

# 2012 Waterford Speedbowl Mini Stock Rules

(Last Updated: 12-24-11)

All items marked in **RED** are new and/or are wording changes to the **2012 Mini Stock rules**.

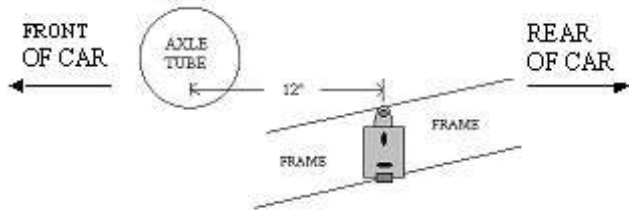
By registering as an owner or driver you agree to be knowledgeable and bound by the contents found herein.

## **5.0 GENERAL DIVISION RULES:**

- A) In the following rules you will see the term "stock OEM" used. This means "original equipment manufacturer". These parts must come on a 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 post race inspection the entire car and all of its components become subject to inspection. This includes but is not limited to items designated for inspection 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](http://www.speedbowl.com)). This will serve as the only form of official notification until the printing of the **2013 Waterford Speedbowl rule book**.
- J) An aftermarket, aluminum fabricated racing seat, sized correctly for the driver, must be used. The seat frame must be made of steel tubing (min 1" round or square) and must be welded to the roll cage and/or frame. The seat cannot attach to any part of the floorpan. The seat must be bolted at 4 places at the bottom of the seat, and 4 places at the back. The bolts must be 3/8" diameter grade 8, with large fender washers on the seat side. You must have (2) head supports, (2) shoulder supports, and (2) leg supports, or a "full containment" assembly bolted to your seat.

- **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

### 5.0.1 DRIVER ELIGIBILITY:

**All drivers must have a valid 2012 NASCAR Charger Division Driver or higher driver's license. Drivers may be a minimum 14 years of age (only pending approval from the Race Director) to compete in the Mini Stock division.**

### 5.1 APPROVED MODELS:

The four cylinder, two door coupe versions of the following are allowed:

FORD: Mustang (94-98 must use 2.3 engine), Pinto, Escort

MERCURY: Capri, Bobcat, Lynx.

NISSAN: 200SX.

TOYOTA: Celica.

VOLKSWAGEN: Scirocco, Rabbit, (NO GTIs).

CHEVROLET; Monza, Vega, Camaro.

PONTIAC: Firebird, Sunbird.

OLDSMOBILE: Firenza

CHRYSLER: Charger, Lance, Shadow.

HONDA: Accord.

No turbo, rotary, mid engine or rear engine cars allowed.

Concessions may be made to allow fuel injected cars to compete, as long as they are converted to the Holley 350 cfm 2 bbl as described in rules 5.5.15 and 5.5.16. Please call the track office for make/model approval and detailed requirements.

### 5.2 CAR BODY REQUIREMENTS:

A) **The car body must retain all factory listed dimensions, lines and angles. The body on your race car must look "stock OEM". The body must be "rolled" from top to bottom, similar to a production car.**

B) The stock rubber body mounts must be in place.

C) Wheel openings may be trimmed for tire clearance.

D) EXTERIOR: All bolt-on components must be removed.

E) INTERIOR: All bolt-on components must be removed. Both right and left interior steel door panels may be removed.

F) BODY: Hood, trunk lid, roof and doors are the only body panels that may have the steel inner panels removed. Sun/moon roofs must be completely covered and welded with 24 gauge (.024") minimum magnetic sheet steel, and be neat appearing.

G) Uni-body cars may install 2" x 3" steel tubing to use as frame rails in the center section/cockpit / floor pan area of the car. The 2" x 3" tubing must be located in the center section (drivers area) only. It may not

protrude through the front or rear firewalls.

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

### **5.3 CAR WEIGHTS:**

Cars will be weighed after the feature event. They must meet the following:

All weight must be placed between the frame rails, and not lower than the frame at the point at which it is attached. **No weight will be allowed outside, below or above the frame rails.**

A. Minimum weight for cars with engine displacement up to 1999cc is 2100 lbs including driver.

B. Minimum weight for cars with engine displacement of 2000cc or more is 2400 lbs including driver.

C. Double overhead cam equipped cars must weigh an additional 100 lbs.

D. Maximum Left Side Weight is 55% including driver.

#### **5.3.1 ADDED CAR WEIGHT:**

Magnetic steel or lead is the only acceptable added weight. Weight must be in block form in no less than 5 pound blocks. Weight must be painted white with your car number on it. No weight is permitted inside the driver's compartment. Weight must be encased in steel and welded or bolted to the chassis or frame with two or more (Grade 5 minimum) bolts, minimum 3/8" diameter.

