



## **XR LIMITED LATE MODEL RULES**

**Posted November 28, 2022**

1. Safety
2. Body
3. Roll Cage
4. Frame
5. Cockpit & Seat
6. Steering
7. Suspension
8. Shocks & Springs
9. Engines
10. Weight & Restrictors
11. Electrical System
12. Fuel & Fuel System
13. Tires & Wheels
14. Brakes & Braking System
15. Driveshaft
16. Transmission
17. Weight

- **1.0: SAFETY:**

- **1.1:** Competitors are solely responsible for the proper usage and installation of all safety equipment.
- The use of a five (5), six (6), or seven (7) point driver restraint system certified to SFI Spec 16.1 or 16.5 is mandatory. These restraints must be within two (2) years from the date of manufacture.
- **1.2:** Drivers must wear approved fire-resistant suits, gloves, shoes, head and neck restraint (HANS device or similar recommended), and full-face helmet at all times on track
  - **1.2.1:** Suits must comply with a minimum of SFI 3.2A/5 specifications and display valid labeling visibly on the outside.
  - **1.2.2:** Gloves and shoes must comply with a minimum of SFI 3.3 specifications and display valid labeling visibly.
  - **1.2.3:** Helmets must be full-face and meet a minimum safety rating of FIA 8860-2018, Snell EA 2016, Snell SA 2015, Snell SA 2020, or valid SFI 31.1/2015 or SFI 31.1/2020 label.
- **1.3:** Window nets certified to SFI 27.1 or safety nets certified to SFI 37.1 are strongly recommended.
- **1.4:** Cockpit tubs constructed of eighteen (18) gauge steel are highly recommended to protect the front, sides, and rear of the driver.
- **1.5:** Driveline sling required.
- **1.6:** All cars must have a fire extinguisher, in working order and up to date, in the race car. When purchasing a new fire extinguisher, it is recommended to purchase the ten (10) pound fire bottle or safe craft suppression system with the thermal hoses running to the driver's cockpit and one to the fuel cell.
- **1.7:** It is highly recommended that all cars be equipped with a thermally deployed automatic fire suppression system.
  - **1.7.1:** Must consist of DOT approved cylinder made from either aluminum or steel with a ten (10) pound capacity, steel or steel reinforced lines, and two (2) thermally activated discharge nozzles placed over the fuel cell and driver's cockpit. A third nozzle in the engine bay may also be used.
  - **1.7.2:** Must meet or exceed SFI 17.1

- **1.7.3:** Must be fully charged with ten pounds (10 lbs.) of DuPont FE-36, 3M NOVEC 1230, FireBull, 4Fire, or Fire Aide.
- **1.7.4:** Must display valid and legible SFI and manufacturer label listing agent, capacity, and certification date label must be unobstructed and visible for inspection after mounting.
- **1.7.5:** Must be securely mounted to the frame/roll cage assembly forward of the fuel cell.
- **1.7.6:** Two (2) thermally activated nozzles must be used. One (1) nozzle must be located directly above the fuel cell in the fuel cell area and the second nozzle must be in the driver cockpit area. An optional engine bay nozzle may be added. Manual override cable recommended.
- **1.7.7:** WISSOTA, IMCA, and High Plains Late Model Series (HPLMS) cars must comply with their respective sanctioning bodies fire safety rules to be compliant for an XR Event. Must declare that is the sanctioning rule package you are running under during driver registration and/or pre-race technical inspection.
- **1.8:** All teams should have an easily accessible fire extinguisher or equivalent in their pit area.
- **1.9:** All cars are recommended to use arm restraints or a window net, 16x20 rectangular shape mesh or ribbon style, must be mounted in accordance with the manufacturer's instructions and XR Official's satisfaction, must latch at the top. Window net will not be required but recommended when using a full containment seat and a HANS (or similar) device. Arm restraints highly recommended.
- **1.10:** A kill switch is required and must be within easy reach of the driver with the shoulder harness and lap belt fully cinched. This kill switch must be clearly marked "OFF" and "ON".
- **1.11:** RACECEIVERS are mandatory, default channel 454.000 (unless otherwise stated at drivers' meeting).
- **2.0 BODY:**
  - **2.1: GENERAL BODY:**
    - **2.1.1:** Minimum six (6) inch tall numbers must be displayed on the front nose and rear fuel cell.
    - **2.1.2:** Minimum eighteen (18) inch tall numbers must be displayed and legible on both sides and roof of the car.
    - **2.1.3:** Nosepiece must match body style of the make and manufacturer of the car and be the same as the engine. (GM to GM, Ford to Ford, Mopar to Mopar.)
    - **2.1.4:** All cars must have a minimum of one-half (0.5) inches and a maximum of two (2) inch radius at the top of the fenders, doors, and quarter panels. No Sharp edges.
    - **2.1.5:** Floorboards and firewall must enclose the driver's compartment completely.
    - **2.1.6:** Wedge shaped cars and/or other body styles not permitted.
    - **2.1.7:** Fins, lips, wings, tunnels, and any other type of air deflection device will not be permitted anywhere on the entire length of the car.
    - **2.1.8:** Belly pans or any type of enclosure on the bottom of the car will not be permitted.
    - **2.1.9:** Wings and/or tunnels and/or any type of air deflection device will not be permitted underneath the body and/or chassis of the car
    - **2.1.10:** Maximum of one (1) stone deflector made of steel or aluminum, for rear mounted oil pumps, oil filters, and for the main oil tank will be permitted.
    - **2.1.11:** May be near the unit it is designed to protect with a maximum size of 18"x18" and only mounted from the upper right hand frame rail to the lower right frame rail.
    - **2.1.12:** Any style air cleaner scoop used must be positioned in front of or around the air cleaner and must not exceed one (1) inch above any part of the air cleaner.
    - **2.1.13:** Any type of flange, fin, or air deflection device that is designed to direct airflow will not be permitted.
    - **2.1.14:** The top edge of the rear quarter, door, and front fender up to attaching to the fender flare must be a straight line within one (1) inch on both sides of the car when measured from the ground.
    - **2.1.15:** Front window bars are mandatory.
    - **2.1.16:** Any air cleaner scoops used must be positioned in front of or around the air cleaner and must be solid. It cannot exceed one (1) inch in height above any part of the air cleaner. The scoop cannot be designed with fins or raised edges to direct airflow. The scoop cannot extend behind the rear of the air cleaner and must have a maximum width of seventeen (17) inches at the rear, with a

maximum of ten inches (10") width at the front and cannot have more than one (1) inch opening in height at the front.

- **2.1.17:** If you are declaring that you are WISSOTA, IMCA, or High Plains Late Model Series, you must be 100% legal with your respective sanctioning body. Must declare that is the sanctioning rule package you are running under during driver registration and/or pre-race technical inspection.

