

# Section 7 - Modifieds

General Safety, Procedural & Protest Rules apply unless otherwise specified. Please read & adhere to these rules.

ANYTHING NOT COVERED IN THESE RULES WILL BE TO THE DISCRETION OF THE TRACK OFFICIALS. TRACK OFFICIALS DECISIONS ARE FINAL.

***Raceceivers mandatory 454.000*** Modified drivers ***MAY NOT*** race Crate Sportsman *on same night* for regular points-paying shows. Special non-point events, driver's may pull double duty but must pay extra pit pass.

## **SAFETY RULES:**

All Cars are subject to inspection at any time. All cars must be free from mechanical defects and be in safe racing condition. Track officials' decision regarding any safety infractions will be final.

1. Only round steel roll over bars may be used. Front and rear roll bars must be connected at top in a cage type configuration. Two round horizontal sidebars on each side are mandatory. The topside bar must be a maximum of 20" below the top roll bar. Proper bracing and triangulation on front and rear roll bars is required. It is highly recommended that all roll bar bracing be a minimum of 1 1/2" diameter by .095" wall thickness. A minimum of one diagonal bar cross the top of the roll cage is mandatory.

2. The rear main roll bar hoop must be a minimum of 26" measured across from outside to outside of tubing and must maintain that measurement from the bottom all the way to the cage. Bottom of the rear roll bar must be welded to the 2x4 frame (no outriggers). The front roll bar must be measured and constructed the same way, except that the allowable taper in the frame rules will govern the width dimension. Only two roll bar diameters will be allowed. Roll bars of 1 3/4" diameter will require a minimum of .095" wall thickness. Roll bars of 1 1/2" diameter will require .120" wall thickness.

3. Shock resistant roll bar padding must fully cover all bars that may come in contact with the driver's head while strapped in the seat. On center type steering, all housings, lines, and fittings must be covered with shock resistant roll bar padding. The steering wheel center must also be padded. The starter housing and any other points of contact that could potentially injure the driver must also be adequately padded.

4. Driver's seat must be securely fastened to frame or cage in six spots, with a minimum of six (6) 3/8" bolts, four (4) on bottom and two (2) on the seat back. All seats must have minimum 1/8" steel plate under and up the back 4" and be as wide as seat. The seat must be one piece high back type only. The seat must be made of aluminum only (no fiberglass). Seat and steering must be centered in frame.

5. All cars must have a functional padded head rest which must be in line with center of driver's head, if not built into the seat.

6. All cars must be equipped with 3" width safety belt and shoulder harness with 2 belts over the shoulder. Buckles must be of the quick release type. Also, these must be a minimum of one submarine strap. All belts must be securely fastened to the frame or cage. Bolts may not be inserted through webbing for mounting. Cam lock seat belts are not allowed. If belts have cotter pin locks, the locks, the pins must be in place. Belts may be rejected if not in good condition. The sternum shoulder harness is highly recommended.

7. **MANDATORY:** All drivers must wear a full-face 2005 or newer SNELL approved helmet, fire suit and gloves.

Note: The following items are highly recommended: One piece fire suit, fire retardant underwear, arm restraints, racing shoes, and a neck brace. A neck collar or hans-type device is mandatory. Firesuit, helmet, gloves are all mandatory.

8. All cars must have a full steel wind screen of substantial material with a maximum individual hoop opening of 2" X 1" X 1/16" (no chicken wire or aluminum). Screens must cover entire windshield area left to right across the cage and from top of cage down to hood or cowl. Clear lexan or safety glass windshields may be used for additional protection if they are in the driver's line of sight. They must be shatterproof and mounted behind the screen, enabling the driver to wipe them clean. Any additional windshield must not obstruct the emergency exit of the driver.

9. Adequate window openings on both sides of the car must be maintained for emergency exit of the driver. The minimum opening size is that which will allow a rectangular box with dimensions of 12" high X 18" wide X 30" long to be passed through the inside of the car from one window through to the other side. Any obstacles other than the driver's headrest, which prohibit the passage of the inspection box through the cockpit, must be removed.

