear engine mounting plate must be in front of the driver's feet). Cast harmonic balancer prohibited. Harmonic balancer meeting SFI spec 18.1, or steel billet harmonic balancer made in one piece mandatory. **See GSR: 1.2.**

#### A 1.2 EXHAUST SYSTEM

Competition exhaust systems permitted. Exhaust must be directed out of body to rear, away from driver and fuel tank.

**See GSR: 1.3.**

#### A 1.3 FUEL

Only Gasoline, petrol and methanol meeting MSA specifications permitted. Nitrous oxide prohibited except in AN/A, BN/A, CN/A, DN/A and A/PM Altered. Propylene oxide prohibited. **See GSR: 1.6, 1.6.1, 1.8, 1.9 and 1.11.**

#### A 1.4 FUEL SYSTEM

Electronic fuel injection system of OEM type produced by car manufacture for original use permitted. Fuel injection is only allowed to monitor information from engine. Fuel lines must be isolated from drivers compartment. Artificial cooling or heating of fuel prohibited. Circulating pumps and/ or systems prohibited if it isn't part of OEM fuel system. For Altered Cars type-2 fuel-cell

mandatory. Fuel-cell meeting FIA/FT3 or SFI Spec 28.1 recommended. **See GSR:1.5 and 1.5.1**

#### **A 1.4.1 INDUCTION**

Any induction system permitted. Electronic fuel injection must be closed OEM. type system , i.e. may only monitor engine functions. Monitoring of vehicle performance criteria, wheel speed, driveshaft speed, etc, by fuel injection system prohibited. System must be FIA/MSA accepted.

#### **A 1.5 LIQUID OVERFLOW**

Mandatory. **See GSR: 1.7**

#### **A 1.6 OIL SYSTEMS**

Dry sump oil system permitted. External single-stage oil pumps permitted, may be combined with other pump functions. Minimum catch-can capacity 0,5 litres. Mandatory. **See GSR: 1.10.**

#### **A 1.7 THROTTLE**

Throttle control must be manually operated by driver's foot . Electronics, pneumatics, hydraulics, lasers or any other devices may in no way affect the throttle operation. **See GSR: 1.14**

#### **A 1.8 SUPERCHARGER**

Only permitted in AA/A, AB/A, BA/A, BB/A, CA/A, CB/A, DA/A, DB/A and AA/PM altered.

**See GSR: 1.12, 1.13, 2.13 and 4.8. See also ET 1.7**

#### **A 1.9 TURBOCHARGER**

Only Commercially available turbochargers permitted and only in AT/A, BT/A, CT/A and DT/A Altered. All grinding and/or altering of turbocharger housing prohibited. **See GSR: 2.13 and 4.8.**

#### **A 1.10 VENT TUBE BREATHERS**

Mandatory. **See GSR: 1.15.**

#### **A 1.11 NITROUS OXIDE**

Only Commercially available nitrous oxide systems permitted, but only in AN/A, BN/A, CN/A, DN/A Altered and in A/PM. Prohibited in all other classes. Nitrous bottle(s) must be equipped with a relief valve and vented outside of the car. Nitrous bottles in driver compartment must be equipped with a relief valve and vented outside of driver's compartment. Bottles must be permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to solenoid must be high pressure steel braided hoses. External heating of bottle(s) other than with electric blanket for the proper use prohibited. **See GSR: 1.9 and 9.7.**

### **DRIVE TRAIN: A 2**

## **A 2.1 CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1 or 1.2 ( 2-disc maximum) and flywheel shield meeting SFI Spec 6.1, 6.2 or 6.3, or flywheel and clutch meeting SFI Spec 1.2 (3 or more discs) and flywheel shield meeting minimum SFI Spec 6.2 or 6.3 mandatory. The use of multi-stage, lock-up-type clutches is prohibited. Flywheel shield cannot be welded into the car and/or (used as crossmember) frame. Frame and/or body braces cannot be welded to flywheel shield. Clutch release must be manually operated by driver's foot; electronics, pneumatics, hydraulics or any other device may in no way affect the clutch operation. **See GSR 2.3, 2.5, 2.6 and 2.9.**

## **A 2.2 DRIVELINE**

**See GSR: 2.4**

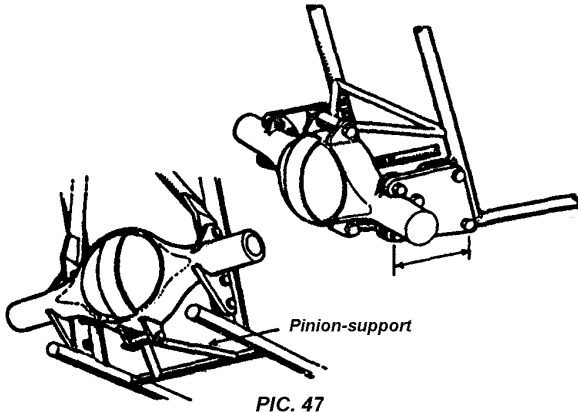
## **A 2.3 REAREND**

Aftermarket axles and axle-retention device for drag racing use mandatory. Spool permitted. Full-floating or live axle assembly recommended. Cars over 900 kg (2000 lbs) with swing axle rearend prohibited. **See GSR: 2.2, and 2.11. and PIC. 47**

## **A 2.4 TRANSMISSION**

Clutchless transmissions permitted. Any automotive type aftermarket planetary or Manual-type transmission with maximum of five forward speeds permitted. Maximum 3 forward speeds allowed for automatic type transmissions. Reverse gear mandatory. Automated shifters and/or timer-type shifting devices on manual-type transmissions prohibited, each individual shift must be a function of the driver. Shifting of a manual-type transmission may only be controlled by either manual or pneumatic means; electric or electronics may in no way affect the shifting mechanism. Air shifter bottles must be securely mounted. Automatic transmissions must have a inside oil pump and clutch packs which control the gearing along with bands to be deemed as an automatic transmission. Overdrive/under drive units, motorcycle, snowmobile or farm implement type transmission are prohibited. **See GSR: 2.12, 2.13, 2.14 and 9.7.**

## **EXAMPLE: RIGID MOUNTED REAREND**



### **A 2.4.1 WEIGHT ADJUSTMENT, AUTOMATICS**

Cars with automatic transmission, and fully working converter are allowed to take off weight from the calculated class weight as follows: A/A 45 kg (100 lbs), B/A 90 kg (200 lbs) and C/A 113 kg (250 lbs). D/A, E/A, F/A, G/A, H/A and I/A, With V8 113 kg (250 lbs) With maximum 6-cylinders 68 kg (150 lbs). With maximum 4-cylinders 45 kg (100 lbs).

All other classes are not allowed to take off any weight. To be noticed is that cars can never weigh less than minimum weight.

### **A 2.5 TRANSMISSION SHIELD, AUTOMATIC**

Automatic transmission shield meeting SFI Spec 4.1 mandatory. Automatic transmission flexplate meeting SFI Spec 29.1 mandatory. Automatic transmission flexplate shield meeting SFI Spec 30.1 mandatory. **See GSR: 2.14.**

## **BRAKES & SUSPENSION: A 3**

### **A 3.1 BRAKES**

Minimum two rear-wheel hydraulic brakes (disc brake) mandatory. Four-wheel brakes is always recommended. On all Altered Cars type-2 four-wheel hydraulic brakes mandatory. On all A/A, B/A, AA/A, BB/A, AT/A, BT/A, AN/A, BN/A and CN/A Altered type-1 four-wheel hydraulic brakes mandatory. Hand brake, if used must be located inside of body or drivers compartment. Steel brake lines, steel braided or in accordance with DOT, DIN/ISO mandatory. All brake lines passing engine on any car must be shielded. **See GSR: 3.1**

### **A 3.2 STEERING**

Commercially available quick-disconnect steering wheel permitted. Units meeting SFI Spec 42.1 recommended. For type-2 Altered Cars, minimum steering wheel diameter 279 mm (11 inch). **See GSR: 3.3 and 4.1.**

### **A 3.3 SUSPENSION**

**Altered Cars type-1:** Any automotive suspension permitted. Rigid-mount front axles permitted if wheelbase is 3048 mm (120 inch) or more. Rigid-mounted rear axles permitted. Any front suspension using a beam or tubular type axle must have radius rods attached to frame. Radius rods not required on front axles rigidly mounted 457 mm (18 inch.) or less from front king pin axis. **See GSR: 3.2, 3.4 and 3.5.**

**Altered Cars type-2:** Full automobile-type suspension mandatory. Minimum one hydraulic shock absorber per sprung wheel mandatory. **See GSR: 3.2, 3.4 and 3.5.**

### **A 3.4 TRACTION BARS**

Permitted. Can not be longer than half the wheel-base. **See GSR: 3.4 and 3.5.**

### **A 3.5 WHEELIE BARS**

Permitted. Wheels must be non-metallic. **See GSR: 3.6.**

## **FRAME: A 4**

### **A 4.1 BALLAST**

Permitted. **See GSR: 4.2.**

### **A 4.2 BUMPER**

Optional; if used, must conform to original specifications. Rear bumper is not allowed to be used as wing/spoiler.

### **A 4.3 GROUND CLEARANCE**

Minimum 76 mm (3 inch) from front of car to 305 mm (12 inch) behind centreline of front axle, 51 mm (2 inch) for remainder of car, except oil pan and exhaust headers. **See GSR: 4.5.**

### **A 4.4 PARACHUTE**

Mandatory. **See GSR: 4.8.**

### **A 4.5 ROLL CAGE**

Mandatory in accordance with picture 21-22 for Altered Cars type-1, 19-20 and 27-29 for Altered/Roadster Cars type-2. **See GSR: 4.11.1 and 4.11.2.** Cars in classes A/A, B/A, AA/A, AB/A, AT/A, AN/A, BN/A, CN/A, A/PM and AA/PM must meet SFI Spec 10.1D or 25.1E. Chassis must be inspected every three years. **See GSR: 4.4, 4.11, 4.11.1, 4.11.2, 10.6 and 10.7.**

#### **A 4.6.1 ROLL CAGE**

Cars running 8.49 (\*5.09) – 7.50 (\*4.50) or quicker

**Doorslammer Specs:**

**SFI 25.4 Full tube chassis 4130 Chrome Moly or M/S**

**SFI 25.5 Full Bodied car Stock or Modified/OEM Floorpan and Firewall with OEM Frame or Unibody construction.**

## **The Funny Car and Altered Spec: SFI 10.3**

### **Side Steer Roadster: SFI 10.4**

#### **A 4.6 WHEELBASE, ALTEREDS, ROADSTERS**

Minimum wheelbase 2286 mm (90 inch). Maximum Wheelbase 3175 mm (125 inch). Maximum wheelbase variation from left to right: 25.4 (1 inch).

#### **A 4.6 WHEELBASE, FUNNY CARS**

Minimum wheelbase 2540 mm (100 inch). Maximum Wheelbase 3175 mm (125 inch). Rear tires are not allowed to be outside body. The outside of rear tire is not to be more than 76 mm (3 inch) inside the body. Front tread width is not allowed to be such that the outside of front tire is more than 152 mm (6 inch) inside the bodyline. measurement is done from the outside of tire to the inside of fenders edge. Maximum wheelbase variation from left to right: 25.4 mm (1 inch).

#### **A 4.6 WHEELBASE, ALTEREDS TYPE-2**

Minimum wheelbase 2286 mm (90 inch). Maximum Wheelbase 3175 mm (125 inch). When Altered cars type-2 have to meet SFI Spec 25.1E a minimum wheelbase of 2540 mm (100 inch) is mandatory, and maximum wheelbase is 3175 mm (125 inch). Maximum wheelbase variation from left to right: 25.4 mm (1 inch).

## **TYRE & WHEELS: A 5**

### **A 5.1 TYRES**

Racing slicks mandatory. **See GSR: 5.1.**

### **A 5.2 WHEELS**

Aftermarket wheels permitted. Wire wheels permitted on front of Altered cars type-1 only, provided total weight of car does not exceed 800 kg (1763 lbs). Motorcycle wheels prohibited.

**Altered Cars type-2:** Minimum front-wheel diameter 331 mm (13 inch) unless car was originally equipped with smaller wheels and is using original engine. Minimum wheel width 88 mm (3.5 inch), front tire must be fitted to the wheel width, and be suitable for the load on front axle. **See GSR: 5.2.**

## **INTERIOR: A 6**

### **A 6.1 SHEET METAL**

Drivers compartment interior must be aluminium or steel. Magnesium prohibited. **See GSR: 6.1.**

### **A 6.2 SEATS**

In Altered cars type-2 central steering prohibited.  
**See GSR: 6.2.**

### **A 6.3 TONNEAU COVER**

Covers permitted over driver compartment and/or pick up beds if they do not restrict driver entry/exit.

## **A 6.4 WINDOW NET**

Mandatory in full-bodied cars. **See GSR: 6.3.**

## **BODY: A 7**

### **A 7.1 AIR DAM**

Frontal air dam only permitted on open Alters with open wheels. Maximum projection ahead of spindle centre-line: 762 mm

(30 inch). Width cannot exceed front tread width. Maximum rise: 254 mm (10 inch). Spill plates permitted, not to exceed 229 mm (9 inch) in height. Ground clearance must be minimum 76 mm (3 inch). Any adjustment or movement during run prohibited.

**See GSR: 7.2.**

### **A 7.2 BELLYPAN**

Permitted.

### **A 7.3 BODY, ALTERED CARS TYPE-1**

Must be identifiable with car made by automotive manufacture. Customising and other alterations allowed. Maximum projection ahead of spindle centre-line: 762 mm ( 30 inch), for Funny Cars 1016 mm (40 inch). Cars with full flip-body must have a working escape hatch installed in top of body to permit easy driver exit. Minimum size 457 x 432 mm (18 x 17 inch). Roof hatch must be permanently attached, and hinged at front. Must have release mechanism, operable from both inside and outside of car.

### **A 7.3 BODY, ALTERED CARS TYPE-2**

Sedan, coupe, roadster, estate or pick-up body-type permitted. Full-body including fenders over all wheels mandatory. Maximum projection ahead of spindle centre-line: 1016 mm (40 inch). Fibreglas bodies permitted. Spoilers and Wings as in the rules for Pro Stock and Pro Modified permitted . **See GSR: 7.2.**

### **A 7.4 FIREWALL, FLOOR**

Mandatory. **See GSR: 7.5 and 7.6.**

### **A 7.5 HOOD, HOOD SCOOP**

Hood permitted, but must conform to original type dimensions for body used. Cars without hood, must have a flash shield, or hood scoop in place of hood. On cars with hood, hood scoop may not extend more than 279 mm (11 inch) above height of hood surface, if hood is not used, hood scoop may not extend more than 279 mm (11 inch) above height of carburettor top. **See GSR: 1.4 and 7.7.**

## **A 7.6 WHEELWELLS**

Wheelwells can be altered, but there must be one for each rear wheel. For Altered Cars type-2 wheelwells must provide a bulkhead between wheel and driver compartment.

## **A 7.7 WINDSCREEN, WINDSHIELD, WINDOWS**

Altered Cars type-1 and roadsters without a windshield must have a metal or other flame-proof deflector installed. Altered Cars type-2 and Funny Car full-windscreen mandatory. Plexiglas in windscreen prohibited, must be made of polycarbonat ( Lexan or equal). Side-windows in Plexiglas permitted. Minimum window openings 127 mm (5 inch) measured vertically. **See GSR: 7.8 and 7.9.**

## **ELECTRICAL: A 8**

### **A 8.1 BATTERIES**

Maximum two batteries. All batteries must be securely mounted with metal hold-downs outside the driver compartment. Maximum weight including battery-box 70 kg (154 lbs). **See GSR: 8.1.**

### **A 8.2 DELAY BOX/ DEVICE**

Prohibited. **See GSR: 8.2.**

### **A 8.3 IGNITION**

**See GSR: 8.3.**

### **A 8.4 MASTER CUT-OFF**

Mandatory on all cars with a battery. **See GSR: 8.4.**

### **A 8.5 TAIL LIGHTS**

All cars must have one functional tail light for night operations. **See GSR: 8.6.**

## **SUPPORT GROUP: A 9**

### **A 9.1 COMPUTER**

Permitted. **See GSR: 9.1 and 9.2.**

### **A 9.2 FIRE EXTINGUISHER**

Permitted. Mandatory on cars with closed drivers compartment. Minimum capacity 2.5 kg. Hand held fire extinguisher prohibited. **See GSR: 9.3.**

### **A 9.3 PUSH START**

Prohibited. **See GSR: 9.8.**

### **A 9.4 TOW VEHICLES**

Permitted. **See GSR: 9.9.**

### **A 9.5 WARM-UPS**

**See GSR: 9.4 and 9.11.**

## **DRIVER: A 10**

### **A 10.1 ARM RESTRAINTS**

Mandatory in open Alterseds and Funny Cars. **See GSR: 10.3.**

### **A 10.2 LICENCE**

Drag Race Licence mandatory. **See GSR: 10.4.**

### **A 10.3 DRIVER**

Must be located behind engine and completely within body contour with no part of driver behind rear axle.