All weight must be placed between the frame rails, and not lower than the frame at the point at which it is attached. **No weight will be allowed outside, below or above the frame rails.**

### **5.4 DETAILED CAR BODY REQUIREMENTS:**

#### **5.4.1 SPOILERS:**

A spoiler is a dedicated part of the body which controls/directs the flow of air over 1 surface only.

#### **5.4.2 FRONT SPOILER / NOSE PANEL:**

A stock OEM nose panel/headlight panel or an aftermarket front bumper cover for your make/model may be used. All front bumper covers must maintain a minimum ground clearance of 6" at all times. **The nose panel may not be wider than 71"**. An air dam (spoiler) for the radiator may be used. It must be no wider than the radiator, must not extend beyond the front bumper, and it must maintain at least 6" of ground clearance at all times.

#### **5.4.3 REAR SPOILER:**

A) A solid rear spoiler of clear polycarbonate (Lexan) may be installed at the rear edge of the rear trunk deck lid or tail light panel.

B) The maximum spoiler size is 4" high X 60" wide.

C) Any supports used for mounting the spoiler must be located on the rear side of the spoiler only.

D) No decals, paint, or logos are permitted on the rear spoiler.

#### **5.4.4 WINDSHIELD:**

The windshield must be replaced with 1/8" thick polycarbonate (lexan). The windshield must be bolted or riveted in along all four sides.

#### **5.4.5 REAR WINDOW:**

The use of a polycarbonate (lexan) rear window is permitted. When a rear window is used, it must completely enclose the rear window opening. No decals, paint, or logos are allowed on the rear window.

#### **5.4.6 QUARTER WINDOW /WINDOW NET:**

A) Polycarbonate (lexan) quarter windows are permitted.

B) An SFI rated nylon window net must be installed in the left side door window opening. It must be positioned to cover the driver.

C) The window net must be rib type, made from 3/4" or 1" wide nylon material with a minimum 1" and a maximum 2-1/4" square opening between the ribs. The minimum window net size must be 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.

D) "A" pillar windows, made from clear polycarbonate, measuring 6" or less in any direction may be installed at the forward edge of the door (the wing window area).

#### **5.4.7 TAIL LIGHT / BACK PANEL:**

All cars must be equipped with a tail light/back panel.

A stock OEM tail light panel/back panel or an aftermarket rear bumper cover for your make/model may be used. All rear bumper covers must maintain a minimum ground clearance of 6" at all times.

#### **5.4.8 REAR VIEW MIRROR:**

One approved 2" x 10" or smaller single panel rear view mirror mounted in the center of the car is allowed. One approved round "spot" mirror, mounted by the drivers side window post may be run.

#### **5.4.9 DASHBOARD:**

The stock OEM dashboard must be covered with sheet steel or aluminum. The dashboard must remain in the stock OEM location.

#### **5.4.10 FIREWALLS:**

The stock OEM front firewall must be used. The front windshield bed must be in the stock OEM location. All holes in the front firewall must be covered with 22 gauge minimum (.030") thickness magnetic steel sheet. The front firewall has to completely seal the driver's compartment from the engine compartment. A rear firewall made of 22 gauge minimum (.030") magnetic sheet steel must be used, covering the back seat shelf area. The rear firewall must be stock appearing and be in the stock OEM location. It must completely seal the drivers compartment from the fuel cell/trunk area.

#### **5.4.11 DOORS:**

Stock OEM steel doors, or a manufactured or aftermarket replacement steel door may be used. **All doors must be stock appearing** and made from a minimum of 24 gauge (.024") magnetic steel sheet. All doors must retain the factory stock OEM dimensions, lines, and angles. The door must be rolled, similar to the stock OEM contour (no straight sided doors allowed). The interior panels of the doors may be removed.

