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2013 Waterford Speedbowl X-Car Rules

(Last Updated: 3-19-13)

3-19-13: 6.11 Suspension/Sway Bar
3-19-13: 6.11 Suspension/Coil Springs

All items marked in **RED** are new and/or are wording changes to the **2013 X-Car rules**.

By registering as an owner or driver you agree to be knowledgeable and bound by the contents found herein and in the associated General Rules

6.0 GENERAL DIVISION RULES:

The 4 Cylinder X-Car Division is designed to promote greater interest in stock car racing and to allow new and inexperienced drivers and car owners to compete. Any competitor who has previously participated in a "higher" sanctioned racing division at any Speedway may be ineligible to compete in any 4 Cylinder X-Car event without specific approval from the Waterford Speedbowl Officials. Driver eligibility is the decision of the track officials.
A) In the following rules you will see the term “stock OEM” used. This means “original equipment manufacturer”. These parts must come on your standard production car.
B) No carbon fiber or titanium parts allowed.
C) None of the following will be allowed in or on any engine or driveline component or part: abrasive cleaning, acid dipping, chemical milling, coating, epoxying, finishing, grinding, painting, plating, polishing, porting, etc.
D) The rules herein are for the Waterford Speedbowl only, with no expressed or implied agreement with any other Division or Speedway as to their interpretation and/or method of inspection.
E) All equipment must be approved by track officials. No equipment is considered to be approved by reason of having passed through a technical or safety inspection unobserved. No car will be considered as having passed inspection for the event until the finish is made official.
F) All engine models, equipment changes, or modifications not specifically addressed in this rule book must be submitted to the Waterford Speedbowl for consideration of approval prior to competition.
G) All equipment is subject to the approval of the Waterford Speedbowl Officials.
H) Once a car has been presented to the Waterford Speedbowl Officials for pre-race or post-race inspection the entire car and all of its components become subject to inspection. This includes but is not limited to items verbally designated for inspection before or following a particular event
I) All rule changes and updates made during the course of the season for the current rulebook will be posted to the Waterford Speedbowl website (www.speedbowl.com). This will serve as the only form of official notification until the printing of the **2014 Waterford Speedbowl rule book.**
J) SAFETY EQUIPMENT (All Divisions):

Helmets: **SA2005 or SA2010** rated full-face helmets are mandatory for all motor vehicle events. The helmet and a face shield or other acceptable eye protection must be worn at all times during any event.

Seatbelts: Each car must be equipped with an SFI rated and approved 5 or 6 point seat belt system. The belt latching mechanism must provide a common connection and release for the lap belts, shoulder belts, and the anti-submarine (crotch) belt(s). The seat belts must be installed in accordance with the directions provided by the belt supplier and/or manufacturer. The belts must be bolted to the roll cage/frame using the

appropriate diameter Grade 8 bolts, washers, and locknuts. Where the shoulder harness lays across your shoulders, it must pass over a bar located at shoulder height, and the belts must pass through the cut-out in the seat without contacting the seat cut-out. Date stamps must be visible and must indicate that all belts are no more than 3 years old.
Please refer to the following information regarding seat belt installation:
http://www.circletrack.com/safety/ctrp_0712_seat_harness_mount/index.html

Seats: Each car must be equipped with a commercially manufactured aluminum oval track racing seat. The seat must be securely and professionally mounted to the roll cage, utilizing 3/8" diameter Grade 8 bolts, washers, and locknuts. The seat must be installed in a steel frame that is welded to the roll cage structure. It cannot be attached to the floorboard. The installation of the seat must be acceptable to track officials. All seats are required to have commercially manufactured and padded head supports, shoulder supports, and leg supports (2 of each). The 6 supports must be installed in accordance with the directions provided by the supplier and/or manufacturer.
Please refer to the following information regarding seat installation: **http://www.stockcarracing.com/howto/134_0406_seat_mounting/index2.html**

Window Nets: An SFI rated nylon window net must be installed in the left side door window opening. It must be positioned to cover the driver. The window net must be rib type, made from 3/4" or 1" wide nylon material with a minimum 1" and a maximum of 2-1/4" square opening between the ribs. The minimum window net size is approximately 22" wide by 16" high. All window net mounts must be a minimum 1/2" diameter solid steel rod on the bottom and a minimum 1" wide by 3/16" thick flat steel bar, or a minimum 1/2" diameter solid steel round bar on the top, with mounts welded to the roll cage. The window net, when in the closed position, must fit tight and be secured with a lever-type quick release latch acceptable to Track Officials. The lever must be secured by a detent ball in the lever and may be supplemented by a Velcro® fastener only – pins or clips will not be permitted. The latch must mount at the top in the front to roof bar (#3) and release from the inside. Date stamps must be visible and must indicate that the net is no more than 3 years old.