### **A 10.4 DRIVER RESTRAINT SYSTEM**

Three inch five point driver restraint system meeting SFI Spec 16.1 or FIA/ ISO 8853 mandatory. Crotch strap mandatory. **See GSR: 10.5.**

### **A 10.5 HEAD PROTECTOR**

Mandatory. **See GSR: 10.6.**

### **A 10.6 HELMET**

See GSR: 10.7 and MSA Competitors year book ( Blue book).

### **A 10.7 NECK COLLAR**

Mandatory. SFI 38.1 or FIA Homologated head and neck restraint device can be used

### **See GSR: 10.8.**

A commercially available head and neck restraint system can be used.

### **A 10.8 PROTECTIVE CLOTHING**

**Front engine, supercharged or turbocharged, closed bodied car, OR any car with an automatic transmission in driver compartment (no floor covering transmission):** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine, supercharged or turbocharged open bodied car:** Jacket and pants or suit meeting SFI spec 3.2A/20, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/15 mandatory.

**Front engine car equipped with nitrous oxide:** Jacket and pants or suit meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Rear engine car equipped with nitrous oxide and/or turbocharged or supercharged:** Jacket and pants or suit

meeting SFI spec 3.2A/15, gloves meeting SFI spec 3.3/5 and boots or shoes meeting SFI spec 3.3/5 mandatory.

**Naturally aspirated car: i.e. all others:** Jacket and pants or suit meeting SFI spec 3.2A/5 or 1986 FIA standard and gloves meeting SFI spec 3.3/5 or 1986 FIA standard mandatory.  
**See also GSR 10:10**

## **JET POWERED CARS**

Although an all out competitive category does not exist for jet powered thrust vehicles, such vehicles are a popular feature at UK tracks. Strictly enforced performance limits are in effect: Vehicles weighing up to 1134 kg. (2499 lbs) are limited to 280 mph. Vehicles weighing from 1135-1360 kg. (2500-3000 lbs) are limited to 240 mph.

### **JC 1 Engine**

#### **JC 1.1 Afterburner- Tailpipe.**

For butts, seams must be on the bottom; overlap seam placement will be at the discretion of the technical inspector. Dump valve on the afterburner manifold is mandatory; the valve to be activated with the primary chute lever (to prevent shutoff smoke).

#### **JC 1.2 Air Intake**

All air intakes must be totally and securely screened (1/8-inch minimum, 3/8-inch maximum or equivalent). Such screening must be securely attached to the engine.

#### **JC 1.3 Catch Can**

Fuel overflow catch tanks are to be of sufficient capacity to accommodate excess fuel on shutdown and adequate tank venting (approximately 1.5 litre) required on all vehicles. All hoses must be of crimped construction, no hose clamps and tie wraps allowed.

#### **JC 1.4 Control Cables**

Manual afterburner control valve cable, minimum 3/16-inch. Electronic control accepted. Fuel control cable must be minimum 3/16-inch. Must have secondary shutoff on main fuel line. Emergency shutoff on burner line mandatory. Emergency shutoff on both manually and electrically controlled afterburner system mandatory.

#### **JC 1.5 Engine**

Maximum of one thrust-driven engine permitted. Engine attitude must have down thrust; minimum negative one-degree angle. No internal modifications permitted. All engines must be run within manufactures maximum allowable limits. Recommended engine types are J-33, J-34, J-60(JT-12), J85-5(CJ-610), and Rolls

Royce 200, 500 and 600 series. Engine identification plate must be present and visible.

### **JC 1.6 Hot Streak**

A filter is mandatory on the Hot Streak Inlet. 2 solenoids are required on the Hot Streak.

### **JC 1.7 Fuel**

Approved jet-type fuel only (Jet A, Jet A-1, kerosene, diesel). Only diesel fuel additives permitted. Separate water and methanol injection systems permitted. Racing gasoline permitted for starting purposes only.

### **JC 1.8 Fuel Tank**

Maximum capacity 125 litres. It must be securely mounted to the frame with appropriate baffling (welded or equivalent). If pressurised, the tank must be round and a pressure regulator is recommended as well as a light/gauge to monitor pressure. A mechanism to release fuel tank pressure mandatory. All pressurised fuel tanks must be vented automatically with engine shutdown.

### **JC 1.9 Electrical Systems and Instrumentation**

All instruments, gauges and metering devices must be fully functional. The following instruments must be visible from the cockpit of each vehicle; tachometer (percent of rpm), exhaust gas temperature gauge (EGT), oil pressure gauge/light. Battery packs must be readily available to facilitate engine cranking in the event of a tailpipe fire.

## **JC 3 Brakes and Suspension**

### **JC 3.1 Brakes**

Calliper type disc brakes required on all four wheels. Two separate hydraulic systems required; may be front/rear or double system.

### **JC 3.2 Suspension**

Functional front and rear suspension optional. Rear shock absorbers, if used, must be installed in such a manner as to retain integrity of suspension in case of failure.

## **JC 4 Chassis**

### **JC 4.1 Ground clearance**

Minimum of 3 inches of ground clearance at the lowest point of the vehicle.

### **JC 4.2 Parachutes**

Dual parachutes mandatory. Both parachutes must be part of a dual control system that will independently shut off the engine when either is deployed. The parachute mount must be substantially bolted and /or welded in place. Minimum parachute connection spool diameter is 1 inch (25 mm). Funny Cars are required to have a minimum 10-foot bridle cord to attach the pilot

parachute. Chutes and shroud lines must be mounted in such a position as to be protected from tailpipe heat. All unpacked shroud lines must be covered with 1/16-inch leather or MSA accepted material (silver tape prohibited). Steel, aluminium or carbon fibre parachute tubes only. Parachute packs prohibited.

### **JC 4.3 Roll Cage**

Dragster chassis must meet SFI Spec 2.3K, Funny Car chassis must meet SFI Spec 2.2B, 2.3K or 10.1D. Plating of the chassis is prohibited, painting is permitted. The chassis must be inspected every 2 years by the Technical Inspectors and have a serialised sticker affixed to the frame before participation. Roll cage padding meeting SFI Spec 45.1 is mandatory anywhere the drivers helmet may come in contact with the roll cage components.

### **JC 4.4 Weight**

Minimum weight 567 kg. (1,250 pounds); maximum 1360kg (3000 pounds). All weights to include the driver and fuel.

#### **JC 4.5.1 Wheelbase, Dragster**

Minimum 180 inches; maximum 300 inches.

#### **JC 4.5.2 Wheelbase, Funny Car**

Minimum 125 inches; maximum 135 inches.

## **JC5 Wheels and Tyres**

### **JC 5.1 Tyres**

Tyres to be automotive type represented by the manufacturer for racing use. Minimum front wheel diameter on Jet Funny Cars is 14 inches.

## **JC6 Interior**

### **JC 6.1 Sheet Metal**

All sheet metal within the driver compartment must be aluminium or steel; magnesium is prohibited.

## **JC7 Body**

### **JC 7.1 Body, Funny Car**

The driver must be isolated from the engine compartment and the fuel system by Lexan with a minimum thickness of 3/16 inch (4mm). The firewall must provide a bulkhead between the engine or fuel tank and the driver compartment. All openings must be sealed with metal. Minimum .032 inch 6061 T6 aluminium or .024 inch steel; the use of magnesium is prohibited. The body must have at least one way to easily and quickly exit the car with the body down (roof hatch or removable windscreen), with a release operable from inside or outside of vehicle. Exit from the car with the body down must be demonstrated during the inspection process. Rear spoiler recommended for vehicle stability.

## **JC9 Support Group**

### **JC 9.1 Fire Extinguisher System**

Funny cars; minimum 10 pounds (5kg) MSA accepted fire extinguishing system mandatory. Enclosed cockpit dragsters ; minimum 5 pounds (2.5Kg) MSA accepted system mandatory.

## **JC10 Driver**

### **JC 10.1 Arm Restraints**

Mandatory. See GSR 10:3

### **JC 10.2 Driver Location**

The driver must be sealed off from the intake by a firewall of at least shoulder height. If located next to the compressor section the driver must be totally isolated from the compressor by a 3/8 inch (10mm) 7075-T6-aluminium shield. J-85 Funny Cars must be additionally equipped with a minimum 360 degree .050 inch stainless steel shield encompassing the combustion can. If the driver is located near the hot section, then insulation must be used to protect the driver from engine heat.

### **JC 10.3 Driver Restraint System**

A 3 inch driver restraint system meeting SFI Spec 16.1 including crotch strap is mandatory. Restraint system must be updated at 2 year intervals from date of manufacture. See GSR 10:5.

### **JC 10.4 Helmet**

Helmet meeting Snell SA 2000, SA2005, SFI 31.1A, FIA 8860-2004 or BS 6658-85 A/FR.  
See GSR 10:7.

### **JC 10.5 Neck Collar**

SFI 38.1 or FIA Homologated head and neck restraint device mandatory.  
See GSR 10:8.

### **JC 10.6 Protective Clothing**

Drivers of dragsters must wear a suit meeting SFI Spec 3.2A/15; drivers of Funny Cars must wear a suit meeting SFI spec 3.2A/20. All drivers must wear SFI 3.3/5 gloves and SFI 3.3/5 boots/shoes.

# **NFAA ALTERED**

**Designation :-** The class is reserved for supercharged altered bodied cars that are front-engined with a centre-steering position and designed specifically for Drag racing. The class is primarily designed to be an exhibition class, but all vehicles to be constructed and finished to the standard and style of Fuel Alteredds that were common to Drag Racing in the 1960's and 1970's. Cars running on Nitromethane AA/FA followed by race number - Cars running on Methanol BB/FA followed by race number.

## **ENGINE: FA 1.**

### **FA 1.1 ENGINE.**

One internal combustion, reciprocating, automobile-type V8 engine of any manufacture and any copy derivatives permitted. Maximum 2 valves per cylinder, pushrod operated. Any type of block or cylinder head may be used in cast iron or aluminium. Cubic inch displacement limited to 526 cu. in. Lower engine containment blanket originally manufactured to SFI Specification 7.1 or to FIA specification mandatory and to be in good condition. Supercharger bags are mandatory and to be in good condition.

### **FA 1.2 EXHAUST**

Zoomie or Funny car type headers permitted. No collector style headers allowed. See GSR 1.3

### **FA 1.3 FUEL SYSTEM.**

Methanol or Nitromethane only. Propylene Oxide and/or Nitrous Oxide prohibited. Maximum delivery from fuel pump of 25 gallons per minute including overdrive, 16 nozzles max, 8 in the injector hat, 8 in the manifold. No down nozzles allowed. Electric/electronic and pneumatic control of fuel system prohibited. Any system that appears to have the ability to control the timing of the fuel system must be removed from the car prior to running. No composite materials in injector hat and/or scoop. Composite materials include, but are not limited to, carbon fibre, Kevlar and weave graphite fibre. Hat/scoop must be nostalgic in appearance, internal modifications allowed.

Scoops limited to 12.5 inches above throttle body as measured from centreline of throttle shaft to top of scoop. Air intake limited to 60 sq inches. See GSR 1.5. and GSR 1.6.2.

#### **FA 1.4 SUPERCHARGER.**

Roots type supercharger: rotor helix angle not to exceed that of a standard 71 series GM-type rotor. Maximum size 14-71, 19 inch rotor case length, 11 ¼ inch case width, maximum rotor cavity diameter is 5.840 inches. Variable multi speed supercharger devices prohibited.

Manifold must contain a SFI Spec 23.1 burst panel.

Blower restraint mandatory on all cars, specification as follows:-

7.50 seconds and slower = SFI Spec 14.1

7.49 seconds and quicker = SFI Spec 14.2

Any car using Nitromethane as fuel = SFI Spec 14.3

Supercharger overdrive Ratios for Nitromethane:

If 14-71 fitted, max overdrive allowed is 30%

“ 12-71 “ “ “ “ “ 35%

“ 10-71 “ “ “ “ “ 40%

“ 8-71 “ “ “ “ “ 50%

“ 6-71 “ “ “ “ “ 55%

Alcohol cars allowed a max ratio of 55%

Alcohol cars (only) are allowed to utilise a Roots-Type High Helix Supercharger, subject to the provisions of GSR 1.12 and with a maximum permitted overdrive of 25%.

Belt guards mandatory on all cars.

#### **FA 1.4 IGNITION.**

Dual magnetos permitted. Mag advance or retard must be a function of the driver. Mechanical only, pneumatic and electronic control of ignition system is prohibited. No rpm chip boxes allowed. No mag (or combination of mags) larger than the output of a single MSD 44. No add on systems.

#### **FA 1.5 THROTTLE.**

A mechanical device for controlling the engine RPM's during burnouts may be attached to the injector or the throttle linkage, but may not be controlled by the driver.

See GSR 1:14

## **FA 1.6 VALVE COVERS.**

Cast or fabricated metal valve covers only, using all attachment bolt holes.

## **FA 1.7 VENT BREATHERS**

Mandatory. Catch tank must be made of steel or aluminium. All tanks must have sufficient internal baffling to prevent through flow of oil. Minimum capacity 1.5 gallons below the baffle. Double clamps are required on each end of all hoses used in the vent system.

**Cars running Nitromethane:** Minimum 1 1/8 inch inside diameter hoses are required from each valve cover to the catch tank inlets. Minimum catch tank inlet configuration is two 1 inch inside diameter (or equivalent area) tubes. Minimum catch tank discharge configuration is two 1 inch inside diameter (or equivalent area) openings.

## **DRIVE TRAIN: FA 2.**

### **FA 2.1 CLUTCH, FLYWHEEL & FLYWHEEL SHIELD.**

Clutch and flywheel must meet SFI Spec 1.3 for Nitromethane burning cars & SFI Spec 1.4 for Methanol burning cars. A current tagged flywheel shield meeting SFI Spec 6.2 is mandatory. Maximum 4 disc clutch. All clutch movement must be made manually by the driver (Pedal type Clutch) or Mechanically (Crowderglide type Clutch). No ratchets allowed. No staged systems (Cannons) allowed. No timers, air, hydraulic or otherwise.

### **FA 2.2 TRANSMISSION.**

Reversers are required. Transmission – Limited to 2-speed only for Nitromethane, maximum 3 speed permissible for Methanol. Transmission shield to SFI Spec 4.1, automatic transmission also requires SFI Spec 30.1 Flexplate Shield & SFI Spec 29.1 Flexplate. Air shifter bottles must be permanently mounted. Automatic transmission permitted on Methanol burning cars only, but OEM prohibited. Aftermarket cases such as Deadenbear required, along with aftermarket converters of a suitable specification/construction. Shifting of transmission by Air or Mechanical means only – no RPM activated shifters.

### **FA 2.3 DRIVELINE.**

Anti-blowback device mandatory on all cars equipped with a clutch. No U-joints. Couplers mandatory.

### **FA 2.4 DRIVELINE COVER.**

A full cover must enclose the driveline from the rear of the reverser to the area exposed to the driver's legs. Cover material shall be minimum .063"steel or .125"aluminum.

### **FA 2.5 REAREND.**

Rear ends must be fitted with an anti-rotation device. Aftermarket axles required, fully floating axle mandatory on cars running quicker than 7.49 seconds, or on any car using Nitromethane as a fuel. Ratio limited to 3.90 or lower (meaning nothing lower numerically than 3.90).

## **BRAKES & SUSPENSION: FA 3.**

### **FA 3.1 BRAKES.**

Automated and/or secondary braking systems prohibited, application and release of brakes must be a direct function of the driver. All four wheel hydraulic brake systems must use a dual master cylinder.

