

The cover features a vibrant, multi-colored gradient (purple, blue, green, yellow, orange, red) for the text. The background is a desert landscape with a clear blue sky and a large, rugged, reddish-brown mountain range. A black road with white dashed lines leads from the bottom center towards the mountains. The overall aesthetic is energetic and racing-oriented.

MOJAVE MAGNUM

2018 Rule Book

MKM Racing Promotions www.mojavemile.com

Mojave Magnum – 2018 Staff and Officials – Contact Info

Mojave Magnum Web site: www.mojavemile.com

Online Registration Site: mojavemile.motorsportreg.com

Mailing address:

MKM Racing Promotions
Suite A5-143
9850 S. Maryland Pkwy
Las Vegas, NV 89183-7146

Phone: 702-614-6108

Fax: 702-614-6109

Administration and Registration:

Michael Borders	General Manager	email: Mike@mkmracing.com
Marsha Borders	CFO/Registrar	email: Marsha@mkmracing.com
Keith Uddenberg	Chairman/CEO	email: Keith@mkmracing.com

Event Operations:

Mike Borders

Event Director
email: Mike@mkmracing.com

Will White

Assistant Event Director

Technical Inspection:

Blaine Spendlove

Chief Technical Inspector
email: tech@mkmracing.com

Timing and Scoring Team:

Ed Raether

Dabney Crump

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	- 3 -
1.1 Introduction.....	- 3 -
1.2 How to use this Rule Book.....	- 3 -
1.3 Event Description.....	- 4 -
1.4 Event Officials.....	- 4 -
1.5 Entry Procedures; Cancellation & Refund Policy.....	- 4 -
1.6 Check-in.....	- 5 -
1.7 Waivers.....	- 5 -
1.8 Membership, children, and pets; no spectators.....	- 5 -
1.9 Security Regulations.....	- 6 -
1.10 Age and License Requirements.....	- 6 -
1.11 Entry Limits.....	- 7 -
1.12 Vehicle Numbers and Sponsor Decals.....	- 7 -
1.13 Driver Meetings; Rookies.....	- 7 -
1.14 Track Description; Timing, Starting and Running.....	- 7 -
1.15 Standards of Conduct.....	- 8 -
1.16 Protests and Appeals.....	- 8 -
1.17 About records and trophies.....	- 8 -
1.18 Index Challenge (an optional competition).....	- 9 -
2 TECHNICAL SAFETY INSPECTION.....	- 9 -
3 COMPETITION CLASSES.....	- 10 -
3.1 Class Descriptions.....	- 10 -
4 SPEED LICENSING.....	- 11 -
4.1 Speed Licenses.....	- 11 -
4.2 Rookies.....	- 12 -
4.3 Class Upgrades.....	- 12 -
5 SPEED LIMITS (TECH SPEEDS).....	- 12 -
5.1 Tech Speeds – Speed Limits.....	- 12 -
5.2 Speed Violations – Breakout Rule.....	- 13 -
6 RULES OF CONDUCT.....	- 13 -
6.1 Disqualification.....	- 14 -
APPENDIX A VEHICLE EQUIPMENT REQUIREMENTS.....	- 14 -
General Rules – Automobiles.....	- 14 -
Class-Specific Rules - Automobiles.....	- 16 -
General Rules – Motorcycles.....	- 19 -
Tire and Wheel Rules.....	- 20 -
Fuel & Fuel Equipment.....	- 22 -
Electric Race Car Rules.....	- 23 -
APPENDIX B PERSONAL GEAR REQUIREMENTS.....	- 24 -
APPENDIX H HARNESS AND RESTRAINT SYSTEM REQUIREMENTS.....	- 26 -
APPENDIX R1 ROLL BAR SPECIFICATIONS.....	- 27 -
APPENDIX R2 ROLL CAGE SPECIFICATIONS.....	- 28 -

MKM RACING PROMOTIONS
RULES, REQUIREMENTS, AND SPECIFICATIONS for the
MOJAVE MAGNUM

Tenth Edition – January 2018 - Subject to change without notice

1. General Information

1.1 Introduction

The Mojave Magnum is a motorsports competition sanctioned and presented by MKM Racing Promotions LLC (“MKM”). MKM events are conducted and governed by MKM officials in accordance with MKM Rules, Requirements, and Specifications. These Rules, Requirements, and Specifications may be amended from time to time, and special rules, requirements or specifications may be issued by MKM for specific events or pursuant to any applicable agreement to which MKM is a party.

All persons or groups making official entry into MKM events are assumed to know these Rules, Requirements, and Specifications. **Their participation in the event shall constitute acceptance of these rules.** In entering into and/or taking part in any activity relating to MKM events, a participant agrees to abide by the decisions of MKM officials relating to the event or any matters arising out of the event. The participant further agrees that such decisions are final and non-negotiable.

Close observance of these rules is required for all participants. Particular attention must be paid to the security regulations, rules of conduct, and the minimum safety equipment requirements. These Rules, Requirements, and Specifications are intended as a guide to the proper conduct of the event. **NO EXPRESS OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM THE ISSUANCE OF, OR COMPLIANCE WITH THESE RULES, REQUIREMENTS, AND SPECIFICATIONS, OR ANY SUBSEQUENT ALTERATION. COMPLIANCE WITH THESE RULES, REQUIREMENTS, AND SPECIFICATIONS OR ANY SUBSEQUENT ALTERATION DOES NOT IN ANY WAY GUARANTEE AGAINST INJURY TO, OR DEATH OF PARTICIPANTS OR OTHERS.**

MKM reminds you that **all motor sports are inherently dangerous.** There is no such thing as a guaranteed safe motorsports competition. Motorsport always carries with it the risk of **serious injury, partial or complete disability, paralysis or death.** Even though all of those concerned work continuously to make the sport safer, these risks **cannot be eliminated.** The safety of the driver, and his or her vehicle, is **solely his or her own responsibility.** By choosing to participate in an MKM event, the participant accepts all risks of property damage, injury or death, whether due to negligence (his own or that of others), equipment failure, or otherwise. If at any time, the participant does not accept these risks, he or she agrees to not participate, or to cease participating, in the event.

(Note: as used in this rule book, the term “participant” refers to anyone, whether driver, crew, family, guest, or other person, that enters into the event area, or participates in or attends any other MKM activity. In this book we also use the term “entrant”, which means anyone actually competing in the event. Finally, the term “driver” is understood to include both drivers and riders.)

1.2 How to use this Rule Book

This book is divided into 6 sections, plus several appendices.

This section, Section 1, basically lists the “ground rules” of an event, defining things like what it is, who may enter, how to enter, how it’s run, how the track is laid out, and other stuff like that. There is also some important information regarding security regulations, children and pets.

Section 2 talks about our Technical Inspection process.

Section 3 looks at the vehicle classifications we offer for you to enter your car or bike into.

Section 4 looks at our driver licensing. Each entrant will have or be issued an MKM Speed License.

Section 5 describes our speed limit system, which applies to all entries except in the U classes.

Section 6 is a list of our rules of conduct, and actions that might get you disqualified. We don’t want that to happen, so please read them carefully.

The Appendices that follow are where all the details are listed regarding vehicle preparation standards, personal safety gear requirements, tire standards, harness and roll bar standards, etc.

1.3 Event Description

The Mojave Magnum is an individual (solo) speed trial competition for motor vehicles, based on achieving the highest possible trap speed in 1.5 miles from a standing start. Entry is open to 2-wheeled motorcycles and 4-wheeled vehicles that meet the specifications in this rule book.

1.4 Event Officials

The Event Director is responsible for managing the overall conduct and safety of the event. A driver's access to the track is at the sole discretion of the Event Director. The Event Director will supervise all aspects of the event, including communications, emergency personnel, timing and scoring, and event control officials. The Event Director may, at his discretion, appoint an Assistant Event Director, a Chief of Tech, Chief Starter, Chief of Grid, Chief of Timing and Scoring, and other additional personnel to help officiate at the event. The Event Director is also empowered to authorize minor deviations from these Rules should unforeseen issues arise that require such deviations. The decisions of the Event Director are final.

1.5 Entry Procedures; Cancellation & Refund Policy

All entries to MKM events must be submitted on line at our entry partner web site mojavemile.motorsportreg.com. We will not accept any in-person, paper-based or telephone entries. A valid email address is required for each entrant. A valid credit or debit card number must be supplied to hold each entry spot. By supplying the card number, the entrant agrees that we will use it to pay for the entry. The card will not actually be charged until the entry is processed, which could be immediately or at a later time.

Each entry we accept will be given an official confirmation number. We will set a limit to the number of entries and/or the number of each type of entry, and we reserve the right to reject or refuse any entry. Persons trying to enter an event after the entry limit is reached will be diverted to a waiting list. If and when entry spots become available, the waiting list will generally be processed in order of date received. However, if we contact a person on the waiting list with the offer of a spot in the event, he or she will need to be available to confirm that they still want the spot, and we must be able to immediately charge either the supplied card number or an alternative. Otherwise, we may exercise our option to move on to the next person on the list.

Notwithstanding any of the above, MKM reserves the right to book entries beyond our published entry limits, and to offer an entry spot to any person at any time at any price, at our discretion.

"Walk-in" entries will not be accepted. **The only way to enter an event is on-line.** Entries close when the entry limit is reached, or at 8 PM Pacific Time the night before the event. There will be no entries accepted at the track, either new or "add-on". Changes to your existing entry are usually possible, but only if they are done before race day. Changes (other than Class changes) cannot be made at the track. Entry spots remain the property of MKM, are not transferable, and cannot be sold, traded or given away to others. Entry changes can only be done by MKM staff.

REFUNDS:

"Official cancellation" means either contacting us by telephone and notifying us, or telling us in person, or logging in to the entrant's online account and cancelling there.

If an entrant officially cancels from an event more than 14 days before the first day of the event, any entry fees paid will be either kept on our books as a credit toward a future MKM event, or refunded to the original form of payment, at the option of the entrant. A small administrative fee will be charged in either case.

After that date, up until 8:00 PM Pacific Time the night before the entrant's first day of racing, entrants who officially cancel from an event will be given the option of either a 70% refund of entry fees paid (with MKM retaining the other 30%), or an 85% credit toward a future MKM event (with MKM retaining the other 15%), at the option of the entrant. A separate administrative fee is not charged in either of these cases. The MKM retentions will apply even if the entry fees were paid only a short time prior to the cancellation.

Any paid, confirmed entrant who does not officially cancel by 8:00 PM Pacific Time the night before their first day of racing, and then fails to show up at the event, is officially a no-show and is not entitled to any refund or future credit.

We will not give refunds for factors beyond our control including, but not limited to, adverse weather, mechanical breakdown of a race or support vehicle, failure or inability of an entrant to show up at an event, failure or inability of an entrant to compete after checking in for an event, failure of an entrant or vehicle to pass technical inspection, unforeseen unavailability or closure of the airport or runway, natural or man-made disasters, and acts of war or terrorism. Any future-event credit that may or may not be given in these or similar situations will be at the sole discretion of MKM.

Any possible right to any fee refund or future-event credit is forfeited as soon as the competitor presents him- or herself at the start line for his/her first run.

We do not guarantee that any particular entrant will get to make any particular number of runs. We may offer a guarantee of a certain overall average number of runs. If so, details will be issued separately.

Future-event credits will expire if not used within 25 months after being issued; after that they will be cancelled, 25% of the amount will be retained by MKM and the remaining 75% (if that amount exceeds \$10) will be mailed as a refund. Future-event credits cannot be sold, traded, given away or assigned to others, or used by any person other than the original person receiving the credit.

Anyone using or attempting to use a credit card chargeback to give themselves a "refund" that they are not entitled to, will be barred from all future MKM events, and the chargeback will be vigorously contested.

1.6 Check-in

All entrants must check in with MKM Registration at the event prior to competing. The purpose of this is to identify all entrants taking part in the event; to verify MKM membership and completion of all liability waivers, indemnity releases, and any remaining forms or payments; and to issue wristbands, tech forms, vehicle numbers, and other official material.

1.7 Waivers

All persons admitted into an MKM sanctioned event's restricted area (i.e., inside the gate) must obey all Rules, Requirements, and Specifications set forth by MKM. Each and every person seeking admittance must first complete and sign all waivers, releases of liability, and other documents requested by MKM and/or airport management.

All persons under the age of 18 intending to enter the event gate, including babies, small children, and teens, must be accompanied by a parent or legal guardian, who must sign a special minor liability waiver for each minor child and who is responsible for their safety and conduct at all times. Unfortunately, for legal reasons this person cannot be a neighbor, older relative, family friend, babysitter, parent of a friend, etc.; it must be the minor's actual parent, or permanent or temporary legal guardian.

