



## **2021 New London-Waterford Speedbowl Super-X Car Rules**

(Last Updated: 3-14-21)

**Changes from the 2020 rulebook have been highlighted in red.**

### **2021 NLWS Super-X Car Competition and Tech Contacts:**

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All references to the New London-Waterford Speedbowl in the following rules may be referred to as (NLWS) as an abbreviation of the speedway name and deemed an official recognition of the New London-Waterford Speedbowl in this **2021** rule book.

**Drivers & Car Owners are required to familiarize one's self with the General Track Rules as well as the Super-X Car rulebook.**

**By registering as an owner or driver you agree to be knowledgeable and bound by the contents found in these divisional rules and in the General Rules.**



## **7.0 General Super-X-Car Division Rules**

A. The Super 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 **eligible** to compete in any Super X-Car event with specific approval from the **New London-Waterford Speedbowl**. Driver eligibility is the decision of the NLWS track officials.

B. 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.

C. No carbon fiber or titanium parts allowed.

D. 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.

E. The rules herein are for the **New London-Waterford Speedbowl** only, with no expressed or implied agreement with any other Division or Speedway as to their interpretation and/or method of inspection.

F. 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.

G. All engine models, equipment changes, or modifications not specifically addressed in this rule book must be submitted in writing to the **New London-Waterford Speedbowl** for consideration of approval prior to competition.

H. All equipment is subject to the approval of the **New London-Waterford Speedbowl** Officials.

I. Once a car has been presented to the **New London-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. It is understood by all competitors that any and all items contained in the rulebook are subject to Technical Inspection at any time. This includes any sealed or unsealed components such as engines, transmissions, etc. regardless of when they were sealed and by whom.

J. Competitors who are in the top three in points at the end of the points season or win 3 or more races may be subject to a complete inspection of their drivetrain and chassis. This will take place at the discretion of New London Waterford Speedbowl Officials.

K. All rule changes and updates made during the course of the season for the current rulebook will be posted to the **New London-Waterford Speedbowl** website ([www.speedbowlct.com](http://www.speedbowlct.com)). This will serve as the only form of official notification until the publication of the **2022 New London-Waterford Speedbowl rule book**.

L. SAFETY EQUIPMENT (All Divisions):

**Helmets:** SA2005, SA2010 or SA2015 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 from the date of the initial inspection.

Please refer to the following information regarding seat belt installation:

**[http://www.circletrack.com/safety/ctrp\\_0712\\_seat\\_harness\\_mount/index.html](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 a minimum 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](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 Fire Bottle type

suppression system installed for the driver's 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.

M. All drivers must be at least 16 years of age or higher to compete in the Super-X Car division. All drivers under the age of 18 must have a completed waiver form on file with the New London Waterford Speedbowl.

## 6.0.1 Scoring Transponder Location

Transponder mounting brackets will be installed on the inside (or outside) of the right rear frame rail. The round post of the bracket must be on top and the square tab on the bottom flush with the lower edge of the frame rail. The bracket must be mounted with its center line exactly 12" to the rear of the rear axle centerline and must be completely vertical to the ground. Transponders are required on the cars at all times. Any car not registering a transponder signal during practice will be black-flagged to be made aware of their scoring transponders failure and is required to remedy it before proceeding further in the event. Transponders are available from: AMB, US, Inc. 32 Highlands Parkway, Suite 104 Smyrna, GA 30082 Tel 678-816-4000 Fax 678-816-4001

## Approved Models

A. Open to most American or Metric, 6 or 8 cylinder, 2 or 4-door, front or rear wheel drive cars.

B. Vehicles **NOT** eligible for competition are:

- Taxi cabs (including any heavy duty chassis vehicle)
- Limo's (including any extended wheelbase vehicle)
- Mid-engine or rear-engine cars
- El Caminos
- Performance Trans-Ams or Camaros
- 5.0 Mustang GTs
- Trucks & Vans
- Corvettes
- All wheel drive cars
- Turbo/Super charged cars
- Sports cars such as, but not limited to:
  - Alfa Romeo, BMW, Mercedes

Only cars determined to meet the applicable specifications are eligible to compete in the Super-X Car division. You must call the **New London-Waterford Speedbowl** to find out if your make/model car is eligible for competition if it does not fit into the above listed guidelines.

## **Car Body Requirements**

**A.** The car body must be STOCK OEM and retain all factory listed dimensions, lines and angles. All body mounts must be in stock location and OEM dimensions. Bodies may be fabricated out of a minimum .024"/24-gauge magnetic sheet metal, and must adhere to the following guidelines.