See GSR 3:1

### **FA 3.2 STEERING.**

Quick disconnect steering wheel hub, if fitted, must comply with SFI Spec 42.1.

See GSR 3:3

### **FA 3.3 SUSPENSION.**

Front suspension optional.

### **FA 3.4 WHEELIE BARS.**

Mandatory, wheels must be non metallic, two wheels are strongly recommended.

See GSR 3:6

## **FRAME: FA 4.**

### **FA 4.1 BALLAST.**

Permitted. See GSR 4.2

### **FA 4.2 GROUND CLEARANCE.**

Minimum 3 inches from front of car to 12 inches behind centreline of front axle, 2 inches for remainder of car, except oil pan and exhaust headers. Minimum 3 inches from 12 inches in front of rear axle centreline to rear of car.

### **FA 4.3 PARACHUTE.**

Dual parachutes mandatory with two separate shroud line mounting points for Nitromethane Cars or any running 7.49 seconds or lower ET. Parachute packs and shroud lines must be covered with a fire resistant material or other accepted material from mounting point into the pack. Two separate release cables mandatory with dual parachutes. Mechanically operated parachutes mandatory.

### **FA 4.4 ROLL CAGE.**

Chassis specification as follows:-

7.50 seconds and slower = National chassis specification

7.49 seconds and quicker, or any car running

Chassis spec SFI 10.1E mandatory.

Plating of chassis prohibited, painting permitted. Roll cage padding mandatory for anywhere that the driver's helmet may come into contact with roll cage components. All wiring must be external of the frame rails, the routing of cables, hydraulic or pneumatic lines inside the chassis permitted. Pressurisation of frame rails in lieu of air bottles prohibited.

### **FA 4.5 WHEELBASE.**

Minimum 100 inches, maximum 125 inches on the long side. Maximum wheelbase variation from left to right = 2 inches.

## **WHEELS: FA 5**

### **FA 5.1 WHEELS.**

Rear wheels meeting SFI Spec 15.1 mandatory for Nitromethane burning cars or any car running 7.49 seconds or quicker - maximum width 16 inches.

### **FA 5.2 TYRES.**

Tyres to be automotive type represented by a manufacturer specifically for Drag Racing. All cars running 7.49 seconds or quicker and all cars using Nitromethane must use front and rear tyres designed by a manufacturer for Top Methanol Funny Car/Dragster or Top Fuel Funny Car/Dragster.

## **INTERIOR: FA 6**

### **FA 6.1 SHEET METAL**

Driver compartment interior, firewall, seat etc. must be aluminium or steel. Magnesium or carbon fibre prohibited. Motor plates for Nitro cars must be 0.25" thick ChromeMoly, Methanol Cars can use Aluminium.

## **BODY: FA 7**

### **FA 7.1 AIRFOILS / WINGS**

Airfoils & wings permitted, maximum rear wing area not to exceed 750 square inches.

### **FA 7.2 BODY**

Open and enclosed altered bodies (enclosed bodies must have front wheels exposed) built for competition use only, shortening, stretching, altering original body shape & proportions permitted. Body and cowl must be metal, fibreglass or carbon fibre. All carbon fibre bodies must be painted on the underside of the body, including any roof area and must be covered with an accepted flame retardant covering or coating.

### **FA 7.3 ESCAPE HATCH.**

A working escape hatch must be installed in the top of any fully enclosed body to permit easy driver exit. Minimum size 18 inches x 17 inches.

Escape hatch must be permanently attached and hinged at front. Release mechanism, must be operable from both inside and outside the car.

#### **FA 7.4 FIREWALL**

Must be made of aluminium or steel.

#### **FA 7.5 WINDSHIELD/ WINDOWS.**

Windshield mandatory on full bodied cars, windows optional. Side windows if fitted must each have an opening 6 inches in diameter adjacent to the driver. Side windows on full bodied cars must be 'clear', tints prohibited.

#### **ELECTRICAL: FA 8**

##### **ELECTRONIC POLICY FOR ALL CATEGORIES -**

Electronic driving devices are strictly prohibited for all categories. Items that constitute electronic driving devices include, but are not limited to, throttle stops, delay boxes, crossover boxes, rpm or timer shifters and rpm activated switches. All such devices must be removed from the car before passing tech inspection. All driving functions must be accomplished by the driver, not by electronics. All on-track tuning of fuel, clutch, transmission, and ignition systems must be a direct function of the driver and electronics may in no way affect any of the stated systems. No microprocessor, feedback controlled ignition systems allowed. Digital ignition systems and electronic ignition advance/retard boxes are prohibited. Rev-limiters are allowed, but no "two-step" control is permitted. No electronic fuel injection systems allowed. No RPM chip boxes allowed. RPM activated shift light(s) permitted. Data Recorders are permitted subject to the provisions of GSR 9.2. Digital MSD's prohibited.

#### **SUPPORT GROUP: FA 9.**

##### **FA 9.1 FIRE EXTINGUISHER SYSTEM.**

20 lbs/(9.1Kg) SFI 17.1 Mandatory. Fire extinguishing system required to be of an accepted medium. System to be split so as to discharge both into the engine compartment and into the driver's compartment by means of atomising nozzles. System to be installed following manufacturers recommendations.

Fire bottle activation cables to be protected (ie installed inside frame rails) where cables pass engine/bellhousing area. Fire bottle must be mechanically operated. **All** Cars are required to have a SFI 17.1 certified system. Actuation handles such as 'plastic' or any other material likely to melt in the event of a fire are prohibited.

## **FA 9.2 TOW VEHICLES.**

Permitted.

## **FA 9.3 WARM UPS.**

See GSR 9:4

## **FA 9.4 DRIVER RESTRAINT.**

All cars must be equipped with an SFI Spec 16.1 driver restraint system with fire resistant covering, including an anti-submarine belt (crutch strap).

Fire suit, over boots & gloves to be to SFI spec 3.2A20 for All Cars. Helmet must be of a specification suitable for the fuel type and application used. Arm restraints and neck collar to SFI Spec 3.3 are required. SFI 38.1 or FIA Homologated head and neck restraints device **mandatory** for all vehicles that exceed 200 mph.

## **FA 9.5 APPEARANCE.**

All participating cars should be presentable in appearance at all times, vehicles not meeting this requirement may be excluded from running. The same consideration should be given to the participant crew who should be fully attired at all times when in the staging, start line or competition areas of the race track.

Apart from the safety aspects, which are mandatory for MSA sanctioned events and tracks, a prime function of the Regulations is to contain the costs of running in the Class, so as to ensure continuity, year on year.

## TOP METHANOL FUNNY CAR

For this class the current FIA Top Methanol Funny Car rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time.

### DESIGNATION

TMFC or TMFC preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Reserved for methanol-burning Funny Cars, built specifically for drag racing competition, meeting FIA International Top Methanol Rules. Cars are weighed at the conclusion of a run including driver.**

## TOP METHANOL DRAGSTER

For this class the current FIA Top Methanol Dragster rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time.

### DESIGNATION

TMD or TMD preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Reserved for methanol-burning Dragsters, built specifically for drag racing competition meeting FIA International Top Methanol Dragster Rules. Cars are weighed at conclusion of run including driver.**

## PRO STOCK

For this class the current FIA Pro Stock rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time.

### DESIGNATION

PRO, preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Reserved for 2-door coupes or 2-door sedans**

## PRO MODIFIED

For this class the current FIA Pro Modified Car rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time.

### DESIGNATION

PM, preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Supercharged, methanol-burning or nitrous-oxide-injected, gasoline-burning full-bodied door vehicles. All entries must be self-starting with onboard starters.**

## TOP FUEL FUNNY CAR

For this class the current FIA Funny Car rules in FIA Yearbook with its changes in the monthly FIA Bulletin applies all the time with the exception that the chassis can conform to SFI spec 10.1 (with the January amendment) as well as SFI spec 10.5. For 2012 SFI Spec 10.5 will be mandatory.

### DESIGNATION

FC, preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Reserved for Nitromethane burning Funny Cars built specifically for drag racing competition.**

## TOP FUEL DRAGSTER

For this class the current FIA Top Fuel rules in FIA Yearbook with its changes in the monthly FIA bulletin applies all the time.

### DESIGNATION

TF, preceded by car number.

For Starting numbers: **See GSR: 7.3**

**Reserved for fuel-burning Dragsters, built specifically for drag racing competition, meeting FIA International Top Fuel Rules.**

# CHARTS & FORMULAS

**Displacement** = bore x bore x stroke x .7854 x # of cyl.

## Volumes:

bore x bore x 12.87 x depth of deck clearance = volume (cc's) of deck clearance

bore x bore x 12.87 x thickness of head gasket = volume (cc's) of head gasket

**Compression Ratio** = 
$$\frac{\text{Comb Chamber CC's} + \text{Gasket CC's} + \text{Deck CI CC's} + \text{Displacement} \times *2.0483}{\text{Comb Chamber CC's} + \text{Gasket CC's} + \text{Deck CI CC's}}$$

\*2.0483 for 8 cyl. \*2.7311 for 6 cyl. \*4.0967 for 4 cyl.

$\pi$  = pie  $\pi$  = 3.1416  $\text{radius}^2$  = radius x radius

**Circumference** =  $\pi$  x diameter

**Area of Circle** =  $\pi$  x radius<sup>2</sup>

**Volume of Cylinder** =  $\pi$  x radius<sup>2</sup> x height

## Weights

Oil 1 gallon = 8.33 lb

Petrol 1 gallon = 7.4 lb

Nitro 1 gallon = 11.25 lb

Alcohol 1 gallon = 8 lb

Water 1 gallon = 10 lb

Above weights are for UK gallons 1.19 US gall = 1 UK gall

Titanium is 57% of weight of steel

Aluminium is 35% of weight of steel

Magnesium is 22% of weight of steel

## METRIC & STANDARD CONVERSION

### Length

1 Kilometre = 1000 metres = 3,280.83 ft = .6215 mile

1 Metre = 100 centimetres = 39.37 in = 1.09 yards

1 Centimetre = .3937 inch

1 Mile = 1.609 kilometres

1 Yard = .91 metres

1 inch = 2.54 centimetres

1 inch = 25.4 millimetres

### Mass

1 kilogram = 1,000 grams = 2.2045855 lbs

1 lb = 453.6 grams

1 ounce = 28.35 grams

lbs x 2.20 = kilos

kilograms/2.20 = lbs

### Volume

1 litre = 100 cubic centimetres = 61.025 cubic inches

1 cubic inch = 16.387 cubic centimetres

## Contact Names

### **FEDERATION INTERNATIONALE DE L'AUTOMOBILE**

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CH - 1215 Genève 15

Switzerland

Tel : 0041 22 544 44 00 Fax:: 0041 22 544 44 50

### **THE MOTOR SPORTS ASSOCIATION (MSA)**

Motor Sports House, Riverside Park

Colnbrook, Slough, SL3 0HG

Tel: 01753 681736 Fax: 01753 682938

### **DRAG STRIPS**

#### **SHAKESPEARE COUNTY RACEWAY**

Long Marston Airfield, Long Marston

Stratford-upon-Avon

CV37 8LL

Tel: 01789 720180 Fax: 01789 720001

E-mail: [enquiries@shakespearecountyraceway.co.uk](mailto:enquiries@shakespearecountyraceway.co.uk)

Web : [www.shakespearecountyraceway.co.uk](http://www.shakespearecountyraceway.co.uk)

#### **SANTA POD RACEWAY**

Unit 5, Airfield Road

Podington, Wellingborough

Northants, NN29 7XA

Tel: 01234 782828 Fax: 01234 782818

Email: [info@santapod.com](mailto:info@santapod.com)

Web: [www.santapod.com](http://www.santapod.com)

### **DRAG RACING CLUBS**

#### **AVON PARK INTERNATIONAL RACERS ASSOCIATION**

c/o Shakespeare County Raceway

Long Marston

Stratford-upon-Avon

Warks CV37 8LL

Tel 01789 720180 Fax 01789 720001

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Web : [www.apira-org.net](http://www.apira-org.net)

#### **SANTA POD RACERS CLUB**

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# DRAG RACING RULES

## BIKES

### INDEX

#### Page

160	General Regulations	GR
165	The Basics of Drag Racing	
167	Race Procedures	RPS
173	Points & Related Programmes	
175	GENERAL SAFETY REGULATIONS	
176	Engine	GSR1
178	Drive Train	GSR2
179	Brakes & Suspension	GSR3
179	Frame	GSR4
180	Tyres & Wheels	GSR5
180	Seat	GSR6
180	Body	GSR7
180	Electrical	GSR8
181	Support Group	GSR9
181	Rider	GSR10
183	CLASS REGULATIONS	
184	9.50 Bike	SB
186	Super Street Bike	SS
188	Pro Stock Bike	PS
191	Competition Bike	CB
193	Funny Bike	FB
196	Pro Modified Bike	PM
199	Top Fuel Bike	TF
202	Junior Drag Bike	JRB
203	Super Twins	ST
210	Charts & Formulas	
211	Contact Names - Bikes	

# MOTOR CYCLE DRAG RACING GENERAL REGULATIONS

## GR 1 ORGANISATION

**GR 1.1** The National Sporting Code of the Auto Cycle Union (incorporating the provisions of the International Sporting Code of the FIM) and any subsequent amendments officially promulgated and issued and these Specific Regulations shall apply.

**GR 1.2** Unless stated hereafter Organisers must comply with chapter 3 of the National Sporting Code.

## GR 2 OFFICIALS AND THEIR DUTIES

**GR 2.1** Unless stated hereafter, Officials must comply with chapter 5 and 6 of the National Sporting Code.

**GR 2.2** The Race Director shall have the same responsibilities, duties and powers of a Clerk of the Course and absolute discretion in general conduct and control of the event and the application of penalties for any infringement by participant or machine.

**GR 2.3** Subject to the prescriptions of the National Sporting Code the decision of the Race Director and/or Event Director shall be final.

## GR 3 COMPETITORS

**GR 3.1** Unless stated hereafter, Competitors must comply with chapter 7 of the National Sporting Code.

**GR 3.2** Participant shall be deemed to be any person within the meaning of chapter 7 of the National Sporting Code.

**GR 3.3** The display of any identification, badge or pass will be deemed to identify the person concerned with the participant and will imply their acceptance of these regulations.

## GR 3.4 LICENCES-COMPETITORS

### GR 3.4.1 General

1. In order to participate in Drag Racing events a licence issued by the ACU is required. Scottish residents apply to the Scottish ACU.
2. A licence can be upgraded at any time during the year, providing the correct criteria have been complied with to the satisfaction of the Clerk of the Course.
3. The parent or legal guardian must accompany all competitors under 18 years of age to every meeting. This person must attend at signing on and be present throughout the meeting.
4. A Clubman Licence will be issued to all new or existing riders to include a record card which will be completed by

the Clerk of the Course on completion of the requirements set out below.

5. Any rider competing on a new bike to him/her must first complete single runs to the satisfaction of the Clerk of the Course.

### **GR3.4.2 GRADES**

#### **1. Clubman**

This is the entry level for first time applicants for Category 1 or Category 2 machines.

#### Category 1 – Riders 16 years of age and over

8.50

9.50

Super Twin Top Gas (STG)

Super Twin ET Bracket (SET)

Clubman licence holders may compete on a Category 1 machine once they have completed the following requirements to the satisfaction of an ACU Clerk of the Course.

- Be conversant with the start and race procedure.
- Complete a 55 yard launch.
- Make a half pass (1/8 mile) under power to the satisfaction of the Clerk of the Course.
- Make a full run (1/4 mile) representative of the performance expected within the category.

All tasks must be made as single runs during qualifying sessions at an ACU recognised drag race meeting or under the control of an ACU licensed National or International Drag Race Clerk of the Course at RWYB events.

The Clerk of the Course may request the rider to repeat tasks until they are satisfied that a safe standard has been achieved, which may take more than one race meeting and is at the sole discretion of the Clerk of the Course.

The ¼ mile pass will count towards qualifying at an ACU recognised event.

#### Category 2 – Riders 16 years and over

Super Twin Top Fuel

Super Street Bike

Competition Bike

Pro Stock Bike

Funny Bike

Top Fuel Bike

Clubman Licence holders are not eligible to compete on Category 2 machines. They are permitted to ride a category 2 machine to complete the tasks required to up-grade to a National licence as detailed below.