All entrants and other participants and attendees empower MKM to represent them in assigning rights for reproduction of MKM events by electronic, broadcast and/or print media and automatically assign rights to use their name, facsimile, etc., in media related materials and/or advertising and promotion of MKM events.

1.8 Membership, children, and pets; no spectators

Due to increased airport security, **the general public is not allowed into our events at Mojave, and spectators are not permitted.** The only people allowed in will be members in good standing of MKM Racing, plus MKM Staff, MKM-approved vendors and media, guests of MKM, and other official personnel. Membership in MKM Racing is only available to entrants and their team personnel and immediate families. MKM reserves the right to limit the number of persons allowed in and to expel anyone who becomes unruly or disruptive. Race entrants are reminded that they are responsible for the conduct of all persons/members associated with them.

Every person entering the gate must be verified as being either an MKM member or otherwise officially associated with the event. To avoid delays, entrants are required to submit, in advance, the names of all new members who will be coming to the event with them. Membership expiration: Temporary (weekend) memberships expire at 11:59 PM on the last day of an event. Memberships remain the property of MKM and cannot be transferred or sold. MKM may eventually offer longer-term memberships such as annual or lifetime. If a person with a longer-term membership gives it up or becomes deceased, all rights to it revert to MKM.

We wish to note here that the event operating area is not "kid and pet friendly." There is nothing for young children to do, and loose pets are a safety hazard both to themselves and to others. Also, this is the Mojave Desert, and venomous reptiles and

insects are known to inhabit the area. Children and pets must be supervised by an adult **at all times**. You can't leave your children or pets unattended, or let them run around loose. PETS MUST ALWAYS BE RESTRAINED OR KEPT ON A LEASH. Letting your pet get loose is grounds for your expulsion from the event – the last thing we need is a terrified, uncatchable dog loose on the runway with cars going 200 MPH. Please don't bring your small kids or pets unless absolutely necessary.

1.9 Security Regulations

We are guests at an active airport facility that is still open while we are running. That means that security must be taken seriously. Please adhere to these regulations at all times. Although we always strive to be fair and reasonable, a security violation may result in your expulsion from the event.

Use only the official gate to enter and leave the event. Follow only officially marked routes. Don't leave the event's assigned area (except via the official gate) and don't wander or drive into any off-limits areas of the airport.

Wear all wristbands issued to you, at all times. Anyone without a correct admission wristband will be escorted out.

All persons must wear shoes or sandals; please do not go barefoot.

Small children and pets need to have some kind of ID or tag identifying who they "belong to".

Due to airport requirements, this is a DRY event; **CONSUMPTION OF ALCOHOL IS NOT PERMITTED ON THE PREMISES.**

Glass bottles and containers are not allowed outdoors within the event area, due to the hazard to tires and feet.

Non-commercial flying devices - drones, quadcopters, UAVs, RC aircraft, balloons, kites, etc., including toy varieties, are prohibited. Please just leave them home. Licensed commercial drone operators may inquire, well in advance, about allowability, but we make no promises.

Skateboards, "hoverboards", roller skates/blades and skate shoes (heelies) are not allowed within the event area.

Persons without valid driver's licenses are not allowed to operate any kind of motorized vehicle at any time within the event area. This includes cars, motorcycles, golf carts, ATVs, utes, quads, motorbikes, scooters, mopeds, Segways, etc. Children cannot operate or ride ANY wheeled device, motorized or not, including all of the above, plus bicycles, tricycles, pedal cars, razors, big wheels, etc. (Exceptions: Licensed minor drivers may operate motor vehicles; baby strollers and medically necessary wheelchairs or power chairs are OK.)

Drivers of motorized vehicles with no roll protection (motorcycles, scooters, quads, pit bikes, open ATVs, etc.), are REQUIRED to wear a helmet at all times while in motion, whether on the road, in the pits, or wherever. This can be any street-legal or competition car or motorcycle helmet, including DOT.

Firearms (real or imitation, including airsoft, paintball, etc.), other weapons, fireworks, bonfires, barbecues, fire pits, burn barrels and other open fires are prohibited.

Smoking is discouraged (as is vaping) but if you do smoke, please use common sense and stay well away from any flammable material (gas cans, dry grass, etc.) that may be nearby. Stay at least 25 feet away and stay downwind from the food concession, the tech trailer and the sales trailer/motor home/grid area. Make very sure your butts are OUT and not left on the ground.

1.10 Age and License Requirements

All entrants (drivers or riders) must be at least 18 years of age as of the date of the event.

All entrants must have a currently valid (not expired, suspended or revoked) US State or Territorial, Canadian Provincial or Territorial, US or Canadian military, UK or EU/EEA driver's license. (If your license is not one of these, it might still be acceptable; contact MKM for advice.) Learner's permits or provisional licenses are not sufficient.

Motorcycle entrants must have a current motorcycle driver's license or endorsement suitable for the size of their bike.

In addition to their government-issued license, all entrants require an MKM speed license to run in this event and to exceed certain speed thresholds. See Section 4 for details. The Event Director has complete discretion as to who does or does not get to run and how fast they are allowed to go.

All entrants must have permission to operate their vehicle(s) in this event from the vehicle's registered owner. This means that **RENTED VEHICLES ARE NOT ALLOWED TO COMPETE** without written permission from the rental company.

All entrants must complete an emergency contact form and a medical information and release form. It is each entrant's responsibility to note any drug sensitivities or allergies on these forms.

1.11 Entry Limits

Entry: is defined as a "package" of one vehicle with one driver entered in one class, plus possible add-ons.

Primary driver: Each entry has one "primary" driver associated with it. This person is assigned to the vehicle.

Add-on secondary driver: Each entry can have one additional driver ("co-driver") added to it. There is a charge for the second driver. This secondary driver is also assigned to the vehicle on the entry. Please note that secondary drivers cannot be entered or added-on at the track.

Second vehicles: We will allow an entrant to enter a second vehicle in the event. This is treated as a completely separate entry at full price. This is limited to two total vehicles per person.

Vehicle Sharing - Driver swapping: This practice has been discontinued. Drivers may only drive vehicles to which they have been assigned unless special prior arrangements have been made (for "group" entries).

Tech Speeds: Unlike previous years, there will be no separate Tech Speed assigned to the driver. All drivers assigned to a vehicle must be present at Tech Inspection and all must meet the qualifications for the class entered. If a vehicle has two assigned drivers, the entry class and Tech Speed for the vehicle will be adjusted to match the lowest-licensed driver of the two.

No Duplicates: A vehicle may not be entered twice in the same event.

Passengers are not permitted in or on any entered vehicle during a speed run without specific pre-approval by MKM, which is unlikely to be granted under normal circumstances. Media or VIP "ride-alongs" may occasionally be allowed, but only by special arrangement. In such cases the passenger must meet all of the same safety equipment requirements as the driver.

1.12 Vehicle Numbers and Sponsor Decals

Vehicle numbers and/or identifying stickers will be provided for each vehicle and they must be displayed on the LEFT side of the vehicle, usually on the side window (for cars). MKM may also require official sponsor's stickers to be placed on each vehicle. These items must all be in place prior to Tech Inspection.

1.13 Driver Meetings; Rookies

Rookies (defined as those who have never raced in an MKM event at Mojave) may be required to participate in certain mandatory activities prior to competing, such as roll calls, briefings, rookie classes, track drives, etc. A document covering specific Rookie requirements for each event will be published before the event and provided to each Rookie entrant.

Before racing begins each morning, there is a short pre-race briefing/driver's meeting at the grid, followed by an escorted track drive. Attendance at both is **mandatory for Rookies** on their first day of racing, and highly recommended for everyone.

If any other meetings are scheduled, notices will be posted and announcements will be made.

1.14 Track Description; Timing, Starting and Running

The track is a section of runway exactly 1.5 miles (7920 feet) in length. Only one vehicle at a time is on the track. Electronic timing triggered by laser beams is used to determine speed. The "speed trap" used to measure speed consists of the last 132 feet of track before the finish line. Elapsed Time is not measured, only Top Speed. Other intermediate speed traps may be placed at various points on the track, at MKM's discretion.

Running order is generally "first come, first served". Racers will run from a standing start. By requirement of airport management, there are **NO BURNOUTS** allowed, and **wheel spin must be kept to a minimum**. Hard drag-race-type launches are discouraged due to equipment breakage.

All drivers must run with all their required safety gear in place, including helmets on, chinstraps fastened, helmet face shields closed (or eye protection in place) and gloves on. Car drivers must also have their seat belts/safety harnesses buckled in place and as tight as possible. These and other items will be checked at the starting line.

All runs will be for the full 1.5 miles. Under normal circumstances there will be at least 4200 feet of braking distance available after the finish line, with about 1000 feet of emergency runoff after that. After slowing to a safe speed, vehicles will exit the runway and return on the taxiway to the pit/paddock area, where they can get back in line for another run. Vehicles **must** return to the paddock after each run. They cannot drive straight back to the starting line.

Any vehicle that fails to slow down sufficiently before the end of the pavement and goes into the emergency dirt runoff area, or goes off-track in any other way, or is involved in a crash, will not be allowed to run again until it is re-inspected by MKM officials, who may impose a lower speed limit or bar the vehicle from further competition.

While on the main taxiway ("Alpha"), a strict 50 MPH (30 MPH for towed/pushed vehicles) speed limit is in effect, and traffic control personnel/flaggers **MUST** be obeyed, since you will be crossing active runways.

On the way back to the pits, each vehicle **MUST** stop briefly at the timing station, and the driver **MUST** show his/her left arm wristband to timing personnel, in order to receive a speed slip and get proper credit for the run. **If the driver fails to stop at the timing station, the run will not be scored.**

This is by definition a **standing start** event. **All vehicles must come to a stop at the starting line; there will be no "rolling starts".** We prefer that vehicles be self-starting, however, push-assisted automobile starts, beginning with the race car stopped at the starting line, are allowed. Vehicles must complete their run and exit the runway without outside assistance (except in case of breakdown or accident).

Towing or pushing of vehicles to the starting area or back from the top end is allowed but not required. If a vehicle can be **safely** driven on the taxiway to and from its run, it's preferable, as it helps keep things moving and reduces two-way traffic on the taxiway.

No repairs are allowed on any vehicle once it is in the grid line for its next run. If repair is needed, the vehicle must leave the line and return to the pits. **ANY time the engine is running (even in the pits), and any time a vehicle is being towed or pushed, a driver must be at the controls of the vehicle.**

1.15 Standards of Conduct

All participants in an MKM event, including drivers, team members, support team, and crew members, are expected to conduct themselves according to the highest standards of behavior and sportsmanship, and in a manner that shall not be detrimental to the reputation of MKM, particularly in their interactions with other drivers, officials, event workers, and airport personnel and tenants. Entrants shall, at all times, be responsible for the conduct of those accompanying them to an event such as crew, friends and family.

Abuse of any MKM officials, law enforcement officials, emergency personnel, airfield personnel, volunteers or other official personnel will not be tolerated under any circumstances and could result in ejection from the event or even legal action.

Please remember that safety is everyone's responsibility. NO reckless or exhibition driving will be tolerated, on or off the track, including wheelies, burnouts or showboating while on the taxiway or anywhere else on or off the event grounds!

1.16 Protests and Appeals

We do not have a formal protest/appeal procedure. However, if there is something that you think is not right, please bring it to the attention of the Event Director, who will evaluate each complaint, decide if it has merit, and determine if any course of corrective action is possible or necessary. The Event Director's decisions are final.

1.17 About records and trophies

We will issue trophies or plaques for the top speed in each class, plus second, third and fourth place trophies if the number of class entries is sufficient, and possibly various special awards as we see fit. Ties will be decided by the next-fastest scored run, then the next, etc. All entrants will receive a printed record of each scored run, and a speed certificate, suitable for framing, showing their highest speed achieved on a scored run. (Speed certificates will not be issued for "breakout" runs.)

Trophies, speed certificates and official results will be mailed out shortly after each event.

The only speed records we are officially keeping, for now, are for fastest car and fastest bike at both 1-mile and 1.5-mile distances. Speed records and Speed Club listings are separate for 1-mile and 1.5-mile distances.