Fire Safety: Each car must have an approved fire extinguisher or FireBottle type suppression system installed for the drivers safety. All extinguishers and systems must be securely and mechanically fastened, and be fully functional and operational. The fire extinguisher or system must be of an approved class of 1301 Halon or equivalent.

Fire Suits; Each driver must wear an SFI rated and approved fire suit, and should wear SFI approved undergarments, including a top, bottom, and socks.

Gloves and Shoes: SFI approved fire retardant racing gloves and shoes are mandatory.

DRIVER ELIGIBILITY – All drivers must 16 years of age or higher to compete in the X-Car division.

6.1 APPROVED MODELS:

Open to most American or Metric 4 cylinder, 2 or 4-door, front or rear wheel drive cars.
Vehicles not eligible for competition are:

Mitsubishi MIVEC
Toyota VVTL
Porsche VarioCamPlus
Nissan VVL
Ford SVT
Mid-engine or rear engine cars.
Rotary engine cars.
All wheel drive cars.
Turbo/Super charged cars.

Cars with 4 wheel or all-wheel steering.

Only cars determined to meet the applicable specifications are eligible to compete in the 4 Cylinder X Car division. You must call the Waterford Speedbowl to find out if your make/model car is eligible for competition.

6.2 CAR BODY REQUIREMENTS:

A) The car body must be STOCK OEM and retain all factory listed dimensions, lines and angles.
B) Wheel openings may be trimmed for tire clearance.
C) EXTERIOR: All bolt-on components and trim must be removed.
D) INTERIOR: All bolt-on components and flammable material must be removed. The left interior door panel may be removed.
E) BODY: All body panels, except the drivers side door, must have all of the interior panels left intact. Cars that have any gutting done to any panels other than the drivers side door and areas required for roll cage installation shall be assessed a 100 lb penalty.
Sun/moon roofs must be completely covered and welded with 24 gauge (.024") minimum magnetic sheet steel, and be neat appearing.
F) The Vehicle Identification Number (VIN) of car being used must be on the windshield bed/dashboard and be clearly visible.

6.3 CAR WEIGHTS:

1st win – no weight penalty.
2nd win- Add 100 lbs.
3rd win- Add 100 lbs.
4th win- Add 100 lbs.
5th win- Add 100 lbs.

All lead will be mounted in minimum of 25 lbs. blocks, securely bolted through the floorboard or in a position designated by Waterford Speedbowl Officials. 100 lbs. will be added each time you refuse pre-race or post- race inspection.
No ballast weight allowed.

6.4 DETAILED CAR BODY REQUIREMENTS:

WINDSHIELD:
All factory STOCK OEM glass must be removed. The factory stock glass windshield must be replaced with 1/8" thick polycarbonate (lexan). The windshield must be bolted or riveted in along all four sides. You may not use side windows, quarter windows, or a rear window.

REAR VIEW MIRROR:
One approved 2" x 10" or smaller single panel rear view mirror mounted in the center of the car is allowed. If the mirror is larger than 2" X 10" it must be painted black to obscure anything larger than the allowable 2" X 10" area. Mirrors that do not meet this rule will be removed for that event.

FIREWALLS:
The front firewall must completely seal the driver's compartment from the engine compartment. The rear firewall must completely seal the driver's compartment from the fuel cell/trunk area. All holes in either firewall must be suitably covered with a minimum of .024" / 24 gauge magnetic steel sheet.

BUMPERS:
The factory STOCK OEM bumpers made for your car must be used. You may not compete without a securely, mechanically fastened front and rear bumper. Bumpers and bumper mounts may not be reinforced. Mustangs may use the aftermarket poly bumper covers, but must use the STOCK OEM bumpers.

6.5 ENGINE:

The engine and all of it's components must remain unmodified and completely STOCK OEM for your car according to your VIN Code.
The engine must be the one that either comes with, or is available in, your make and model car. The engine and all of it's components must remain STOCK OEM. You may not do any modifications or machining to any part of the engine or it's components. The only acceptable work allowed is normal /standard rebuilding, including rings and bearings, etc...
The block, rotating assembly, cylinder head, carburetor or injection system, camshaft(s) and valve train, and intake manifold must remain unmodified and completely STOCK OEM.
The Stock OEM compression ratio must be maintained for your make/model/year.
Fuel injectors will be inspected and must match factory stock OEM for your make/model car.
The use of poly type engine mounts are acceptable.