1. Doors may be "skinned" starting 1" below the window opening.
2. Rear Quarter Panels may be "skinned" starting 1" below the horizontal plane of the top of the quarter panel.
3. Front Fenders may be "skinned" starting 1" below the horizontal plane of the top of the fender, OR may be replaced with any commercially available steel fender (5-Star, Duraflex, etc)
4. All fabricated body panels MUST retain all factory listed dimensions, lines and angles.
5. No "Slab Sided" Bodies will be permitted. If it does not resemble the factory style of the car you are running you will have to correct it to the satisfaction of the New London Waterford Speedbowl. If your car more closely resembles a Limited Sportsman than a "Stock" Car, your car may not be permitted to race in the Super-X Car Division until it has been corrected.

**B.** Wheel openings may be trimmed for tire clearance. If the rear wheel wells have been removed they must be fabricated to resemble the stock ones out of .024"/24-gauge magnetic sheet metal

**C.** EXTERIOR: All bolt-on components and trim must be removed.

**D.** INTERIOR: All bolt-on components and flammable material must be removed.

**E.** BODY: All body panels, except those listed must have all of the interior panels left intact. The only body parts that may be gutted are as follows: Hood, Roof, Trunk Lid, area directly around the Fuel Cell, Front Fenders, Left and Right Door Panels. Cars that have gutting done to any panels other than the ones listed and areas required for roll cage installation may be assessed a weight penalty and/or required to make appropriate modifications as requested by New London Waterford Speedbowl Officials.

The Vehicle Identification Number (VIN) of car being used must be on the windshield bed/dashboard and be clearly visible.



## Car Weights and Heights

~~After a competitors 2<sup>nd</sup> win, they will not be allowed to have a handicapped starting spot higher than 6<sup>th</sup> in any feature event. Also the previous weeks Feature Winner will start LAST in the following weeks feature event, regardless of how many wins they have.~~

**A.** 100 lbs. will be added each time you refuse pre-race or post- race inspection. Also a loss of handicap for the next 2 attended events will be assessed.

**B.** All penalty lead will be mounted in minimum of 25 lbs. blocks, centered along the right side frame rail, or in a position designated by New London-Waterford Speedbowl Officials if it is not able to be mounted as stated.

**C.** Added weight may be mounted under the car, providing that it is securely bolted to the floor pan and up as high as possible. The weight may not block the area behind the left front tire and the area in front of the left rear tire in order to allow for chassis height to be checked.

**D.** Added weight must be magnetic steel or lead only, in block form, and weighing no less than five (5) lbs. per block (no pellets). Added weight must be securely bolted or welded and painted white with the car number stenciled in black. No added weight will be permitted inside the driver's compartment. Weight must be welded in a box or attached with two (2) or more 7/16" minimum diameter, grade 8 bolts and locking nuts. All weight must make 5" ride height.

**E.** Any car loosing ballast weight or found with unmarked weight is subject to a fine.

**F.** The mounting of ballast weight is subject to the approval of NLWS Officials.

~~**G.** Cars may be weighed at any given time. There is no weight rule however weights may be checked on occasion by the New London Waterford Speedbowl Technical Staff. In 2018 a minimum weight rule made be made effective for all cars.~~

**H.** Minimum Chassis Height is 5 ½" with the driver in the car. No portion of the body, or chassis may be lower than 5 ½".

**I.** Minimum Post Race weight is 3100lbs with Driver in the car.

**J.** Max Left Side Weight percentage is 53% with the driver in the car.

## Detailed Car Body Requirements

**A. 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. **Windshield must be supported in center top to bottom and braced to the windshield bar.**

**B. 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. Also, the addition of a 1"-3" spot mirror is permitted.

**C. 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.

**D. BUMPERS:** The factory STOCK OEM bumpers made for your car or an aftermarket tube bumper must be used. You may not compete without a securely, mechanically fastened front and rear bumper. Bumpers and bumper mounts may not be reinforced. Aftermarket poly bumper covers may be used, but must be for your bodystyle.