1.18 Index Challenge (an optional competition)

The optional **Index Challenge Competition** (for racers who have paid a small additional fee) is a contest to see how closely any Index entrant can come, over or under, to one of the exact Index Speeds listed here, on any of their scored runs:

120.0, 130.0, 140.0, 150.0, 160.0, 170.0, 180.0, 190.0, 200.0 MPH

It should be obvious that the Index Speed you select needs to be less than or equal to any Speed Limit that applies to you; however, making the correct choice is up to the entrant.

If there are any runs that qualify (see below), a 1st place trophy will be awarded for each Index Speed that has an entry. If four or more people enter a given index speed, a 2nd place trophy will be awarded. If seven or more people enter a given index speed, a 3rd place trophy will be awarded.

The Index Challenge is a separate competition open to all entrants across all classes. If an entrant desires to participate in this optional competition, he or she must specify when entering the event, which Index Speed he/she will be aiming for, and pay the additional fee required.

To qualify for an Index trophy, a run must be within 5 MPH of the target Index Speed. Runs that contain a speed "breakout" will not count for the Index Challenge. **Only speeds recorded at the 1.5-mile speed trap will count toward the Index Challenge.**

An entrant may change his/her Index Speed during the event, if necessary, by notifying Registration of the desired change. If an entrant's Index Speed is changed during the event, any prior runs for that entrant will not count toward the Challenge.

2 Technical Safety Inspection

The term "entry" as used in this section means the combination of a vehicle and its primary driver or rider (and secondary driver or rider, if there is one).

Each entry must undergo a Technical Safety Inspection ("Tech") to ensure compliance with the Rules, Requirements and Specifications.

No equipment shall be assumed or deemed "approved" because it passed Tech previously at another event, or because this rulebook does not specifically exclude it.

All vehicles must be maintained in a safe condition at all times. Passing Tech Inspection does not relieve the entrant of any liability. Each entrant bears sole responsibility for the safety and speed-worthiness of his/her vehicle and equipment.

- A. No person or vehicle is allowed to run in the event without first passing Tech Inspection.
- B. At Tech Inspection, each vehicle and its assigned driver(s) are scrutinized for safety and compliance with class requirements. The vehicle must be presented in 100% "ready to run" condition including, but not limited to, the following:
 1. All safety equipment installed. All cameras/GPS units/etc. fully mounted.
 2. Vehicle number and any required event sponsor decals affixed.
 3. Both the primary driver and (if applicable) secondary driver of the vehicle must be present at Tech Inspection, with all of their safety equipment. They must be prepared to don the equipment and belt in just as they would during the event, if requested.
 4. All drivers will be checked for compliance with the entry class requirements regarding their license level, personal safety gear, etc. If either driver for a vehicle does not meet the entry class requirements, Rule C (below) applies. NOTE THAT ANY ENTRY WITH A ROOKIE DRIVER WILL AUTOMATICALLY BE PLACED INTO CLASS D AT FIRST.

- C. Any entry that fails tech inspection must either correct the deficiency and be re-inspected, or be downgraded (if possible) to a class for which it will pass inspection.
- D. Tech Speed (speed limit) for the entry is determined by the Class it is in after passing Tech.
- E. Under penalty of disqualification, no modifications (additions, deletions, or changes) are permitted to either vehicle equipment or driver gear after passing Tech Inspection unless coordinated with the Event Director and Chief Technical Inspector. This includes any change in vehicle condition, due to breakdowns or failures, flat or damaged tires, or any other reason. It is the entrant's responsibility to resubmit the vehicle (or the driver) to tech inspection for approval of any changes.

3 Competition Classes

Each entry will go into one of our Competition Classes, selected during the entry process. By reading the class descriptions below, you should be able to pick which class is right for you.

If you are not sure about your equipment, or any of the rules, requirements, or specifications, please call or email us with any questions you might have (see contact info in the front of this book). We will be glad to help you select the proper entry class for your situation.

An entry may be reclassified before or during the event if deemed necessary by the Event Director or the Tech Inspectors. *If an entry is reclassified for any reason, a new tech sticker with the new Class and Tech Speed MUST be affixed to the vehicle by an MKM Tech Official, and Timing & Scoring must be notified, before any further runs are made.*

3.1 Class Descriptions

This is a brief look at the entry classes we have to choose from. This is not a full detailed listing of all vehicle and driver equipment requirements; for that, see Appendixes A and B.

AUTO Division:

PLEASE BE AWARE: ALL auto drivers must now wear a true Auto Racing helmet, Snell SA type (2010 or 2015) or FIA 8859/8860. All MUST BE FULL FACE TYPE except in Class D which allows open face auto racing helmets. MOTORCYCLE HELMETS OF ANY VARIETY (Snell M, ECE, US DOT) ARE NO LONGER ALLOWED IN CARS. Also, all auto drivers in class B or higher MUST WEAR A HEAD AND NECK RESTRAINT (HANS), EITHER SFI 38.1/FIA 8858 APPROVED OR APPROVED BY MKM.

Auto Class D: Maximum speed 170 MPH. This is our beginner/rookie class, and also a catch-all for cars with top speeds below 170. Requires OEM-type three-point seat belts minimum. "Z" or "W" rated tires minimum. (NOTE: Tech may allow a lower rated tire if the tire rating is higher than the vehicle's actual top speed.) Minimum of "D level" driver equipment is required, basically all-cotton full-coverage clothing, leather gloves and leather shoes with no holes, and a true auto racing helmet, which may be open-faced with goggles, or (preferably) full-face with face shield. Drivers need an MKM D license, so only a regular driver's license is necessary; no Mojave experience is required. Convertibles cannot run unless they have some kind of rollover protection behind the driver.

Auto Class C: Maximum speed 190 MPH. Basically the same as Class D except: Y rated tires minimum. Helmet must be full-faced. Driver must wear at least C-level gear, which means wearing an SFI 3.2A/1 rated fire suit. Drivers must have an MKM C license or higher.

Auto Class B: Maximum speed 220 MPH. This is the lowest class that is eligible for the 200 MPH club. **A Class B car must have a roll bar** unless it is on our exemption list. The car's tires must be a minimum of (Y) (in parentheses) rated, or be on our tire exemption list. Also required are SFI rated true racing harnesses with arm restraints. Drivers must wear at least B-level gear: an SFI 38.1/FIA 8858 head restraint device (HANS or similar); a racing fire suit of at least SFI 3.2A/5 or FIA 8856-2000 rating; SFI rated racing shoes/socks/gloves and balaclava (head sock). Drivers must have an MKM B license or higher.

Auto Class A: Maximum speed 240 MPH. **A Class A car must have a roll cage**, either bolt-in or welded. Other requirements are similar to Class B except: Tires must be either non-DOT true racing tires designed for high speed pavement usage, or Hoosier R7s. A built-in racing fire suppression system of 5lb. minimum is required in most cars. Driver must wear A-level gear, which is the

same as B-level but with the added requirement of a full set of Nomex racing underwear beneath the fire suit, and multi-layer (SFI 3.3/5) gloves. Drivers must have an MKM A license or higher.

Auto Class U: (Unlimited) Class U has no speed limit. This class is for fully prepared race cars. A fully welded roll cage and many other pieces of safety gear are required. Has the same tire requirements as Class A. Please see Appendix A for full requirements. The driver gear is the same as Class A. The driver must have an MKM U license.

MOTORCYCLE Division:

PLEASE BE AWARE: ALL motorcycle riders must wear a full-face motorcycle helmet with face shield. We require helmet ratings such as Snell M2010 or later, or ECE 22-05 or a few others. Helmets rated only DOT, with no other rating, are not allowed. Auto Racing helmets are not allowed. Open face and motocross helmets are not allowed. Clamshell-type “modular” helmets are only allowed in classes D and C.

ALL motorcycle riders must also wear, at a minimum, a full coverage leather suit, leather gauntlet-type gloves, and high top leather boots without lug soles.

All motorcycles must meet our general bike rules and have our required safety modifications, see the rule book or the prep guide.

Moto Class D: Tech Speed 170 MPH. Beginner/rookie class plus a catch-all for slower bikes. Minimum of V rated tires (with a possible Tech exemption for slower bikes). MKM D license minimum, which means just having a motorcycle driver's license. You may use a modular clamshell-type helmet or a regular one-piece.

Moto Class C: Tech Speed 190 MPH. Minimum of (V) rated tires (in parentheses on the tire), or a regular V rated tire shaved down to 6/32 or less tread depth. AN MKM C license or higher is required. Otherwise the same as Class D.

Moto Class B: Tech Speed 220 MPH. Minimum of Z or W rated tires. An MKM B license or higher is required. You may not use a modular clamshell type helmet, it must be a one-piece type.

Moto Class A: Tech Speed 240 MPH. Minimum of (W) rated tires (in parentheses on the tire), or race tires on the MKM list. An MKM A license is required. Road race leathers with full CE-rated or similar armor, or an armor “jersey”, including a back plate, are required. Road race boots without lug soles are required. You may not use a modular clamshell type helmet, it must be a one-piece type.

Moto Class U: Tech Speed is Unlimited. Minimum of race tires on the MKM list, or true non-DOT road race/track tires (slicks). An MKM U license is required. Otherwise the same as Class A.

ELECTRIC RACE VEHICLES:

Electric powered race cars (as opposed to stock or nearly-stock electric street cars) must additionally meet the Electric Race Car Rules listed at the end of Appendix A.

4 Speed Licensing

4.1 Speed Licenses

Each competitor must hold an MKM speed license, the level of which is generally based on prior Mojave experience at an MKM event. MKM has five graduated license levels as follows:

D – The minimum qualification for a D license is having a valid and current driver's license as specified previously. Prior Mojave race experience is not required. This license is good for a maximum of 170 MPH.

C - The minimum qualification to receive a C license is already having a valid D license, plus successful completion of at least one run with MKM at Mojave with a trap speed of more than 160 MPH. This license is good for a maximum of 190 MPH.

B – The minimum qualification to receive a B license is already having a valid C license, plus successful completion of at least one run with MKM at Mojave with a trap speed of more than 180 MPH. This license is good for a maximum of 220 MPH.

A - The minimum qualification to receive an A license is already having a valid B license, plus successful completion of at least one run with MKM at Mojave with a trap speed of more than 205 MPH. This license is good for a maximum of 240 MPH.

U – This is our top-level license, good for unlimited speeds. Graduation to a U license is not automatic and will be considered on a case by case basis by the Event Director. Minimum qualifications (in addition to the Event Director's approval) are having an existing A license, plus successful completion of at least two runs with MKM at Mojave at more than 220 MPH. The Event Director has the final say as to who does or does not receive a U license.

Land Speed Licensees: We no longer automatically grant MKM licenses based on having an SCTA license.

Prior Experience: Prior racing experience at other venues is generally not applicable toward obtaining an MKM license. Exceptions to this rule may be made on a case by case basis at the discretion of the Event Director. Decisions of the Event Director regarding applicability are final.

Please note that at this time we don't actually issue a physical license card; each person's license level is kept in our records.

MKM reserves the right to downgrade the level of a license if the racer has not raced at Mojave within the last five years.

4.2 Rookies

All drivers that have no prior driving or riding experience in an MKM Racing event at Mojave are considered Rookies. If you read the previous section closely, you will note that the only MKM license level open to those with no Mojave experience is D. This is intentional. We do this because we have found that for new people, making a lower-speed initial pass is essential for safety. Rookies will start with a D license regardless of any other outside experience.

Also, please see Section 1.13 regarding mandatory Rookie activities.

4.3 Class Upgrades

It is possible for an entry to qualify, during an event, for an upgrade into a higher class with a higher Tech Speed. All the requirements for the desired higher class (both a higher MKM license level for all drivers, and sufficient vehicle and personal equipment) must be met. These upgrades are handled by taking both the vehicle and its driver(s) back through Tech Inspection, usually at the Tech trailer in the paddock. In the case where two people are assigned to a vehicle, they must both go back through Tech, and both of them, and the vehicle, must qualify for the upgrade in order for the entry to move into a higher class.

Class Upgrades are limited to one class step upward at a time, unless the Event Director allows otherwise.

5 Speed Limits (Tech Speeds)

5.1 Tech Speeds – Speed Limits

Tech Speed is our term for Speed Limit. (The term derives from the fact that the limit is issued at Tech Inspection.)

A Tech Speed is assigned to each entry in this competition. The speed assigned to an entry depends on the class for which the entry passes inspection. **The basic rule is that "everything must match or exceed the Class letter" to qualify for a certain class.**

For example, in order to qualify for Class B and get a 220 mph Tech Speed, you must wear at least "B level" personal gear; you must hold at least an MKM B license; and your vehicle and gear must pass Tech Inspection for Class B.