- **2.2: NOSE**

- **2.2.1:** XR approved Nosepieces approved include: ARP Air Speed nose, Five-Star MD3 type Performance Bodies/Five Star MD3 2015, Performance Bodies / Five Star 2016 Evolution, Performance Bodies / Five Star 2019 Evolution 2 or the Dominator, and MD3 – Performance Bodies. All others will need to be approved.
- **2.2.2:** All approved nose assemblies must be installed as per the manufacturer's instructions. All nose assemblies must meet the maximum/minimum dimensions, and they shall maintain manufacture appearance. Nose piece may not be altered from its original shape
- **2.2.3:** Front nose assemblies, not meeting the maximum/minimum dimensions, at the series discretion, may be permitted to compete as a "non-conforming" nose with a minimum of 50 additional pounds mounted in front of the motor plate. At series discretion, degree on non-compliance may require additional weight and/or placement of penalty weight in front of radiator.
- **2.2.4:** Nose pieces must be made of molded type material.
- **2.2.5:** Two (2) piece noses must be fastened together in the center. No spacers to gain width or cutting to narrow the overall width of the nose are permitted.
- **2.2.6:** The nose must be mounted flat where the filler panel and nose piece meet. Nose pieces may not be altered from its original shape. Nose pieces may be checked with a template. Nose will be pushed against mounting supports to gauge its profile against the template.
- **2.2.7:** A stock nosepiece can extend a maximum of fifty-two (52) inches from the center of the front hub to the farthest point extending forward. One (1) inch tolerance.
- **2.2.8:** Adding to the bottom of the OEM valance to achieve lower ground clearance is not permitted.
- **2.2.9:** Front fender flares must have collapsible support.
- **2.2.10:** Front fender flares must be made of plastic and cannot alter the original shape of the nose piece. The front fender flairs cannot extend beyond the front tire more than one (1) inch in width with wheels pointed straight.
- **2.2.11:** Front fender flares can extend a maximum of three (3) inches above the fender tops and hood.
- **2.2.12:** Front fender flares can extend a maximum of four (4) inches above where the filler panel meets the hood.
- **2.2.13:** Holes for cooling purposes must be within ten (10) inches from the center point of the nose where the left and right panels of the nose and/or valance come together.

- **2.3: ROOF & ROOF SUPPORTS:**

- **2.3.1:** Roof must be mounted directly to the roll cage. A maximum of a half-inch (0.500) space is allowed.
- **2.3.2:** The roof length size must be a minimum of forty-four (44) inches to a maximum of fifty-four (54) inches.
- **2.3.3:** The roof width size must be a minimum of forty-eight (48) inches to a maximum of fifty-two (52) inches.
- **2.3.4:** The roof must be mounted parallel to the body and near the center of the car.
- **2.3.5:** A maximum one-and-one-half (1.500) inches of roll, turned downward, is permitted along the front edge of the roof. A maximum one (1) inch ninety-degree (90°) bend is permitted along the rear edge of the roof. Roll permitted to help strengthen the roof.
- **2.3.6:** Flat and/or odd shaped roofs will not be permitted. Bellied and hollowed roofs will not be permitted.
- **2.3.7:** Any sun shields, four (4) inch maximum, must be able to hinge for easy exiting of the car.
- **2.3.8:** A maximum of two (2) roof edge bead rolls of a maximum height of a half-inch (0.500) the length of the roof will be permitted.
- **2.3.9:** The roof posts and spoiler support(s) must not overlap.

- **2.3.10:** The maximum thickness of the roof at any point must be no more than a half-inch (0.500).
- **2.3.11:** The roll cage and associated frame members above the interior panels (decking) must remain open. Enclosures will not be permitted.
- **2.3.12:** All roof side panels must extend to the edge of the body.
- **2.3.13:** Maximum (no tolerance) right side sail panel size – seventeen (17) inches at the top and forty-three (43) inches at the bottom. Maximum (no tolerance) left side sail panel size – seventeen (17) inches at the top and forty-three (43) inches at the bottom and minimum fifteen (15) inches at the top and forty (40) inches at the bottom. The window area may be covered with clear Lexan or transparent material. Both roof support openings must be covered, or both must be left open, if left open the openings must maintain a border frame of two (2) to three (3) inches at the top and sides and three (3) inches at the bottom. Decals will be permitted but must meet the dimensions in the drawing and must be approved by the Technical Inspector. Maximum two-inch (2”) radius (no breaks) in either direction in rear roof side panels is permitted.
- **2.3.14:** The left and right-side window panels must match.
- **2.3.15:** The front roof supports must extend forward to the rear of the hood. Front posts must be flat and in uniform width from top to bottom – four inch (4”) maximum width. Left and right sides must match in size.
- **2.3.16:** Sail Panel Windows Openings must be a border frame of two (2) to three (3) inches at the top and sides and three (3) inches at the bottom with no tolerance.
- **2.3.17:** There must be a minimum of three (3) inches and a maximum of four (4) inches between the sail panel and spoiler side where they meet the deck.
- **2.4: HOOD & FRONT FENDERS & FLARES**
  - **2.4.1:** No part of the fender or hood can be outside of the body line.
  - **2.4.2:** Hood can drop one (1) inch with a one (1) inch tolerance measured at the back edge of the hood and in front of the carburetor from left to right side of the car. Fenders must taper from outer edge to hood in a straight line. Fender material must be flat with no bubbles. The fender top must have a ten (10) inch minimum width.
  - **2.4.3:** If the hood is dropped, the deck must remain flat. If your hood remains flat, a drop of the deck will be allowed. The maximum drop will be two (2) inches. If the interior is dropped, the hood and fenders must remain flat behind the air cleaner.
  - **2.4.4:** Fenders are not permitted to gain height from rear to front of car. Will check with a string from the top of the quarter panel at the spoiler to the top of the highest point of the fender. Must be flat with a one (1) inch tolerance.
  - **2.4.5:** The front fender can be a maximum of thirty-six (36) inches in height with a one (1) inch tolerance. Height is measured vertically from the ground to the top of the fender behind the front tires.
  - **2.4.6:** The front fender flares must not extend beyond the front tires more than one (1) inch per side to a maximum width, edge-to-edge, of ninety (90) inches in width with the wheels pointed straight.
- **2.5: DOORS:**
  - **2.5.1:** The door-to-door measurement cannot exceed seventy-six (76) inches in width at the top of the doors. One (1) inch tolerance.
  - **2.5.2:** B.) The door-to-door measurement cannot exceed eighty-nine (89) inches in width at the bottom in the center of the car. One (1) inch tolerance.
  - **2.5.3:** The doors must not exceed thirty-seven (37) inches in height when measured from the ground to the top of the door. The measurement from the rear of the top deck to the highest point of the right front fender must be a straight line that must be within one (1) inch when a straight edge or string is installed on the racecar the entire surface of the body must be within one (1) inch of the plane.
  - **2.5.4:** The door sides may not break inward from the top seventy-six (76) inches and bottom eighty-nine (89) inch measurements. Hollow and/or belled doors will not be permitted.
  - **2.5.5:** The minimum ground clearance permitted is three (3) inches.
- **2.6: QUARTER PANELS:**
  - **2.6.1:** Quarter panel can be a maximum of forty-nine (49) inches from center of rear hub to rear edge measured horizontally. Quarter panel can be a maximum of fifty-four (54) inches from the center of the hub to the rear T-Bar at spoiler with no tolerance.