## **2 National**

Clubman licence holders who have completed the following tasks to the satisfaction of an ACU National or International Clerk of the Course and whose record card has been endorsed by the Clerk of the Course for each task completed may apply to upgrade to National.

- Be conversant with the start and race procedure.
- Perform a burnout and launch correctly.
- Make a half pass (1/8 mile) under power to the satisfaction of the Clerk of the Course.
- Make a full run (1/4 mile) representative of the performance expected of the category.

All tasks must be made as single runs during qualifying sessions at an ACU recognised drag race meeting under the control of an ACU licensed National or International Drag Race Clerk of the Course.

The Clerk of the Course may request the rider to repeat tasks until they are satisfied a safe standard has been achieved, which may take more than one race meeting and is at the sole discretion of the Clerk of the Course.

National licence holders who have competed at 3 ACU permitted events may apply for Start Permission to compete abroad.

## **3 International**

National Licence Holders who have held their National Licence for 12 months may apply for an FIM Non- Championship Licence. A medical examination is required.

## **4 International Championship**

A National Licence holder who has held their National Licence for 12 months may apply for a UEM or FIM Championship Licence as described in the appropriate Sporting Code. A medical examination is required.

### **LAPSED LICENCES**

Clubman or National Licence holders who have allowed their licence to lapse for more than 3 years will be re-issued with a **CLUBMAN** Licence and will be required to complete the criteria set out above to retain the Clubman licence or up-grade to the National Licence.

**GR 3.5** Entrants and Riders must ensure they have a Medical Certificate valid for the event and category of vehicle.

**GR 3.6** The Race Director may forbid a rider to take part in competition for reasons of safety or any apparent deficiency in performance.

**GR 3.7** A rider may not ride more than one machine in the same category at the same event.

**GR 3.8** Any rider deemed to have ridden in a manner not compatible with general safety or whose behaviour or actions is prejudicial to the interests of the organisers or motor sport generally may be immediately excluded from the meeting.

Any participant who, in the sole and absolute judgement of ACU, 1) verbally or physically threatens another participant or other person, 2) uses vulgar or derogatory language, 3) engages in unsportsmanlike conduct or conduct detrimental to the sport of racing, or 4) otherwise creates a condition or circumstance which is unsafe, unfair, or out of order, shall have violated the rules and regulations of the ACU. See also chapter 10 in the National Sporting Code.

**GR 3.9** For protest procedures see chapter 11 of the National Sporting Code.

**GR 3.10** For appeal of disciplinary and other actions see Chapter 11 of the National Sporting Code of the 2001 ACU Handbook.

**GR 3.11** For substance abuse policy see Chapter 9 of the National Sporting Code of the 2001 ACU Handbook.

## **GR 4 VEHICLES**

**GR 4.1** Unless stated hereafter, machines must comply with Drag Racing section of the ACU Handbook.

**GR 4.2** Classification, unless otherwise stated in the SR's, shall be as prescribed in the Class regulations.

**GR 4.3** Annual registration of machines and riders with Organising Clubs is mandatory.

**GR 4.4** Registration/Entry forms must be submitted on the official Race Vehicle Registration/Entry forms issued by each Organising Club.

**GR 4.5** Re-registration may be required for any change made to the classification of machine.

**GR 4.6** Vehicle may be given a permanent race number for the year.

**GR 4.7** Numbers must be displayed in accordance with the specific class format; affixed in such a way to ensure their durability and legibility and be of sufficient contrast to their background. They shall be subject to the approval of Chief Timekeeper.

**GR 4.8** The naming of machine will be subject to the approval of each Organising Club. Duplication of names will not be permitted.

**GR 4.9** Decals must be displayed as required by the event or series organiser.

**GR 4.10** Machines must be in clean and presentable condition throughout an event. Personnel attending a competing vehicle should be aware of the same considerations.

## **GR 6 SCRUTINEERING**

**5.1** In presenting a machine for scrutineering, entrants will be deemed to have accepted the conditions of entry and these regulations and that the machine and personnel within their jurisdiction will comply with the regulations throughout the meeting.

Prior to competition, all machines and riders must pass a technical and safety inspection. Contestants in all classes calculated by weight to litre (cubic centilitres) must claim calculated engine displacement to determine exact bike weight on a sticker. Any engine changes made must be reported to the chief technical scrutineer for proper registration before any further runs are made.

Each participant expressly agrees that by entering an event conducted at a ACU permitted event, the participant agrees to be bound by all of the decisions, rules and regulations of ACU, including all procedures provided for in this rule book, the ACU Handbook, and by decisions, rules and regulations which are applicable to a particular event. The participant agrees to be bound by and abide by the decisions of the ACU Stewards, Event Director, Clerk of the Course, Race Director, and their designees and other officials at ACU permitted events.

**GR 5.2** Entrants may be required to sign mandatory indemnities.

**GR 5.3** No machine is permitted to take part in practice or a race without the approval of the Chief Scrutineer.

**GR 5.4** Race Director may require:-

**GR 5.4.1** the eligibility of an entrant, rider or machine to be checked at any time or prescribed place before or during the meeting or afterwards subject to the entrant being notified not later than half an hour after the publication of a valid provisional result.

**GR 5.4.2** a machine to be re-scrutineered at any time throughout the meeting.

**GR 5.4.3** after a competitor's machine has been inspected and classified, no changes of class are permitted.

**GR 5.4.4** the right is reserved at any time to inspect, seal for inspection and/or tear down a participant's machine.

**GR 5.4.5** a machine to be dismantled to ensure it complies with the regulations.

**GR 5.4.6** an entrant to supply such components and or samples as may be required.

Participants hereby grant ACU and its organising clubs and its assignors the full and unconditional permission to collect and retain machines, parts of machines, equipment, or any other items used in conjunction with participation owned by or in the possession of participant, including such machines, parts of machines, equipment, or any other items which have been involved in accidents when ACU and its assignors determines in its sole and absolute discretion that such actions are necessary to the investigation of an accident, the inspection or testing of such machines, parts, or equipment, or for any other purpose.

**GR 5.4.7** a rider to be medically examined for reasons of safety.

## **The Basics of Drag Racing**

### **WHAT IS A DRAG RACE?**

In basic terms, a drag race is an acceleration contest from a standing start between two vehicles over a measured distance. The accepted standard for that distance is either a quarter-mile (402.336m) or an eighth-mile (201.168m). These contests are started by means of an electronic device commonly called a "Tree". Upon leaving the starting line, each contestant activates a timer which is, in turn, stopped when the same vehicle reaches the finish line. The start-to-finish clocking is the vehicle's ET (elapsed time), which serves to measure performance and often serves to determine handicaps during competition.

### **WHO CAN COMPETE?**

Virtually anyone can compete in drag racing. Riders are required to have a valid ACU Licence, and must be capable of the safe operation of the machine. The machine must meet basic safety criteria. This applies to most streetable type motorcycles. Faster, all-out race machines must meet more stringent requirements as outlined throughout this rule book, and riders must hold the appropriate ACU Licence.

### **WHO WINS WHAT?**

A drag racer's primary objective is to become the overall winner of the category of competition in which his/her machine is classified. A series of two-bike, tournament-style elimination's are conducted. The losing vehicle in each race is eliminated, while the winning riders progress into succeeding rounds of competition. This series of races continues until one winning rider remains. That rider is declared the category's winner.

### **RESPONSIBILITY**

Prime responsibility for the condition and operation of a machine in competition rests with the machine's owner and rider. The track operator's and the organising clubs main concern is that of providing a place to conduct events. ACU produces guidelines based on experience gained in the production of events each year

and circulates valid information to help perpetuate the sport and maintain good organisation. Total responsibility for drag racing's progress, however, must be shared by everyone associated with the sport. Close observance of the standards set forth in this rule book, the ACU Handbook and the International Code of the FIM is an important fundamental.

## **ET HANDICAPPED RACING**

While some racers choose to race vehicles they build to certain specifications to fit into a certain ACU class (outlined elsewhere in this rule book), at some events categories may be divided on the basis of performance or ET (elapsed time) Brackets. This is known as ET Handicap racing.

In this form of racing, two vehicles of varying performance levels can race on a potentially even basis. The anticipated elapsed times for each vehicle are compared, with the slower bike receiving a head start equal to the difference of the two. With this system, virtually any two vehicles can be paired in a competitive drag race. For example: bike "A" has been timed at 11.78, 11.74 and 11.76 seconds for the quarter-mile (402.336m), and the rider feels that a "dial-in" of 11.75 is appropriate. Meanwhile, the rider of bike "B" has recorded elapsed times of 10.27, 10.22 and 10.26 on the same track and he has opted for a "dial-in" of 10.25. Accordingly, bike "A" will get a 1.5-second head start over bike "B" when the "Tree" counts down to each bike's starting green light. If both vehicles cover the quarter-mile in exactly the predetermined elapsed time, the win will go to the rider who reacts quickest to the starting signal. That reaction to the starting signal is called "reaction time". Both lanes are timed independently of one another, and the clock does not start until the vehicle actually moves. Because of this, a vehicle may sometimes appear to have a mathematical advantage in comparative elapsed times but actually lose the race. This fact makes starting line reflexes extremely important in drag racing.

## **THE STARTING SYSTEM**

Essentially, drag racing is a pairing of two vehicles against one another in a race through a straightaway course. Hence, the start is the key to its uniqueness, because all races start from a standstill. Today's modern starting system, commonly referred to as the "Tree", is a product of continued development, designed to provide each competitor with the fairest start possible. The system features a vertical series of lights, displaying a visual countdown for each driver. Most riders try to make their move between the last amber light going off and the green light coming on. Technique in staging and starting is one of the most vital skills a drag racer can develop, since a majority of races are won or lost at the starting line. Close observation and lots of practice pays off.

## **TIMING METHODS**

Two separate performances are monitored for each run: the elapsed time and the speed. On an elapsed time run the bike first leaves the starting line, connecting the beam which activates the electronic timer. As the bike continues through the course, the timer records the elapsed seconds and fractions of seconds until the bike breaks the finish line beam and stops the timer. Top speed

is determined by the bike breaking one additional light beam, at the finish line.

### **WHAT IS "BREAK-OUT" AND/OR "RED LIGHT"?**

Should a rider go quicker than his/her predetermined ET "dial-in" it is a "break-out," and grounds for disqualification. In the case of both vehicles making runs under their dial-ins, the win goes to the rider who breaks out the least. Another form of disqualification is a foul start (or "red-light"). This happens when the rider reacts to the "Tree" too quickly and moves away from the starting line before the green "go" signal. Should dual infractions occur, say a red-light and then a break-out, the red-light would be classified as the worst infraction.

### **FINAL TEXT**

The final text for these regulations shall be the English version should any dispute arise over their interpretation.

## **RACE PROCEDURES**

### **RPS 1.1 ACU COMPETITION NUMBERS**

All contestants in ACU/UK Drag Bike Championship are required to display a permanent driver number at all ACU Drag Bike Championship events and all other events. Numbers are issued to riders only and are available from ACU through ACU Championship Co-ordinator, Ian King, 11 Cockhall Close, Litlington, Royston, Herts, SG8 0RB Fax: 01763 852707 Mobile: 07785 341099. Racers must have a separate number for each eliminator category.

### **RPS 1.2 OTHER CLASS COMPETITION NUMBERS**

All contestants in other classes are required to display a permanent rider number at all other events. Numbers are issued to riders only and are available from organising clubs. Racers must have a separate number for each eliminator category.

### **RPS 2.1 BURNOUTS**

All pre-race burnouts are restricted to designated areas, using water only. If a contestant's machine should break on a burnout and cannot back up or be pushed back, it is not permitted to turn on the track and ride back to the starting line. Crossing the centre line during a burnout is not a disqualification. Fire burnouts are strictly prohibited. No person is permitted to hold or touch bikes during burnouts.

Top Fuel bike and Funny Bike allowed one burnout across the starting line under power. Length and time duration must be reasonable and in concert with the opponents procedures. Comp Bike, Pro Stock, Super Street, 9.50 Bike & 10.50 Bike may not cross the starting line on any burnout; stationary burnout limit: Five seconds.

## **RPS 2.2 STAGING**

Once a bike reaches the front of the staging lanes for a run, it must be prepared to fire and race. With the exception of machines running with Nitromethane as a fuel, riders are only allowed to restart their engines once after a burn-out. Machines running with Nitromethane as a fuel are not allowed to restart their engines after a burn-out. In order to be a legitimate race winner, a contestant's bike must self-start and self-stage. This rule also applies to single runs. Push-starting or push-staging a machine is prohibited. Staging must be done under the machine's own engine power.

The application or use of any device, mechanical or electronic, that permits the rider to ascertain the position of their machine in relation to the starting line is prohibited. Only visual observation of track equipment may be used to ascertain the machine's position.

The practice referred to as "deep staging is prohibited in the 9.50 bike and 10.50 bike categories (permitted in all other categories). Both pre-stage and stage lights must be activated to constitute a legal start in those categories. In dual deep-stage situation, both competitors will be disqualified- except in the final round of competition, in which case the two finalists will be rerun. When staging for all bike classes both contestants must have their pre-stage lights activated before either may advance into the stage beams, however if the first rider has activated both the pre-stage and the stage beams and the second rider chooses to go into both the pre-stage and the stage beams the official starter can declare it as a legal start. If both riders of a race leave the line before the start system is activated-both are disqualified. A rider on a single run leaving before the starting system is activated would advance, however, any ET's posted would be void for lane choice or other considerations. THE FINAL STAGING MOTION, USING APPLIED POWER, MUST BE IN A FORWARD MOTION GOING FROM PRE-STAGED TO STAGED POSITION.

A reasonable amount of time will be allowed for riders to stage. The time limit will be determined in the sole and absolute discretion of the Official Starter. Failure to stage upon the Starter's instructions is possible grounds for disqualification. After proper staging and receiving the Starter's signal to go, it is not allowable to re-stage for a second time. Any rider leaving the starting line before the start system is activated, including riders on a single run, will have their time disqualified for the run.

## **RPS 2.3 STARTING SYSTEM**

All classes utilise the three-amber "Pro Start" Tree. All amber lights are activated simultaneously, with a four-tenths of a second delay to green.

## **RPS 3.1 QUALIFYING**

In order to constitute an official qualifying attempt, all bikes must self-start and self-stage. Competitors must have a valid elapsed time recorded under engine power to be placed into eliminator competition whether the first round ladder pairings are determined by qualification times or by random selection. A contestant cannot ride more than one machine in the same category at the same

event. Machines must remain in the category entered, with one registered rider for the duration of the event. The Event Director / Clerk of the Course has the option of allowing rider or machine changes, but only under the following conditions:

1) All previous event times are void for machines and riders involved.

2) Machines must pass a technical and safety scrutineering inspection.

3) Changes must be made, and rider must re-qualify, during the normal schedule, as posted, for the event. No changes are permitted after qualifying has been completed.

4) Rider must stay within original eliminator category entered, and have proper credentials to ride replacement machine.

5) Only one change permitted during the course of an event.

Replacement machines must be of same class and category.

In the event of identical qualifying elapsed times in ACU National Championship classes the rider with the faster top speed, recorded on the qualifying runs in question, will be awarded the higher qualifying position.

Qualifying order for 10.50 bike and 9.50 bike and in ET Bracket classes; for all riders that have an ET that is the same as the class index/personal dial-in index, or slower, the time closest to that index is used to determine qualifying position. For riders that have E.T.'s that are quicker than the class index/personal dial-in index, the slowest time is awarded the higher qualifying position.

In the event of identical qualifying elapsed time within 1/1000 of a second, the rider who made the run first will receive the better qualifying position. If qualifying can not take place, random pairing will be used.

There will be compulsory alternate lane qualifying. If weather conditions or other event delays should disrupt posted lane rotation for qualifying runs, the Race Director/Event Director has the option of reassigning lanes as necessary for remaining runs. Every effort will be made to see that qualifying contestants have the opportunity to run in each lane.