Exceeding your entry's speed limit by any amount at any point during the run will be cause for penalty or disqualification. There is no "tolerance" or "grace" regarding these limits. (See the next section.)

The Mojave Quick Reference Chart summarizes all the Classes and their requirements. It is available on our web site.

The Event Director has full discretion with regard to which Entry Class/Tech Speed is assigned to any entry.

5.2 Speed Violations – Breakout Rule

Speed limits in this event have no “tolerance” or “grace” allowed. Exceeding one’s speed limit on a given run by any amount at any point is considered a “breakout”. Breakouts may occur at any speed trap on the course.

The standard penalties for all breakouts are as follows:

- The entire run is discarded from scoring
- The speed(s) will not be listed in the results
- No official speed slip, speed certificate, or other documentation will be issued for the run
- The run is ineligible for speed records, speed club memberships, Index Challenge awards, or speed license upgrades.
- The driver receives penalty points, as follows:

A “small breakout” (0.1-5.0 MPH over) is worth ONE penalty point. A “big breakout” (5.1-10.0 MPH over) is worth TWO penalty points. A “major breakout” (10.1 MPH or more over) is worth FOUR penalty points. Points will start at zero for each event and accumulate (for each driver) for the entire event. Penalties (in addition to the standard ones listed above) are incurred according to the following schedule:

- 0 or 1 penalty point – no further penalties
- If you get to 2 total penalty points – a verbal warning may be given
- If you get to 3 total penalty points – an official warning will be issued
- If you get to 4 total penalty points – Mandatory meeting with the Event Director; possible disqualification from the event
- If you get to 5 total penalty points or more – automatic disqualification from the event with no refund, unless the Event Director intervenes

We may also report especially flagrant breakouts to other sanctioning bodies.

6 Rules of Conduct

THE FOLLOWING RULES ARE CRITICAL TO YOUR SAFETY AND THE SAFETY OF OTHERS. They must be strictly adhered to. Please remember these rules and help our event be successful!

- A. **OBEY ALL OFFICIALS.** They are there to protect you, the event, and the public. This includes all law enforcement officers, security and airport personnel, grid and starting line workers, traffic control officials, the Event Director, and Emergency Response personnel. Abuse of ANY official or Event Staff member will NOT be tolerated.
- B. **DRIVE SAFELY.** We do our utmost to make sure the track is clear, but you are NEVER relieved of your responsibility and obligation to use good judgment while driving. Never make a sudden maneuver unless absolutely necessary. Look FAR AHEAD down the track. Be particularly aware of the finish lights and the finish line location, and know when to shut down. Finally, don’t exceed your Run Speed Limit!
- C. **NO INTOXICANTS before or during the event. NO DRINKING** of alcohol, and **NO DRUGS**, legal or otherwise, that might impair your driving ability. If you can’t abide by this obvious rule, we don’t want you here. This event is “dry”; **CONSUMPTION OF ALCOHOL IS NOT ALLOWED** anywhere inside the gate at Mojave.
- D. **NO HIGH-SPEED OR AGGRESSIVE DRIVING ON THE TAXIWAYS OR IN THE PITS.** Keep it slow and safe. NO PASSING on the way to and from the track. Obey all traffic control personnel. There is a 50 MPH limit on the main taxiway (30 MPH for towed vehicles), and a 10 MPH limit in all other areas such as the pits and paddock. Don’t exceed these limits!
- E. **NO SHOWING OFF.** Exhibition driving or riding, stunts, drifts, donuts, burnouts, wheelies, stoppies, etc., have no place in this competition and are prohibited. In particular, **NO WHEELIES** on the way to the Start Line! Don’t do it!
- F. **ENTER AND LEAVE THE EVENT ONLY THROUGH THE OFFICIAL GATE.** Some areas of the Mojave Air and Space Port are highly restricted. If you wander off into some other part of the airfield, or try to sneak in or out some other way, you could be in serious trouble, possibly even with law enforcement. Never stray from the officially marked routes and areas.

6.1 Disqualification

The Event Director may disqualify you from an event with no refund:

- A. If you violate the Rules of Conduct, above.
- B. If you receive 4 or more speeding penalty points in one event, as described above.
- C. If, in the opinion of event officials, you make a run that disregards your Speed Limit in an especially flagrant, excessive or reckless manner. In addition to possible immediate disqualification, you may be suspended for one year or banned from ever participating in a future MKM event.
- D. If you are observed engaging in reckless or dangerous driving, either on or off the track.
- E. If you fail to notify the Event Director or Chief Technical Inspector of **any** changes in vehicle condition or personal safety gear **after passing Tech Inspection**. This includes configuration changes, breakdowns/equipment failures, and flat or damaged tires.
- F. If it is determined that you have falsified any of your entry forms, deceived or made materially false statements to Event Officials and/or Tech Inspectors, or cheated in any way.
- G. If you are observed using intoxicants (alcohol or drugs, legal or illegal) immediately before or during the event, or you appear to be intoxicated or otherwise unfit to operate a vehicle. MKM reserves the right to ask any driver to submit to a breathalyzer test. If the driver refuses the test, or if any alcohol level is shown on the test, event disqualification is automatic.
- H. If your pets or children are found running around loose and causing problems and/or a safety hazard.
- I. For any other reason that the Event Director deems sufficient.

Decisions of the Event Director are final. If you are disqualified from the event, your runs will be stricken from the official results, and no refunds or credits will be issued. Any entrant disqualified from an MKM event for any reason may require re-qualification prior to participating in future events, and may have their license downgraded for one or more future events.

Appendix A Vehicle Equipment Requirements

This appendix applies to all vehicles.

Exceptions to these rules may be granted by special permission. Submit a request to MKM well in advance of the event.

NOTICE: Appendix A covers equipment requirements only for the vehicle itself. Driver personal safety equipment (suit, helmet, etc.) is covered in Appendix B.

General Rules – Automobiles

Note: The terms “car” or “automobile”, as used in these rules, include any eligible 4-wheeled vehicle.

The following rules and requirements apply to **all Automobile entries**:

- A. Vehicles entered in the Automobile classes must be 4-wheeled autos, SUVs, or pickups. Open-wheel vehicles are permitted. Vehicles must use a single internal-combustion reciprocating or rotary (Wankel) engine, gas turbine, or Electric or Gas-Electric Hybrid drive system, and must be wheel-driven.
- B. All cars must be in generally good condition and in an excellent state of repair for running at high speed, with no apparent damage or mechanical defects, obvious missing bodywork, loose parts, etc.; and no fluid leaks of any kind.

- C. All cars must have 4-wheel hydraulic brakes with all brakes in good operating condition. 4-wheel disc brakes are highly recommended.
- D. All cars must have a functional suspension and shock absorber for each wheel.
- E. A minimum track width of 48 inches front and rear is required, measured between the tire centerlines. The minimum wheelbase is 80 inches. Wheelbase must be the same on both sides and the "axles" (real or imaginary) must be at right angles to the car's front-rear centerline. (In other words, a normal "square" arrangement.)
- F. The following vehicle types are not allowed except by special prior arrangement with MKM: "Rail" type dragsters; "Funny Cars"; karts; ATVs/quads/utes; "special construction" land speed cars (streamliners and lakesters); off-road or excessively raised vehicles; dual rear wheel trucks; reaction-propelled (jet or rocket) cars; 3-wheeled vehicles; vehicles that weigh or have a GVWR over 5 tons; cars with very narrow motorcycle-type front tires.
- G. **Convertibles:** We define the term "convertible" to mean any car with a removable or retractable soft top, a removable or retractable hardtop, or no top at all. ("Targa" or "T-Top" car types, that have a fixed metal roof bar, are generally not considered convertibles.) In order to enter this event, convertibles, and other cars lacking a metal roof structure, are **required to have some kind of rollover protection behind the driver**, either an OEM fixed roll bar, an OEM pop-up roll bar, or an added-on Appendix R1 roll bar or Appendix R2 roll cage. This rule does mean that some convertibles cannot run.
- H. Convertibles must run with the top up if possible. Sun roofs and moon roofs must be closed. T-tops and Targa roof panels must be in place and secured. All cars must run with the windows up if possible. If no side window is present, a window net or arm restraints must be used. Use of both is recommended.
- I. All cars must be equipped with at least 3 point OEM-type seat/shoulder belts. Cars with only a lap belt cannot run even if they originally came equipped that way.
- J. No loose items are permitted in the passenger compartment of the vehicle. If the vehicle has airbags, nothing may be mounted or positioned in front of the air bags unless they have been disabled.
- K. If a vehicle is equipped with a mechanically-linked throttle mechanism (meaning, it's not drive-by-wire), and it is not the OEM stock design, two throttle return springs are required.
- L. Batteries must be securely mounted and held down either with the OEM factory battery mount, or with a metal bracket and bolts. Straps, bungees, etc. are not sufficient; the battery must be mounted solidly enough that it feels like part of the car. Flooded-type "wet cell" batteries mounted inside the driver compartment, or which share air space with the driver compartment, must be fully enclosed in a sealed acid-proof box that is vented with a hose to the outside. (Note: Typical cheap marine-type plastic battery boxes are not sealed and do not meet these requirements.) The box and vent hose are not required if a non-venting, non-liquid "dry cell" battery (AGM/Optima/Odyssey type) is used. The battery connections should have insulating covers to help avoid short circuits. This rule is not applicable to the batteries that power an electric race vehicle; those requirements are covered in the Electric Race Car Rules section.
- M. **Parachute:** A parachute braking system is **required** for all cars in the A and U classes. A waiver of the requirement for a parachute is possible if the car has excellent 4-wheel disc brakes; see the Class Rules.

The parachute system must be designed and produced by a recognized drag racing or land speed manufacturer, properly sized for the weight of the car and the expected speed and available stopping distance, and installed strictly according to the manufacturer's instructions, particularly with regard to the height of the anchor point. The parachute pack(s) must be attached to a well-mounted plate. The parachute tow line(s) (tethers) must be anchored to a very sturdy steel anchor point which in turn is firmly mounted to the car's frame structure and/or roll cage. (This anchor point should be strong enough that you could hang the entire car from it.) If dual parachutes are used, each tow line must be anchored separately. A spring- or gas-powered deployment system is required. A manual mechanical parachute release lever or control must be installed within easy reach of the driver, when he/she is belted in. This is required even if an automatic or electric release system is also installed. Parachute bags should be of fire-resistant material. The canopy, shroud lines and tow line must be in excellent condition with no rips, excessive fraying or broken lines.

Special note re: engine "diaper": We encourage entrants with heavily modified engines (particularly those running high rpm, high boost or nitrous) to install a racing-approved engine oil retention device (diaper), preferably ballistic-lined. These are available from drag-racing suppliers. Dropping hot oil and broken engine parts onto the track is heavily frowned upon, may cause loss of vehicle control, and will cause the event to be interrupted, probably making you an unpopular person.