- **2.6.2:** Tire clearance from the body must be a minimum of two (2) inches. No wheel skirts permitted.
- **2.6.3:** At no point can quarter panel sides break in towards the center of the car between the top and bottom. One (1) inch tolerance including plastic.
- **2.6.4:** Left rear quarter panels must extend downward from the deck a minimum of thirty-three (33) inches and a maximum of thirty-six (36) inches including the plastic. Measured at the front and rear of the quarter panel. Right rear quarter panels must extend downward from the deck a minimum of twenty-seven (27) inches without the plastic and thirty-one (31) inches with plastic. Measured at the front and rear of the quarter panel. One (1) inch tolerance.
- **2.6.5:** Right side quarter panel must be straight in line with the door. Will check with a string from the top of the quarter panel at the spoiler to the top of the highest point of the fender. Must be straight with a one (1) inch tolerance.
- **2.6.6:** Plastic quarter panels will be allowed on the right side of the car only. Plastic quarter panels will not be permitted on the left side of the car.
- **2.6.7:** The maximum Deck Height from the ground to the top of the rear deck at the top of the rear quarter panels (spoiler hinge bottom) is thirty-nine (39) inches. One (1) inch tolerance. The highest point on the RF nose must be no higher than 15 (fifteen) inches off the ground measured at the top of the nose splitter. Tech officials will lower the front of the car if it's higher than fifteen (15) inches with no tolerance.
- **2.7: SPOILERS, SPOILER BRACES, & SPOILER SUPPORTS**
  - **2.7.1:** Only aluminum, Lexan, and carbon fiber rear spoilers will be permitted.
  - **2.7.2:** Rear spoiler material maximum eight (8) inch height measured from deck to tip of material. Maximum seventy-two (72) inches wide between outer edges of spoiler sides. See engine rules for more specific spoiler height rules. See Section 10.0 WEIGHT & RESTRICTORS for more details.
  - **2.7.3:** The rear spoiler must begin at the deck and extend eight and one-quarter (8.25) inches from that point. Mounting hardware, hinges, etc. will be included in the eight and one-quarter (8.25) inch measurement.
  - **2.7.4:** Suspending the spoiler to create a wing-type device will not be permitted.
  - **2.7.5:** Rear spoiler must begin where quarter panels end. No extended decks permitted.
  - **2.7.6:** Maximum of three (3) rear spoiler supports. Option of two (2) additional one (1) inch aluminum braces.
  - **2.7.7:** The outside spoiler supports cannot be mounted any wider than the top of the quarter panel(s) and must be centered on the rear deck.
  - **2.7.8:** If aluminum angle is used to brace the upper edge of the spoiler, the angle must not add to the height and/or length of the spoiler in any way.
- **2.8: INTERIOR:**
  - **2.8.1:** Interior is permitted to be dropped to the middle (just behind the seat) of the car a maximum of five (5) inches below the top of doors and a minimum of twelve (12) inches below the roll cage.
  - **2.8.2:** Interior must be fastened flush at the top of the door and quarter panels and must taper gradually towards the center of the car. Maximum of seventy-degree (70°) angle from the deck.
  - **2.8.3:** Interior must run in a straight line from behind the driver's seat to the rear spoiler.
  - **2.8.4:** The Interior deck must run in a straight line (vertical and horizontal) across the back of the car at the spoiler.
  - **2.8.5:** All interiors must be made of aluminum.
  - **2.8.6:** If the interior is flat through the car, it must maintain a twelve-inch (12") clearance from roll cage for easy exiting from either side of the car.
- **2.9: DRIVER COMPARTMENT:**
  - **2.9.1:** A full metal firewall fabricated from magnetic steel and/or aluminum must encompass the driver's compartment from front-to-rear, on both sides and floorboards.
  - **2.9.2:** All cars must be equipped with a quick-release type steering wheel that is a full circle.
  - **2.9.3:** Mirrors of any-type will not be permitted.
  - **2.9.4:** With the exception of RACECEIVERS, radios, electronic recording devices and/or data communication devices will not be permitted.

- **2.9.5:** GoPro camera like devices are allowed, but must be placed above the deck and cannot be pointed at any suspension parts.
- **2.9.6:** Any edge and/or sheet metal end in and around the driver compartment must be protected with trim and/or beading and rounded. Sharp and protruding edges will not be permitted.
- **2.9.7:** A substantial rock guard with a minimum of three (3) additional roll bars must be mounted in front of the driver.
- **2.9.8:** Except for brake bias adjusters, no cockpit adjustable components will not be permitted. Adjusters of anytype, including but not limited to adjustable shocks, hydraulic or pneumatic weight jacks, trackers, ignition boxes or similar adjustable components will not be permitted inside the cockpit of the car or within reach of the seated driver.
- **2.10: BODY SKEW:**
  - A.) The measurement of the left rear quarter panel from the center of the hub to the rear of the quarter panel should not exceed fifty-four (54) inches. Measuring six (6) feet from the left rear quarter panel to the right rear quarter panel, then eight (8) feet forward along the right-side door, the diagonal measurement from that point to the top of the left rear quarter panel should not exceed 118-inches.
- **3.0: ROLL CAGE & DOOR / INTRUSION PLATE:**
  - **3.1:** All cars must have a roll cage fabricated from a minimum of one-and-one-half (1.500) inches outside diameter with 0.083-inch thick seamless magnetic steel tubing. WISSOTA, IMCA, and High Plains Late Model Series (HPLMS) cars must comply with their respective sanction safety rules to be compliant for an XR Event. Must declare that is the sanctioning rule package you are running under.
  - **3.2:** The side roll bars and/or door bars must extend into the door panels.
  - **3.3:** A minimum of three (3) one-and-one-half (1.500) inches outside diameter bars 0.083-inch in thickness must be utilized on the left side of the car in the door area. WISSOTA, IMCA, and High Plains Late Model Series (HPLMS) cars must comply with their respective sanction safety rules to be compliant for an XR Event. Must declare that is the sanctioning rule package you are running under.
  - **3.4:** Any of the bars that are utilized for the top portion of the roll cage, including, but not limited to the front and rear hoops, the top hoop and the uprights, must extend a minimum of one (1) inch above the driver's helmet.
  - **3.5:** No "fin-shaped" or "foil-shaped" add-ons permitted on any part of the roll cage. The entire roll cage must be constructed of round tubing only.
  - **3.7:** Roll cage padding certified to SFI Spec 45.1 is required anywhere the driver's helmet may contact the roll cage while in the driving position.
  - **3.8:** A minimum 1/8" (.125") thick magnetic steel intrusion plate on the driver's side door bars is mandatory.
  - **3.9: Approved Installations:**
    - **3.9.1:** Welded plates- Individual plates between door bars are permitted but must be weld around the perimeter of each opening. Minimum area covered is sixteen (16) inches by twenty-six (26) inches.
    - **3.9.2:** A minimum of sixteen (16) inches by twenty-six (26) inches plate bolted to fabricated 1/8" (0.125") magnetic steel tabs, welded securely to the chassis, using a minimum of eight (8) inches x 3/8" (0.375") Allen button head bolts. A minimum of three (3) fabricated 1/8" (0.125") magnetic steel tabs and 3/8" (0.375") Allen button head bolts required across top of the intrusion plate, a minimum of three (3) fabricated 1/8" (0.125") magnetic steel tabs and 3/8" Allen button head bolts required across the bottom of the plate, and one (1) fabricated 1/8" (0.125") magnetic steel tabs and 3/8" (0.375") Allen button head bolt in each in the middle front and middle rear of intrusion plate.
    - **3.9.3:** A minimum of sixteen (16) inch by twenty-six (26) inch plate bolted to a minimum of six (6) approved-design door bar clamps using the included 12 x 1/2" (0.500") Allen button head bolts per the manufacturer's specification. A minimum of three (3) approved-design door bar clamps and the included six (6) x 1/2" (0.500") Allen button head bolts required across top of the intrusion plate and three (3) approved-design door bar clamps and included six (6) x 1/2" (0.500") Allen button head bolts required across bottom of intrusion plate. Vendor and part number must be clearly labeled on part.
    - **3.9.4:** Current approved-design door bar clamps (as of February 1, 2021) – in alphabetical order: Allstar Performance – Part Number: ALL4198; Bicknell Racing Products – Part Number: BRP 954; and Wehrs Machine & Racing Products – Part Number: WM39.
- **4.0: FRAME:**