In ACU Championship classes in the event of a qualifying session being interrupted or abandoned by bad weather, the following conditions will apply. If less than 75% of the total number of competitors entered in a class have made qualifying runs, the emergency qualifying times will be used. If more than 75% have made qualifying runs then EQT's will only be used for the competitors who were unable to run. Everyone else will be paired by the qualifying times they were able to record. A record of ACU Championship EQT's will be maintained by the ACU Championship Co-ordinator and will be the competitors quickest time from the past two ACU Championship meetings. In the case of one or more identical times arising in the same class, the next quickest time will be considered, with the lowest ET taking precedence in the pairings selection. When no previous ET has been recorded, competitors concerned will assume the lowest positions in their class if there are vacant spots. When qualifying positions are determined by EQT's their field will be on an all run basis.

### **RPS 3.2 LADDERS**

Prior to the first round of any elimination, pairings will be displayed. Any queries concerning pairing must be taken up with the Race Director/Event Director not later than one hour before racing is scheduled to start. All classes will be given adequate notice of their running time. All elimination pairs must be run in the order of the ladder.

At non-Championship events there may be two methods of establishing first round pairings. This would be either by qualification elapsed times or by random selection of first round pairings. Supplementary Regulations will specify which method is to be used at those events.

Professional ladders will be used. Top Fuel bike will be operated on all qualified basis. All other classes will have set field sizes based on the number of qualified riders as follows:

2-3 Qualifiers	2 bike field
4-5 Qualifiers	4 bike field
6-12 Qualifiers	8 bike field
13-24 Qualifiers	16 bike field
24+ Qualifiers	32 bike field.

### **RPS 3.3 BREAK-OUT RULES**

In 9.50 bike and 10.50 bike classes, the break-out rules are enforced at any event except as follows:

- 1) When an opponent foul starts or crosses a boundary line.
- 2) on a single run.
- 3) When both riders run under their Index, the rider that is the least under is the winner.
- 4) If two contestants run under by the same margin (with elapsed times extended to a thousandth of a second), the rider crossing the finish line first is the winner.

### **RPS 3.4 SINGLE RUNS**

In situations where a rider is making a single run, he is considered the winner once he stages and receives the start signal. If a competitor crosses the boundary line on a single run, the elapsed time is voided for lane choice determination.

### **RPS 3.5 ALTERNATES**

Once qualifying has concluded and a ladder has been established, pairings will not be changed. However, should a qualified machine and rider be unable to make the first round of eliminations ( not reach the bleach box), an alternate will be inserted in their place. The quickest non-qualifier will take the first available space, the second quickest non- qualifier the next available space and so on. When and if this would happen is at the sole discretion of the Race Director/Clerk of the Course.

### **RPS 3.6 LANE CHOICE**

In ACU Drag Bike Championship classes, lane choice is determined by elapsed times. The rider with the better qualifying ET gets first-round lane choice, and in subsequent rounds, lane choice goes to the rider with the lower ET in the previous round. The rider with the quickest time from the preceding round will be allowed to inspect the start line, if required, immediately prior to the running of his/her class. In all other categories, competing riders are to determine lane choice by a coin flip or a random draw lane assignment, except where stated otherwise in championship regulations. In the event of both competitors having previous ET's voided, lane choice would be determined by a coin flip,

### **RPS 4.1 DISQUALIFICATION:**

One of the rarities at an event is the situation in which two bikes are disqualified during the same elimination race. In most cases, both offending contestants are disqualified. Those situations include both riders crossing the boundary lines, or both riders leaving the line before the start system is activated.

Should a rider receive a red-light foul start, and the opposing rider cross the lane boundary line, the latter infraction would prevail and the rider committing the foul start would be reinstated. In determining lane boundary crossing violations, it is considered a disqualification when any portion of a tyre completely crosses the painted line surface. In cases where both opponents cross the centre line or outside line, both riders will be disqualified. In situations where multiple boundary lines are utilised, the line directly adjacent to the competitors racing lane will be used for reference. Anytime it has been judged that excessive braking has resulted in the loss of control as to cause contact with the guard-rail, light fixtures, or crossing the centre boundary lines - INCLUDING PAST THE FINISH LINE - the contestant will be disqualified. Intentional crossing of boundary lines to leave track or avoid depositing debris on track is not grounds for disqualification.

Additional grounds for disqualification, fines, suspensions, and/or expulsions are: 1) contact with guard-rail, barriers, or any other track fixture (rubber cones when used are considered visual aids, not fixtures); 2) unsportsmanlike conduct, improper language, or conduct detrimental to racing; 3) any condition considered unsafe, unfair, or out of order. If a rider is disqualified during competition for any reason prior to the actual start of a race, he cannot be reinstated; 4) Pushing the machine over the finish line to be determent the winner is not permitted.

Any rider and/or pit crew member found to be under the influence of alcoholic beverages or drugs, regardless of amount, will be ejected from the event. Such a condition is cause for suspension, fine and/or revocation of competition privileges.

Refer to National Sporting Code of the ACU regarding penalties, protests and appeals.

### **RPS 4.1.1 BLUE LINE**

Any crew member of a machine touching the machine or the rider after the front wheels have crossed the blue line in the starting line area will receive an automatic disqualification for that machine.

## **RPS 5.1 NATIONAL DRAG RACING RECORD PROCEDURES**

The standard of excellence of performance in drag racing is the setting of National Records. Each recorded run is made under close observation of starting procedures, running, finish, and timing. Each machine is thoroughly inspected to determine its compliance with class requirements, including weight, engine displacement, mechanical limitations, and fuel checks where necessary. The ACU Scrutineers' decision in this respect is final.

Records can only be set during qualifying or eliminations, and only until the rider is eliminated from further competition, practice run performances will not count.

In a sport where records play such a vital role, every effort is made to maintain their accuracy and validity. In order to ensure the validity of all new records, a backup performance of within one percent of the new mark is required at the same event. In the event that two runs exceed the existing record but are not within one percent of each other, the quicker time or faster speed will be acceptable as the backup for the slower time, which will stand as the new record.

Elapsed time records will be recorded and listed to the thousandth of a second. Speed records will be to the hundredth of a mile-per-hour. If two contestants tie for the elapsed time record to the thousandth of a second at the same event, the tie-breaker will be the fastest mile-per-hour reading for the run that established the record. In the event a tie still exists, the contestant accomplishing the record run earlier in the event will be awarded the record. If the record is tied at a later race, the record will stay with the rider who set it first. Similarly, if two contestants tie for the speed mark, the tie-breaker will be the quickest elapsed time on the run that established the new National Record. Speed marks may be set independent of elapsed time record.

Only the rider holding the record at the conclusion of the event will be credited with the record. A rider setting and then losing a record at the same event will not receive credit for establishing a record or receive points for doing so.

### **RPS 5.2 TIMING EQUIPMENT**

A full electronic timing system is required, incorporating a handicap facility, individual Elapsed Time and Terminal Speed details for each lane, accurate to .001 second and .01 mile per hour (.016 km/h) respectively.

A full "Christmas Tree" starting system should be used, **with three amber lights.**

- a) Pre-Stage Beam: Located 7 inches (17.8 cm) before the Stage Beam. Its only purpose is to show the competitor that the machine's front wheel is approaching the Stage Beam.
- b) Stage Beam: Located 16 inches (40.6 cm) before the Guard Beam, it indicates that the machine is in the correct position for the start. The Stage Light should activate when the leading edge of the machine'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.
- c) Guard Beam: Ensures that no machine 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.
- d) Finish Line Beam: The Elapsed Time Beam is located at the Finish Line.
- e) Speed Traps: These are located 66 feet (20.12 m) prior to and at the Finish Line in each lane.
- f) Photocell Heights: Ideally, light sources 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 equal for both lanes, and all beams should be parallel.

## **POINTS AND RELATED PROGRAMMES CHAMPIONSHIPS / SERIES**

Contestants in the ACU Drag Bike Championship:-

Attendance points: Each competitor who has been scrutineered and signed on - 100 points.

Qualifying positions earn points as follows - 10 points will be allocated per qualifying position from the last qualifier upwards, i.e. last qualifier 10 points, second from last 20 points and so on in increments of 10 points per position.

Elimination points: 100 points for each winning run.

Bonus points:           Event Low ET           25 points

                                  Event High TS           25 points

Championship Record ET           100 points

Championship Record TS           100 points

In the event of a rain off points are scored up to the last complete round of qualifying or elimination.

Ties: In the event of a tie between riders for first place in the Championship after the conclusion of all rounds, the winner will be determined as follows:-

a) The rider who has won the most races during the Championship. If there is still a tie, then:-

b) the rider who qualified highest at the final round of the Championship.

## SPORTSMAN CHAMPIONSHIPS / SERIES

Contestants in 9.50 bike:-

Points will be earned from qualifying as follows:

Beginning with 10 points for the bottom qualifier and increasing by 10 points per position up to position No. 2. The number 1 qualifying position then increases by 50 points.

An extra 50 points will also be earned if rider one time only during eliminations or qualifying hits their class index with a perfect time: i.e. 9.500 respectively.

Points for non-qualifiers: If a competitor cannot make it to the first round, or cannot qualify, she/he will earn 10 points if her/his entry form has been approved, and her/his bike has passed the scrutineering inspection at that event.

Elimination points awarded as follows:

	1st rd loser	2 <sup>nd</sup> rd loser	3rd rd loser	4th rd loser	5th rd loser	6th rd loser	7th rd loser	RU	WIN
2-4	100							200	400
5-8	100	200						300	500
9-16	100	200	300					400	600
17-32	100	200	300	400				500	700
33-64	100	200	300	400	500			600	800
65-128	100	200	300	400	500	600		700	900
129 <	100	200	300	400	500	600	700	800	1000

In the event of a rain off points are scored up to the last complete round of qualifying or elimination.

Ties: In the event of a tie between two or more competitors, the following sequence will be used to obtain a result:

1. Most win points
2. Most runner up points.
3. Most No. 1 qualifier points.

### POINTS GENERAL

All points are awarded to the rider and cannot be transferred under any circumstances. Points are not transferable from one category to another. No part of an event can be rescheduled.

Attempts to set Low Elapsed Time will not be permitted after qualifying ends, with the exception of those bikes remaining in category competition. The final run on which a rider is eliminated will be allowed as a Low Elapsed Time. For a rider to be eligible to earn points or prizes, they must display sponsors decals/stickers on their machines as requested by ACU, Organising Club, Promoter, and/or sponsor-championship co-ordinators.

**Any contestant disqualified for major mechanical non compliance loses all points for that particular event.**



temporary course certificate following an inspection of the course.

## **ENGINE: GSR1**

### **GSR 1:1 CAPACITY RESTRICTIONS**

See class regulations. Where the individual class regulations allow, supercharges and turbochargers are allowed up to 2000cc, normally aspirated engines are allowed up to 3300cc.

### **GSR 1:2 DRAIN PLUGS**

All drain plugs securing any liquid must be so fitted as to prevent any leakage, and positively locked against loosening, with wire.

### **GSR 1:3 ENGINE**

Car engines prohibited.

### **GSR 1:4 ENGINE RESTRAINTS**

V-twin motors running injected nitromethane must utilise cylinder head restraint or a ballistic type explosion blanket. Blankets must meet SFI spec.

### **GSR 1:5 FUEL LINES**

Fuel lines must be securely fitted at all joints and a quick action fuel tap must be within easy reach of the rider. Where nitromethane fuel is used in any percentage, a lanyard is mandatory to operate a spring loaded fuel shut off valve and must be situated on the entry side of the barrel valve, with means to completely cut off the fuel supply by handlebar control.

### **GSR 1:6 FUEL PUMPS**

Any make of fuel pump may be fitted. If electrically operated, the pump must be connected to the ignition switch so they are switched off with the ignition.

### **GSR 1:7 FUELS**

For petrol burning classes, the dielectric constant as per DC meter may be no greater than 4, and Propylene Oxide is prohibited. Octane boosters are permitted. For non-petrol burning classes, hydrazine and polypropylene oxide is not permitted; otherwise there is no limitation to the types of fuel permitted. Competitors should check the class regulations for any specific restrictions.

#### **GSR 1.7.1 Nitromethane**

It is mandatory that all nitromethane fuel must contain a marker dye that will change colour when the fuel becomes sensitised or contaminated. Due to impending legislation regarding the supply of nitromethane and its possible misuse by subversive organisations, the following measures have been agreed with the Special Counter Terrorism Security department of the Home Office.

- Any NM fuel container not in service (actually being used) shall not be within sight or reach of the general public. After use all NM fuel containers holding any measure of NM shall be hidden away.
- When a team vacates its pit area all NM fuels will be securely locked away or the pit area where the NM is stored is to be manned by an adult at all times to prevent unwanted intervention.
- All NM fuels are to be securely locked away overnight.
- Any NM container carrying marks such as; Fuel, Nitro, Nitromethane, NM, any numbers followed by the percentage sign (e.g. 88%), CH<sub>3</sub>NO<sub>2</sub>, UN1261, or any other marks indicating that the content is NM should have such marks removed and replaced with an alternative description and where necessary still conform to current hazard labelling requirements. (Consult fuel supplier if in doubt).
- Any possessor of NM must;
  - a). Refuse all requests to onward sell, supply or hand over NM to any persons, organisations or bodies not known to them.
  - b). Not donate, volunteer, lend, make available to or offer NM to any persons, organisations or bodies not known to them.
    - If you notice anything that you may be connected with terrorist activity...call the Anti-Terrorist Hotline without hesitation on 0800 789321.

### **GSR 1:8 NITROUS OXIDE INJECTION SYSTEMS**

Only gas storage cylinder certified for use at the working pressure of the system may be used (this also applies to any machine with a pressurised gas fuel system). All receiving cylinders should have rupture discs or safety valve to prevent over pressurisation. The bottle to solenoid supply pipe should be of a high quality braided steel hose attached to the frame at regular intervals. For any machine running Nitrous Oxide, the system must remain inoperable until the throttle is fully open. Any other switches must be wired through the throttle switch. The engine must be able to be cranked over without the ignition system operable to enable purging of any gas from the combustion chambers. A separately operated ignition arming switch must be fitted.

### **GSR 1:9 OVERFLOWS**

All breathers must terminate in a catch can/tank of 550ml minimum capacity or vent into the exhaust/induction system.

### **GSR 1:10 SUPERCHARGERS & TURBOCHARGERS**

It is recommended that a guard be fitted over the belt drive on superchargers mounted in front of the engine. Where a

supercharger is mounted behind the engine, such a guard is mandatory. Where a supercharger is chain driven, guard of 3mm thick dural or equivalent strength are the minimum requirement, irrespective of the position of the unit. Explosion proof ballistic restraint device fully surrounding the supercharger are highly recommended. Also see class regulations.

### **GSR 1:11 THROTTLE LINKAGE**

All motorcycles must have the throttle controlled by a hand operated twist grip, incorporating a positive acting spring attached directly to the carburettor throttle arm. The throttle must close automatically upon releasing the twist grip. For any motorcycle running nitromethane fuel, it is mandatory to have a positive return cable as well as a return spring i.e. a push-pull twist grip. Any machine running Nitrous Oxide, the system must remain inoperable until the throttle is fully open. Any other switches must be wired through the throttle switch. For nitro fuelled bikes with slider clutches a throttle locking device that will positively lock the butterfly to barrel valve linkage is mandatory. It is recommended that this device is located at the butterfly end of the linkage, however, a drilled throttle twist grip with locking pin is acceptable. This device is to be operated when the machine is being pushed back with the engine running. The locking device must be suitably flagged to clearly indicate when it is in use.

## **DRIVE TRAIN: GSR2**

### **GSR 2:1 GEAR SHIFT SYSTEMS**

Where individual class rules allow, timed gear shift allowed as long as present prior to run. Automatic gear shifting prohibited unless OEM of engine used. RPM gear shifting is strictly prohibited. Where the gear shift is air and/or electrically assisted all wiring and switches for this system must be separate from the main wiring harness and must be readily identifiable, traceable and accessible for inspection by the Technical Official. Except where clearly part of an ignition kill device, any part of the wiring in the gear shift system which, in the opinion of the Technical Officer, passes through, or is connected to a closed control box or unit of any type, will be grounds for disqualification. Speed sensing is only permitted from the driven wheel. Suspension travel and ride height sensing is not permitted.

### **GSR 2:2 PRIMARY TRANSMISSION**

If the clutch and/or primary transmission is exposed it must be fitted with a guard as a safety measure to protect the rider even as a result of breakage. The guard must be conceived in such a manner as to minimise the risk of a rider coming into accidental contact with these transmission parts and designed to protect the rider from injury. Outboard mounted clutches must have a cover

of at least 3mm aluminium or 1mm steel. Any suitable make or type of drive chain/belt may be installed.