AIR FILTER/HOUSING:
The STOCK OEM air filter housing with a paper filter must be used. Cold Air Boxes, or any other aftermarket component are not allowed. Air Boxes located behind the engine in its stock location, may be relocated within the engine compartment, however, no added duct work will be permitted for said air intake system.

FUEL PUMP:
The STOCK OEM electric or mechanical fuel pump must be used. All electric fuel pumps must be wired through the oil pressure switch so when the engine stops running, the fuel pump stops running. You may not compete without having your electric fuel pump wired in this manner.

MISC:
The pulleys, oil pan, valve cover(s), and timing cover must remain unmodified and completely STOCK OEM for your engine / car.

6.6 CAR ELECTRICAL SYSTEM:

The alternator, starter, ignition system, and engine management controls must remain unmodified and completely STOCK OEM for your engine / car, according to your VIN Code. Computer chip must be the STOCK OEM chip for your engine / car according to your VIN Code.
All electrical switches must be located on the dash panel or within easy reach of the driver.
A master battery switch must be installed within reach of the driver and clearly marked "on" & "off".

BATTERY: The battery may be moved to the heater core/box area of the firewall or it may be moved behind the driver’s seat, encased in a metal or plastic box and secured appropriately. The battery must be in a secure box, completely sealed from the drivers compartment. If located in the firewall, it must be flush with the forward edge of the firewall.

6.7 ENGINE COOLING SYSTEM:

WATER PUMP:
Must be completely STOCK OEM for your engine according to the VIN Code.

FAN:
Must be STOCK OEM for your car.

RADIATOR:
Must be STOCK OEM for your car. Water and "water wetter" brand additive are the only coolants allowed. A 1 gallon over flow can, mounted under the hood must be used.

6.8 ENGINE EXHAUST SYSTEM:

EXHAUST MANIFOLD:
The unmodified, STOCK **CAST** OEM exhaust manifold must be used. **Factory headers will not be allowed. NO EXCEPTIONS!**

EXHAUST PIPE:
The STOCK OEM exhaust pipe must be used back to the muffler.

MUFFLER:
An unmodified Lobak # RCM-25-12-25 or Moroso #94050 muffler must be used. The muffler should be installed so it is removable for tech inspection processes.
The exhaust system must extend rearward and exit past the driver.

6.9 DRIVE TRAIN:

REAR END / TRANSAXLE / TRANNY:
The driveline and all of it's components must remain unmodified and completely STOCK OEM for your car according to your VIN Code. The driveline unit must be an "open", "single leg" unit, allowing only one wheel to drive the vehicle. You may not do any modifications or machining to any part of the driveline or it's components. The only acceptable work allowed is normal rear end, transaxle, transmission, driveshaft and CVJ rebuilding. STOCK OEM standard or automatic transmissions are allowed. All clutch / pressure plate / flywheel components must remain unmodified and completely STOCK OEM for your car according to your VIN Code. Flywheel, clutch and clutch covers will be weighed.
The use of poly type transmission mounts are acceptable.

DRIVESHAFTS: It is mandatory that two 360 degree solid steel brackets, no less than 2" wide and 1/4" thick, be placed around the drive shaft within 6" of the universal joints, securely fastened to the floor / frame / cage. All driveshafts must be painted white.

WHEELS:
The STOCK OEM steel wheels or equivalent aftermarket steel wheels may be used. Wheels must meet the following criteria:
Wheels must be steel, 13" or 14" diameter, and a maximum of 7" wide.
All four wheels must be the same width, offset, and backspace.
The tires cannot extend outward beyond the fenders and quarter panels. You may not alter the shape of the fenders and quarter panels to meet this rule. If your tires stick out beyond your fenders or quarter panels, you will be assessed a 100 lb weight penalty.

TIRES:
Any DOT street legal, 60 series or numerically higher "H" rated (or less) tire may be run. Tires must be 13"

or 14" diameter. Steel belted radials only. All four tires must be the same size.
Example: If you run 205/70-14's, then all four tires must be 205/70-14's.

6.11 SUSPENSION:

FRONT & REAR COMPONENTS:
All of the front & rear suspension components must be the unmodified, STOCK OEM components that came on your car, per the VIN Code.