- **4.1:** The minimum wheel base will be 103-inches with a maximum wheel base of 105-inches.
- **4.2:** Frames fabricated using square tubing must be a minimum of two (2) inches by two (2) inches or approved rectangular magnetic steel with a minimum material thickness of 0.083"-inches.
- **4.3:** Frames fabricated using round tubing must be a minimum of 1.75-inches Outside Diameter magnetic steel tubing, 4130 Chrome Moly or DOM with a minimum material thickness of 0.083-inches.
- **4.4:** Rear bumpers that are stubbed may only extend a maximum of eight (8) inches beyond the frame. Any stubbed rear bumper that extends further than the maximum of 8"-inches must be formed and directed eight (8) inches toward the front of the car.
- **4.5:** External rub rails will not be permitted.
- **4.6:** It is recommended that all cars be equipped with a tow hook or strap.
- **4.7:** All battery supports and/or mounts must be secure and braced in two (2) horizontal positions and one (1) vertical position.
- **4.8:** No titanium fasteners, or chassis and suspension components are permitted.
- **5.0: COCKPIT & SEAT:**
  - **5.1:** A full metal firewall fabricated from magnetic steel and/or aluminum must enclose the driver's compartment from front to rear, on both sides, and floorboards.
  - **5.2:** All cars must be equipped with a quick-release type steering wheel that is a full circle.
  - **5.3:** Sharp and protruding edges will not be permitted.
  - **5.4:** A rock guard with a minimum of three additional roll bars must be mounted in front of the driver. The rock guard must be made from a wire screen.
  - **5.5:** No rear-view mirrors of any kind permitted.
  - **5.7:** It is recommended that your seat be a full containment type constructed of aluminum or carbon fiber and be SFI 39.2 certified.
    - **5.7.1:** All aluminum seats must be mounted properly & securely per the directions or recommendations from the seat manufacturer. The use of Grade 5 or better hardware is also required to attach the seat to the chassis with minimum four mounting bolts (3/8 inch or bigger). Seat mounting brackets must use properly sized bolts 3/8 inch or bigger with washers to match the holes in the mounting bracket. No oversized holes or slotted holes in the bracket. Aluminum racing seat. When not using a full containment seat you are required to use one of 2 options:
      - **5.7.2:** Option 1: two head supports (left & right side) The left side may be shorter for egress only but cannot be trimmed any shorter than the distance of the face of the helmet.
      - **5.7.3:** Option 2: The ISP seat parts number ISP 202LA L quick release helmet belt and the ISP 202M mounting bracket.
  - **5.8:** Design should include a head surround, shoulder and torso support system, and energy impact foam.
  - **5.9:** Seats must be used as supplied and installed as instructed by the seat manufacturer.
  - **5.10:** Seats must be mounted to a seat frame that is welded to the race car frame/roll cage structure.
  - **5.11:** Seat mounting brackets must use properly sized bolts and washers for the hole in the bracket.
  - No oversized holes or slotted holes in the bracket. If the left-side head surround is seven (7) inches or less when measured from the back of the headrest, then a left-side window net meeting the SFI 37.1 must be installed with a quick-release latch.
  - **5.12:** A minimum left side head surround of four (4) inches is required.
  - **5.13:** The ONLY Cockpit adjustable component allowed is a brake bias adjuster. No other cockpit or driver adjustable shocks, hydraulic or pneumatic weight jacks, trackers, MSD boxes or similar adjustable components of any kind are permitted inside the cockpit of the car. Taping over of any adjuster is not permitted. The offending component must be removed from the cockpit.
- **6.0 STEERING:**
  - **6.1:** Only one mechanical power steering pump shall be permitted.
  - **6.2:** Any type of electronic steering or their components are not permitted.
  - **6.3:** Spindles must be fabricated or forged using magnetic mild steel. If separate, spindle steering arms must be welded to the spindle.
  - **6.4:** Steering arms must remain below the spindle pin.
  - **6.5:** Spindles must connect to the upper and the lower control arms by utilizing ball joints, mono-balls, or spherical rod ends.

- **7.0: SUSPENSION**

- **7.1:** No Inerters are allowed. No rotating parts inside the damper. No Inerter style dampers, either mechanical or hydraulic, or other type of primarily acceleration sensitive damping devices not permitted.
- **7.2:** One (1) drop chain (limiting chain) is permitted. For each side of the rear of the car. Must mount vertically from the frame to a bracket on the birdcage to axle tube. Bracket on the axle tube can have a bearing or clamped solid.
- **7.3:** Bump stops and/or bump springs are permitted. All bump stops and/or springs must be mounted on a shock with the exception of a left rear drop chain assembly, 6th coil assembly and/or lift arm assembly. No bump sticks are permitted.
- **7.4:** Suspension covers are not allowed. Rear covers on racecar are not allowed outside of your pit area. Spring and/or shock covers are permitted, but must be fastened directly to the spring or shock.
- **7.5:** A Swing Arm and/or Z Link suspension is permitted as long as the Top and Bottom solid links are mounted on heims and run in the opposite directions of the bird cage. The Shock on a Swing Arm or Z Link rear suspension may mount to the bird cage or the bottom radius rod.
- **7.6:** Suspension and/or rear end parts can be made of steel or aluminum. Aluminum mounting brackets are permitted.
- **7.7:** Frame and/or suspension mounts must be welded or bolted solid to the frame and not move. I.e. Floating, sliding, pivoting and/or rotating mounts and/or brackets of any sort are not allowed.
- **7.8:** Bolted components must match the correct bolt size with the hole (for instance no 3/8 bolts in a 1/2-inch hole will be deemed illegal) and be torqued to a min of 40-foot pounds per inch
- **7.9: REAR SUSPENSION MOUNTS:**
  - **7.9.1:** All chassis mounts must be double shear.
  - **7.9.2:** Double shear mounts must be 1/8" minimum steel and/or 1/4" minimum aluminum.
  - **7.9.3:** C. Sheer mounts must use minimum 5/8" rod ends with minimum 1/2" grade 8 bolts only. The bolt must be bolted through both sheer mounts.
  - **7.9.4:** Double sheer mount must be no wider than 4 inches with a minimum 1/2" inch grade 8 bolt with steel or aluminum spacers only.
- **7.10:** Only one (1) mechanical traction device is permitted. Only one (1) pull bar or one (1) lift arm is permitted. No other options are allowed. Covers of any sort in any relation to the lift arm or pull bar are not allowed.
- **7.11: LIFT ARM & PULL BAR**
  - **7.11.1:** A. Floating, pivoting and/or rotating mounts and/or brackets of any sort (connected to and/or associated with the pull bar or lift arm) are not allowed.
  - **7.11.2:** Lift arm is defined as a steel or aluminum triangulated bar that is connected at the top and bottom of the rear end housing, extending forward where it is connected to a shock, shock spring coil over combination and a limiting chain. One stabilizer bar is permitted to locate the front of the lift arm from left to right in the car.
  - **7.11.3:** C. 6th coil or braking spring assemblies are permitted, must be in front of 5th coil shock.
  - **7.11.4:** D. Pull bar is defined as a continuous assembly that is connected to the top of the rear end and extends forward to a solid mounting point located on the chassis. The mounting location at both the front and rear of the pull bar may be adjustable but must remain constant during competition (cannot be adjustable from the cockpit).
- **7.12: RADIUS RODS:**
  - **7.12.1:** A. All rear suspension radius rods must be of a fixed length. No hydraulic cylinders, torsion bars, bump rods, spring rods, slider rods or shock type radius rods are permitted.
  - **7.12.2:** Radius Rods must be a minimum of one (1) inch diameter OD. Rods can be round, square, or hex shaped. Rods must be a minimum of .095 steel or .120 aluminum in tubing thickness.
  - **7.12.3:** Heim joints must be a minimum 5/8, and a maximum 3/4" steel heims. No rubber bushings.
  - **7.12.4:** ONLY Two (2) radius rods per side: Radius rods must be spaced on the frame a minimum of six (6) inches, radius rods must be spaced on the birdcage a minimum of six (6) inches and a maximum of twelve (12) inches, measurements will be made from center of each radius rod bolt, and all radius rods must be straight with the exception of the left lower that can have a bend for axle housing mount clearance.