## **GSR 2:3 DRIVE CHAINS AND GUARDS**

Any suitable make or type of chain may be used, but must be adequately guarded. Stock chain guards, or guards manufactured from 3mm Dural (or equivalent strength alternative) must be fitted to prevent the chain contacting the rider as a result of breakage.

## **BRAKES & SUSPENSION: GSR3**

### **GSR 3:1 BRAKES**

All machines must be equipped with at least one efficient brake per wheel, operating independently, and acting directly on the wheel. Hydraulic brakes may be fitted to any wheel, provided that the cylinders and lines are adequately protected from accidental damage. The hydraulic fluid reservoir must be mounted in such a position as to allow easy inspection of the fluid level. All disc brakes must be of the double calliper pattern, e.g. having brake pads on each side of the disc. Must be operable from normal riding position i.e. both hands on handlebars and feet on footrests. Any class of machine capable of 175 mph and above must be fitted with dual front discs of minimum 230mm diameter or single disc of minimum 295mm diameter.

### **GSR 3:2 SUSPENSION**

See class regulations.

## **FRAME: GSR4**

### **GSR 4:1 FOOTRESTS**

Unless original equipment is used the footrests should be of a minimum diameter of 19mm and ball ended.

### **GSR 4:2 FUEL TANKS**

All fuel tanks must be securely fitted to the machine and incorporate securely fitting filler caps. Metal tanks must be robustly constructed. Non Metallic fuel tanks - Non metallic fuel tanks must carry an international standard mark for the purpose for which it is being used e.g. SFI., ISO.

### **GSR 4:3 HANDLEBARS & CONTROL LEVERS**

Any type or make of handlebar may be fitted at the owners discretion. It is compulsory to fit lock stops to ensure a minimum clearance of 25mm between the handlebars and any other part of the machine, to prevent trapping of the rider's hands. The minimum angle of rotation either side of the centre line or mid point is 20 degrees. Handlebar grips, if fitted, must be securely attached. *It is recommended that all control levers be of the ball ended type. Once the engine is running a competitor should be able to engage or disengage gear without removing either hand from the handlebars.*

## **TYRES & WHEELS: GSR5**

### **GSR 5:1 TYRES**

The minimum cross section of tyre allowed for any class is 50mm. Dust caps must be fitted to all tyre valves. For Street tyre classes readily available street tyres only, 1mm minimum tread depth, slicks, hand cut clicks and tyres marked 'Not for Highway use' not allowed. Any tyre which, in the opinion of the Scrutineer, bears any signs of having sidewall markings or lettering tampered with will be grounds for immediate exclusion of the rider from the event.

### **SEAT: GSR6**

See class regulations.

## **BODY: GSR7**

### **GSR 7:1 APPEARANCE**

All machines must be of presentable appearance at all times. Entries may be refused where appearance is not considered to be up to the general standards of competition.

### **GSR 7:2 GROUND CLEARANCE**

Where no particular class rules apply, immediately after a run the machines must have a minimum ground clearance of 50mm with the rider sitting on the machine in the normal riding position with their feet off the ground. Failure to comply will result in disqualification of the run.

### **GSR 7:3 NUMBERS**

Competitors should display their class and vehicle numbers to the rear and each side of the motorcycle, in numbers and letters at least 75mm high.

### **GSR 7:4 STREAMLINING**

There must be a clearance of at least 20mm between the streamlining and the extremities of the handlebars or steering device, including any attachment thereto, whatever the position of the handlebars. It must not be possible for the front wheel to make contact with the streamlining whatever the position of the handlebars. The streamlining must be constructed of metal or other suitable flameproof material; and fitted to allow complete liberty of movement of the rider, both when riding and when getting on and off the machine, without the streamlining or any part of it having to be displaced. The screen, if fitted, must be constructed of Perspex or similar material.

## **ELECTRICAL: GSR8**

### **GSR 8:1 BATTERIES**

May be located at the owner's discretion, providing that the

mounting is of sound construction.

## **GSR 8:2 IGNITION**

Any type or make of ignition system may be fitted. A positive acting cut out switch must be fitted and attached to the top fork yoke or handlebars. Ignition KILL buttons are not acceptable. For 9.50, Super Street, Pro Stock, Competition Bike, Funny Bike and Top Fuel (where applicable), all machines must have a positive KILL switch attached to the rider by lanyard which also disarms any nitrous oxide systems. A lanyard assembly must be of sufficient strength for purpose. Any lanyard assembly that, in the opinion of the technical team is not fit for purpose is grounds for disqualification.

## **SUPPORT GROUP: GSR9**

### **GSR 9:1 COMPUTERS**

Computers can be used for information gathering only. Throttle operation, shifting, clutch activation, control of fuel injection metering etc, are to be solely under the control of the rider or preset prior to any run. (see GSR9)

### **GSR 9:2 FIRE EXTINGUISHERS**

All competitors, with the exemption of those travelling to an event on the machine on which they are competing, must have a 2kg (minimum) dry powder fire extinguisher available for immediate use, with a label stating the last annual inspection date and next recharge date to comply with the British Standard Code of Practice BS5306 part 3. If a 'closed vehicle' is being used the extinguisher must be fitted adjacent to, or on the inside of the working door. In the case of a shared vehicle the other competitors extinguisher(s) should also be visible, or, the fitted extinguisher(s) must be of a proportionately larger capacity.

## **RIDER: GSR10**

### **GSR 10:1 PROTECTIVE CLOTHING**

Bulky hard objects such as tools etc. are NOT carried in pockets or on the person. During practice and racing, riders must wear the following clothing and footwear:-

**Competitors must wear a complete leather suit of at least 1.2mm in thickness (on all parts of the suit), two piece suits that zip together at the waist are acceptable.** Non-leather material may be used if it meets with the requirements laid down by the ACU Road Racing Standing Regulations.

Competitors footwear must be of leather (i.e. outer hide) or an approved substitute material and of a minimum height of 200mm to provide, with the suit, complete protection i.e. no exposed areas.

Competitors must wear leather (or an approved substitute material) protective gloves.

### **GSR 10:2 HELMETS**

Helmets bearing the current ACU gold stamp and in sound condition and properly fitted must be worn by all riders and passengers while practicing and racing. Overseas riders may use helmets as approved by their own FMN.

### **GSR 10:3 BODY JEWELLERY**

It is recommended that any body piercing studs, rings, etc. are removed.

### **GSR 10:4 IDENTIFICATION DISCS**

While practicing and racing, riders are required to wear an identification disc around the neck, attached by a material approved by the Technical Officer. Thin chains should be avoided. The disc must be permanently marked with the wearers' full name and date of birth. Identification discs shall be of a durable material, circular in shape, between 20 mm and 25 mm in diameter and having edges with no sharp or ragged projections.

**BIKES**

**CLASS REGULATIONS**

## **9.50 BIKE**

### **DESIGNATION:**

SB preceded by bike number

For Starting Numbers: **See GSR 7:3**

A class designed for petrol burning street tyred bikes running to a fixed index of 9.50 seconds (6.05 eighth mile) from a heads up Pro start.

### **REQUIREMENTS & SPECIFICATIONS**

#### **ENGINE: SB1**

##### **SB 1:1 CARBURETTOR**

Any type of carburettor or fuel injection may be used. **See GSR1**

##### **SB 1:2 ENGINE**

May be of any type with any modifications. Only one engine allowed. **See GSR1**

##### **SB 1:3 EXHAUST**

Any type of exhaust allowed. No flexible pipe is allowed. Open exhaust permitted. **See GSR1**

##### **SB 1:4 NITROUS OXIDE INJECTION**

Allowed. **See GSR1**

##### **SB 1:5 SUPERCHARGES & TURBOCHARGERS**

Allowed. **See GSR1**

#### **DRIVE TRAIN: SB2**

##### **SB 2:1 CLUTCH**

Any type, make or pattern of clutch assemble may be installed. All clutches must be fully enclosed. **See GSR2**

##### **SB 2:2 GEARBOX**

Any make or type may be fitted. **See GSR2**

#### **BRAKES & SUSPENSION: SB3**

##### **SB 3:1 SUSPENSION**

Any type allowed, but if fitted must be operational. Rear struts allowed. **See GSR3**

#### **FRAME: SB4**

##### **SB 4:1 FRAME**

Steering head geometry, trail and wheelbase may be altered to improve the stability of the machine, provided that all

modifications are undertaken to a safe and professional standard. Maximum wheelbase permitted is 1730mm, measured with the rear wheel in the most extended position allowed by the swinging arm. **See GSR4**

#### **SB 4:2 STANDS**

Must be wired up or removed. **See GSR4**

#### **SB 4:3 WHEELIE BARS**

Not Allowed. **See GSR4**

#### **TYRES & WHEELS: SB5**

##### **SB 5:1 TYRES**

**See GSR5**

##### **SB 5:2 WHEELS**

Any type and size allowed, as long as they comply with the Road Traffic Act. It is highly recommended that rear rim width should not exceed tyre width. **See GSR5**

#### **SEAT: SB6**

##### **SB 6:1 SEAT**

Any type allowed, must be securely fitted to the machine. Any padding used must be securely attached to the seat. **See GSR6**

#### **BODY: SB7**

##### **SB 7:1 MIRRORS**

Mirrors should be removed or taped over. **See GSR7**

##### **SB 7:2 MUDGUARDS**

Must be fitted to comply with the Road Traffic Act. **See GSR7**

#### **ELECTRICAL: SB8**

##### **SB 8:1 LIGHTS AND MIRRORS**

Lights need not be operational, but must be of stock appearance, lenses must be taped over. Mirrors should be removed or taped over. **See GSR8**

#### **SUPPORT GROUP: SB9**

**See GSR9**

#### **RIDER: SB10**

**See GSR10**

# **SUPER STREET BIKE**

## **DESIGNATION:**

SS preceded by bike number

For Starting Numbers: **See GSR 7:3**

A petrol burning street tyred bikes class running heads up from a Pro start.

## **REQUIREMENTS & SPECIFICATIONS**

### **ENGINE: SS1**

#### **SS 1:1 CARBURETTOR**

Any type of carburettor or fuel injection may be used. **See GSR1**

#### **SS 1:2 ENGINE**

May be of any type with any modifications. Only one engine allowed. **See GSR1**

#### **SS 1:3 EXHAUST**

Any type of exhaust allowed. No flexible pipe is allowed. Open exhaust permitted. **See GSR1**

#### **SS 1:4 NITROUS OXIDE INJECTION**

Allowed. **See GSR1**

#### **SS 1:5 SUPERCHARGERS & TURBOCHARGERS**

Allowed. **See GSR1**

### **DRIVE TRAIN: SS2**

#### **SS 2:1 CLUTCH**

Any type, make or pattern of clutch assembly may be installed. All clutches must be fully enclosed. **See GSR2**

#### **SS 2:2 GEARBOX**

Any make or type may be fitted. **See GSR2**

### **BRAKES & SUSPENSION: SS3**

#### **SS 3:1 SUSPENSION**

Any type allowed, but if fitted must be operational. Rear struts allowed. **See GSR3**

### **FRAME: SS4**

#### **SS 4:1 FRAME**

Steering head geometry, trail and wheelbase may be altered to improve the stability of the machine, provided that all modifications are undertaken to a safe and professional standard. Maximum wheelbase permitted is 1730mm, measured

with the rear wheel in the most extended position allowed by the swinging arm. **See GSR4**

#### **SS 4:2 STANDS**

Must be wired up or removed. **See GSR4**

#### **SS 4:3 WHEELIE BARS**

Not Allowed. **See GSR4**

#### **TYRES & WHEELS: SS5**

##### **SS 5:1 TYRES**

**See GSR5**

##### **SS 5:2 WHEELS**

Any type and size allowed, as long as they comply with the Road Traffic Act. It is highly recommended that rear rim width should not exceed tyre width. **See GSR5**

#### **SEAT: SS6**

##### **SS 6:1 SEAT**

Any type allowed, must be securely fitted to the machine. Any padding used must be securely attached to the seat. **See GSR6**

#### **BODY: SS7**

##### **SS 7:1 MIRRORS**

Mirrors should be removed or taped over. **See GSR7**

##### **SS 7:2 MUDGUARDS**

Must be fitted to comply with the Road Traffic Act. **See GSR7**

#### **ELECTRICAL: SS8**

##### **SS 8:1 LIGHTS**

Lights need not be operational, but must be of stock appearance, lenses must be taped over. **See GSR8**

#### **SUPPORT GROUP: SS9**

**See GSR9**

#### **RIDER: SS10**

**See GSR10**

# PRO STOCK BIKE

## DESIGNATION:

PS preceded by bike number

For Starting Numbers: **See GSR 7:3**

A petrol burning bike class running heads up from a Pro start.

## DEFINITION

This class is for stock appearance(factory produced motorcycle available to the general public, modified for drag racing) petrol burning motorcycles.

## WEIGHT BREAKS

Minimum weight of bike and rider at conclusion of run:-

3 or 4 Cylinder	Unlimited capacity	272.2kg(600lbs)
V Twin	Maximum 1737cc (160ci)	249.5kg (550lbs)
V Twin	Maximum 3278cc (200ci)	272.2kg (600lbs)

Riders must present themselves and their machine for weighing immediately before and after each run in qualifying and racing, at the location specified by the organisers.

## ENGINE/WEIGHT CONTROL

In order to check the capacity of the machines of Pro Stock Bike finalists, both must remove the cylinder heads in the presence of the technical inspector. In order to make sealing of Pro Stock bikes possible, a 1mm hole must be made in the cylinder head and cylinder casting. Failure to comply with this procedure will render a qualifying run null and void and result in elimination from competition.

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: PS1

#### PS 1:1 ENGINE

Engine manufacturer will determine make of bike. Must be of a type specifically designed and manufactured for a production motorcycle. External modifications to engine cases are not allowed except for repair purposes. Twin cylinder engines must be of pushrod type and of V configuration, with a maximum capacity of 160 C.I. (1737CC) up to 45 degree angle, and 200 C.I. (3278CC) between 45 and 60 degree. Aftermarket cases, EFI and side by side rod configuration permitted on V twin configuration. **See GSR1**

#### PS 1:2 CYLINDER HEAD

Cylinder head casting must be manufactured by the same manufacturer as the main engine cases. FIM Technical Steward accepted aftermarket cylinder heads permitted.

## **PS 1:3 EXHAUST**

Open exhaust systems are permitted. The exhaust must be directed away from the rider and fuel tank and be at a safe distance from the tyres. No flexible pipe is allowed. **See GSR1**

## **PS 1:4 FUEL INJECTION**

Fuel injection is permitted. Any type or size of fuel injection and throttle bodies allowed, but must be of the open loop type i.e. fuel metering must not be controlled by computer data gathering during the run. **See GSR1**

## **PS 1:5 FUEL**

Pump or racing petrol generally available is allowed.

## **DRIVE TRAIN: PS2**

### **PS 2:1 TRANSMISSION**

Any transmission with a maximum of six forward gears, minimum three forward gears, may be used. Transmission must be shifted from gear to gear manually or by air shifter. RPM, computer controlled or timed shifts are prohibited. Transmission must be contained within the stock case, except two cylinder or two stroke engines. **See GSR2**

## **BRAKES & SUSPENSION: PS3**

### **PS 3:1 BRAKES**

Hydraulic type, minimum front: dual, 200mm diameter x 5mm width, single 250mm diameter x 5mm width. Rear minimum 200mm diameter x 5mm width with dual front discs, or minimum 250mm x 5mm width with single front discs. Fork brace mandatory for machines fitted with single front disc. **See GSR3**

### **PS 3:2 CONTROLS**

All handlebar controls must remain in the stock location. Replacement bars are permitted. Welded aluminium handlebars are prohibited. Welded steel or chrome-moly extensions are allowed, but cannot extend more than 100mm from stock location. Minimum handlebar width is 560mm. Brake pedals and foot pegs may be rear set, but must be at least 380mm in front of the rear axle. Throttle and clutch levers must be manually operated by the rider. Electronic, pneumatic, hydraulic or other devices may in no way affect the operation of the throttle or clutch.