Class-Specific Rules - Automobiles

Auto D (AD), Auto C (AC), and Auto B (AB) classes

The following are the rules and requirements for these Classes, in addition to the General Rules above:

- A. **Tech Speed: For Class D, 170 MPH; for Class C, 190 MPH; for Class B, 220 MPH.**
- B. **Drivers:** All drivers for a given entry must hold an MKM license equal to or higher than the entry class. (ex: a C license for Class C, a B license for Class B, etc.)
- C. **Drivetrain and Chassis:** A driveshaft safety loop is highly recommended where applicable. For solid rear axle vehicles, outside-retained drive axles are highly recommended. (i.e., GM or similar C-clip-retained rear axles should have a "C-Clip Eliminator" kit, or rear disk brakes, added.)
- D. **Fuel:** May use any allowable pump or race gasoline, E85, or diesel. Other fuels require special MKM approval. (See: **Fuel and Fuel Equipment.**)
- E. **AUTO D and AUTO C CLASSES Vehicle Safety Equipment Requirements:**
1. **Rollover protection:** An Appendix R1 roll bar is recommended but not required. Convertibles, or vehicles without a metal roof structure, do require either an Appendix R1 roll bar or a factory OEM rollover structure behind the driver. See the convertible rule in the General Rules section (above) for details.
 2. **Restraints:** A factory OEM or equivalent 3 point seat/shoulder belt, in good condition, with no frays or excessive wear, is the minimum standard. Factory OEM belts should be replaced if over 10 years old. **4-point 2-inch harnesses ("off road" belts or "tuner" belts) are not acceptable for use.** Racing safety harnesses are recommended if feasible. If such harnesses are installed, they must meet the requirements in Appendix H, and SFI 3.3 racing arm restraints must also be used. **Cars with only a lap belt cannot run in this event.**
- F. **AUTO B CLASS Vehicle Safety Equipment Requirements:**
1. **Rollover Protection:** A roll bar (see Appendix R1) is **required in Class B.** Certain vehicles with built in OEM roll over structures (for example, 1984 and later non-convertible Corvettes) **may** meet the minimum roll bar standard for Class B. Contact MKM or the Chief Technical Inspector to inquire about your vehicle. It is **highly recommended** that an additional roll bar be added to these vehicles with approved OEM roll over structures.
 2. **Restraints:** SFI 16.1, 16.5, 16.6 or FIA-rated 5, 6, or 7-point racing harnesses, plus SFI 3.3 racing arm restraints, in accordance with Appendix H, are **mandatory.** The mounting of the harness must conform to the requirements in Appendix H, especially the shoulder harness mounting. This will be thoroughly checked at all Tech Inspections. **Y-type or one-piece V-type or U-type shoulder harnesses are not allowed. 4-point 2-inch harnesses ("show belts", "buggy belts", or "tuner belts") are not acceptable for use.**
 3. **A HANS type device is also required in Class B;** see Appendix B.
- G. **Tires and Wheels:**
1. DOT "Z" or "W" rated tires are the minimum standard for the D class, unless Tech certifies that the car is unable to exceed the speed rating of its tires.
 2. DOT "Y" rated tires are the minimum standard for the C class.
 3. DOT "(Y)" (in parentheses on the tire) rated tires are the minimum standard for the B class.
 4. Tires must be at least 7 in./175mm wide (4.5in/115mm if the car is parachute-equipped or class D), unless OEM is less. Wheels must be of an appropriate width for the tire, with a minimum width of 5 inches (unless OEM is less) (4 inches if parachute-equipped or class D). The rules in the **Tire and Wheel Rules** section, including those about tire rubbing, tire age, and minimum inflation pressure, must be observed.

Auto A (AA) and Auto U (AU) Classes

The following are the rules and requirements for the Auto A and Auto U Classes, in addition to the General Rules above:

- A. **Tech Speed:** For Class A, 240 MPH; for Class U, Unlimited.
- B. **Drivers:** All drivers for a given entry must hold an MKM license equal to or higher than the entry class. (ex: an A license for Class A, etc.)
- C. **Drivetrain and Chassis:** A 360 degree driveshaft safety loop made of at least ¼ inch steel, 1 inch wide, located in the front 25% of the driveshaft is **required** (where applicable.) GM or similar drive axle designs using C-clip axle retainers are **not allowed** unless "C Clip eliminators" or some other outside-end positive axle retention method has been installed.
- D. **Fuel:** Any allowable pump or race gasoline, E85, or diesel. Other fuels require special MKM pre-approval. (See: **Fuel and Fuel Equipment**.)
- E. **Firewall:** a metal firewall must exist between the driver's compartment and the engine compartment. The firewall must be sealed with no gaps or holes that would allow flames or fluids to penetrate. Sealing must be done with fire resistant material.
- F. **AUTO A CLASS Vehicle Safety Equipment Requirements:**
 1. **Fire Suppression:** An SFI 17.1 or FIA-rated 5 lb. minimum fire suppression system, with an unexpired date code, using Halon or FE-36 is **required**. The activation cables must be carefully located to prevent crushing or damage in the event of a rollover. The cables **MUST** be inboard of the roll cage structure. The activation handle must be within easy reach of the driver when belted in. A minimum of two nozzles in the passenger compartment are required. It is recommended that vehicles using a 5 lb. fire suppression system also carry a securely mounted 2.5 lb. automotive 10BC fire extinguisher, and/or a second 5 lb. automatic system with nozzles in the engine compartment and fuel cell area. **Foam systems:** A minimum 2.25 liter foam-type (Coldfire, AFFF, etc.) system may substitute for a 5 lb. Halon/FE-36 system. Foam nozzles in the driver's compartment must be carefully aimed so as not to impair vision if activated. All fire bottles must be securely mounted in metal brackets; tie wraps, bungees, hose clamps, plumber's strapping, racer tape, etc. are not acceptable.
 - i) The above rule is waived for cars that have the engine completely behind the driver; provided that a securely mounted 2.5 lb. (10BC) automotive or marine hand-held dry chemical fire extinguisher is within easy reach of the driver while belted in, and provided that a sealed metal firewall is present between the engine and passenger compartments.
 2. **Rollover Protection:** A **roll cage** (see Appendix R2) is **mandatory**. A bolt-in roll cage is allowed, and a fully welded roll cage is **highly recommended**. Certain vehicles with built in OEM roll cage structures **may** meet the minimum roll cage standard for Auto 3, but these are uncommon. Contact MKM or the Chief Technical Inspector to inquire about your particular vehicle.
 3. **Restraints:** SFI 16.1, 16.5, 16.6 or FIA-rated 5, 6, or 7-point racing harnesses, plus SFI 3.3 racing arm restraints, in accordance with Appendix H, are **mandatory**. The mounting of the harness must conform to the requirements in Appendix H, especially the shoulder harness mounting. This will be thoroughly checked at all Tech Inspections. **Y-type or one-piece V-type or U-type shoulder harnesses are not allowed. 4-point 2-inch harnesses ("show belts" or "tuner belts") are not acceptable for use. A HANS type device is also required;** see Appendix B.
 4. **Fuel Tank:** A competition-approved foam-filled bladder fuel cell with rollover shutoff valve is **highly recommended**.
 5. **Seat:** A proper racing seat is highly recommended, and should be mounted directly to the roll cage. The use of head motion restraints ("wings") on the racing seat is also highly recommended. If a seat covering is used on a racing seat it must be made of Nomex or other approved fire resistant material. Whatever seat is used must be well constructed and must provide an adequate level of support. **The Tech Inspector has the right to reject any seat that he feels does not provide adequate driver support or is poorly constructed.** Drag race/dune buggy style molded plastic seats are not permitted.
 6. **Parachute:** Required on all cars in this class unless the requirement is waived by reason of having good brakes. Usually any car that has good 4-wheel disc brakes will qualify for the waiver. Others may or may not. The Tech Inspectors and the Event Director will make the final determination as to this waiver. See General Rules above.

G. AUTO U CLASS Vehicle Safety Gear requirements:

5. **Fire Suppression:** An SFI 17.1 or FIA-approved DUAL fire suppression system using Halon or FE-36 with a minimum of **two** 5-lb. bottles, with unexpired date codes, is **required**. The activation cables must be carefully located to prevent crushing or damage in the event of a rollover. The cables must be inboard of the roll cage structure. The activation handle(s) must be within easy reach of the driver when belted in. One bottle must feed a minimum of two nozzles in the passenger compartment and the other bottle must feed nozzles (preferably automatic heat-activated) in the engine compartment and fuel cell area. A 2.25 or 2.8 liter foam-type system may substitute for each 5 lb. Halon/FE-36 system. Foam nozzles in the driver's compartment must be carefully aimed so as not to impair vision if activated. All fire bottles must be securely mounted in metal brackets; tie wraps, bungees, hose clamps, racer tape, etc. are not acceptable.
 6. **Rollover Protection:** A competition-approved roll cage (see Appendix R2) is **mandatory**. It must be fully-welded; bolt-in cages are not allowed. This must be a true tubular steel racing roll cage as described in Appendix R2; there are no OEM exemptions.
 7. **Restraints:** SFI 16.1, 16.5, 16.6 or FIA-rated 5, 6, or 7-point racing harnesses, plus SFI 3.3 racing arm restraints, in accordance with Appendix H are **mandatory**. The mounting of the harness must conform to the requirements in Appendix H, especially the shoulder harness mounting. This will be thoroughly checked at all Tech Inspections. **Y-type or one-piece V-type shoulder harnesses are not allowed. 4-point 2-inch harnesses ("show belts" or "tuner belts") are not acceptable for use. A HANS type device is also required;** see Appendix B.
 8. **Fuel Tank:** A foam-filled bladder racing fuel cell is required. An automatic rollover shutoff valve must be used. This must be a true racing-approved fuel cell **in a metal shell**, properly installed and plumbed. No modified OEM tanks allowed.
 9. **Seat:** A seat designed for racing, of one-piece (no hinge) hard shell construction, preferably of metal or carbon-fiber, with no seat springs, is **required** and must be mounted directly to the roll cage unless the seat manufacturer recommends otherwise. The use of head motion restraints ("wings") on the racing seat is highly recommended and may become a requirement in the future. If a seat covering is used it must be made of Nomex or other approved fire-resistant material. Except for some rare examples, **stock seats are not allowed**. Drag race or "dune buggy" style **molded plastic seats are not permitted**.
 10. **Window Net:** NASCAR style race-approved window netting on the driver's side, mounted to the roll cage, is **required**.
 11. **Steering Wheel:** A quick-release steering wheel with padded hub is **required**. A collapsible steering column is highly recommended.
 12. **Master Switch:** A large, easily visible racing-type electrical master switch with a red handle or red label that shuts off the engine and all power to the vehicle is **mandatory**. It must be clearly marked, and operable by the driver when belted into the car and/or easily operable from the outside of the vehicle. A standard key ignition switch does not meet these requirements. It is strongly suggested that the switch have a separate set of contacts used to kill the charging system and/or ignition. Operation of this switch, to verify that the engine and all pumps stop, will be tested at Tech Inspection with the engine running at approximately 3000 rpm.
 13. **Parachute:** A parachute braking system is **required** on all cars in the U class. A special exemption from this requirement is possible if the car weighs less than 2000kg (4400 lbs), has a minimum of 9.5 inch/245mm wide tires on all four wheels, and is equipped with 4-wheel disc brakes with at least 11.75 inch/300mm diameter rotors front and rear. The Tech Inspectors and the Event Director will make the final determination as to whether this exemption is granted. See General Rule M above regarding parachutes.
- H. **Tires and wheels:** All vehicles in the A and U classes must run true racing tires intended for paved, dry-track high speed auto racing usage, or special Land Speed racing tires, or Hoosier R7 Radials. Drag Racing drive-wheel tires (Drag Slicks) and Drag Radials are not permitted. Tires used in these classes must be factory-marked "For Racing Purposes Only" and "Not For Highway Use" or the equivalent. **DOT-legal tires are not permitted in these classes** except for the R7. If NASCAR speedway tires are used, safety inner liners are highly recommended. The rules in the **Tire and Wheel Rules** section, including those about tire rubbing, tire age, and minimum inflation pressure, must be observed. Tires must be at least 4.5 in. /115mm wide. **All wheels must be approved for racing speeds.** Wheels must be of an appropriate width for the tire, with a minimum width of 4 inches. Open-type lug nuts are **required**, no closed or "acorn" types allowed. **Lug nuts must be steel.** Wheel studs or lug bolts must be steel and a minimum ½ inch or 12mm in diameter. (7/16 inch stock older GM wheel studs are not big enough. See the Tire and Wheel Rules section.) If you have any doubts about your tires or wheels, please call us.