- **7.13: AXLE HOUSING MOUNTS (BIRDCAGES):**
  - **7.13.1:** Birdcages must be made of aluminum or magnetic steel, no exotic materials. Birdcages don't have to be made of the same material from side to side.
  - **7.13.2:** Birdcages may consist of multiple barrels but must bolt or weld together to work as single barrel birdcage.
  - **7.13.3:** Limited one birdcage (1) per side.
  - **7.13.3:** Shock(s) and radius rods must mount to the birdcage.
  - **7.13.4:** Floating, pivoting and/or rotating mounts and/or brackets of any sort are not allowed. All brackets or mounts attached to the birdcage must be bolted or welded solid.
- **7.14:** Jack Bolts are permitted.
- **7.15:** Rear Suspension and Suspension Components:
- **7.16: AXLE HOUSE & REAR DIFFERENTIAL:**
  - **7.16.1:** The axle housing must be of the "closed tube" design utilizing "full floating" magnetic steel axle shafts.
  - **7.16.2:** The center section of the axle housing must be manufactured of either aluminum or magnesium.
  - **7.16.3:** Axle tubes must be one (1) piece. Axle tubes must be manufactured of aluminum or magnetic mild steel. Axle tubes manufactured of exotic; heavy materials will not be permitted. The outside diameter of the axle tubes must not exceed three (3) inches. Axle tube internal inserts or external sleeves will not be permitted. The addition of any ballast weight to the axle housing will not be permitted.
- **7.17 AXLE HOUSING MOUNTS:**
  - **7.17.1:** The only materials used to fabricate axle housing mounts (birdcages) that will be permitted is aluminum or magnetic mild steel. Axle housing mounts fabricated of exotic; heavy materials will not be permitted.
  - **7.17.2:** When fabricating axle housing mounts detail must be paid to functionality. The completed axle housing mounts, when comparing the right and the left side, must be as similar in design as possible.
- **8.0: SHOCKS & SPRINGS:**
  - **8.1:** Shocks must be constructed of aluminum or steel. Canister shocks are permitted.
  - **8.2:** The only external connection allowed to the shock is a single hose to a single remote canister with the option of a compression adjuster in the canister.
  - **8.3:** Compression adjuster and/or canister cannot be mounted within the reach of the driver.
  - **8.4:** Maximum shock body outside diameter is two (2), half-inch inches (0.50").
  - **8.5:** Maximum front shocks length is twenty-one inches (21"). Measured center to center of the shock eyes.
  - **8.6:** Maximum rear shocks length is twenty-seven inches (27"). Measured center to center of the shock eyes
  - **8.7:** Only 2-way compression/rebound adjustable shocks are permitted no 3 or 4 way adjustable.
  - **8.8:** No cross connected shocks are allowed.
  - **8.9:** No "Rod Through" designs are allowed. "Rod Through" shocks are defined as those shock absorbers in which the piston rod protrudes from both ends of the shock body.
  - **8.9:** Shock Locations
    - **8.9.1:** Only one shock per wheel is permitted at the left front, right front, right rear corners.
    - **8.9.2:** Left rear must have one shock behind the axle tube and may have one traction (dummy) shock on the front side or top of axle tube. Must mount vertically to the birdcage or clamp bracket.
    - **8.9.3:** One 5th Coil Shock permitted.
    - **8.9.4:** One 90/10 optional shock may be mounted above lift arm on upper lift arm plates. Must be mounted towards the front of the car lying parallel with the car. Shock must mount within 3" of the centerline of the rear ends center section.
- **9.0 ENGINES:**
  - **9.1:** V8 engines sized 350ci. – 460 ci. may be used (aluminum block, steel block, aluminum head, steelhead). Restrictors and/or weight rules will serve as equalizers. (Restrictors cannot be bigger than what is listed per engine but can be smaller. See weight rules.)
  - **9.2: IMCA SPEC ENGINE RULES**
    - **9.2.1:** Steel blocks only. Maximum 361 (GM), 362 CI (Ford), and 364 CI (Chrysler)

- **9.2.2:** Minimum four-inch bore
- **9.2.3:** Minimum stroke: 3.48 inch (GM), 3.40 inch (Ford), and 3.313 inch (Chrysler)
- **9.2.4:** Maximum compression is 10.5 to 1, can be checked at any time with whistler. No tolerance.
- **9.2.5:** Brodix/IMCA spec cylinder heads only. No grinding, polishing, or altering of any kind. No use of any substance that may change or alter shape or size of ports, runners, or combustion chambers. Only alterations allowed to heads are for push rod clearance and to install shaft rocker system.
- **9.2.6:** Maximum valve sizes are 2.08 intake and 1.600 exhaust. Valve seats and guides to remain as manufactured and in as-cast positions. Minimum combustion chamber size to be 62cc volume. Valve angle to remain as manufactured.
- **9.2.7:** Approved cylinder heads as follows: GM – Brodix # 46 221, Ford – Brodix # 46 223, Chrysler/Mopar – Brodix #46 222. No modifications to intake manifolds. Must be used as produced by the manufacturer. List of approved intakes as follows: GM – Brodix #HV100946, Ford – Edelbrock #2981 or 2980 (351) or #2921 (302), Chrysler – Edelbrock #2915.
- **9.2.8:** Camshafts may be of roller, flat tappet or mushroom design.
- **9.2.9:** Crankshafts and connecting rods must be steel.
- **9.2.10:** One-inch inspection hole required in pan – no obstructions to crank and rods. If obstructions are present, must remove the pan for inspection. Flat top pistons only.
- **9.2.11:** Crank triggers: you will only be able to run off one of two firing options, crank trigger or distributor one MUST BE unplugged and may be changeable within reach of driver or within driver cockpit. Both firing options must be within 2 degrees when tested by XR Tech Officials.
- **9.3: SPEC HEADED ENGINE RULES:**
  - **9.3.1:** Any cast iron block only. The Brodix Spec 40/60 heads will not be allowed such as ASCS/SUPR. no unnecessary machine work inside or outside of the block.
  - **9.3.2:** Over 364 cu inches or 364 cu inches and under. Please see weight rules (Section 10.0).
  - **9.3.3:** Aluminum intake. 7.25 inches from bottom of intake to base of carburetor, including spacer and gaskets.
  - **9.3.4:** Approved Brodix Spec Aluminum heads allowed. Allowed part numbers include: Chevrolet - SPCH, Ford - SPFO, Mopar - SPMO. May grind all IMCA spec heads with all of the same rules stated in Section 9.3.1 through 9.3.12 including restrictors and weights.
  - **9.3.5:** Absolutely NO removing, relocating, grinding, polishing or defacing of any letters or numbers cast into the Brodix Spec aluminum cylinder heads.
  - **9.3.6:** Heads may be angle milled, although valve angle must remain within 1 (one) degree of original manufactured specification.
  - **9.3.7:** Valve guides must remain in original angle and spacing as manufactured. Valve guides may not be tapered, thinned or shortened in any way.
  - **9.3.8:** Absolutely no welding or adding material of any kind to the head.
  - **9.3.9:** Removal of material from the head is only allowed as follows:
    - **9.3.9.1:** Chamber may be ground for dome clearance and polished.
    - **9.3.9.2:** Intake Port - Intake bowl may be blended and polished from the valve seat to the edge of the letter C in the word "Spec" on the roof and floor of the intake port. The side of the intake port may also be blended and polished from the valve seat to the same point as the roof and floor. Absolutely no grinding or polishing along the sidewalls where the spec logo is cast. Factory CNC port match must not be altered in any way.
    - **9.3.9.3:** Exhaust Port - Exhaust seat may be blended into the exhaust bowl and exhaust port may be polished as long as the word "Spec" in the roof of the exhaust port is not touched and the exhaust port exit at the header flange remains in the original as cast location, size and shape.
    - **9.3.9.4:** May machine for pushrod clearance.
  - **9.3.10:** Absolutely no enlarging, relocating or other altering of any head bolt hole, dowel hole, or threaded hole in the head except as noted below: May spot face head bolt holes after angle milling head. Heli coils may be used for repairs. Absolutely no grinding or polishing of or any kind anywhere on the casting, except in the combustion chamber, and in the areas of the intake port and exhaust ports as stated above, and for pushrod clearance.