# Engine

- A.** The engine and all of its components must remain unmodified and completely STOCK OEM for your car/manufacturer.
- B.** You may not do any modifications or machining to any part of the engine or its components unless specified.
- C.** The only acceptable work allowed is the normal /standard rebuilding, including rings and bearings, etc...
- D.** The rotating assembly, cylinder heads, carburetor or injection system, camshaft and valve train, and intake manifold must remain unmodified and completely STOCK OEM. The only acceptable machining will be .040 over bore to the engine block.  
 Chevy and Pontiac-  
 305 CI option: STOCK OEM 305 engine with STOCK OEM cast iron 4-barrel intake and STOCK OEM 4 barrel Quadra-Jet carburetor.  
 350 CI option: STOCK OEM 350 engine with STOCK OEM cast iron 2-barrel intake and STOCK OEM 2 barrel Rochester carburetor.  
 Ford may run a STOCK OEM 302 or 351 with a STOCK OEM Motorcraft carburetor. Mopar may run a STOCK OEM 318 or 340 with a STOCK OEM Carter carburetor. Oldsmobiles may run a STOCK OEM 350 Olds engine with a STOCK OEM Rochester 2-barrel carburetor, or one of the Chevy 305 / 350 combinations.
- E.** No alterations are permitted to any carburetor, with the only exception being the retapping the carburetor to facilitate the use of Holley jets. Carburetors must remain completely STOCK OEM. Chokes may be wired open. No adapter plates or spacer plates may be used between the intake and carburetor. You must use One (1) standard gasket between carb and intake manifold.
- F.** Fuel injection, if used, must be STOCK OEM and unaltered.
- G.** Maximum Compression Ratio for all engines is 9:1
- H.** Camshaft lift may be measured at the valve, rocker arm, or directly on the camshaft. Your camshaft lift may not exceed your gross valve lift divided by your factory STOCK OEM listed rocker ratio for your engine.

Camshaft Maximum Gross Valve Lift	Intake	Exhaust
Chevy 305	.420"	.420"
Chevy 350	.390"	.410"
Ford 302	.455"	.465"
Ford 351 W	.427"	.465"
Ford 351 C	.461"	.463"
Mopar 340	.450"	.460"
Mopar 360	.429"	.444"
Oldsmobile	.450"	.450"
Pontiac	.400"	.410"
Buick	.402"	.418"



**I. AIR FILTER/HOUSING:** The STOCK OEM air filter housing with a paper filter, or an aftermarket steel/aluminum round air filter housing with a 14" diameter x 3" tall paper filter may be used.

**J. 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.

**K. MISC:** The pulleys, oil pan, and timing cover must remain unmodified and completely STOCK OEM for your engine / car. The valve covers may be replaced with aftermarket ones to allow better sealing of gaskets. The use of pinned or screw in studs is allowed. Any items listed in K that are not stock may be approved by NLWS Officials on a case by case basis. This includes, pulleys, timing cover, etc.

**L. Alteration to the heads are limited to the following: Poly Locks and Screw-In Rocker Arm Studs are approved for use in the Super-X Car Division.**

## **Car Electrical System**

**A.** The alternator, starter, ignition system, and engine management controls must remain unmodified and completely STOCK OEM for your engine / car. Computer chip must be the STOCK OEM chip for your engine / car.

**B.** All electrical switches must be located on the dash panel or within easy reach of the driver.

**C.** A master battery switch must be installed within reach of the driver and clearly marked "on" & "off".

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

## **Engine Cooling System**

**A. WATER PUMP:** Must be completely STOCK OEM for your engine.

**B. RADIATOR:** Any automotive style radiator is allowed. Aftermarket Aluminum Racing Radiators are allowed. The radiator must be in the stock location 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.

**C. Cooling Fan:** The Stock Cooling Fan may be replaced with an Electric Cooling Fan.

## **Engine Exhaust System**

**A. EXHAUST MANIFOLD:** The unmodified, STOCK OEM passenger car exhaust manifolds must be used. No center dump or "ram" style manifolds. For GM Cars the only approved exhaust manifold is the over the top log style.

**A. EXHAUST PIPE:** The maximum outside diameter of any exhaust tubing is 2 ½". Each pipe must run straight back on each side, to the muffler and must extend rearward past the driver and exit towards the ground at a 90-degree angle. Each exhaust pipe must run to a single muffler. There may not be any merge, crossover, or "H" type equalizer pipes joining the two exhaustpipes.

**B. MUFFLER:** Two unmodified Lobak # RCM-25-12-25 or Moroso #94050 mufflers must be used. The mufflers MUST be installed so they are removable for tech inspection processes.

## **Drive Train**

**A. TRANSMISSIONS:** The driveline and all of its components must remain unmodified and completely STOCK OEM for your car. You may not do any modifications or machining to any part of the driveline or its components. The only acceptable work is normal transmission 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. Flywheel, clutch and clutch covers will be weighed. The use of poly type transmission mounts is acceptable. No Powerglide Transmissions. For additional transmission information see rule 7.9.1 below.

**B. REAR ENDS:** The rear end unit must be an "open", "single leg" unit, allowing only one wheel to drive the vehicle. The maximum numerical gear ratio allowed is 3.08. The only acceptable work allowed is normal rear end rebuilding. Both wheels must spin independently of each other at ALL times.