10. All cars must have a driver shaft cover. All cars with open drive shafts must have a tunnel, made from a minimum of 1/8" thick steel which extends from 2" under front edge of seat to the back of the transmission, covering the shaft and "U" joint, and output flange on top and both sides. It must extend completely down to floorboards. It must be held in place with a minimum of four (4) 3/8" diameter bolts at bottom connected to a substantial cross-member. This drive shaft cover must be a solid unit with no cutaways for lighting purposes. NOTE: Closed drive type cars, torque tubes, or bells that already have a 360° degree covering for "U" joint back to seat will be accepted as is. To protect the driver, any suspension link such as a torque arm, coil over to trailer bar inside the driver's compartment must have a steel cable (1/2" in diameter or more) or clamp connecting it to a substantial cross-member to limit its range should it break loose. It is also recommended that all these parts have no sharp edges and be padded.

11. Firewalls, both front and rear are mandatory. The rear firewall must extend from top of fuel cell to belly pan to isolate the driver from the fuel cell, minimum .050" thick aluminum or steel only. A minimal amount of sheet metal may be cut out for drive shaft clearance. The front firewall must isolate the driver from the engine compartment.

12. Belly pans are mandatory and must extend from front firewall to rear firewall and be attached at both spots. It is mandatory to have a separate floor to protect the driver's feet in the event the under pan falls off. This extra floor must be attached to the frame or cross-member or both, and extend from the firewall past front of edge of the seat.

13. All crews must carry an operable fire extinguisher capable of extinguishing gas and oil fires. On board "flame-out" systems are recommended.

14. Battery must be properly secured and must have top and terminals completely covered by rubber. NOTE: It is recommended that battery be mounted outside of driver's compartment, and that a battery shut-off switch be mounted and marked ON/OFF with a bright colored paint. The switch should be clearly visible, and easily accessed by the safety crew.

15. All cars must have an ignition switch which is easily accessible within the driver's compartment. The ignition switch should be marked ON/OFF with a bright colored paint and be clearly visible and easily accessible to the safety crew.

16. A fuel shut-off valve must be mounted within easy reach of the driver and the safety crew. It must be labeled in a clearly visible location with the words FUEL ON/OFF with a bright colored paint.

17. Fuel lines, power steering lines, and fittings running through the driver's compartment must be made from an approved braided type line only. No plastic or glass fuel filters allowed. High pressure lines and fittings or hot fluid lines running through the driver's compartment must be encased or shielded by a deflector to prevent driver injury.

18. All cars must have four (4) wheel hydraulic brakes in good working order. Brake tests may be held throughout the year.

19. Rear wheels must have a minimum of five (5) lug nuts. A minimum of three (3) lug nuts is required on front wheels only. No knock off hubs on any wheel allowed.

20. A horizontal bar with minimum dimensions of 1" by .095" thickness must be mounted behind the fuel cell for rear impact protection.

21. Exhaust headers must be safe for the driver and exit past the driver's seat. NOTE: all exhaust pipes must exit facing the rear of the car. Pipes may not exit through the doors or in front of the rear tires.

22. No mirrors or reflecting devices allowed.

23. Inspectors reserve the right to request body or sheet metal to be replaced and painted if it has any sharp edges or is not looking presentable to the sport.

24. A minimum of two (2) throttle return springs and a steel top loop on gas pedal are required.

25. No fuel drums allowed on track premises.

**BODY STYLE:** All measurements will be taken with or without driver or fuel. Body Material Allowed: Only aluminum or steel will be allowed for all inner and outer body panels. The roof must be fiberglass only. Hood, hood scoop, windshield cowl, right rear inside tire clearance cover and front spoiler may be constructed of either fiberglass or aluminum. Only clear lexan will be allowed for the rear spoiler and the rear wing windows.

**ROOFS:** Roof must be centered from side to side on roll cage and also be centered on frame (No offset bodies). Leading edge of roof must be fastened in a stationary position a minimum of 33" and a maximum of 48" in front of rear axle centerline. The roof must be securely fastened at the back and on both ends.