- **9.3.11:** Any internally repaired spec head must be recertified by Brodix.
- **9.3.12:** Spec head checking fixtures will be used by SLMR officials to check all specifications and dimensions listed above.
- **9.4: GM CRATE ENGINE RULES:**
  - **9.4.1:** 602, 604, and 525 must have GM sealed bolts or IMCA sealed bolts.
  - **9.4.2:** Any parts that have been replaced or repaired must be done to the weight, size, and material specs of GM as stock purchase.
- **9.5 LS CHEVY STYLE ENGINE RULES:**
  - **9.5.1:** Must follow same rule package as the open headed, aluminum block engine rules
- **9.6: STEEL HEADED ENGINE RULES: Small Cubic Inch**
  - **9.6.1:** Only O.E.M. stock production steel heads as numbered below will be allowed.
  - **9.6.2:** No Dart, fuel injected, Ford Cleveland, or GT40 heads allowed.
  - **9.6.3:** The specified (spec.) head will be the G.M. BOWTIE non-vortec cylinder head, part/casting number 10134392, 14011058, 12480034, or 14011034. Chevrolet Performance Vortec Part number 12558060. Casting number 12039906 or 12558062 that have a 64CC combustion chamber, a 170CC intake port, no alterations to the head including porting or polishing and valve size must remain stock. 1.940" intake valve and 1.500" exhaust valves are legal.
  - **9.6.4:** Ford M-6049-n351, Mopar head casting number 4532693. Mopar may run Chrysler R block #P4532907 or P4532908. Mopar heads may be 15 or 18 degrees. O.E.M. J Design Mopar heads are not legal. No modification outside of the combustion chambers, except surfacing, three angle valve jobs, and touching up the combustion chamber.
  - **9.6.5:** Titanium valves and retainers allowed.
  - **9.6.6:** All cylinder heads under rule F3 and F4 listed above must remain with their stock production valve centers.
  - **9.6.7:** Roller camshaft, lifters, and rocker arms will be allowed. Shaft rockers will be allowed.
  - **9.6.8:** Any aluminum intake may be used with a maximum total height of 6" from the carburetor base plate including the spacer plate to the floor of the plenum. Up to a 2" spacer may be included in the 6" height. No super highrise intakes allowed. Plenum must have a flat floor.
  - **9.6.9:** No titanium engine parts, except titanium valves and retainers.
  - **9.6.10:** Engine casting numbers stamped on the engine will be left on the block at the bell housing area.
- **9.7 INTAKE:**
  - **9.7.1:** Intake manifolds for the crate engines (602, 604, 525) must remain as manufactured and purchased for the crate motor. Up to a two (2) inch spacer plate may be used.
  - **9.7.2:** IMCA SPEC Motor intake must be stock configuration as purchased for IMCA racing, may use up to a two (2) inch super sucker. (Inside of the bottom intake manifold must be flat. No devices permitted inside of intake manifold to disrupt/enhance the air flow to the engine)
  - **9.7.3:** IMCA Chevrolet intake manifold may have the clover milled out to be an open intake. The sides must not be milled any bigger than stock and the ports and runners must not be changed from stock IMCA manifold. A spacer of only one (1) inch may be added to this intake, no super sucker. The measurement of the allowed cutting will be 3.625 across and 3.625 front to back at the top of the intake where the carburetor plate is mounted. It may go down into the intake up to the maximum of one (1) inch from the top of the intake where the carburetor gasket mounts and no farther than 90-degrees from the carburetor gasket surface. It may be less than 90-degrees no other grinding will be allowed inside the intake runners or fuel guide fins.
  - **9.7.5:** Intake Manifolds on a Wide Bore Engine may be configured to be taller than six (6) inches with a one (1) inch spacer and a one (1) inch restrictor/governor. If this motor seems to have more horsepower due to the heightened intake there will be a shorter restriction put on the spacer plate.
  - **9.7.6:** Intake manifolds may be used with a maximum total height of 6" from floor of plenum to the opening of the carburetor spacer pad. Intake manifolds must have a minimum of a 3.500-inch opening in any direction front-to-back or side-to-side at the top of the carb spacer pad to the base of the plenum which must be flat and contain no obstructions except for the blades of the runners.

Intake manifold height is six (6) inches' including any spacer to the carb pad including gaskets when not using the restrictor/governor plate.

- **9.7.7:** When using the one (1) inch restrictor/governor, the measurement from the top of carb pad, including gaskets, will be allowed a total height of six-and-a-half (6.5) inches on the inside of the intake manifold to the base of the plenum.

#### - **9.8 SPACER PLATES:**

- **9.8.1:** Governor plates must be one (1) inch thick Keyser Manufactured part #100 125000. Must use inserts/restrictor sizes 100 125095, 100 125100, 100 125105, 100 125110, 100 125120, 100 125125, 100 125130, and 100 125135.
- **9.8.2:** You may use one (1) or two (2) Spacer plates not including your restrictor/governor plate to hit maximum intake height.
- **9.8.3:** Spacer plates may be open style or four-hole spacer plate. It must be unaltered and be a cataloged part number through Keyser Manufacturing/Port City, Speedway Motors, or Wehrs Machine and purchasable for all competitors, with zero tolerance taper to enhance or increase the airflow to the engine.
- **9.8.4:** Carburetor blending plates from Wehrs Machine, part number WM10100R 1" (part number must be legible at all times, no grinding or enhancing of either plate, must remain stock), may be used on any motor with no alteration to the plate. No weight penalty will be accessed when using this plate under the 1" governor/restrictor plate.
- **9.8.5:** Wehrs Machine, part number WM101250R 1" may be used on a 401 & larger motor under weight rule 2.4 #11 (part number must be legible at all times, no grinding or enhancing of plate, must remain stock), may be used under the 1" governor/restrictor plate. No alteration to the plate. No weight penalty will be accessed when using this plate.

#### - **9.9: ENGINE SET-BACK**

- **9.9.1:** All competing models using a engine larger than 364 cubic inches G.M., Ford, Chrysler, or a crate 525 engine are allowed a maximum engine set back of twenty-five-and-a-half (25.500) inches (to be measured on the left side of the engine, from the front side of the rear engine plate, to the center of the upper A frame/control arm mounting bolts which should be equal to the center of the ball joint)
- **9.9.2:** All competing models using a GM, Ford, or Chrysler engine 364 cubic inches or smaller allowed a maximum engine set back of twenty-seven-and-a-half (27.500) inches using the same measuring technique as listed in Section 9.9.1.
- **9.9.3:** For any fraction of a measurement listed in one (1) or two (2) above there will be a twenty-five (25) pound lead weight penalty to be placed in front of the rear motor plate. Any fraction beyond the measurement of one-and-a-half (1.500) inches in one (1) or two (2) above up to twenty-nine-and-a-half (29.500) inches will be a fifty (50 pound) total weight penalty placed in front of the rear motor plate.