Swaybar: Must be STOCK OEM for your car. Maximum front swaybar diameter is 1-1/4". You may run a STOCK OEM rear sway bar if your car was originally equipped with one, per your VIN Code. **Stock sway bar links must be run, no adjustable links.**

Coil Springs: Springs must fit in the STOCK OEM spring pockets. Springs must be the same diameter from side to side, and must be within 1/2" in free height from side to side. **Spring rubbers are allowed.**

Leaf Springs: Springs must fit in the stock location and use stock mounting hardware. Springs must be identical from side to side.

Torsion Bars: Torsion bars must fit into stock location and use stock mounting hardware. Bars must be identical from side to side.

Shocks / Struts: The shocks / struts must be unmodified, STOCK OEM or direct replacement shocks / struts. They must match from side to side. Racing or adjustable shocks / struts are not allowed. All mounting holes, locations, and hardware must remain STOCK OEM.
Spindles & hubs, upper and lower a-frames, and rear trailing arms: Must be the unmodified, STOCK OEM components that came on your car, per the VIN Code. All mounting holes, locations, and hardware must remain STOCK OEM.

The only modification of the suspension allowed is as follows:
Upper a-frame bolts may be replaced to allow camber / caster adjustments.
Strut towers may be slotted for camber **/ caster adjustments.**
Maximum camber allowed in the front is +8 / -8 degrees.
Maximum camber allowed in the rear is +3 / -3 degrees.
No other modifications are allowed. All mounting holes, locations, and hardware must remain STOCK OEM.
Factory STOCK OEM wheelbase must be maintained, plus or minus 1/2".

No unapproved poly type or hard bushings will be permitted for use.

6.12 STEERING SYSTEM:

Steering box / rack, power steering pump and reservoir, pitman arm, center link, idler arm, tie-rods and sleeves must be the unmodified, STOCK OEM components that came on your car, per the VIN Code. All mounting holes, locations, and hardware must remain STOCK OEM.

6.13 BRAKES SYSTEM:

BRAKE COMPONENTS:
The fully operational STOCK OEM 4 wheel hydraulic disc/drum brake system must be used.

All brake components must be STOCK OEM. All brake components must be in their STOCK OEM location. No brake components may be altered for weight reduction.

6.14 FUEL:

DEFINITION:
The word “Fuel”, whenever used in this document shall be understood to mean automotive gasoline which complies with the specifications given in this section.

FUEL SPEC'S:
Pump gas must be used, no racing fuel. You may not mix or blend any fuels, or use any additives. Several testing procedures will be utilized to insure that all racers use only approved fuels. Icing or cooling of the fuel system is not permitted at any time. Gasoline may be tested and certified at any event through the application of various chemical analyses as considered appropriate by officials.

FUEL SYSTEM:
Fuel cells, containers, or check valves which appear to be damaged will not be allowed in competition. Fuel cell vent check valves are mandatory.

FUEL CELL:
The use of a commercially manufactured fuel cell is mandatory. The maximum fuel cell capacity, including the filler spout and overflow, is 24 gallons. No material other than standard foam as provided by the fuel cell manufacturer is permitted to make the fuel cell meet the 24 gallon capacity.

FUEL CELL CONTAINER:
The use of a magnetic steel fuel cell container is mandatory. The fuel cell must be encased in a steel container of not less than 22 gauge (.030") steel. Fuel cells must be fitted within the container so that the maximum capacity, including filler spout will not exceed 24 gallons.

FUEL CELL AND FUEL CELL CONTAINER INSTALLATION:
The floor of the trunk must be removed in the area directly below the fuel cell to allow any spilled fuel to escape the car. The area being removed can be no larger that the fuel cell itself. Cars that have more trunk floor material removed must add 22 gauge (.030”) in its place.
The fuel cell and fuel cell container must be installed as far forward as possible, centered in the chassis, behind the rear axle. The fuel cell may be no lower than the frame rails at the point it is mounted.
A "cage" for the cell must be made out of 1" minimum steel tubing. This "cage" must be attached to the cars frame rails or uni-body using 1" (minimum) steel tubing.
C) The fuel cell container must be secured on top by 1" x 1" square steel tubing or 1" x 1/8" thick steel straps, two lengthwise and two crosswise. The straps must be located as close to the fuel filler/check valve housing as possible.

FUEL FILLER:
The gas cap must be painted white with an "X" and your car number on it for identification.

FUEL CELL VENT:
A 1" maximum ID vent to outside of body at left rear corner must be used. A fuel vent check valve is mandatory.

FUEL LINES:
Only one fuel line is permitted from fuel cell to fuel pump, and one fuel line permitted from fuel pump to carb/injection unit. The fuel line can be no larger than 1/2" ID. The fuel line from cell to pump must remain under floor of car.