- Length of roof: maximum 60", minimum 48". Width of roof: maximum 52", minimum 48" Must display a turtleback style and shape. The roof contour must fit roof template patterns left to right and front to back (no flat roofs). Roofs cannot change shape or location while racing.

- Overall height (top of highest point): minimum 52", maximum 61", measure from the ground. Maximum roof angle is 5° on a gauge with no deflections in roof contour.

**REAR SPOILER:** The rear spoiler must be clear lexan with a maximum height of 5" from the rear deck and must not have any writing or stickers on it. The rear spoiler must be non-adjustable (no hinges or slides).

- A maximum of three vertical supports may be used to fasten the spoiler to the rear deck. These supports may not exceed 2" in vertical height and 10" in length.

**REAR DECK:** Must be a maximum height of 45" and minimum of 40" from the ground.

- Rear deck lid (i.e. trunk lid) must be fully enclosed from quarter panel to quarter panel and have a minimum height of 9" and a maximum of 14" in vertical coverage behind the fuel tank. Left and right rear trunk lids must be symmetrical in size and shape and show no specific bulge or extension to cover fuel filler hose or apparatus within 9" to 14" of vertical coverage. This panel must completely cover the fuel cell, filler hoses and vent lines. The fuel tank must be completely enclosed from the bottom of this panel to the bottom of the fuel cell. The fuel cell must also have both sides completely covered by sheet metal in addition to the container it is enclosed in. Within these dimensions there

can be no openings. No openings from top of fuel cell to bottom of trunk lid are permitted.

- Any vent line nozzle used for catch can purposes must be mounted on the left side quarter panel only.

**HOOD, NOSE AND FRONT SPOILER:** The hood, nose and front spoiler can be no wider than 36" and no narrower than 24". Shock covers or deflectors may not be part of or riveted to the nose or spoiler exceeding the 36" width maximum. Fabric shock covers are allowed as long as they are used for the prevention of dirt getting at shock piston and not used for any aerodynamic advantage. The front spoiler may not extend any more than 20" in front of the front axle centerline. The front spoiler must be nonadjustable (no hinges or sliders). Hood shall be considered from the front roll gate to on top and even with the front of the radiator. Nose piece shall start where hood ends to a maximum of 20" in front of front axle centerline. They all may have 2" maximum lips up or down on both sides following the contour of the body. The hood, nose and spoiler may not overlap each other's location on the frame. Any part of hood may not exceed 10° nor can sheet metal have an opening or extrusion between the hood and nose. Hood must extend over the radiator and have complete sides.

- Front windshield opening: for the optional ram air style scoop. A 10" vertical measurement from lowest point of roof or roll cage to highest point on hood (including the hood scoop) is required. For the conventional type scoop an 8" vertical measurement will be required.

**HOOD SCOOP:** An optional hood scoop mounted on top of the hood for the purpose of enclosing the carburetor maintain a minimum of 8" of vertical vision from the top of the scoop to the lowest point under roof or roll cage. Ram air will be allowed providing they meet the following specifications. Both style scoops may use fiberglass. The option of keeping the hood fully enclosed will also be allowed.

- Ram air type scoop: Maximum length, 30" measured from rear motor plate to front of hood scoop maximum width 18". The front vertical opening of the scoop can be a maximum of 6" at the beginning of the scoop only. The overall height of this scoop must maintain a minimum of 10" of vertical vision for the driver. This measurement will be taken from a horizontal line from the highest point of the hood scoop to the lowest point of the front roll cage and/or roof. Hood scoop must be fastened to the hood and completely enclosed the carburetor and air filter. A tolerance of 1/2" will be allowed on all these dimensions.

- Conventional no ram air scoop: a maximum of 25" is allowed from center of the carburetor forward. The width allowed is a maximum of 22". The height must maintain a minimum of 8" of vertical vision from the scoop to the lowest point under roof or roll cage.

**INTERIOR SHEET METAL:** Any horizontal body support, other than the inner pods, whether in front or rear must be a maximum of 1" deep by 1" thick tubing or flat stock only. No inside or outside wings, spoilers, airfoils or wind deflectors are allowed. No double panels will be allowed that creates a wing effect. A 1" maximum reinforced lip will be allowed on all lexan, but all allowable measurement must still be maintained. All inn sheet metal used must completely cover areas from door to door, quarter panel to quarter panel. No holes or openings are allowed in this area.