#### - **10.0: WEIGHT & RESTRICTOR RULES:**

- **10.1:** All weight rules are to be met after all races.
- **10.2: Restrictors can be no bigger than what is listed per engine, but they can be smaller.**
- **10.3:** Fuel burnoff will only be allowed after the feature only. The fuel burnoff will be one (1) pound per lap scheduled. Only green flag laps count. There will be no fuel burnoff allowed for any qualifying events like qualifying, heat races, b mains, last chance qualifiers, etc.
- **10.4: Additional Weight ballast**
  - **10.4.1:** Must be securely mounted to the roll cage and/or frame, painted white, and clearly marked with the car number.
  - **10.4.2:** May not be mounted in the cockpit, outside of the body, or on any rotating or suspension parts.
  - **10.4.3:** Ballast blocks can be no less than five (5) pounds and more than sixty (60) pounds.
  - No stacking of ballast anywhere on the chassis.
  - **10.4.4:** Additional added weight up to 20 pounds must be fastened by at least 2.5 inches, minimum grade 5 bolts with a minimum of 2 weight clamps per each piece of ballast.
  - **10.4.5:** No ballast may be mounted above the interior deck to rub rails or body mounts.

- **10.5: STEEL BLOCK ONLY - IMCA SPEC MOTOR:**
  - **10.5.1:** Minimum weight of 2300 pounds
  - **10.5.2:** Maximum 10.5 to 1 compression ratio.
  - **10.5.3:** Maximum spoiler length of ten (10) with the standard 8-inch braces.
  - **10.5.4:** Fuel must be gasoline Only! If you run a different fuel (ethanol-enriched gasoline, or alcohol) your weight minimum will increase to 2350 pounds. with the fifty (50) pounds of the additional weight being added to the front of the engine plate.
- **10.6: STEEL BLOCK ONLY - 602, & 604 GM CRATE MOTORS:**
  - **10.6.1:** Minimum weight of 2250 pounds.
  - **10.6.2:** Maximum spoiler length is ten (10) inches with the standard eight (8) inch braces.
  - **10.6.2:** Fuel must be gasoline, ethanol-enriched gasoline, or alcohol. No oxygenated fuel other than methanol or ethanol is allowed.
- **10.7: ALUMINUM CRATE CT 525:**
  - **10.7.1:** Minimum weight of 2300 pounds.
  - **10.7.2:** Fuel must be gasoline, ethanol-enriched gasoline, or alcohol. No oxygenated fuel other than methanol or ethanol is allowed. When running anything but 100% gasoline, you must add 50lbs to the front of the rear motor plate.
- **10.7: STEEL BLOCK ONLY - 364 CU INCHES OR SMALLER:**
  - **10.8.1:** Minimum weight for all steel motors, including headers, weight minimum 2350 lbs.
  - **10.8.2:** Fuel must be gasoline only!
- **10.9: STEEL BLOCK ONLY - OVER 364 CU INCHES:**
  - **10.9.1:** Minimum weight of 2350 pounds.
  - **10.9.2:** Fuel must be gasoline, ethanol-enriched gasoline, or alcohol. No oxygenated fuel other than methanol or ethanol is allowed. When running anything but 100% gasoline, you must add 50lbs to the front of the rear motor plate.
- **10.10: STEEL BLOCK ONLY: BRODIX HEADED ENGINE OVER 364 CU INCHES**
  - **10.10.1:** Minimum weight of 2350 pounds.
  - **10.10.2:** Fuel must be gasoline only with minimum weight 2350 lbs. with (4) 1.200 restrictors.
- **10.11: STEEL BLOCK – ALUMINUM HEAD:**
  - **10.11.1:** Chevrolet Motors with Brodix 23-degree track one (1) style head without the spec or series bosses Under 374 cu in. With a 23-degree valve angle of plus or minus 2 degrees with the valve center of 2.350 to 2.354, the car must weigh a minimum 2350 pounds with three (3) at 1.150 restrictors and one (1) 1.200.
  - **10.11.2:** Chevrolet Motors Under 374 cu in. With a 23-degree valve angle of plus or minus 2 degrees with the valve center of 2.349 or less, the car must weigh a minimum 2350 lbs. with one (1) at 1.100 restrictor and three (3) at 1.150 restrictors.
  - **10.11.3:** Chevrolet Motors with 23-degree track one (1) style head without the spec or series bosses Over 375 cu in. With a 23-degree valve angle of plus or minus 2 degrees with the valve center of 2.350 to 2.354, the car must weigh a minimum 2350 pounds with three (3) 1.100 restrictors and one (1) at 1.150.
  - **10.11.4:** Chevrolet Motors Over 375 cu in. With a 23-degree valve angle of plus or minus two (2) degrees with the valve center of 2.349 or less, the car must weigh a minimum 2350 lbs. with one (1) restrictor at 1.050 and three (3) at 1.100.
  - **10.11.5:** Fuel must be gasoline Only, regardless of option.
- **10.12: LS, OPEN ALUMINUM, STEEL MOTORS:**
  - **10.12.1:** Motors with unrestricted valve angle 365 cubic inches or less must weigh 2400 pounds with one (1) restrictor at 1.100 and three (3) 1.050 restrictors.
  - **10.12.2:** Motors with unrestricted valve angle 366-400 cubic inches must weigh 2400 pounds with one (1) restrictor and three (3) 1.050 restrictors.
  - **10.12.3:** Motors with unrestricted valve angle 401 cubic inches and larger must weigh 2400 pounds with two (2) restrictors at 1.000 and two (2) restrictors 1.050 restrictors.
  - **10.12.4:** Fuel must be gasoline Only, regardless of option.

- **10.13:** Motor, weight, and restrictor package may be changed at any time as determined by XR Officials to equal the package for all competitors.
- **10.14:** If you are declaring that you are WISSOTA, IMCA, or High Plains Late Model Series, you must be 100% legal with your respective sanctioning body. Must declare that is the sanctioning rule package you are running under during driver registration and/or pre-race technical inspection.
- **11.0: ELECTRICAL SYSTEM:**
  - **11.1:** Only one distributor or magneto will be permitted.
  - **11.2:** Cylinder designated individual coil systems will not be permitted.
  - **11.3:** The following ignition boxes will not be permitted for use:
    - MSD 6530
    - MSD 65303
    - MSD Digital Programmable 6AL-2
    - Fast Ignition 307222.
  - **11.4:** Gauges to monitor engine conditions are permitted but will be limited to the following:
    - Oil Pressure
    - Oil Temperature
    - Engine Coolant Pressure
    - Engine Coolant Temperature
    - Fuel Pressure, Battery Voltage
    - Engine RPM.
  - **11.5:** All electronic gauges whether analog or digital, except tachometers, will only be permitted to have one input from the respective gauge sensor.
  - **11.6:** Output from the gauges will not be permitted.
  - **11.7:** Tachometers will be permitted to record engine RPM for recall and playback.
  - **11.8:** When an electronic dash module is used in lieu of individual gauges, only the inputs as described above for individual gauges will be permitted. All other input channels must be disabled and blocked off from usage. Wiring to the electronic dash module must be accessible and removable for ease of inspection
  - **11.9:** Only engine RPM may be recorded.
  - **11.10:** Data acquisition systems of any kind or wiring for them will not be permitted.
  - **11.11:** All traction control devices, whether electronically controlled in the ignition system, wheel sensors, brakes, or any means of measuring ground speed to control wheel spin, are strictly prohibited.
  - **11.12:** Adjustable ping control devices, dial a chip controls, timing controls, and/or automated throttle controls will not be permitted.
  - **11.13:** Remote control components of any type will not be permitted.
  - **11.14:** There shall be NO driver controlled wheel spin, timing or fuel delivery control devices in the cockpit area of any race car.
  - **11.15:** No computer controlled devices, GPS, cellular, satellite, wi-fi devices or any other type of electronic tracking or locating devices of any kind allowed anywhere on or attached to the car.
  - **11.16:** Only approved transponders used for lap timing devices will be permitted.
  - **11.17:** With the exception of RACECEIVER, no other communication to or from the driver is allowed.
  - **11.18:** No cameras of any type permitted below the interior deck of the car.
  - **11.19:** All devices not mentioned above that are found to control wheel spin, timing or fuel delivery control will be considered strictly prohibited.
- **12.0: FUEL & FUEL SYSTEMS**
  - **12.1:** An approved fuel cell maximum of thirty-five (35) gallon that meets or exceeds FIA/FT3 or SFI 28.3
  - **12.2:** specifications. Alterations of any kind will be strictly forbidden.
  - **12.3:** The fuel cell must be enclosed completely in a container that is a minimum thickness of twenty (20) gauge magnetic steel and/or 0.060"-inch aluminum.
  - **12.4:** Fuel cells that are not contained within a welded steel tubing "rack" must have two equally spaced steel straps that measure two (2) inches wide by one-eighth 0.125) inches in thickness that completely surround the fuel cell. The straps must be bolted to the frame.
  - **12.5:** The fuel pick-ups must be positioned on the top of the fuel cell and be constructed of steel. The fuel pickup must have a check valve. Pick-ups on vertical sides are prohibited.

