

# Car Preparation Guide for the Mojave Magnum 2018



To assist our racers, we have prepared this condensed list of the requirements to run a car at the Mojave Magnum. This list is unofficial and may not be 100% complete. It simply spells out the major requirements. The Mojave Magnum 2018 Rule Book is the official authority. All drivers must be 18 or older. All entrants must have a current, valid US/Canada/UK/EU driver's license; see the Rule Book for further details.

**ROOKIE NOTE:** If you have never competed with us at Mojave before, you will initially be placed in Class D, with a speed limit of **170** mph. This is regardless of any other experience elsewhere. Upgrades to a higher class are available using the normal process; see the Rule Book.

ELECTRIC RACE CAR OWNERS – PLEASE READ THE ELECTRIC RACE CAR RULES AT THE END OF APPENDIX A IN THE RULE BOOK

Anywhere “Nomex” is specified, “Carbon-X” is also allowed.

## Cars up to 170 MPH: (Auto Class D)

1. Cars going up to a limit of **170 MPH** will enter into the **Auto D Class (AD)**.
2. **To enter Class D you must have:**
  - a. At least an MKM D license (no prior experience needed)
  - b. A car in good shape with no leaks or loose parts
  - c. Working suspension and shocks, and hydraulic brakes, on all four wheels
  - d. Good tires that are:
    - i. not worn out, repaired, plugged or recapped
    - ii. at least “W” or “Z” speed rated (with a possible Tech exception for slow cars)
    - iii. manufactured in 2012 or later (date code ends in “12” or higher)
    - iv. matching from side to side (same make/model/size L&R)
    - v. not a mixture of radial and bias ply
    - vi. at least 175mm/7in. in width, on wheels that are at least 13 inch diameter and at least 5 in. wide
    - vii. inflated to at least 25 PSI
  - e. Metal tire valve stem caps (not just metal-coated plastic) with “O” rings
  - f. Factory-type 3-point seat/shoulder belts minimum
3. Convertibles must have some kind of rollover protection behind the driver or they cannot run.
4. Class D requires the following minimum personal gear:
  - a. An open face auto racing helmet with shatterproof (ANSI Z87.1) eye protection, or (much preferred) a full face auto racing helmet with a face shield
  - b. The helmet must be labeled with one of the following certifications:
    - i. Snell SA2010, SAH2010, SA2015; or FIA 8859 or 8860
  - c. A Nomex racing head sock/balaclava is required for those with long hair or a beard
  - d. Non-synthetic (100% cotton) full coverage (high neck, long sleeve, long pants) clothing, socks and underwear. You may alternatively wear an SFI 3.2A/1 or higher driving suit.
  - e. Leather gloves with no holes, covering the wrist (no golf gloves)
  - f. Leather topped shoes with no holes or vents (no athletic shoes)
5. **You cannot use any of the following:**
  - a. **any kind of motorcycle helmet**
  - b. a helmet that is rated DOT, or novelty or shorty helmets
  - c. just a lap belt (cars with just a lap belt cannot run)
  - d. 4-point 2-inch belts (“tuner” or “off road” belts)
  - e. wheels over 20 inches diameter (unless they are factory OEM, or specifically designed for racing)
  - f. aluminum lug nuts, lug bolts, or wheel studs (unless they are factory original parts, on a car that came with them from the factory, and you can prove it)
  - g. Drag Slicks, except for the DOT Drag Radials on our tire list
  - h. Tech Speed (speed limit) for Class D is **170 MPH**.