### **PS 3:3 FRONT SUSPENSION**

Minimum usable travel 40mm, inner tube diameter minimum 34mm. Replacement front ends are allowed. Steering damper mandatory and may not act as a fork stop. **See GSR3**

## **FRAME: PS4**

## **PS 4:1 FRAME**

Aftermarket frames permitted. Steering head geometry, trail and wheelbase may be changed if done in a safe and professional manner. Steering head angle may not be less than stock rake or more than 40 degrees maximum rake. Maximum wheelbase is 1780mm measured from the most extendible point on the swing arm. **See GSR4**

## **PS 4:2 WHEELIE BAR**

Maximum length of 3300mm from the centre of the front axle to the centre of the wheelie bar axle, measured in a straight line from axle to axle. Wheels must be non-metallic.

## **TYRES & WHEELS: PS5**

### **PS 5:1 TYRES**

Front tyre minimum width 2.75". Maximum rear tyre (rubber on ground) 10". **See GSR5**

### **PS 5:2 WHEELS**

Replacement wheels are permitted. Front 16" minimum, 19" maximum, or as stock. Rear 15" minimum. **See GSR5**

## **SEAT: PS6**

### **PS 6:1 SEAT**

Custom seats with a step to prevent the rider from sliding backwards permitted. Seat, tail section and rear fender may be incorporated in one unit. Minimum seat height 500mm from lowest point of seat to ground. **See GSR6**

## **BODY: PS7**

### **PS 7:1 BODYWORK**

Must have originally been produced with a 750cc or larger engine. All main body parts must have stock appearance and shape and cannot be mixed between models. Replacement parts permitted but must retain the shape of the stock parts they replaced. Lower portion of fairing may be modified for exhaust pipe clearance or removed completely. Windscreen may be trimmed. Must have simulated headlight and tail light of same configuration and design from specific body used, holes for air passage and aerodynamic devices prohibited unless originally incorporated into same OEM of that year. **See GSR7**

## **ELECTRICAL: PS8**

### **PS 8:1 LIGHTS**

Must have simulated headlight and tail light of same configuration and design for specific body used, holes for air passage and aerodynamic devices prohibited unless originally incorporated into same OEM of that year. **See GSR8**

## **PS 8:2 IGNITION**

Any ignition allowed.

## **SUPPORT GROUP: PS9**

See *GSR9*

## **RIDER: PS10**

See *GSR10*

# **COMPETITION BIKE**

## **DESIGNATION:**

CB preceded by bike number

For Starting Numbers: See *GSR 7:3*

A class designed for motorcycles with unrestricted modifications running heads up from a Pro start.

## **REQUIREMENTS & SPECIFICATIONS**

### **ENGINE: CB1**

#### **CB 1:1 ENGINE**

Engine or engines may be of any internal combustion type, provided that drive is transmitted through one road wheel. Engine(s) may be mounted in any position and any modifications are permitted. See *GSR1*

#### **CB 1:2 SUPERCHARGERS**

May be fitted at the owner's discretion. It is recommended that a guard be fitted over the belt drive on superchargers mounted in front of the engine. Where a supercharger is mounted behind the engine, such a guard is mandatory. Where a supercharger is chain driven, guards of 3mm thick Dural or equivalent strength are the minimum requirement, irrespective of the position of the unit. Explosion proof blankets fully surrounding the supercharger are highly recommended. See *GSR1*

#### **CB 1:3 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed. See *GSR1*

### **DRIVE TRAIN: CB2**

#### **CB 2:1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assembly and/or drive chain/belt may be installed. See *GSR2*

### **BRAKES & SUSPENSION: CB3**

## **CB 3:1 SUSPENSION**

The minimum front fork stanchion diameter is as follows:-

Bike weight	Diameter
300lbs (136kg)	28mm
350lbs (158kg)	30mm
450lbs (204kg)	32mm
over 450lbs(over240kg)	34mm

**See GSR3**

## **FRAME: CB4**

### **CB 4:1 ALIGNMENT**

Sufficient trail must be incorporated into the alignment to ensure proper handling, recommended 6 inches. **See GSR4**

### **CB 4:2 FRAME**

Frame may be original factory equipment, altered or modified at the owner's discretion, or of tubular type frame construction. All butt welds must have visible reinforcement, and no grinding or filling of welds is permitted. It is not permitted to use the engine as a stressed member of the frame. **See GSR4**

### **CB 4:3 GROUND CLEARANCE**

Minimum of 75mm is recommended. **See GSR4**

### **CB 4:4 WHEELBASE**

At the owner's discretion. **See GSR4**

## **TYRES & WHEELS: CB5**

### **CB 5:1 FRONT TYRE**

Front tyres to be of racing type, or if of road type, minimum specification 'V' rated. **See GSR5**

### **CB 5:2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for cars may be used providing the fitting to the machine is of sound engineering. All wheels must run true and all bearings must be in good condition. Balanced weights must be securely attached. **See GSR5**

## **SEAT: CB6**

### **CB 6:1 SEAT**

Must be securely attached to frame, and be so constructed as to prevent slipping backwards from the proper seating position. Any padding used must be securely attached. **See GSR6**

## **BODY: CB7**

## **CB 7:1 MUDGUARDS**

Are not compulsory, but if fitted must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket item used, a fork brace of adequate dimensions must be fitted on machines weighing 205kg and over. **See GSR7**

## **ELECTRICAL: CB8**

**See GSR8**

## **SUPPORT GROUP: CB9**

**See GSR9**

## **RIDER: CB10**

**See GSR10**

# **FUNNY BIKE**

## **DESIGNATION:**

FB preceded by bike number

For Starting Numbers: **See GSR 7:3**

A class designed for single engine alcohol and petrol burning motorcycles in addition to single or double engine nitromethane burning Twins. All machines except Nitro burning Twins must run a fuel tank, either real or dummy, in stock location, with the engine manufacturers name clearly visible on both sides of the tank. All bikes must have front and rear mudguards. All machines except nitromethane burning Twins must have head light or nose piece.

## **REQUIREMENTS & SPECIFICATIONS**

### **ENGINE: FB1**

#### **FB 1:1 CLASS REQUIREMENTS**

Superchargers and turbochargers will be considered the same.

- i) Alcohol fuel supercharged.
- ii) Petrol fuelled, fuel injected turbocharged.
- iii) Petrol fuelled, carburetted, turbocharged with maximum of 3 stages of nitrous.
- iv) Alcohol fuelled injected turbocharged.
- v) Petrol fuelled, carburetted, maximum 3 stages of nitrous.
- vi) Alcohol fuelled, turbocharged, carburetted.
- vii) Single or double alcohol or nitromethane fuelled twin cylinder engines.
- viii) Nitro injected, no supercharging or nitrous allowed. 1740cc maximum displacement. Other construction rules as per Competition Bike. **See GSR1**

## **FB 1:2 ENGINE**

Approved aftermarket cases allowed using original crank shaft design. Original cylinder head design must be used. Cases must fit in stock engine location. Planetary transmission allowed with any approved aftermarket cases. Aftermarket cylinder heads permitted. All aftermarket heads, cases and transmission must receive prior approval of the Championship Co-ordinator.

**See GSR1**

## **FB 1:3 FUEL SHUT OFF**

All nitromethane fuelled bikes must have a pre-loaded fuel shut off. A lanyard must be connected between the rider and the fuel shut off valve. All these machines must have a handlebar operated fuel shut off.

## **FB 1:4 SUPERCHARGERS & TURBOCHARGERS**

As per Class Requirements. **See GSR1**

## **FB 1:5 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed. **See GSR1**

## **DRIVE TRAIN: FB2**

### **FB 2:1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assemble and/or drive chain/belt may be installed. Planetary transmission allowed with any approved aftermarket cases. If the clutch and/or primary transmission is exposed it must be fitted with a guard as a safety measure to protect the rider even as a result of breakage. The guard must be conceived in such a manner that under no circumstances can the rider come into accidental contact with these transmission parts. It must be designed to protect the rider from injuring fingers. Outboard mounted clutches must have a cover of at least 3mm aluminium or 1mm steel. Cruciform guards are not permitted. Slider clutches must be manufactured from billet rather than cast material and the guards must have a minimum of 4 mounting bolts of 6mm minimum diameter. All aftermarket transmissions must receive prior approval of the Championship Co-ordinator. **See GSR2**

## **BRAKES & SUSPENSION: FB3**

### **FB 3:1 SUSPENSION**

The minimum front fork stanchion diameter is as follows:-

Bike weight	Diameter
300lbs (136kg)	28mm
350lbs (158kg)	30mm
450lbs (204kg)	32mm
over 450lbs(over240kg)	34mm

**See GSR3**

## **FRAME: FB4**

### **FB 4:1 ALIGNMENT**

Sufficient trail must be incorporated into the alignment to ensure proper handling, recommended 6 inches. **See GSR4**

### **FB 4:2 FRAME**

Frame may be original factory equipment, altered or modified at the owners discretion, or of tubular type frame construction. All butt welds must have visible reinforcement, and no grinding or filling of welds is permitted. It is not permitted to use the engine as a stressed member of the frame. **See GSR4**

### **FB 4:3 FUEL TANKS**

Four cylinder machines must run a fuel tank with the engine manufacturers name clearly visible on both sides of the tank.

### **FB 4:4 GROUND CLEARANCE**

Minimum of 75mm is recommended. **See GSR4**

### **FB 4:5 WHEELBASE**

At the owner's discretion. **See GSR4**

## **TYRES & WHEELS: FB5**

### **FB 5:1 FRONT TYRE**

Front tyres to be of racing type, or if of road type, minimum specification 'V' rated. **See GSR5**

### **FB 5:2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for cars may be used providing the fitting to the machine is of sound engineering. All wheels must run true and all bearings must be in good condition. Balanced weights must be securely attached. **See GSR5**

## **SEAT: FB6**

### **FB 6:1 SEAT**

Must be securely attached to frame, and be so constructed as to prevent slipping backwards from the proper seating position. Any padding used must be securely attached. **See GSR6**

## **BODY: FB7**

### **FB 7:1 BODY**

Must run a similar to stock body. Entire bike must resemble the stock appearance of the model it is based on. **See GSR7**

## **FB 7:2 MUDGUARDS**

Are compulsory front and rear, must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket item used a fork brace of adequate dimensions must be fitted on machines weighing 205kg and over. **See GSR7**

## **ELECTRICAL: FB8**

**See GSR8**

## **SUPPORT GROUP: FB9**

**See GSR9**

## **RIDER: FB10**

**See GSR10**

# **PRO MODIFIED BIKE**

## **DESIGNATION:**

PM preceded by bike number

For Starting Numbers: **See GSR 7:3**

A class designed for single and double engined motorcycles, limited through engine size, type of fuel and weight breaks running heads up from a Pro start.

## **WEIGHT BREAKS**

Two valve: 580lbs (263kg)

Four valve: 600lbs (272kg)

## **REQUIREMENTS & SPECIFICATIONS**

### **ENGINE: PM1**

#### **PM 1:1 CLASS REQUIREMENTS**

- i) Dual engines - two strokes unlimited cc, four strokes 2700cc total capacity. Any clutch and transmission type allowed. Must be normally aspirated on petrol, single stage nitrous allowed. Vertical twin pushrod engines 105 inch<sup>3</sup> (1720cc) maximum, nitromethane allowed. No wheel base limits.
- ii) Single engine, no capacity restriction. Alcohol or petrol with any type of fuel injection or carburettors allowed. No weight restrictions.
- iii) Single engine, burning petrol. Single stage nitrous allowed. Weight breaks as listed.
- iv) Single engine, burning petrol, turbocharged with carburettors and injection allowed. Weight breaks as listed.
- v) Machines as per Pro Stock Bike except unlimited capacity, petrol and alcohol burning, no weight breaks.

- vi) Machines as per Pro Stock Bike except one stage nitrous allowed. Weight breaks as listed.
- vii) Machines as per Pro Stock Bike except turbocharged with carburetors or injection. Weight breaks as listed.

**See GSR1**

### **PM 1:2 ENGINE**

Approved aftermarket cases allowed using original crank shaft design. Original cylinder head design must be used. Aftermarket cylinder heads permitted. Aftermarket parts must receive the prior consent of the Championship Co-ordinator. **See GSR1**

### **PM 1:3 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed. **See GSR1**

### **DRIVE TRAIN: PM2**

### **PM 2:1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assembly and/or drive chain/belt may be installed. If the clutch and/or primary transmission is exposed it must be fitted with a guard as a safety measure to protect the rider even as a result of breakage. The guard must be conceived in such a manner that under no circumstances can the rider come into accidental contact with these transmission parts. It must be designed to protect the rider from injuring fingers. Outboard mounted clutches must have a cover of at least 3mm aluminium or 1mm steel. Cruciform guards are not permitted. Slider clutches must be manufactured from billet rather than cast material and the guards must have a minimum of 4 mounting bolts of 6mm minimum diameter. **See GSR2**

### **BRAKES & SUSPENSION: PM3**

#### **PM 3:1 BRAKES**

As per Competition Bike. **See GSR3**

#### **PM 3:2 FRONT SUSPENSION**

Hydraulic tube only, 34mm minimum tube diameter. Minimum travel 1 inch. Positive steering stops must be fitted. Twin steering dampers recommended but must not be used as steering stops. **See GSR3**

### **FRAME: PM4**

#### **PM 4:1 ALIGNMENT**

Sufficient trail must be incorporated into the alignment to ensure proper handling, recommended 6 inches. **See GSR4**

#### **PM 4:2 GROUND CLEARANCE**

Minimum of 75mm is recommended. **See GSR4**

### **PM 4:3 FRAME**

68 inch minimum. **See GSR4**

### **PM 4:4 WHEELBASE**

82 inch maximum wheelbase. **See GSR4**

## **TYRES & WHEELS: PM5**

### **PM 5:1 TYRES**

Front tyres must be Racing Tyre specification or minimum 'V' rated road tyre. Rear tyre width should not exceed rim width by more than 2 inches. Maximum rear tyre width 11 inches. **See GSR5**

### **PM 5:2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for cars may be used providing the fitting to the machine is of sound engineering. All wheels must run true and all bearings must be in good condition. Balanced weights must be securely attached. Bead locks recommended. **See GSR5**

## **SEAT: PM6**

### **PM 6:1 SEAT**

Must be securely attached to frame, and be so constructed as to prevent slipping backwards from the proper seating position. Any padding used must be securely attached. **See GSR6**

## **BODY: PM7**

### **PM 7:1 MUDGUARDS**

Are not compulsory, but if fitted must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket item used, a fork brace of adequate dimensions must be fitted on machines weighing 205kg and over. **See GSR7**

## **ELECTRICAL: PM8**

**See GSR8**

## **SUPPORT GROUP: PM9**

**See GSR9**

## **RIDER: PM10**

**See GSR10**

# TOP FUEL BIKE

## DESIGNATION:

TF preceded by bike number

For Starting Numbers: **See GSR 7:3**

A class designed for motorcycles running a minimum of 50% nitromethane fuel. A maximum of two engines allowed with unlimited modifications. No appearance restrictions. Turbo charges and superchargers considered the same running heads up from a Pro start.

## WEIGHT BREAKS

Supercharged 4 cylinder engines: 9lbs/inch<sup>3</sup> (0.25kg/cc)

V8 engines: no weight restriction

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: TF1

#### TF 1:1 ENGINE

Displacement limited to 1700cc for supercharged 4 cylinder engines and 2000cc for Twin cylinder supercharged engines. For V8 configurations, 1350cc on each bank with a maximum of 2700cc. Twin cylinder engines limited to a maximum capacity of 3300cc. Lower engine ballistic restraint device recommended.

**See GSR1**

#### TF 1:2 EXHAUST

Any make or type allowed. No flexible pipe allowed. **See GSR1**

#### TF 1:3 FUEL SHUT OFF

Pre-loaded fuel shut offs mandatory. A lanyard must be connected between the rider and the shut off valve situated on the entry side of the barrel valve. A device to completely cut off fuel supply by handlebar control is mandatory. **See GSR1**

#### TF 1:4 SUPERCHARGERS

Belt drive guards highly recommended for front mounts, mandatory when rear mounted. If chain driven 3mm thick Dural or equivalent strength mandatory irrespective mounting position. Explosion proof ballistic or restraint device highly recommended.