**C. DRIVESHAFTS:** Rear wheel drive cars must use an OEM length and diameter magnetic steel driveshaft. The minimum GM G-Metric Cars driveshaft length is 52 3/8", measured u-joint centerline to u-joint center line. 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.

**D. WHEELS:** The STOCK OEM steel wheels or equivalent aftermarket steel wheels may be used. Wheels must meet the following criteria: Aftermarket wheels may be run, 14 or 15-inch maximum 7 inches wide. All 4 wheels must be ZERO offset. Backspacing for a zero offset wheel varies by manufactures. Consult with your manufacturer when purchasing wheels. Wheels may not stick out more than 1 inch from the wheel well. The body of the car may NOT be modified to achieve the 1-inch difference. **A single wheel spacer no larger than ½" is allowed on each rear wheel. NO WHEEL SPACERS CAN BE USED ON THE FRONT OF THE CAR.**

**E. Tires: The Hoosier 850 is the only approved tire for use in the Super-X Division. The approved sizes are 27x7x15 or 26.5x7x15. If a tire cannot be identified as such it will be considered illegal.**

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**F. The JTR Eagle PPM Tester will be set at a fixed level and will be strictly enforced throughout the season.**

**As a participant competing in any race at the NLWS specifically agrees that he/she acknowledges it is illegal to soak or treat racing tires and that said soaking or treatment of racing tires is against EPA regulations and further contains carcinogens and hazardous material which are unfit for his/her health and the health of all competitors and spectators.**

**Any participant found violating the rule is subject to suspension.**

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## **7.9.1 Standard Transmission Option**

If your car did NOT come with a standard transmission from the factory the below rule applies to those cars and gives teams the option to convert from an Automatic Transmission to a Standard Transmission. Camaros that came with a Standard Transmission may still follow rule 7.9, Section A or this new rule.

### **7.9.1-a Flywheel and Clutch**

- A.** A stock OEM steel flywheel or a replacement steel billet flywheel with OEM stock dimensions must be used.
- B.** Pressure plate must be stock OEM or a stock OEM replacement, with a minimum diameter of 10.4".
- C.** Clutch disc must be stock OEM type, with a minimum diameter of 10.4"
- D.** Minimum weights: Flywheel- (no bolts) 20 LBS. Pressure plate- (no bolts) 13 LBS. Disc- 3 LBS.
- E.** Drilling or lightening of any part is not permitted.
- F.** Steel bolts only. Flat surface machining allowed only on the face of the flywheel, any cutting on the back side of the flywheel is illegal.

Stock OEM or aftermarket clutch pedal and master cylinder assembly is allowed. Stock type mechanical linkage or hydraulic slave or bearing is allowed.

### **7.9.1-b Bell Housing**

- A.** A commercially manufactured steel bell housing made from a minimum 1/4" magnetic steel must be used.
- B.** It must enclose the flywheel and clutch completely, 360 degrees around.
- C.** An opening no larger than 3-1/2" x 4" may be used for throw out bearing access.

### **7.9.1-c Transmission**

**A.** Only a stock OEM production 3 speed cast iron transmission, or a stock OEM production 4 speed cast iron transmission may be used. Max Numerical Gear Ratios for the following STANDARD Transmissions are listed below:

4 Speed GM Muncie 2<sup>nd</sup> gear of 1.64

4 Speed GM Saginaw 3<sup>rd</sup> gear of 1.65

3 Speed GM Saginaw 2<sup>nd</sup> gear of 1.68

- B.** There are no modifications allowed to the transmission.
- C.** The transmission mount may be stock or fabricated.
- D.** None of the following will be allowed in or on the transmission or transmission parts:
  - Abrasive cleaning
  - Acid dipping
  - Chemical milling
  - Coating
  - Epoxying
  - Finishing
  - Painting
  - Plating
  - Polishing
  - Porting, etc.

## **Frames**

**A. GENERAL FRAME ELIGIBILITY:** The frame and all its components must be stock OEM for your make/model car. The frame must retain all factory listed dimensions, lines and angles. 2"x 3"x.125" wall rectangular steel tubing may be used to replace the frame rails from the aft side of the rear shock mounts to the rear bumper. The steel tubing may run straight back, angled downward, and be at the STOCK OEM bumper height at the ends. You must also run a piece of 2 x 3 tubing across the back of the rails, left to right, for fuel cell protection.

## **Suspension**

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

**B. 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. Passenger's sideswaybar link must be OEM equivalent, driver's side link may be adjustable.