## Cars up to 190 MPH: (Auto Class C)

1. Cars going faster than 170, up to a limit of **190 MPH**, will enter into the **Auto C Class (AC)**.
2. **To enter Class C you must have:**
  - a. At least an MKM C license (prior Mojave experience above 160 mph)
  - b. A car in good shape with no leaks or loose parts
  - c. Working suspension and shocks, and hydraulic brakes, on all four wheels
  - d. Good tires that are:
    - i. not worn out, repaired, plugged or recapped
    - ii. at least "Y" speed rated
    - iii. manufactured in 2012 or later (date code ends in "12" or higher)
    - iv. matching from side to side (same make/model/size L&R)
    - v. not a mixture of radial and bias ply
    - vi. at least 175mm/7in. in width, on wheels that are at least 13 inch diameter and at least 5 in. wide
    - vii. inflated to at least 25 PSI
  - e. Metal tire valve stem caps (not just metal-coated plastic) with "O" rings
  - f. Factory-type 3-point seat/shoulder belts minimum
3. Convertibles must have some kind of rollover protection behind the driver or they cannot run.
4. Class C requires the following minimum personal gear:
  - a. A full face auto racing helmet with face shield, certification labeled as meeting one of these specs:
    - i. Snell SA2010, SAH2010, SA2015; or FIA 8859 or 8860
  - b. A "horse collar" type helmet support (a HANS type device is highly recommended if feasible)
  - c. A Nomex racing head sock/balaclava is required for those with long hair or a beard
  - d. An SFI 3.2A/1 or higher rated driving suit with non-synthetic socks/underwear.
  - e. Leather gloves with no holes, covering the wrist (no golf gloves)
  - f. Leather topped shoes with no holes or vents (no athletic shoes)
  - g. Nomex racing gloves/socks/shoes are highly recommended.
5. **You cannot use any of the following:**
  - a. an open face helmet
  - b. **any kind of motorcycle helmet**
  - c. a helmet that is rated DOT, or novelty or shorty helmets
  - d. just a lap belt (cars with just a lap belt cannot run)
  - e. 4-point 2-inch belts ("tuner" or "off road" belts)
  - f. Class-D type street clothes
  - g. wheels over 20 inches diameter (unless they are factory OEM, or specifically designed for racing)
  - h. aluminum lug nuts, lug bolts, or wheel studs (unless they are factory original parts, on a car that came with them from the factory, and you can prove it)
  - i. Drag Slicks, except for the DOT Drag Radials on our tire list
6. Tech Speed (speed limit) for Class C is **190 MPH**.

## Cars up to 220 MPH: (Auto Class B)

1. Cars going faster than 190, up to a limit of **220 MPH**, will enter into the **Auto B Class (AB)**.
2. **To enter Class B you must have:**
  - a. At least an MKM B license (prior Mojave experience over 180 MPH)
  - b. A car in good shape with no leaks or loose parts
  - c. Working suspension and shocks, and hydraulic brakes, on all four wheels
  - d. Good tires that are:
    - i. not worn out, repaired, plugged or recapped
    - ii. at least (Y) (in parentheses on the tire) speed rated, or listed on the Mojave DOT Race Tire list
    - iii. manufactured in 2012 or later (date code ends in "12" or higher)
    - iv. matching from side to side (same make/model/size on each axle)
    - v. not a mixture of radial and bias ply
    - vi. at least 175mm/7in. width, on wheels that are at least 13 inch diameter and at least 5 in. wide
    - vii. inflated to at least 25 PSI
  - e. Metal tire valve stem caps (not just metal-coated plastic) with "O" rings
  - f. A racing **ROLL BAR** (Appendix R1 in Rule Book) (some specific cars may be exempt from this, see the Rule Book)
  - g. SFI 16.1,16.5, or 16.6 or FIA approved 5, 6, or 7 point 3-inch **racing harnesses** with unexpired date code (Appendix H in Rule Book). (A grace period may be available for expiration dates)
  - h. SFI 3.3 racing **arm restraints**
3. Class B requires the following minimum personal gear:
  - a. A full face auto racing helmet, with a face shield (not goggles), certification labeled as meeting one of these specs:
    - i. Snell SA2010, SAH2010, SA2015; or FIA 8859 or 8860
  - b. a HANS or other SFI 38.1-type or FIA 8858 Head and Neck Restraint system
  - c. A racing-approved fire suit
    - i. rated SFI 3.2A/5 or FIA 8856-2000, OR
    - ii. rated SFI 3.2A/1 (or 3.2A/3) IF you also wear a full set of Nomex long underwear, under the suit
  - d. Nomex auto racing gloves
  - e. Nomex racing socks and Nomex-lined racing shoes
  - f. A Nomex racing head sock/balaclava
4. **You cannot use any of the following:**
  - a. an open face helmet
  - b. a helmet that is rated DOT
  - c. a motorcycle, kart or rally-type helmet
  - d. standard OEM-type seat belts/harnesses
  - e. Y-type or one-piece V-type shoulder belts
  - f. 4-point 2-inch "tuner" or "ATV" harnesses
  - g. wheels over 20 inches in diameter (unless they are factory OEM, or specifically designed for racing)
  - h. aluminum lug nuts, lug bolts, or wheel studs
  - i. Drag Slicks, except for the DOT Drag Radials on our tire list
5. Tech Speed for Class B is **220 MPH**.