#### **5.4.12 QUARTER PANELS/FENDERS:**

Stock OEM steel quarter panels and fenders, or a manufactured or aftermarket replacement steel quarter panel and fenders may be used. **All quarter panels and fenders must be stock appearing** and made from a minimum of 24 gauge (.024") magnetic steel sheet. All quarter panels and fenders must retain the factory stock OEM dimensions, lines, and angles. The interior panels of the quarter panels and fenders may be removed.

#### **5.4.13 HOOD / ROOF / WINDOW POSTS:**

A) The hood must be the stock OEM steel hood for your car, or a manufactured aftermarket fiberglass replacement. The hood must be held down with at least 5 hood pins, three across the front and two across the back. The hood must lay flat, must have no scoops, and be "closed off" at the base of the windshield. The interior panels of the hood may be removed.

B) The roof must be the stock OEM steel roof for your car. The roof may not be modified in any way, it must retain all factory supplied dimensions, lines, and angles. The interior panels of the roof may be removed.

C) The roof posts must be made of steel, and retain all factory supplied dimensions, lines, and angles.

D) The roof numbers must be readable from passenger's side of car.

E) "A" pillar windows, made from clear polycarbonate, measuring 6" or less in any direction may be installed at the forward edge of the door (the wing window area).

#### **5.4.14 REAR DECK LID:**

The rear deck lid (trunk) must be the stock OEM steel trunk for your car, or be an aftermarket OEM replacement. The interior panels of the trunk may be removed. It must be secured with 4 hood pins, or 2 hood pins and hinges.

#### **5.4.15 BUMPERS:**

If a stock OEM nose panel/headlight panel or tail light panel is used, you must run a stock style bumper. 1-3/4" diameter steel tubing bumpers may be used if you run an aftermarket bumper cover. Tubular bumpers must be two 1-3/4" pipes, one welded on top of the other. One 1" diameter steel tubing brace per side may be used.

Cars may not compete without a front or rear bumper securely and mechanically fastened in place.

#### **5.4.16 NERF BARS:**

Nerf bars made of 1" tubing, or aftermarket Lexan ones may be used. Nerf bars must be tight to the body and fabricated so as not to damage other race cars.

### **5.5 ENGINE:**

#### **GENERAL ENGINE ELIGIBILITY:**

The following will not be allowed in or on the engine, any engine component, or part: abrasive cleaning, acid dipping, chemical milling, coating, epoxying, finishing, painting, plating, polishing, porting, etc.

#### **5.5.1 ENGINE LOCATION:**

Stock OEM style rubber motor mounts must be used. You may mechanically fasten the engine to the chassis (chain or brace). Engine must be in the stock location for your chassis.

#### **5.5.2 ENGINE GROUND CLEARANCE:**

A minimum height of 14" must be maintained between the ground and the crankshaft centerline at all times.

#### **5.5.3 ENGINE BLOCK:**

- A) You must use the stock OEM cast iron cylinder block for your engine.
- B) Engines may be bored a maximum of .045".
- C) The engine block must retain all standard internal and external dimensions.
- D) No other modifications are allowed.

#### **5.5.4 PISTONS:**

- A) Stock OEM cast pistons or OEM replacement cast pistons for your engine must be used. The pistons must be exact replacement OEM pistons. No gapless type rings.
- B) Wrist pins must retain all stock OEM measurements, dimensions and weight.
- C) The maximum engine compression will be 10.1 to 1 for all engines and will be checked with the Waterford Speedbowl "Whistler" compression tool.

#### **5.5.5 RODS:**

- A) Stock OEM steel connecting rods for your engine must be used.
- B) Only normal engine balancing and the use of after-market bolts are permitted.
- C) All 4 connecting rods must be the same length.
- D) Rods must align off the crankshaft rod journals.
- E) No other modifications are allowed.

#### **5.5.6 OIL PAN:**

- A) A stock OEM type steel oil pan (with or without baffles) must be used. The pan must be stock appearing, with no kick-outs or added sump areas.
- B) OEM type in the pan oil pumps only.
- C) Windage trays, oil coolers, external pumps, external oil lines or accusump systems are not allowed.