No vertical fins, air dams or farings allowed on the sides or behind the roll cage. Sheet metal must be a flat single plane across the inside of the car. NO covered roll bards for aerodynamic purposed are allowed. Sheet metal that is one-piece and part of a body panel bend around tubing (for purposes of protecting the driver or finishing off panel) is not considered an aerodynamic advantage provided is it not to excess. No louvers or holes in the interior or exterior sheet metal are permitted with the exception being the cooling of the radiator, engine and oil cooler.

The floor pan or under pan may not be any wider than the frame, from front to back and may not have any lips or fins facing downward.

**FRAME:** Only 2 x 4 box frames are permitted between axle centers, front and rear. The 4" side must be vertical. Frame rails must be steel only. All 2x4 rails must be .120" wall thickness only. At the discretion for the officials, it may be necessary to drill a 3/16" hole in frame rail for inspection of the thickness. No other holes will be allowed. All tubing allowed for the frame rails must be either 1 1/2" diameter x .095" wall or 1 3/4" x .095" wall.

Frame width shall be as follows: Front (at shock towers) 24" minimum, 35" maximum. Rear: 26" minimum, 35" maximum. The minimum frame width at the rear roll bar must be 26". All measurements are to be taken from the outside of the frame rails. These measurements shall be taken at both top and bottom of frame at its longest length. Clips, sub-frames, etc. are considered part of the frame.

Minimum length of the 2x4 frame rails must start 14" in front of the rear end centerline and extend to the front of the radiator. All kick up material must be same specifications as the roll cage or frame material. Left and right frame rails (both top and bottom rails) must be of equal distance from the driveline centerline in a vertical plane along the total length of frame. The only exceptions will be the lower left rear frame rail, which will be allowed at 4" maximum indent for suspension clearance, and the two upper frame rails in the engine compartment to allow for the clearance of large cylinder heads.

Titanium or carbon fiber materials are not allowed on the chassis.

**ROLL CAGE:** Only round steel roll over bars may be used. Front and rear roll bars must be connected at top in a cage type configuration. Two round horizontal sidebars on each side are mandatory. The topside bar must be a maximum of 20" below the top roll bar. Proper bracing and triangulation on front and rear roll bars is required. It is highly

recommended that all roll bar bracing be minimum of 1 ½” diameter by .095 wall thickness. A maximum of one diagonal bar across the top of the roll cage is mandatory.

The rear main roll bar hoop must be a minimum of 26” measured across from outside to outside of tubing and must maintain that measurement from the bottom all the way to the top of the cage. Bottom of the rear roll bar must be welded to the 2x4 frame (no outriggers). The front roll bar must be measured and constructed the same way, except that they allowable (taper) in the frame rules will govern the width dimensions.

Only two roll bar diameters will be allowed. Roll bars of 1 ¾” diameter will require a minimum of .095” wall thickness. Roll bars of 1 ½” diameter will require .120” wall thickness.

**SEAT:** Seat and steering wheel must be centered in the frame. The seat must be a maximum of 16” from the center of the rear end of seat bottom (see body diagram). A high back seat made completely from aluminum is mandatory. No fiberglass or carbon fiber materials are permitted.

**RADIATOR:** Only one (1) radiator allowed and it must be centered squarely, not angled, in front of motor in a vertical position. No plastic or carbon fiber allowed. No auxiliary cooling tanks or catch cans allowed in drivers compartment.

**ENGINE:** The engine must be centered in the chassis and placed in an upright position. Engine set back: minimum 56”, maximum 66”, with ½” absolute maximum tolerance. Set back will be measured from center of the front axle to the rear machined bell-housing surface of the engine. No rear engine cars are allowed.

**TRANSMISSION:** Approved North American manufactured manual shift transmissions only, no automatics. No overdrive or underdrive transmissions allowed. No running through reduction gears, transmissions must be direct drive to rear end at racing speed. Transmissions must have forward, neutral and reverse gear in good working condition. From neutral position with the motor running, a car must be able to go forward and backward in a smooth manner. Transmission must bolt to the bell-housing.