**C. 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. One spring rubber is allowed and MUST be fully encased between the coils of the spring. No rubbers, insulators, etc. are allowed on the tops or bottoms of the springs. Only one rubber per spring allowed. A single fabricated steel spring spacer is permitted to assist with achieving the 5½" minimum frame/chassis height as listed above. Maximum spacer height of 1" is allowed for a spacer. One spacer allowed per spring.

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

**E. Torsion Bars:** Torsion bars must fit into stock location and use stock mounting

hardware. Bars must be identical from side to side.

**F. Shocks:** The shocks must be unmodified, STOCK OEM or direct replacement shocks. No Bilstein shocks. No KYB Gas-a-Just shocks. The shocks must match from side to side. Racing or adjustable shocks are not allowed. All mounting holes, locations, and hardware must remain STOCK OEM.

**G. Spindles & hubs, upper and lower a-frames, and rear trailing arms:** Must be the unmodified, STOCK OEM components that came on your car. All mounting holes, locations, and hardware must remain STOCK OEM. Spindle Savers are allowed.

**H.** The only modification of the suspension allowed is as follows:

Poly bushings are allowed, NO offset bushings.

Upper a-frame bolts may be replaced to allow camber/caster adjustments. Also offset upper a-frame cross shafts are permitted for use.

**I.** Maximum/minimum camber allowed in the front is +/-8 degrees.

**J.** No other modifications are allowed.

**K.** All mounting holes, locations, and hardware must remain STOCK OEM.

**L.** Factory STOCK OEM wheelbase must be maintained, plus or minus 1/2".

**M.** The Coleman Heavy Duty Aftermarket Steel Hub and Rotor Assembly is approved for use in the Super-X Car Division.

## **Steering System**

**A.** 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.

**B.** All mounting holes, locations, and hardware must remain STOCK OEM.

## **Brake System**

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

**B.** All brake components must be STOCK OEM.

**C.** All brake components must be in their STOCK OEM location.

**D.** No brake components may be altered for weight reduction.

## **Fuel**

**A. 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.

**B. FUEL SPEC'S:** Pump gas must be used. 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.

**C. 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.

**D. 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.

**E. 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.

**F.** The fuel cell and fuel cell container must be installed as far forward as possible, centered between the frame rails and behind the rear axle. 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 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. 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. The Minimum height from the pavement to the bottom of the fuel cell is 10".

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

**H. 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.

**I. 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.

**J. 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. No fuel shut offs on driver's side. The valve must be track crew accessible.

## **Accessories**

### **Radios**

- A.** One-way communication from the Race Director/Tower to the driver is mandatory.
- B.** A scanner or Raceceiver must be used.
- C.** The preferred scanner is the Raceceiver scanner used by 600 racing.
- D.** If a scanner other than the Raceceiver is used it must be locked onto the track tower frequency. Monitoring the track is your responsibility. You may be placed at the tail end of the field for failure to monitor the track frequency.
- E.** 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 track frequency may be disqualified for that event.
- F.** If the Raceceiver is not working, you may be black flagged from the event if it presents a problem on the race track.

### **Electronics**

- A.** No onboard computers, automated electronics, recording devices or digital readout gauges of any kind are permitted.
- B.** All teams must get approval before using any in-car camera equipment.
- C.** All Video Recording Devices must be registered with the New London Waterford Speedbowl.
- D.** A Video Camera Registration Form must be filled out and on file with the New London Waterford Speedbowl prior to using any recording devices.

## **7.16 Roll Cage**

- A.** 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 2" x 3" rectangular tubing extending as far forward and rearward as possible inside the passenger's compartment. All of the bars must land within the driver's compartment. No bars may extend forward or rearward beyond the front and rear firewalls.
- B.** 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.
- C.** 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.



D. 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.

E. 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. Roll Bar Gussets are required on the Drivers Door Bars.

F. 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.

G. 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.

H. A "shoulder bar" must be installed at shoulder level, left to right, between the two uprights of the main rollcage hoop, at shoulder height.

I. 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.

J. A "dash bar" must be installed by joining the two front down bars together, left to right, at the dashboard height.

K. 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.

L. All cars must have a padded 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.

M. 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.

N. A **front and rear hoop** is allowed (optional) on all cars. If installed it must be made of 1- 3/4"x.095 Wall round steel tubing (HREW or DOM). Due to the various types of cars being run the only requirement is that the rear hoop attaches horizontally to the 2 "rear down bars" on each side and is adequately supported. **The front hoop can be mounted at any point including the main roll cage.**

O. 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 4 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.

**New London-Waterford Speedbowl officials reserve the right to interpret any and all of the above the written rules in any way, under the guidelines of the published Super X-Car division rules.**