General Rules – Motorcycles

The following rules and requirements apply to all Motorcycles:

- A. Vehicles in the Motorcycle Division must be two wheeled motorcycles, with wheels in line, using one internal combustion engine or electric motor or electric hybrid drive system, driving the rear wheel only. Exception: SCTA-legal SC class 3-wheeled sidecar bikes are permitted, subject to our normal bike rules (including having front and rear brakes).
- B. Minimum wheelbase is 48 inches. Maximum Wheelbase is 84 inches.
- C. All motorcycles must be in generally good condition and in an excellent state of repair for running at high speed, with no apparent damage or mechanical defects, obvious missing pieces, loose parts, etc. and no fluid leaks of any kind.
- D. Although not recommended, “hardtail” bikes are allowed if they were originally designed as such. (Hardtail conversions using bolt-in struts are not allowed.) Otherwise, all bikes must have functional suspensions with functional shock absorber(s) or forks on front and back wheels. Limit straps and other suspension limiting devices are prohibited.
- E. **Brakes:** All motorcycles must have operational brakes on both front and rear wheels. Hydraulic disc brakes front and rear are highly recommended. Both wheels must have fenders. Removal of rear splash guard on sport bikes is allowed. The bottom half of the front wheel cannot be covered by the fender.
- F. The following are prohibited: 3 wheeled vehicles (except some SCTA sidecars; see rule A), including Piaggios and Can-Ams; choppers, or bikes with overly extended forks or handlebars; scooters; dirt bikes; mini-bikes; Mini GP or pocket bikes; full streamliners, or bikes with enclosed front wheels or “dustbin” fairings.
- G. Turn signals and mirrors must be taped over or removed. Headlights and taillights must also be taped over.
- H. **Tires and Wheels:** Tires must be 250mm section width or less. Front tire section width must be at least half that of the rear tire. Tires must be mounted on appropriate width wheels, as specified by the tire manufacturer. Wheel weights must be taped to the wheel. The rules in the **Tire and Wheel Rules** section, including those about tire rubbing, tire age, and minimum inflation pressure, must be observed. Minimum wheel diameter is 15 inches. Front wheels must be cross ventilated and cannot be solid or fully covered. Metal valve stem caps with O-ring seals are required.
- I. **Kill Switch:** All motorcycles must be equipped with a racing-style kill switch with a lanyard (tether) attached to the rider, to kill the engine and all electric pumps in case of a fall-off. Proper operation must be demonstrated at Tech Inspection. Stock-type lean-angle or tip-over kill switches are not an acceptable substitute. Attaching a tether to the factory handgrip kill switch (using a screw, velcro, etc.) is not acceptable. Use of two separate tethered kill switches is not recommended but is acceptable if required for technical reasons.
- J. **Safety Wiring:** The following items must be safety-wired or pinned to prevent loosening: Front and rear axles, either the axle nuts or pinch bolts as appropriate; oil drain plug; and clip-type chain master link. (Use of silicone to secure the master link is allowed, with colored silicone preferred.) Safety-wiring the oil filter and oil filler cap is not required but is highly recommended. Chemical thread lockers are not a substitute for safety-wiring.
- K. **Chain:** A chain (or belt) guard is required, preferably made of metal. Multiple chain master links on the same chain are not allowed. “Endless” or “riveted” chains without clip-type master links are highly recommended.
- L. **Steering Damper:** either OEM or add-on, is **required**.
- M. **Controls:** Hand levers should have ball ends and must not be sharp or pointed. Throttle must be of a spring return type and snap closed when released. Handlebars must be able to turn 15 degrees each way from center. Handlebars shall be wide enough so that the rider’s thumbs are at least 10 inches apart when holding the grips in a normal manner.
- N. **Breather hoses:** Must dump into a catch can or into the air box. No fluids shall leak onto the track.
- O. **Coolant:** For liquid cooled bikes, we recommend that all glycol based coolant be removed and replaced with plain distilled water only. (We are trying to avoid the problem of slick, oily glycol coolant ending up on the track.) Wetting agents such as Water Wetter, Purple Ice or Engine Ice are the only recommended additives.
- P. **Fuel:** Any allowable pump or race gasoline or E85. Other fuels require special MKM pre-approval. (See: **Fuel and Fuel Equipment**.)

Tire and Wheel Rules

(here again, the term “car” refers to all 4-wheeled vehicles.)

- A. Tires must be of a size and type appropriate for the vehicle’s design, weight, and speed. Your tires will be closely scrutinized at Tech Inspection for adequate size and capability.
- B. Automotive tires may not be used on motorcycles, and vice versa.
- C. Radial and non-radial tires shall not be mixed on the same vehicle, including motorcycles, with the exception that relatively narrow non-DOT bias-ply racing tires such as “front runners” or LSR tires, 4.5 inch or wider, may be used on the front of a car with radial tires in the rear, if the car has a parachute.
- D. Automotive DOT-legal radial racing tires: MKM maintains an official list of certain DOT-legal radial automobile competition tires (“R Compound” and “DOT Drag Radial” types) that we will accept for use at speeds higher than their rating would normally permit. These will be treated as though they have a “(Y)” speed rating, even if they actually have a lower rating, or no rating at all. The list is updated from time to time and is available on the mojavemile.com web site. Only the EXACT MODELS on the list qualify for this special treatment.
- E. Motorcycle DOT-legal Racing Tires: MKM will allow certain DOT-legal motorcycle racing tires to be exempt from the usual speed limits. These are also listed on the official DOT racing tire list mentioned above.
- F. Non-DOT Tires: Use of any non-DOT tire on any vehicle, for example “true” racing tires, should be cleared in advance with MKM or the Tech Inspector. Road Racing slicks (not rain tires) and NASCAR-type Speedway tires are generally acceptable. If NASCAR tires are used, the use of a safety inner liner is highly recommended. Special narrow Land Speed tires and Drag Racing “front runner” type tires are generally acceptable if the car has a parachute. Drag racing drive wheel tires (drag slicks) are NOT acceptable.
- G. Special ratings for certain specific car tires: Hoosier R7 Radials (note: not the A7) have a special classification between the other DOT tires and “true” road racing slicks. This allows their use in Class A and Class U.
- H. **Prohibited for cars:** Drag slicks; “space-saver” tires; any tire less than 175mm (7 in.) section width*, unless OEM; wheels less than 5 inches in width unless OEM*; wire wheels, unless OEM; wheels larger than 20 inches in diameter, unless OEM, or designed and approved for the speeds expected; tires larger than 33 inches in diameter. *On cars with parachutes, the narrow LSR and front-runner tires mentioned above may be used; these must be at least 4.5 in. wide and the wheels must be at least 4 in. wide.
- I. **Prohibited for motorcycles:** Drag slicks; tires of greater than 250mm section width; front tires that are less than half the section width of the rear tire; wheels less than 15 inches in diameter; front wheels that are either solid, or covered so that air cannot flow through them crossways.
- J. Tires or wheels may not rub on any part of the suspension, frame, or bodywork.
- K. Treaded tires must be on-road, highway-type or all-season tread only. No knobby, lug tread, snow, mud, all-terrain, off-road or similar tires.
- L. **All vehicles must run with their tires inflated to at least the pressure given on the vehicle’s DOT tire sticker (if it exists), with a minimum of 25 PSI for all vehicles.** No exceptions unless you can demonstrate to Tech Inspection’s satisfaction why you should run less. (“Extra traction” is not considered a valid reason.) This is only a minimum; most vehicles should probably run higher pressures. A tire’s high-speed capability directly depends upon adequate inflation pressure.
- M. **Tire tubes for motorcycles:** Tubes are not allowed in tubeless tires unless the tire maker says it is permissible. Tubeless tires on non-wire-type wheels are recommended. If a tube-type tire is used, the correct tube for the tire, as specified by the tire manufacturer, must be used. A new tube-type tire should have a new tube installed along with it; the old tube should not be re-used.
- N. **Tire tubes for cars:** Tire tubes, and tube-type tires, are prohibited for cars except for LSR and certain other racing tires or by specific MKM pre-approval. Tubes are never allowed in tubeless tires.

- O. Tire tread depth (or rubber depth, for slick racing tires) should not be less than 3/32 of an inch and must not be less than 1/16 of an inch. No cords may be showing through – ever!
- P. Valve stem caps, made of metal, with "O" ring seats, are **mandatory**. (These are available at most auto parts stores. Be sure to get the ones made entirely of metal, not just metal-coated plastic.) Metal valve stems are recommended. Threaded metal racing valve stems are recommended but caution should be used because they may not fit properly on all rims.
- Q. Tires must be in excellent condition (no significant sidewall cracks, bulges, uneven wear or damaged tread) and suitable for use at the vehicle's maximum speed in the event.
- R. Tires should not be more than 4 years old, and **must not have a date code older than 6 years prior to the current year**, regardless of tread depth or apparent condition. (Example: tires for the 2018 season must have a 4-digit date code ending in "12" or higher.)

Note: The tire production date can usually be found in an oval recess on one side of the tire, often on the inside sidewall. It is a 4-digit number, usually at the end of a string of letters and numbers, that indicates the week and year of production. For example, if the number is "1310", then the tire was produced in the 13th week of 2010. You will be required to provide these dates on your Tire Inspection Form. PLEASE contact us if you have any questions.

- S. The use of repaired, patched, plugged or recapped tires is not permitted.
- T. Cosmetic hub caps, wheel covers and "beauty rings" that are not attached with bolts or quarter-turn fasteners, must be removed. "Spinner" type wheels or wheel covers with moving parts are strictly prohibited.
- U. Tires must be mounted on wheels of proper diameter and width, as listed by the tire manufacturer. Directional tires must be mounted so that they rotate in the proper direction as indicated on the sidewall or by the tire manufacturer. Tires intended for specific right or left side usage must be used on the correct side.
- V. For cars, the left and right tires on a given axle (front or rear) must match, meaning they must be the same size, brand, model and ratings, or be a manufacturer-matched left and right pair. The front and rear speed ratings should also match, but if they do not, the lowest speed rating of the two will apply.
- W. (Automobile) Lug Nuts/Bolts: Lug nuts must be of the correct type (flat bottom "shank", or conical) and size for the wheels and studs used. Non-conical (flat bottom) nuts/bolts must use a minimum 1/8 inch steel washer between the wheel and nut/bolt. Closed end (acorn) lug nuts are discouraged (and prohibited in AU Class), but if used, thread engagement into the hex part of the nut must equal or exceed the diameter of the stud. *(To test this, first remove one lug nut. The now-visible wheel stud must protrude past the wheel's mounting face, and the amount of threaded stud that protrudes must be at least equal to one stud diameter (for example, ½ inch), plus the thickness of any washer used. For cars that use lug bolts, the threads must engage into the hub by the same amount.)* Open lug nuts (our preferred choice) require that the wheel stud must thread completely through the nut; or, if the open lug nuts are of the extra-long type, they must meet the same test as a closed-end nut. Care must be taken to avoid any bottoming of the studs, nuts or bolts. Studs, nuts or bolts must not be undersize in diameter for the wheels used. In the AU class only, studs or lug bolts must be at least 12mm or ½ inch in diameter. (Please be aware that many stock wheel studs, especially 7/16 inch early GM, are not big enough for use in AU.) Lug nuts and bolts must be tightened to the proper torque value. Lug nuts/bolts and wheel studs must be steel; aluminum lug nuts are not allowed unless they are factory original parts on a car that came with them from the factory, and even then, only in the auto D class. (For example, some Porsche 911s. It is up to the entrant to prove that the car qualifies for this exception.) If anything in this section poses a problem for you, please contact MKM for advice, prior to the event.

X. Tire Speed Rating Information:

The following tire-industry rating information is made available to the entrant for informational purposes only:

S= 112mph **T**= 118mph **U**= 124mph **H**= 130mph **V**= 149mph **Z**= 149mph+

Within the Z category: **W** suffix = 168mph **Y** suffix = 186mph (**Y**) suffix= 186+ mph

Motorcycles use the same codes but generally only S, H, V, (V) (149+), Z, W and (W) (168+) ratings are available.

These ratings are for continuous fully-loaded running and are not the same as the limits allowed in this event.

Fuel & Fuel Equipment

- A. Power Adders: are defined as either a Nitrous Oxide injection system or an added-on (non-OEM) supercharger or turbocharger. These are allowed in all classes.
- B. Nitrous Oxide injection systems: Systems must incorporate an arming/disarming switch within easy reach of the driver while in the driving position, and a throttle-operated switch set up so that the system will only function at the wide-open throttle position. The system must be wired such that it shuts off with the ignition switch and/or kill switch. It is highly recommended that low-oil-pressure and low-fuel-pressure system shutdown switches also be used. Nitrous purge valves and blow-down tubes must vent outside the vehicle, in such a way that start line personnel and bystanders are not likely to be hit. A maximum of two 10-lb. tanks or one 20-lb. tank are allowed. (For motorcycles, a maximum of two 5-lb. tanks or one 10-lb tank are allowed.) Tanks must be clamped in securely mounted metal brackets; no hose clamps, plumber's tape, bungees or other crude mountings are allowed. All tanks and plumbing for the system must be rated for the pressures used, with steel hard lines and/or high-pressure (not standard-type) braided-steel hoses, with steel (not aluminum) fittings highly recommended. Careful attention must be paid to the ignition and fuel delivery systems to ensure their adequacy for the increased power level and cylinder pressure.
- C. Non-OEM positive displacement superchargers (such as Roots-type blowers) should be equipped with pressure relief (pop-off) valves and/or burst panels to reduce damage from any backfires that may occur. Retaining straps for the blower are also recommended.
- D. Fuels: up to 117 motor octane race gas allowed. Commercial octane boosters such as "104+" are permitted if less than 2% of the total gasoline volume. Diesel fuel and E85 are allowed in all classes, for suitable vehicles. 100% alcohol (ethanol and/or methanol) must have prior approval of MKM. Nitromethane and other exotic fuels or additives are prohibited without prior approval of MKM. Compressed gas fuels such as Propane, LPG, CNG, Methane, Hydrogen, etc. require prior special permission, except that a propane injection system is permitted for diesel-powered pickups. Such a system must have the propane tank securely mounted outside the passenger compartment in a ventilated area.
- E. A water or water/alcohol injection system for detonation suppression, with up to 50% alcohol content, is allowed. The system must be declared to the Tech Inspectors, who will inspect and possibly seal the tank. Systems using more than 50% alcohol are not allowed. Systems that spray into the radiator fins for extra cooling, are not allowed.
- F. No fuel may be carried in the vehicle in any container other than the gas tank or fuel cell.
- G. Any open compartment or "hatchback" style vehicle must incorporate a physical barrier between the fuel tank or cell and the passenger compartment. Lexan may be used if this barrier could impede rear visibility. It is strongly recommended that you consult with the Chief Technical Inspector or the Event Director prior to installation.
- H. Electric fuel pumps: It is highly recommended that any vehicle equipped with an electric fuel pump also be equipped with an oil-pressure safety switch, to stop the pump in case of loss of oil pressure. An inertial rollover safety switch is also highly recommended. Power to the pump must be controlled by the vehicle's ignition switch or master switch. **If an electric fuel pump is used on a motorcycle, the required tether kill switch must also kill the pump.** Use of a second tether kill switch just for the pump is acceptable if required for technical reasons.