- **12.6:** A firewall must be installed between the fuel tank and driver's compartment.
- **12.7:** The fuel cell must be mounted behind the rear axle between the rear tires, a minimum of four (4) inches ahead of the rear bumper.
- **12.8:** The bottom of the fuel cell must not be any lower than the bottom of the rear end/quick-change housing.
- **12.9:** The entire container must be visible for ease of inspection.
- **12.10:** Willy's Carburetor roll over plate part # WCD4000 and WCD4002 are approved for competition.
- Mechanical fuel pumps must be used. Fuel pumps must be engine mounted and must be camshaft or belt driven.
- **12.11:** Electric pumps, primary and/or secondary, pressure systems, and additional reservoirs will not be permitted.
- **12.12:** Adjustable restrictor plates will not be permitted.
- **12.13:** No fuel injection devices or electric fuel pumps allowed.
- **12.14:** Only racing gasoline or alcohol will be permitted for competition. Nitrous oxide, nitromethane and/or propylene oxide will not be permitted.
- **12.15:** Crate Motors (GM602, GM604) will be allowed to use commercial pump gas up to E-85 or 99.9% Pure Methanol (99.9% pure methanol by adding twenty-five (25) pounds of additional weight in front of the engine plate.)
- **12.16:** Wissota Motors will be allowed to run alcohol. With (2) 1.200 and (2) 1.250 restrictors and 25 lbs. of additional weight in block form of lead will be added in front of the engine plate including any other weight penalty. Restrictors can be changed by Series director at any time with a minimum 24-hour notice to ensure level competition.
- **12.17:** Racing Gasoline. (Preferred VP 110 or VP Late Model+) No Propylene.
- **12.18:** Testing may be done with the digitron dielectric meter. It is the responsibility of the driver or owner before the races if you are in question of your reading.
- **13.0: TIRES & WHEELS:**
  - **13.1:** Only aluminum wheels will be permitted for competition.
  - **13.2:** The wheels must be mounted to the hubs utilizing lug nuts; single type wheel mounting systems will not be permitted.
  - **13.3:** The maximum wheel width that will be permitted is fourteen (14) inches.
  - **13.4:** The combined weight of the wheel, wheel hardware, wheel disc and fasteners, and tire must not exceed forty (40) pounds.
  - **13.5:** The maximum front track width will be ninety (90) inches and the maximum rear track width will be eighty-eight (88) inches, measured from the outside edge of the tire to the outside edge of the tire.
  - **13.6:** Only approved mud covers will be permitted and must be fastened to the wheel using a minimum of three, quarter (0.250) inches or larger diameter magnetic steel hex head bolts.
  - **13.7:** Only aluminum wheel spacers will be permitted with a maximum thickness of two-and-a-half (2.500) inches.
  - **13.8:** Air bleeder valves of any kind are not allowed.
  - **13.9:** The maximum outside circumference of the tire will be 93".
  - **13.10:** Grooving and Siping are allowed.
  - **13.11:** Only approved tires will be permitted for use in competition.
  - **13.12:** Chemical alterations, vulcanizing, tire softening, defacing, and/or altering the face of the tire lettering and/or tire stamping will not be permitted.
  - **13.13:** Tires may be inspected at any time.
  - **13.14:** Any violation with any tire presented for competition may result in immediate disqualification from the events and/or other penalties including but not limited to; loss of money, fine, loss of points, and/or suspension.
  - **13.15:** Tire compounds will be determined based on track location and availability per event.
- **14.0: BRAKES & BRAKE COMPONENTS:**
  - **14.1:** Must be equipped with a four wheel braking system.
  - **14.2:** While on the track three wheel braking is allowed.

- **14.3:** Brake rotors must be manufactured of magnetic or stainless steel and used as produced by the brake rotor manufacturer.
- **14.4:** Brake calipers must be manufactured of aluminum and must be used as produced by the brake caliper manufacturer.
- **14.5:** Wheel hubs must be manufactured of aluminum or magnesium and must be used as produced by the wheel hub manufacturer.
- **14.6:** The combined weight of the wheel hub, wheel bearings and seal, spindle nut and washers, brake rotor and attaching hardware, the axle cap, and the wheel spacer must not exceed twenty-seven (27) pounds.
- **14.7:** No titanium or carbon fiber brake rotors are permitted.
- **15.0: DRIVESHAFTS**
  - **15.1:** All driveshafts must be a minimum of two (2) inches in diameter.
  - **15.2:** All driveshafts must be painted white.
  - **15.3:** The drive shaft must be protected with a secure drive shaft hoop or sling.
  - **15.4:** Only one driveshaft connected from the transmission to the center section of the rear end will be permitted.
- **16.0: TRANSMISSIONS**
  - **16.1:** Any transmission with working reverse and working forward gears that can be shifted with the engine running is permitted.
  - **16.2:** Manual transmission must be equipped with an operational clutch; direct drive systems of any kind will not be allowed.
  - **16.3:** Automatic transmissions are permitted.
  - **16.4:** The transmission must be mounted to the rear of the engine and lead to one drive shaft.
  - **16.5:** No overdrive or underdrive multiple speed transmissions will be permitted.
  - **16.6:** A production manufactured steel bell or aluminum bell housing must be used. Must be purchasable for all competitors.
- **17.0: REAR END:**
  - **17.1:** Any type of rear-end differential/center section will be permitted.
  - **17.2:** Independent rear suspensions will not be permitted.
  - **17.3:** The center section of the axle housing must be manufactured of either aluminum or magnesium.
  - **17.4:** Axle tubes must be one piece and manufactured of aluminum or magnetic mild steel.
  - **17.5:** Axle tubes manufactured of exotic heavy materials such as tungsten will not be permitted.
  - **17.6:** The axle housing must be of the "closed-tube" design utilizing "full-floating" magnetic steel axle tubes.
  - **17.7:** The outside diameter of the axle tubes must not exceed three (3) inches.
  - **17.8:** Axle tube internal inserts or external sleeves will not be permitted.
  - **17.9:** The addition of any ballast to the axle housing will not be permitted.
  - **17.10:** Limited slip or locker style differentials will not be permitted.
  - **17.11:** All axle housings using a cable to lock-in the rear-end must have the cable mounted outside the cockpit area and not in reach of the driver.
  - **17.12:** Full-floating aluminum hubs with "wide 5" wheel bolt pattern must be used.
  - **17.13:** No cambered rear ends permitted.