**See GSR1**

#### TF 1:5 THROTTLE LINKAGE

For nitro fuelled bikes with slider clutches a throttle locking device that will positively lock the butterfly to the barrel valve linkage is mandatory. It is recommended that this device is located at the butterfly end of the linkage; however, a drilled throttle twist grip with locking pin is acceptable. **See GSR1**

## **DRIVE TRAIN: TF2**

### **TF 2:1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assembly and/or drive chain/belt may be installed. If the clutch and/or primary transmission is exposed it must be fitted with a guard as a safety measure to protect the rider even as a result of breakage. The guard must be conceived in such a manner that under no circumstances can the rider come into accidental contact with these transmission parts. It must be designed to protect the rider from injuring fingers. Outboard mounted clutches must have a cover of at least 3mm aluminium or 1mm steel. Cruciform guards are not permitted. Slider clutches must be manufactured from billet rather than cast material and the guards must have a minimum of 4 mounting bolts of 6mm minimum diameter. **See GSR2**

## **BRAKES & SUSPENSION: TF3**

### **TF 3:1 BRAKES**

Minimum:

- Front: Dual discs 230mm diameter, 3.2mm thickness  
Single discs 295mm diameter, 4.8mm thickness  
Rear: Single discs 255mm diameter, 4.8mm thickness

All brake lines must be steel braided type.

### **TF 3:2 FRONT SUSPENSION**

Hydraulic tube type only. Minimum tube diameter 34mm. Minimum travel 1 inch. Positive steering stops for both directions of travel mandatory. Two steering dampers recommended but may not be used as steering stops. **See GSR3**

## **FRAME: TF4**

### **TF 4:1 ALIGNMENT**

Sufficient trail must be incorporated into the alignment to ensure proper handling, recommended 6 inches. **See GSR4**

### **TF 4:2 FRAME**

Frame may be original factory equipment, altered or modified at the owner's discretion, or of tubular type frame construction. All butt welds must have visible reinforcement, and no grinding or filling of welds is permitted. It is not permitted to use the engine as a stressed member of the frame. **See GSR4**

### **TF 4:3 GROUND CLEARANCE**

Minimum of 75mm is recommended. **See GSR4**

### **TF 4:4 WHEELBASE**

Minimum wheelbase 84 inches (2134mm). **See GSR4**

## **TYRES & WHEELS: TF5**

### **TF 5:1 TYRES**

Front tyres must be race tyre specification or a minimum of 'V' rating. Rear tyre width must not exceed rim width by 2 inches. Rear wheel bead locks recommended. **See GSR5**

### **TF 5:2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for cars may be used providing the fitting to the machine is of sound engineering. All wheels must run true and all bearings must be in good condition. Balanced weights must be securely attached. Rear wheel bead locks highly recommended. **See GSR5**

## **SEAT: TF6**

### **TF 6:1 SEAT**

Must be securely attached to frame, and be so constructed as to prevent slipping backwards from the proper seating position. Any padding used must be securely attached. **See GSR6**

## **BODY: TF7**

### **TF 7:1 BODY**

All rear fenders must extend past the rear axle.

### **TF 7:2 MUDGUARDS**

Are not compulsory, but if fitted must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket item used, a fork brace of adequate dimensions must be fitted on machines weighing 205kg and over. **See GSR7**

## **ELECTRICAL: TF8**

**See GSR8**

## **SUPPORT GROUP: TF9**

**See GSR9**

## **RIDER: TF10**

**See GSR10**

# JUNIOR DRAG BIKE

## DESIGNATION:

JRB preceded by bike number

For Starting Numbers: **See GSR 7:3**

A class reserved for non-street legal single or twin cylinder four stroke motor cycles built to give the appearance of a Top Fuel or Funny Bike.

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: JRB 1

#### JRB 1:1 ENGINE

- i) Any make or model
- ii) Any configuration of engine is permitted
- iii) Small engine modifications are permitted such as exhaust, air filter and carburettor.
- iv) Electric, kick or off-board starters permitted. No push or roller starts permitted.

### DRIVE TRAIN: JRB 2

#### JRB 2:1

Air shifters allowed.

### BRAKES & SUSPENSION: JRB 3

#### JRB 3:1 BRAKES

Front and rear mandatory.

#### JRB 3:2 SUSPENSION

Front suspension minimum size 27mm and minimum travel of 2 inches. Rear suspension not permitted.

### FRAME: JRB 4

#### JRB 4:1 FRAME

Must be purpose built and of tubular construction utilising a rigid rear end. Rider must be able to reach all controls safely and be able to place both feet flat on the ground. Wheelie bars mandatory.

### TYRES & WHEELS: JRB 5

#### JRB 5:1 TYRES

Slicks are permitted, any make or size.

#### JRB 5:2 WHEELS

Any make or size permitted.

### SEAT: JRB 6

#### JRB 6:1 SEAT

The seat must be securely attached so as to prevent the rider from sliding backwards.

## **BODY: JRB 7**

### **JRB 7:1 MUDGUARDS**

Must have rear mudguard or bodywork extending past the rear axle.

Refer to GSRs for other construction rules.

## **SUPER TWIN ET BIKE**

### **DESIGNATION**

**STET** Preceded by the bike number.  
For starting number contact N.A.S.T.

A class designed for petrol burning street tyred bikes running to fixed index of their choice.

### **ENGINE: STET 1**

**See GSR 1**

#### **STET 1:1 ENGINE**

May be of any type with any modifications.

#### **STET 1.2 CARBURETTOR**

Any type of carburettor or fuel injection may be used.

#### **STET 1.3 SUPERCHARGERS & TURBOCHARGERS**

May be fitted at the owners discretion

#### **STET 1.4 NITROUS OXIDE INJECTION**

Allowed

#### **STET 1:5 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed. For 2010 recommended maximum noise limits will be established which will be mandatory in 2011.

## **DRIVE TRAIN: STET 2**

**See GSR 2**

### **STET 2:1 CLUTCH**

Any type, make or pattern of clutch assembly may be installed. All clutches must be fully enclosed.

### **STET 2.2 GEARBOX**

Any make or type may be fitted.

## **BRAKES & SUSPENSION: STET 3**

**See GSR 3**

## **STET 3.2 SUSPENSION**

Any type allowed but if fitted must be operational. Rear struts allowed.

## **FRAME : STET 4**

**See GSR 4**

### **STET 4.1 FRAME**

Steering head geometry, trail and wheelbase may be altered to improve the stability of the machine, provided that all modifications are undertaken to a safe and professional standard. Positive steering stops for both directions of travel mandatory. Steering dampers may not be used as steering stops.

### **STET 4.2 STANDS**

Must be wired up or removed.

### **STET 4.3 WHEELIE BARS**

Not allowed.

## **TYRES & WHEELS : STET 5**

**See GSR 5**

### **STET 5.1 TYRES**

Readily available street tyres only

### **STET 5.2 WHEELS**

Any type and size allowed, as long as they comply with the road traffic act. It is highly recommended that the rear rim width should not exceed tyre width. All wire spoked wheels must utilise steel spokes of adequate strength and be properly laced.

## **SEAT: STET 6**

**See GSR 6**

### **STET 6.1 SEAT**

Must be securely attached to frame, and be so constructed as to prevent slipping backwards from the proper seating position. Any padding must be securely attached.

## **BODY: STET 7**

**SEE GSR 7**

### **STET 7.1 MUDGUARDS**

Must be fitted in compliance with the road traffic act.

### **STET 7.2 MIRRORS**

Mirrors should be removed or taped over.

## **ELECTRICAL: STET 8**

**See GSR 8**

### **STET 8.1 IGNITION LANYARD**

If the motor cycle has any aftermarket race accessory fitted, then it needs an ignition lanyard.

## **SUPPORT GROUP: STET 9**

**See GSR 9**

## **RIDER: STET 10**

**See GSR 10**

## **SUPER TWIN TOP GAS (STG)**

### **Designation**

**STTG** Preceded by bike number

For starting Number contact N.A.S.T

A class designed for motorcycles with unrestricted modifications running heads up from a pro start. This is a petrol burning class.

## **REQUIREMENTS & SPECIFICATIONS**

### **Engine: STTG 1**

**See GSR 1**

### **STTG 1.1 ENGINE**

Engine may be of any internal combustion type, provided that the drive is transmitted through one road wheel. Engine may be mounted in any position and any modifications are permitted.

### **STTG 1.2 SUPERCHARGERS & TURBOCHARGERS**

May be fitted at the owners' discretion.

### **STTG 1.3 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed. For 2010 recommended maximum noise levels will be established, mandatory for 2011.

### **DRIVE TRAIN : STTG 2**

**SEE GSR 2**

### **STTG 2.1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assembly and/or drive chain/belt may be installed.

### **BRAKES & SUSPENSION: STTG 3**

**SEE GSR 3**

### **STTG 3.2 SUSPENSION**

The minimum front fork stanchion diameter is as follows;

Bike Weight	Diameter
300 lbs (136kg)	28mm
350 lbs (158kg)	30mm
450 lbs (204kg)	32mm
Over 450 lbs (204kg)	34mm

**FRAME: STTG 4**

Frame may be original factory equipment, altered or modified at the owners' discretion, or of tubular type frame construction. All butt welds must have visible reinforcement and no grinding or filling of welds is permitted.

**STTG 4.2 ALIGNMENT**

Sufficient trail must be incorporated into the alignment to ensure proper handling, 6 inches is recommended.

**STTG 4.3 GROUND CLEARANCE**

Minimum of 75 mm is recommended.

**STTG 4.4 WHEELBASE**

At the owners' discretion.

**TYRES & WHEELS: STTG 5****SEE GSR 5****STTG 5.1 FRONT TYRE**

Front tyres to be of racing type, or if road type they must be a minimum of "V" specification or racing type specification.

**STTG 5.2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for car use may be used providing the fittings to the machine are of sound engineering standards. All wheels must run true and all bearings must be in good condition. Balance weights must be securely attached.

**SEAT: STTG 6****SEE GSR 6****STTG 6.1 SEAT**

The seat must be securely attached to the frame and be constructed so as to prevent slipping backward from the proper seating position. Any padding used must be securely attached.

**BODY: STTG 7****SEE GSR 7****STTG 7.1 MUDGUARDS**

Mudguards are not compulsory but if fitted they must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket unit is used, a fork brace of adequate dimensions must be fitted on machines weighing 450 lbs (204 kg) and over.

**ELECTRICAL: STTG 8****SEE GSR 8**

**SUPPORT GROUP: STTG 9**  
**SEE GSR 9**

**RIDER: STTG 10**  
**SEE GSR 10**

## **SUPER TWIN TOP FUEL**

### **DESIGNATION**

**STTF** Preceded by bike number  
For starting Number Contact N.A.S.T.

A class designed for motor cycles with un-restricted modifications running heads up from a pro start.

### **REQUIREMENTS & SPECIFICATIONS**

**ENGINE: STTF 1**  
**SEE GSR 1**

#### **STTF1.1 ENGINE**

Engine may be of any internal combustion type, provided that the drive is transmitted through one road wheel. Engine may be mounted in any position and any modifications are permitted.

#### **STTF 1.2 SUPERCHARGERS & TURBOCHARGERS**

May be fitted at the owners discretion.

#### **STTF1.3 EXHAUST**

Any make or type of exhaust system allowed. No flexible pipe allowed.

#### **STTF 1.4 FUEL SHUT OFF**

For nitro fuelled bikes a pre-loaded fuel shut off valve is mandatory. A lanyard must be connected between the rider and the fuel shut off valve situated on the entry side of the barrel valve. A device to completely cut off the fuel supply by means of a handle bar mounted control is mandatory.

#### **STTF 1.5 ENGINE RESTRAINTS**

V-twin motors running injected nitro must utilise cylinder head restraints or a ballistic type explosion blanket.

**DRIVE TRAIN: STTF 2**  
**SEE GSR 2**

#### **STTF 2.1 CLUTCH & PRIMARY TRANSMISSION**

Any type, make or pattern of clutch assembly and/or drive chain/belt may be installed.

**BRAKES & SUSPENSION: STTF 3**  
**SEE GSR 3**

### **STTF 3.2 SUSPENSION**

The minimum front fork stanchion diameter is as follows;

Bike Weight	Diameter
300 lbs (136 kg)	28 mm
350 lbs (158 kg)	30 mm
450 lbs (204 kg)	32 mm
Over 450 lbs (204 kg)	34mm

### **FRAME: STTF 4 SEE GSR 4**

#### **STTF 4.1 FRAME**

Frame may be original factory equipment, altered or modified at the owners' discretion, or of tubular type frame construction. All butt welds must have visible reinforcement and no grinding or filling of welds is permitted. Positive steering stops for both directions of travel mandatory. Steering dampers may not be used as steering stops.

#### **STTF 4.2**

Sufficient trail must be incorporated into the alignment to ensure proper handling, 6 inches is recommended.

#### **STTF 4.3 GROUND CLEARANCE**

Minimum of 75mm is recommended

#### **STTF 4.4 WHEELBASE**

At the owners discretion

### **TYRES & Wheels STTF 5 SEE GSR 5**

#### **STTF 5.1 FRONT TYRE**

Front tyres to be of racing type, or if road type they must be a minimum of "V" specification or racing type specification.

#### **STTF 5.2 WHEELS**

All wire spoked wheels must utilise steel spokes of adequate strength and properly laced. Wheels manufactured for car use may be used providing the fittings to the machine are of sound engineering standards. All wheels must run true and all bearings must be in good condition. Balance weights must be securely attached.

### **SEAT: STTF 6 SEE GSR 6**

#### **STTF 6.1 SEAT**

Must be securely attached to the frame and be constructed so as to prevent slipping backward from the proper seating position. Any padding used must be securely attached.

### **BODY: STTF 7 SEE GSR 7**

**STTF 7.1 MUDGUARDS**

Mudguards are not compulsory but if fitted they must be constructed of material with no sharp edges and must be securely fitted to the machine. If a stock front mudguard is removed and an aftermarket unit is used, a fork brace of adequate dimensions must be fitted on machines weighing 450 lbs (204 kg) and over.

**ELECTRICAL: STTF 8****SEE GSR 8****SUPPORT GROUP: STTF 9****SEE GSR 9****RIDER: STTF 10****SEE GSR 10**

# CHARTS & FORMULAS

**Displacement** = bore x bore x stroke x .7854 x # of cyl.

## Volumes:

bore x bore x 12.87 x depth of deck clearance =  
volume (cc's) of deck clearance

bore x bore x 12.87 x thickness of head gasket =  
volume (cc's) of head gasket

Comb Chamber CC's + Gasket CC's +  
Deck CI CC's + Displacement x \*2.0483

**Compression** = \_\_\_\_\_  
**Ratio**

Comb Chamber CC's + Gasket CC's +  
Deck CI CC's

\*2.0483 for 8 cyl. \*2.7311 for 6 cyl. \*4.0967 for 4 cyl.

$\pi$  = pie  $\pi$  = 3.1416 radius<sup>2</sup> = radius x radius

**Circumference** =  $\pi$  x diameter

**Area of circle** =  $\pi$  x radius<sup>2</sup>

**Volume of cylinder** =  $\pi$  x radius<sup>2</sup> x height

## Weights

Oil 1 gallon = .833 lb

Alcohol 1 gallon = 8 lb

Petrol 1 gallon = .74 lb

Water 1 gallon = 10 lb

Nitro 1 gallon = 11.25 lb

Above weights are for UK gallons 1.19 US gallon = 1 UK gallon

Titanium is 57% of weight of steel

Aluminium is 35% of weight of steel

Magnesium is 22% of weight of steel

## METRIC & STANDARD CONVERSION

### Length

1 Kilometre = 1000 metres = 3,280.83 ft = .6215 mile

1 Metre = 100 centimetres = 39.37 in = 1.09 yards

1 Centimetre = .3937 inch

1 Mile = 1.609 kilometres

1 Yard = .91 metres

1 Inch = 2.54 centimetres

1 Inch = 25.4 millimetres

### Mass

1 Kilogram = 1,000 grams = 2.2045855 lbs

1 lb = 453.6 grams

1 ounce = 28.35 grams

lbs x 2.20 = kilos

kilograms/2.20 = lbs

### Volume

1 litre = 100 cubic centimetres = 61.025 cubic inches

1 cubic inch = 16.387 cubic centimetre

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