Electric Race Car Rules

Cars powered either partially or totally by an electric motor or motors must meet the following additional safety specifications if they are entered in the A or U classes, or if they are scratch-built, converted from non-electric, or have been significantly modified from the original vehicle configuration:

1. A sealed metal firewall or partition must exist between the drive-battery pack(s) or battery compartment, and the driver compartment.
2. A sealed metal firewall or partition must exist between the electric motor(s) (and engine, in hybrid cars) and the driver compartment.
3. High voltage must not be present anywhere inside the driver compartment. This means:
 - a. High voltage cables (>30 volts AC or >60 volts DC) must not run in the open through the driver compartment; they must be isolated inside a separate metal tube or channel.
 - b. High voltage/high current motor controller circuitry must not be located in the driver compartment.
 - c. It is expected that all switching, throttle/motor control, monitoring and telemetry will be accomplished by remote low-voltage-operated wiring, relays, contactors, sensors and circuits, so that only low voltage is present in the driver's compartment.
4. The battery packs must be protected by a steel protective cage/box and/or roll structure. Battery packs must be securely bolted down to the car's frame or roll structure.
5. Battery connections must be covered with insulating material to protect from short circuits. High voltage cables should have protective sleeving to further protect against shorts.
6. High voltage cables shall be flexible, stranded, high-voltage-rated (such as true EV cable, 600V welding cable or DLO railroad cable), color-coded or marked in bright orange or bright yellow, and shall have high voltage warning labels. (Automotive/marine battery cable is generally not suited for this type of electric vehicle power cabling due to its low voltage rating.) Wire and cable meant for use in home or building construction is prohibited.
7. In hybrid cars the fuel lines and the fuel tank must be contained in their own metal compartment or tubing, isolated from any electric drivetrain components or wiring. (This does not include normal submerged in-tank electric fuel pumps.)
8. A dedicated foam-type (AFFF, Cold Fire, etc.) fire suppression system, 5 lbs. minimum, meeting SFI 17.1 or FIA specs, must be installed to protect the battery box/compartment. This is in addition to any fire system(s) that the vehicle class may require. If the vehicle class does require a fire system, the class-required fire system must be installed with a nozzle pointed at the area of each electric motor.
9. The vehicle shall not be designed or built in a way that depends on the intentional use of a fire suppression system or other similar total-loss method (i.e. gas discharge or liquid spray) to cool any part of the battery, motor or drivetrain.
10. A racing-type master electrical shutoff switch must be installed (the same as required by the AU class rules) and it must kill all electric power and all engines and pumps on the vehicle.

These rules represent what we consider to be basic minimum safety engineering requirements for high-power electric vehicle systems. These rules aren't meant to apply to stock or near-stock electric cars that would typically be entered in the D class. They also don't apply to electric motorcycles.

If you plan to enter an electric powered race vehicle, contact MKM or the Chief of Tech well prior to the event.

Appendix B Personal Gear Requirements

- Anywhere “Nomex” is referred to, “Carbon-X” is also acceptable.
- An FIA Standard 8856-2000 certified driving suit is considered equivalent to an SFI 3.2A/5 suit.
- All helmets must be properly fitted, and the fit will be checked at Tech. (Helmets are supposed to be fairly snug. If the helmet can be rolled forward off of the head with the chin strap fastened, it is too large. If it can rotate right or left without also rotating the head, it is too large.)
- Helmets should be less than 10 years old and must never have been in a crash.
- The following are not permitted for car drivers:
 - Open face helmets, except in Class D.
 - “Rally type” helmets without face shields, made for use with goggles, except in Class D
 - Motorcycle helmets.
 - Helmets rated DOT.
 - Partial, shorty, kart or novelty helmets.
- All drivers/riders for a given entry must hold an MKM license equal to or higher than the entry class. (ex: an A license for Class A, etc.)

Auto Driver minimum gear requirements:

A. Auto Class D minimum gear requirements:

- i) 100% cotton or other non-synthetic (wool, leather, etc.) long-sleeved high-necked shirt and long pants completely covering arms, legs, and torso
- ii) Alternatively, a driving suit meeting SFI spec. 3.2A/1 or higher
- iii) Cotton underwear and cotton high-top socks
- iv) Leather gloves with no holes, covering the wrist; leather topped shoes with no holes.
- v) The intent here is to have no skin exposed below the neck.
- vi) NOT PERMITTED: Cotton blends, lycra, spandex, nylon, rayon, polyesters, acrylics, golf gloves, athletic shoes, etc.
- vii) Fire-retardant Nomex underwear, racing gloves, racing socks and racing shoes are all highly recommended.
- viii) A Nomex racing head sock is required for a driver with long hair, a beard, or large mustache/sideburns.
- ix) A full-face or open-face auto racing helmet with shatterproof face shield meeting Snell Foundation standards SA2010, SAH2010, or SA2015; or FIA standards 8859 or 8860.
- x) Helmet support: A racing-type “horse collar” helmet support is recommended.

B. Auto Class C minimum gear requirements:

- i) A driving suit meeting SFI spec. 3.2A/1 or higher
- ii) Class D shoes, socks, gloves (Nomex racing gloves, socks and shoes are all highly recommended.)
- iii) NOT PERMITTED: Cotton blends, lycra, spandex, nylon, rayon, polyesters, acrylics, golf gloves, athletic shoes, etc.
- iv) A Nomex racing head sock is required for a driver with long hair, a beard, or large mustache/sideburns.
- v) A full-face auto racing helmet with shatterproof face shield meeting Snell Foundation standards SA2010, SAH2010, or SA2015; or FIA standards 8859 or 8860.
- vi) Helmet support: A racing-type “horse collar” helmet support is required unless a head and neck restraint system is used.

C. Auto Class B minimum gear requirements:

- i) A driving suit meeting SFI spec. 3.2A/5 or higher, or FIA 8856-2000
- ii) alternatively, you can wear an SFI 3.2A/1 driving suit if worn over a full set of Nomex long underwear
- iii) Nomex racing gloves, racing socks and racing shoes

- iv) A Nomex racing head sock is required.
 - v) A full-face auto racing helmet with shatterproof face shield meeting Snell Foundation standards SA2010, SAH2010, or SA2015; or FIA standards 8859 or 8860.
 - vi) Helmet support: An SFI 38.1 or FIA 8858 type Head and Neck restraint is required.
- D. Auto Class A and Class U minimum gear requirements:
- i) A driving suit meeting SFI spec. 3.2A/5 or higher, or FIA 8856-2000, worn over a full set of Nomex long underwear
 - ii) Multi-layer SFI 3.3/5 racing gloves, Nomex racing socks and Nomex racing shoes
 - iii) A Nomex racing head sock is required, multi-layer preferred.
 - iv) A full-face auto racing helmet with shatterproof face shield meeting Snell Foundation standards SA2010, SAH2010, or SA2015; or FIA standards 8859 or 8860.
 - v) Helmet support: An SFI 38.1 or FIA 8858 type Head and Neck restraint is required.

Motorcycle Rider minimum gear requirements:

1. Clothing:
 - i) A full leather racing suit is the minimum requirement
 - ii) A one-piece suit is recommended
 - iii) A two-piece suit must fully zip together, at least 350 degrees
 - iv) A one-piece leather road racing suit with integral armor including hard back armor, or a body armor “jersey” worn under standard leathers, is HIGHLY RECOMMENDED for all and is REQUIRED for CLASS A and U riders. Full CE-rated EN1621-1 body armor and EN1621-2 armor back protection are HIGHLY RECOMMENDED for all riders.
 - v) Suit may have non-leather stretch panels but they must be the absolute minimum size necessary
 - vi) Leather gauntlet-style full fingered racing gloves (with no exposed decorative or sharp metal) that overlap the suit
 - vii) Leather high-top riding or racing boots **without lug soles** that cover the ankle and overlap the suit
 - viii) Non-leather (Kevlar, nylon, fabric, etc.) suits are not permitted
 - ix) Separate leather jacket and pants that don’t completely zip together are not permitted
 - x) No “camelback” hydration devices, however an “aero hump” is OK
2. Helmet:
 - i) Helmets must be full-face with face shield and meet at least one of the following standards:
 - (1) Snell M2010, M2015
 - (2) ECE 22-05 (circle “E”), BSI 6658 Type A, ACU Gold, AS/NZS 1698-2006
 - ii) Open face helmets are not permitted.
 - iii) Helmets that are rated only DOT, with no other rating, are not permitted.**
 - iv) “Flip-up” or “modular” clamshell-type helmets: OK for Class C and D only
 - v) Auto racing (SA or FIA), partial, shorty, kart or novelty helmets are not permitted.
 - vi) Motocross or rally-type helmets without face shields, made for use with goggles, are not permitted.
 - vii) No face-shield tear-offs.
3. Class C and D riders may wear a “modular” clamshell-type helmet.
4. Class B, A and U riders must wear a one-piece helmet.
5. Road-race full armored leathers with hard back protector are required for Classes A and U. See #1-iv, above.
6. Road-race boots without lug soles are required for Classes A and U.

Appendix H Harness and Restraint System Requirements

If a racing harness system is installed, it must meet the following requirements:

The harness system must be SFI 16.1, 16.5 or 16.6-rated or FIA-approved, 5, 6 or 7-point with 3-inch lap and shoulder belts, and a crotch belt or belts, except as noted in rule H, below. A cam lock safety harness latching system is highly recommended.

- A. The shoulder belt mounting height (or roll bar crossover height for floor-mounted shoulder belts) should be no more than 2" +/- from the driver's shoulder height when seated in a driving position to reduce the possibility of spinal compression injuries. Shoulder harnesses should be secured to or stressed over a steel tube at the proper height. Shoulder harnesses that are not supported by holes in the seat should have a sternum strap added to keep the belts from spreading.
- B. **Y-type and one-piece V-type or U-type shoulder harnesses are not allowed.** Shoulder harnesses must be two separate belts.
- C. The shoulder harnesses should be attached to the horizontal bar on roll bars and roll cages. Floor-mounted shoulder harnesses are not recommended.
- D. Adequate spreader plates must be used when mounting harnesses to a body panel. Mounting to fiberglass or other non-metal panels is strictly prohibited.
- E. For the AA, AU and AB classes, harnesses must be mounted to the roll cage, frame member, or (rarely) factory-provided racing harness hard points, or (in AB) the roll bar or harness bar. For lower classes, if they desire to mount harnesses, OEM seat or belt mounting points can be used. However, proper shoulder harness installation is difficult without a roll bar or harness mounting bar. **Use of extra-long shoulder belts running back to rear seat or rear belt mounting points is not recommended and will be closely scrutinized at Tech Inspection.** X-type shoulder belts where the two belts cross behind the seat (and are often stitched together at the crossing point) are somewhat more acceptable for this type of mounting, but belt length (which allows excessive stretch) is still a serious issue, and belt angle (paragraph A above) is also a consideration. **Consult with the Chief of Tech if you plan to enter a car with harnesses but without a harness bar or roll bar.**
- F. Manufacturer's labels or certification tags cannot be located under the adjusting mechanism when the driver is buckled in the seat and has tightened the seat belts and shoulder harness, as this could cause the belt to "dump" on one side and tear under stress. This will be checked at Tech Inspection.
- G. Most current SFI and FIA harnesses have a use-by date tag. SFI has a "validation date", FIA has an "expiration date". We will allow these harnesses to be used for 2 years past these dates. Many other harness sets have a date-of-manufacture tag. These must not be more than 5 years old. Harnesses must never have been used in a crash.
- H. FIA-approved 2" lap belts with proper certification will be accepted but only as part of a complete FIA harness. 3" shoulder straps are still mandated, with the exception of HANS-specific 3" into 2" shoulder harnesses when used with a HANS device. Please consult with the Chief of Tech if you desire to use these belts. (Note that these special belts are not actually required if you have a HANS. See their web site.)
- I. **4-point 2-inch belts ("tuner belts", "show belts", "UTV belts") are not considered racing harnesses and are not acceptable in any class of car** even if crotch straps are added.
- J. Crotch Strap Adjustment: Crotch Straps must be adjusted to ensure the lap belts tighten properly across the pelvic girdle (known as the Iliac Crest) and not the soft part of the abdomen. This adjustment will be checked at Tech Inspection.
- K. **Arm Restraints: In all cases where racing harnesses are installed, SFI 3.3-rated arm restraints are also required.** A potential safety issue arises when installing these in conjunction with a harness that uses a latch-lever style release. A protective cover over the latch lever is needed so that the arm restraint strap cannot accidentally snag the lever and release the belts. This can be a purpose-made cover, or simply a piece of tape. The cover must not significantly interfere with the ability of the driver to intentionally release the belts when necessary.