Car must have a battery and a self-starter in a good working order. The car must start and move under it’s own power.

**DRIVELINE:** No chassis, driveline or suspension components made of carbon fiber allowed. Only two universal joints and driveline. A drive line shield is mandatory (see safety rules for detailed requirements).

**REAR END:** Competition rears only. No Hypoid type rears allowed. No limited slip type rear ends or hubs are allowed. No lockers or two speed rears are allowed. Rear end must have solid aluminum or steel spool only. Rear spindles may be steel or aluminum only. If aluminum it must be a one piece tube and spindle with a minimum outside diameter of 2 7/8” and maximum inside diameter of 2 ½”. Live rear ends with

aluminum or steel axles are allowed. The rear end of chassis must not be offset any more than 4" from center of the inside tire width, measured from the inside of the left rear tire to the inside of the right rear tire, at axle height. (see Chassis Diagram for the rear end offset details)

**FRONT END:** The front axle must be straight, one piece steel tubing only with no camber adjustments. No split axle or dropped axle allowed. All brackets on the front axle must be bolted or welded (no bird cages or slides). Modified type front spindles only. It is recommended that bearing shafts be made of steel. Chassis may not be offset any more than 4" from the center of inside tire width, measured from the inside of the left front tire to the inside of the right front tire at axle height. (See chassis diagram for front end offset details). Front wheels must be fully exposed. No fenders are permitted.

**WHEELBASE AND TREAD:** Wheelbase: minimum 106", maximum 110". This measurement will be taken from the center of the rear axle to the center of the front axle, for both left and right sides with a maximum tolerance of 1/2".

Tread width: front – maximum 86", minimum 74". Rear tread – maximum 86", minimum 80".

**CHASSIS GROUND CLEARANCE:** There must be a minimum of 2 1/2" ground clearance from the chassis or anything attached to it, including any part of the body. No metal, lexan or rubber air dams, fins, spoilers or skirts are permitted under the car. No ground effects cars.

**SUSPENSION:** No independent suspension front or rear. No "A" frames or ball joints may be utilized for steering axis (kingpin only). No four wheel steering allowed that is actuated by steering wheel. All suspension systems must be mechanical with no form of electrical, radio or computer assistance. No form of traction control is permitted.

**SPRINGS:** Any form will be allowed (torsion bars, coil over's, leaf springs, etc.) providing they are made from steel. No carbon fiber or titanium allowed.

**SHOCKS:** Only one shock per wheel. No titanium.

**BRAKES:** No carbon fiber or aluminum rotors and pads allowed. On live rear axles, one inboard and one outboard brake assembly is allowed. Brake test may be conducted throughout the year.

**FRONT BUMPER:** Must be from round steel tubing only, with a minimum of 1 1/4" by .095 wall thickness for main bumper and all bracing. It must consist of two rails, an upper and lower. These rails must have four sockets or supports attached to the frame. The four tubes that support the bumper from the frame sockets must be horizontal. These rails must also be a minimum of 6" apart and a maximum of 12" measured from the top to bottom and maintain the measurement for a minimum width of 24" or a maximum of 30". It must also have an 18" center measured from the ground up to the middle of the



bumper. The front bumper may not exceed more than 24" in front of front axle center centerline.

No V-shape bumpers, crash area must be flat and vertical for the full width of bumper. Bumper must have all rounded ends and no sharp edges.

**REAR BUMPER:** Must be from round steel tubing only, with a minimum of 1 ½" by .095 wall thickness for main bumper and all bracing. It must consist of two rails, an upper and lower. These rails must have four sockets or supports attached to the frame. The four tubes that support the bumper from the frame sockets must be horizontal. These rails must also be minimum of 10" apart and a maximum of 16" measured from top to bottom and maintain that measurement for a minimum width of 64" or a maximum of 86". It must also have an 18" center measured from the ground up to the middle of the bumper. The rear bumper may not exceed more than 52" in back of rear axle centerline.