## Cars up to 240 MPH: (Auto A Class)

1. Cars going faster than 220, up to a limit of **240 MPH**, will enter into the **Auto A Class (AA)**.
2. **To enter Class A you must have:**
  - a. At least an MKM A license (prior Mojave experience over 205 MPH)
  - b. A car in good shape with no leaks or loose parts
  - c. Working suspension and shocks, and hydraulic brakes, on all four wheels
  - d. Either good 4-wheel disc brakes, or a parachute system, or a special MKM exemption.
  - e. Racing tires (“Not for highway use” or “For Racing Purposes only”) that are:
    - i. not worn out, repaired, plugged or recapped
    - ii. Hoosier R7s, or true non-DOT high-speed dry-paved-track racing tires, or LSR tires
    - iii. manufactured in 2012 or later (date code ends in “12” or higher if it exists)
    - iv. matching from side to side (same make/model/size L&R)
    - v. not a mixture of radial and bias ply, except for narrow bias drag or LSR fronts on a car with a chute
    - vi. at least 175mm/7 in. width (115mm/4.5 in. width with parachute)
    - vii. on wheels that are at least 13 inch diameter and at least 5 in. wide (4 in. wide with parachute)
    - viii. inflated to at least 25 PSI
  - f. Metal tire valve stem caps (not just metal-coated plastic) with “O” rings
  - g. A racing **ROLL CAGE**, bolted or welded in (Appendix R2 in Rule Book)
  - h. SFI 16.1,16.5, or 16.6 or FIA approved 5, 6, or 7 point 3-inch racing harnesses with unexpired date code (Appendix H in Rule Book). (A grace period may be available for expiration dates)
  - i. SFI 3.3 racing arm restraints
  - j. SFI 17.1 or FIA-approved 5-lb onboard racing fire suppression system with the release in reach of the driver (this requirement is waived if the engine is behind the driver and has a sealed metal firewall, and a 2.5lb 10BC fire extinguisher is securely mounted within easy driver reach while belted in.)
  - k. a well-made, supportive driver’s seat; some stock seats may not suffice
3. Class A requires the following minimum personal gear:
  - a. A full face auto racing helmet, with a face shield (not goggles), certification labeled as meeting one of these specs:
    - i. Snell SA2010, SAH2010, SA2015; or FIA 8859 or 8860
  - b. a HANS or other SFI 38.1-type or FIA 8858 Head and Neck Restraint system
  - c. A fire suit rated SFI 3.2A/5 or FIA 8856-2000, or higher, with a full set of Nomex racing long underwear
  - d. Multi-layer (SFI 3.3/5 type) Nomex auto-racing gloves
  - e. Nomex racing socks and Nomex-lined racing shoes
  - f. Nomex head sock/balaclava (multi-layer preferred)
4. **You cannot use any of the following:**
  - a. an open face helmet
  - b. a helmet that is rated DOT
  - c. a motorcycle, motocross, kart or rally helmet
  - d. 4-point 2-inch “tuner” or “ATV” harnesses
  - e. standard OEM-type seat belts/harnesses
  - f. Y-type or one-piece V-type shoulder belts
  - g. wheels over 20 inches (unless they are factory OEM, or specifically designed for racing)
  - h. aluminum lug nuts, lug bolts, or wheel studs
  - i. Drag Slicks or Drag Radials
  - j. Any DOT tire except the R7
5. Tech Speed for Class A is **240 MPH**