FUEL SHUT-OFF:
A 1/4 turn fuel shut-off valve is required in the fuel line. The fuel shut-off valve’s ON and OFF positions

must be clearly labeled. The valve must be open when the handle is aiming front to back, and the valve must be closed when the handle is aiming left to right.

6.15 ACCESSORIES:

6.15.1 RADIOS:
One way communication from the Race Director/Tower to the driver is mandatory. A scanner must be used. The preferred scanner is the Raceceiver scanner used by 600 Racing, available at G2 Radios (www.G2radios.com, 609 876 9530. If a scanner other than the Raceceiver is used it must be locked onto the track tower frequency, 464.3250. Monitoring the track is your responsibility. You will be placed at the tail end of the field for failure to monitor the track frequency.
No other type of communication, one way or two way, is permitted. Drivers found using any type of communicating device other than the Raceceiver or scanner locked on 464.3250 will be disqualified for that event.

6.16 ROLL CAGE:

All bars described must be made with 1-3/4"x .095" wall (HREW or DOM) steel tubing. If your car does not have a frame to attach the cage to, then 8"x 8"x 1/4" steel plates welded to the floor must be used at the attaching point of the roll cage bars to the chassis. All of the bars must land within the drivers compartment. No bars may extend forward or rearward beyond the front and rear firewalls.
A. A "main roll cage hoop" must be installed over the driver's head, tight against the roof, out to the doors and down to the frame or steel plates.
B. A "roof hoop" (halo) must attach to the main hoop on each side, as high as possible, made as wide as possible, and extend as far forward as possible toward the windshield.
C. Two "front down bars" (one on each side) must be installed from the forward outer radius of the roof hoop (halo) and run forward and down along the front window post to the floor area by the drivers and passengers feet, being welded to the frame or the steel plates.
D. A minimum of four "driver's door bars" must be convex in shape, curving out towards the door skin. They must be welded from the main roll cage hoop to the front down bar.
The door bars should be evenly spaced from top to bottom.
E. A minimum of three "passenger door bars" must be straight bars, evenly spaced from top to bottom, welded in the same locations as the left side door bars.
F. Two "rear down bars" (one on each side) must be installed from the top of the main hoop (backside) down to the frame before the rise in the frame (by the base of the rear firewall). These two bars may not extend through the rear firewall.
G. A "shoulder bar" must be installed at shoulder level, left to right, between the two uprights of the main roll cage hoop, at shoulder height.
H. A "petty bar" must be installed from the middle (left to right) of the "shoulder bar" and angle forward and down to the bottom of the right side "front cage down bar" or attach to the frame or the steel plate in that area. The petty bar must not extend forward through the firewall.
I. A "dash bar" must be installed by joining the two front down bars together, left to right, at the dashboard height.
J. A "middle windshield bar" must be installed in the middle (left to right) of the
Dash bar, curving forward and up toward the windshield, and attaching to the middle (left to right) of the forward bar of the roof halo.
K. Two bars, (one on the drivers side, one on the passenger side) attached to the front down bars and extending forward and down, landing at the base of the front firewall may be installed for added foot protection.
L. An "ear" bar, located vertically by the drivers head is mandatory. It should be placed as far forward as possible, while still allowing the driver easy entry and exit from the car.

Additional bars may be added for safety but must not extend through the front or rear firewall for attaching purposes. Additional bars must attach to the floor boards, the frame, or the sub-frame. Commercially manufactured roll bar padding must be used on all bars within driver's reach. No car with less than the minimum roll cage standards will be allowed to compete. All mandatory roll cage tubing must be placed as described.

******A magnetic steel anti-intrusion plate (door bar plate) made from a minimum thickness of .080 must be securely welded to the outside of the left side door bars. The anti-intrusion plate(s) must fill the area between the horizontal centerlines of the top and bottom door bars, and vertical centerlines of main roll bar, and the left front roll bar leg. The plate(s) must be formed to match the curvature of the door bars. Individual plates, if used, should be made as large as possible. All plate(s) must have the corners welded. To facilitate emergency removal of the left side door bars, the anti-intrusion plate(s) must have 2-1/4 inch diameter holes cut in the anti-intrusion plate, to allow the "jaws of life" to get access to the roll cage door bars.**

All cars must have a foot protection bar, made from 1-3/4" diameter roll cage tubing installed on the left side of the roll cage. The foot protection bar must be located at the pedal assembly, when viewed from the side and above. The foot protection bar must be installed between the left front roll cage "down bar" and the left frame rail.