No V-shaped bumpers, crash area must be flat and vertical for the full width of bumper. Bumper must have all rounded ends and no sharp edges.

**RUB RAILS:** Must be from round steel tubing only, with a minimum of 1 ½" by .095 wall thickness. All bracing must also be a minimum of 1 ½" outside diameter by .095 wall thickness. Maximum wall thickness must be .095" with no solid bars or ballast added inside. Rub rails must be outside of body panels but may not exceed the outside edge of the tires. The exception is the left rub rail only, which may extend an absolute maximum of 2" outside the left rear tire sidewall.

Rub rail ends must be rounded with no sharp edges and bent at a gradual 90° degrees and must protrude a minimum of 6" back in past the body.

Rub rails must be a minimum of 50" long, end to end.

**FUEL TANK:** One fuel cell with a maximum of 22 U.S. gallons is mandatory (used for gasoline only). Fuel tank height: 12" minimum from the ground to the bottom of the tank. Tank must be centered inside of the frame rails and be rectangular or square in shape on all sides for measuring capacity.

Fuel tank must be fully encased in steel container with a 20 gauge minimum thickness. An optional aluminum container may be used with a minimum thickness .060". Fuel tank must be fully foamed with just a minimal cut out for filler. Cut out may be no more than 6" wide X 10" long X 7" deep. Fuel lines must siphon from top. No fuel lines bigger than #10.

No auxiliary tanks. No fuel filters with more than ½ quart capacity.

Fuel tank vent line must have an in-line one-way valve for the prevention of fuel spillage.

Only one carburetor fuel log will be allowed and it limited to a maximum outside diameter of 1”.

**BALLAST WEIGHT:** Any ballast weight used must be mounted within the vertical planes formed by the frame rails and must be securely fastened and must remain stationary while racing.

**OILING SYSTEM:** One oil cooler will be the only exception allowed to be mounted outside the frame rails.

**WHEELS:** Only aluminum wheels are allowed. No magnesium, steel or carbon fiber is permitted. Bleed off valves are allowed.

Rim width restricted to 14” maximum on all four corners. This is measured from inside of left bead to inside of right bead on the wheel. Wheel diameter limited to 15” only.

Bead locks are allowed. Any wheel or bead lock that is used must maintain a minimum diameter of 11” hole inside bead lock and wheel. Bead locks may be outside only, except the left rear, which may have any inside bead lock.

No wheel covers or hub caps on the inside of the wheels are allowed. Wheels covers/hub caps are allowed outside of the wheels providing they are one piece, attached as part of the bead lock and maintain a minimum thickness of .090” with a minimum hole in the middle of 4.5”.

Foam inserts or corrugated plastic (with approved installation) may be allowed when track conditions warrant. No unsafe wheel covers attached by dzus buttons are allowed. This is at the discretion of the officials.

**TIRES:** American Racer 13x92 max. No Late Model type tire.

**WEIGHT:** 2,400 pounds - After Race, with driver, without adding fuel. Track scales are official – no protests or appeals allowed on their findings. NOTE: any car found under weight by Officials will be COMPLETELY DISQUALIFIED for the NIGHT.

**ENGINE SPECIFICATIONS:** Big- and small-block engine combinations are permitted to run. Chevrolet/GM, Ford or Chrysler/Dodge carbureted engines ONLY. Sealed W-16 Engine permitted. The standard weight for all Modifieds is 2,400 lbs. (*all-aluminum small-blocks are not permitted*).

**SAIL PANEL: OPTIONAL (NOT REQUIRED) - Maximum dimensions follow:**

Total Height: To be measured from the ground to the highest point. 65". Total length: To be measured from the center of the rear axle. 48" from the center line to rear of car.

Roof Spoiler : 4 1/2" maximum in height.

- 12" from the center line forward. Maximum vertical lips: From door up- 2". From roof down- 2". Degree of angle from vertical lips (upper and lower) to rear plain of driver's seat: 22 degrees.
- **Sail panels must mirror size and shape side for side.**

Measuring of sail panels shall be done before each race with the driver in the car.

Sail Panel

Reference:

**-Sail panels must mirror size and shape side for side.**