Head and Neck Restraints: These are required for all AU, AA and AB class entries. MKM approves the use of any SFI 38.1 or FIA 8858 certified device (HANS, Safety Solutions/Simpson R3/Rage/Hybrid, DefNder, NecksGen, etc.), and some other similar devices. All head-and-neck restraint device users must ensure their harness mountings are in exact conformation with the device requirements and must be prepared to provide supporting documentation that installation is in compliance with the manufacturers' instructions.

Appendix R1 Roll Bar Specifications

When Required: See the class rules. Convertibles and vehicles lacking a metal roof structure, in all classes, must have some sort of rollover protection behind the driver. "Pop-up" roll bars, approved OEM rollover structures, or factory reinforced roll structures may be allowed to substitute for a roll bar in cases where a roll bar is required, but will be evaluated on a per car basis. The Event Director's decision regarding acceptability is final.

Basic Design Considerations: The basic purpose of the roll bar is to protect the driver in case the vehicle rolls over. It should be designed to prevent serious body shell deformation in the case of a collision or of the car turning over. A roll bar is comprised of a structural frame or hoop, fore and aft braces, and mounting points.

The top of the roll bar shall not be below the top of the driver's helmet in a closed car and a minimum of two (2) inches above the driver's helmet in an open car when the driver is in the normal driving position with helmet on. It shall not be more than six (6) inches behind the driver.

The two vertical members forming the sides of the hoop shall not be less than fifteen (15) inches apart, inside dimension, at their attachment points to the uppermost main chassis member.

If certification of roll bar construction cannot be provided, an inspection hole of at least 3/16 inch diameter must be drilled in a non-critical area of the roll bar member to facilitate verification of wall thickness. This should be at least three inches from any weld or bend.

Material: The roll bar hoop and all braces must be of seamless, ERW (Electric Resistance Welded), DOM (Drawn over Mandrel) or CREW (Cold Rolled Electric Welded) mild steel tubing, with DOM being the preferred choice.

"Chrome moly" alloy tubing, such as 4130, can be used but is not recommended since the strength of the area adjacent to the welds will be impaired if not properly normalized, and because of the difficulty in making satisfactory welds.

The size of the tubing to be used must be determined on the basis of the weight and speed potential of the car. Refer to the chart below. The main hoop and support braces must be of the same size.

Fabrication: The main vertical hoop must be of one continuous length of tubing with smooth continuous bends and no evidence of crimping or wall failure. All welding must be of the highest possible quality with full penetration and will be subjected to very critical inspection. Arc welding, preferably TIG, should be used wherever possible. Gussets should be welded at the junction of any tubes.

On vehicles of Space Frame or Frameless Design: It is important that the structures be attached to the vehicles in such a way as to spread the loads over a wide area. It is not sufficient to simply attach the roll bar to a single tube or junction of tubes. The roll bar must be designed in such a way as to be an extension of the frame. Considerable care must be used to add as necessary to the frame structure itself in such a way as to properly distribute the loads. It is not true that a roll bar can only be as strong as any single tube of the frame. On vehicles of frameless construction, consideration should be given to using a vertical roll bar hoop of 360 degrees completely around the inside of the car, and attached with suitable mounting plates. This type of roll bar then becomes a substitute for the frame.

Bracing: The braces must be of the same size tubing as used for the roll bar itself. All roll bars must be braced in a fore or aft direction with the brace attached within six inches of the top of the hoop, and at an angle of at least thirty (30) degrees from vertical. It is required that a diagonal brace be used to triangulate the main hoop and it is highly recommended that this brace be attached at the top on the driver's side, and to the bottom on the "passenger's" side.

An additional horizontal bar to support the main hoop is recommended. In addition, this bar should be installed at the height no more than 2" above or below the driver's shoulders while seated in the driver's position. The shoulder harness should be attached to this bar.

Mounting Plates: Roll bars and braces must be attached to the frame of the car whenever possible. Mounting plates must be used for this purpose. In the case of cars with unitized or frameless construction, mounting plates must be used to secure the roll bar structure to the floor of the car. The important consideration is that the load be distributed over as large an area as possible, with 4"x 4" x 1/8" the minimum size desired for spreader plates. A back up plate of equal size and thickness must be used on the opposite side of the panel with the plates through-bolted together using grade-eight (8) bolts and Self-locking nuts or double nuts if welding is not possible. It is preferred that the plates be welded to the car's frame. On some vehicles this exact size is not an option and square area of the spreader plate must be calculated to spread the maximum load expected in the worst-case scenario.

Removable Roll Bars: Removable roll bars and their braces must be very carefully designed and constructed to be as least as strong as a permanent installation. The removable sections MUST "bottom out" onto the mounting plate so as not to put all of the stress on the connecting bolt.

If one tube fits inside another to facilitate removal, the removable portion must bottom on the permanent mounting, and the mounting hardware used to secure each joint must be at least grade eight (8) or better. It is recommended that the telescope section be at least eight inches in length.

Other Designs: Deviations from the above will be considered. NHRA-approved roll bars will be accepted but we would prefer a full 6-point or higher design.

Roll Bar Padding: Roll bar padding must be used to protect the occupant in all areas of possible contact. It must be of material (readily available) that is designed for this purpose. SFI-approved padding is highly recommended. Pipe insulation and the like is not permitted.

Minimum Tubing Sizes: The size of the tubing to be used shall be determined on the basis of the weight and speed potential of the car.

Roll Bar Tubing Chart:

Weight	Steel	Minimum Tubing Size
Under 1500 lbs.	Mild Steel	1.50" O.D. X .120 wall
	Alloy Steel	1.50" O.D. X .090 wall
Over 1500 lbs.	Mild Steel	1.75" O.D. X .120 wall
	Alloy Steel	1.75" O.D. X .090 wall

(It is recommended that vehicles weighing in excess of 3200 pounds use 2.00" tubing).

Appendix R2 Roll Cage Specifications

When Required: See the class rules. A Roll Cage is highly recommended for all classes. For the AA class only, certain vehicles with OEM factory roll cage structures may be allowed to compete without a separate roll cage, but such cars are uncommon and will be evaluated on an individual basis. Consult with MKM well ahead of the event for such an evaluation, if you think this applies to you. The Event Director's decision regarding acceptability is final. Unlimited class requires a fully welded tubular steel racing roll cage as described below.

Design Requirements: Roll cages must be designed and made so that, when correctly installed, they substantially reduce body shell deformation and so reduce the risk of injury to occupants. The essential features of roll cages are sound construction (designed to fit the particular vehicle), adequate mountings, and a close fit to the body shell. The roll cage tubes must not carry fluids, hoses or wiring inside. The safety cage must not unduly impede the entry or exit of the driver.

Bolt-in roll cages are allowed for the AA class; fully welded cages are recommended, and required for AU. At least one door bar must be used on both sides of the vehicle. More than one door bar is recommended. The use of a NASCAR style door bar incorporating at least 2 bars that extend into the door and are supported by vertical upright bars is highly recommended. A factory side impact bar may only be removed if using a NASCAR style cage design.

The cage should be triangulated at as many points as possible and the liberal use of gussets, welded at each joint, is mandatory.

Basic Design Considerations: A roll cage is comprised of a structural frame or hoop, a perimeter roof hoop, door bars, fore and aft bracing and diagonal supports all arranged in such a manner so as to prevent occupant injury in the event of a rollover and to structurally improve the integrity of the vehicle.

The top of the roll cage main hoop shall not be below the top of the driver's helmet in a closed car and a minimum of two (2) inches above the driver's helmet in an open car when the driver is in the normal driving position with helmet on. It shall not be more than six (6) inches behind the driver.

The two vertical members forming the sides of the hoop shall attach to the outermost main chassis member. If certification of roll cage construction cannot be provided, an inspection hole of at least 3/16" diameter must be drilled in a non-critical area of the main hoop to facilitate verification of wall thickness. This should be at least three inches from any weld or bend.

Material: The roll cage hoop and all braces must be of seamless, ERW (Electric Resistance Welded), DOM (Drawn over Mandrel) or CREW (Cold Rolled Electric Welded) mild steel tubing, with DOM being preferred.

"Chrome moly" alloy tubing, such as 4130, can be used but is not recommended since the strength of the area adjacent to the welds will be impaired if not properly normalized, and because of the difficulty in making satisfactory welds.

The size of the tubing to be used must be determined on the basis of the weight and speed potential of the car. Refer to the chart below. The main hoop and support braces must be of the same size.

Fabrication: The main vertical hoop must be of one continuous length of tubing with smooth continuous bends and no evidence of crimping or wall failure. All welding must be of the highest possible quality with full penetration and will be subjected to very critical inspection. Arc welding, preferably TIG, should be used wherever possible. Gussets should be welded at the junction of any tubes.

On vehicles of Space Frame or Frameless Design: It is important that the structures be attached to the vehicles in such a way as to spread the loads over a wide area using spreader plates. It is not sufficient to simply weld the bars to body or frame material. The roll cage must be designed in such a way as to triangulate the designed structure of the vehicle. Considerable care must be used to add as necessary to the frame structure itself in such a way as to properly distribute the loads.

Bracing: The braces must be of the same size tubing as used for the roll bar itself. All roll cages must be braced in a fore or aft direction with the braces attached within six inches of the top of the verticals and at an angle of at least thirty (30) degrees from vertical. It is required that a diagonal brace be used to triangulate the main hoop and it is highly recommended that this brace be attached at the top on the driver's side and attached to the bottom on the "passenger" side.

An additional horizontal bar to support the main hoop is recommended. In addition, this bar should be installed at the height no more than 2" above or below the driver's shoulders while seated in the driver's position. The shoulder harness should be attached to this bar. A head restraint is recommended.

Mounting Plates: The main hoop and braces must be attached to the frame of the car whenever possible. Mounting plates must be used for this purpose. In the case of cars with unitized or frameless construction, mounting plates must be used to secure the structure to the floor and body of the car. The important consideration is that the load be distributed over as large an area as possible, with 4"x 4" x 1/8" the minimum size desired for spreader plates. The plates must be tack welded or continuous welded to the car's frame. On some vehicles this exact size is not an option and square area of the spreader plate must be calculated to spread the maximum load expected in the worst-case scenario.

Other Designs: Deviations from the above will be considered. NHRA approved roll cages will be accepted but any factory side-impact door bar must remain. The NASCAR design is preferred.

Roll Bar Padding: Roll bar padding must be used to protect the occupant in all areas of possible contact. It must be of material (readily available) that is designed for this purpose. SFI-approved padding is highly recommended. Pipe insulation and the like is not permitted.

Minimum Tubing Sizes: The size of the tubing to be used shall be determined on the basis of the weight and speed potential of the car. Tubing of 1.625" OD, .120 or .133 wall mild steel may substitute for the mild steel sizes listed in the chart, for an NHRA cage only.

Roll Cage Tubing Chart:

Weight	Steel	Minimum Tubing Size
Under 2700 lbs.	Mild Steel	1.50" O.D. X .120 wall
	Alloy Steel	1.50" O.D. X .090 wall
Over 2700 lbs.	Mild Steel	1.75" O.D. X .120 wall
	Alloy Steel	1.75" O.D. X .090 wall

It is recommended that vehicles weighing in excess of 3200 pounds use 2.00" tubing.