## Cars above 240 MPH: (Auto Class U)

1. Cars going faster than 240 MPH must enter into the **Auto U Class (AU)**.
2. **To enter Class U you must have:**
  - a. an MKM U (Unlimited) license (prior Mojave experience over 220 MPH, plus approval by the Event Director)
  - b. A true race car, with construction comparable to NASCAR Speedway or SCTA Bonneville cars
  - c. No leaks or loose parts
  - d. Working suspension and shocks, and hydraulic brakes, on all four wheels
  - e. An approved parachute system (a waiver of this requirement is possible; see the Rule Book, Appendix A.)
  - f. Non-DOT dry-paved-track racing tires ("For Racing Purposes only" or "Not For Highway Use") that are:
    - i. not worn out, repaired, plugged or recapped
    - ii. manufactured in 2012 or later (if a date code exists, it must end in "12" or higher)
    - iii. matching from side to side (same make/model/size L&R)
    - iv. not a mixture of radial and bias ply, except for narrow drag "front runners" or LSR fronts
    - v. at least 115mm/4.5 in width, on wheels that are at least 13 inch diameter and at least 4 in. wide
    - vi. inflated to at least 25 PSI
  - g. Metal valve stem caps (not just metal-coated plastic) with "O" rings
  - h. A full welded-in-place tubular steel racing **ROLL CAGE** (Appendix R2 in Rule Book)
  - i. SFI 16.1, 16.5, or 16.6 or FIA approved 5, 6, or 7 point 3-inch racing harnesses with unexpired date code (Appendix H in Rule Book). (A grace period may be available for expiration dates)
  - j. SFI 3.3 racing arm restraints
  - k. SFI 17.1 or FIA-approved 10-lb (or dual 5 lb) onboard racing fire suppression system with the releases in reach of the driver
  - l. a foam-filled bladder type racing fuel cell in a metal shell with rollover shutoff valve
  - m. a sealed metal firewall between the engine and driver compartments
  - n. A one-piece no-hinge no-springs true racing seat made of metal or approved composite, attached to the roll cage
  - o. NASCAR-type window netting on the driver's side, attached to the roll cage
  - p. A racing-type electrical master shutoff switch, easily visible and clearly labeled, operable by the driver or from outside the car
  - q. A quick-release removable racing steering wheel with padded hub
  - r. A 360 degree driveshaft safety loop of at least ¼ inch steel, one inch wide, at the front of the driveshaft, if applicable
  - s. Wheels designed for racing speeds
3. Class U requires the same clothing and personal gear as Class A.
4. **You cannot use:**
  - a. an open face helmet, a helmet that is rated DOT, or a motorcycle, motocross, kart or rally-type helmet
  - b. 4-point 2-inch "tuner" harnesses
  - c. standard OEM-type seat belts/harnesses
  - d. Y-type or one-piece V-type shoulder belts
  - e. wheels over 20 inches unless specifically designed for racing
  - f. aluminum lug nuts, lug bolts, or wheel studs
  - g. Drag Slicks or Drag Radials
  - h. any DOT street-legal tires, including Hoosier R7
  - i. GM-type rear axles with C-clips unless C-clip eliminators are installed
  - j. wheel studs or lug bolts less than 12mm or ½" diameter (example: a lot of GM cars originally came with 7/16 studs. These would have to be changed.)
5. Tech Speed for the AU class is Unlimited.