### **5.5.7 CYLINDER HEADS:**

Stock OEM steel cylinder head for your engine must be used. No modifications are allowed. Ford must run "oval" port open or closed chamber, or "D" port open or closed chamber cylinder head. They must be a non-roller rocker, (1) spark plug per cylinder casting.

Minimum Combustion Chamber (cc):

Ford	55
Toyota	52
Volkswagen	50
Nissan	52
GM	53
Mopar	52

There is no chemical or mechanical machining allowed in the combustion chamber or runners of the cylinder head. If the tech inspector deems the cylinder head runners or combustion chambers have been chemically or mechanically altered in any way, the heads will be confiscated.

### **5.5.8 VALVES:**

All valves must be identical in appearance and construction as the stock OEM type, and must be magnetic steel or stainless steel. No air directional devices will be permitted on any of the valve surfaces. No pro flo, swirl, or polished valves allowed. Valve stem "undercut" may be no more than .015.

### **5.5.9 VALVE JOBS:**

All cutting and/or grinding must be centered off the centerline of the valve guide. Absolutely no hand grinding or polishing on any part of the cylinder head. The bottom cut may be no more than 3/8" into the valve pocket as measured from the top edge of the seat. The maximum diameter of the top cut may be no larger than 3/8" in diameter larger than the valve size.

No unshrouding of the valves.

All other head modifications are not allowed, including but not limited to:

Altering the position or angle of the valve or valve guide.

acid/chemical milling, dipping or machining, porting, polishing, grinding, glass beading, painting, coating, removal of any flashing or casting marks.

Welding, cutting, epoxying, or sectioning.

Cooling lines in the sides of the head.

Angle milling any gasket surface.

Note: Cylinder heads will be checked for volume numbers as a routine part of post race tech.

All cutting and/or grinding must be centered off the centerline of the valve guide. Absolutely no hand grinding or polishing on any part of the head. On the combustion chamber side of the intake seat, no cutting and/or grinding may be larger in diameter than 2.350". On the combustion chamber side of the exhaust seat, no cutting and/or grinding may be larger in diameter than 1.930". On the bowl side of the intake and exhaust seats, the maximum angle of cutting and/or grinding will be 90 degrees. No cutting and/or grinding within 1/8" of the valve guide boss.

### **5.5.10 VALVE SPRINGS:**

One single stock OEM valve spring with dampener installed at the factory height must be used. All of these valve train components must retain all of the stock OEM dimensions and weight for your engine

### **5.5.11 CRANKSHAFT:**

Stock OEM crankshaft for your engine must be used. Your crankshaft must be stock OEM weight, stroke, and journal size. Normal engine balancing is allowed. No other modifications are allowed.

### **5.5.12 CAMSHAFT:**

An OEM style, flat tappet, hydraulic camshaft with a maximum lift of .260" on the lobe may be used. The camshaft lift may be measured at the valve, rocker arm or directly on the camshaft. The camshaft lift may not exceed the gross valve lift of .432" at the valve. (.260 max cam lobe lift X 1.66 rocker ratio = 431.6 maximum valve lift).

#### **5.5.13 VALVE LIFTERS:**

Stock OEM hydraulic lifters or stock OEM replacement hydraulic lifters must be used. Any type of variable duration lifters are not allowed. All of the valve train components must retain all of the stock OEM dimensions and weight for your engine.

#### **5.5.14 TIMING CHAIN / BELT / GEARS:**

Stock type for your engine must be used. Aftermarket adjustable chains, belts, and gears allowed

#### **5.5.15 ROCKER ARMS:**

Stock OEM rockers or Crower part # 66993-8 rockers must be used. Stock OEM rocker ratio must be maintained. No roller rockers, guide plates or screw in studs allowed. Stock OEM push rods must be used.

#### **5.5.16 INTAKE MANIFOLD:**

Stock OEM 2 barrel or fuel injected style intake manifold must be used. No modifications are allowed. Note: Intake Manifolds may be checked for volume numbers as a routine part of post race tech.

#### **5.5.17 CARBURETOR:**

The only approved carburetor is the Holley two-barrel model 07448, 350CFM. All parts must be a Holley part for the 07448.

- A) The choke assembly must be removed, and all screw holes must be permanently sealed.
- B) Idle holes may be drilled into the butterflies.
- C) No other modifications are allowed.
- D) All air entering the engine must pass through the top of the carburetor.
- E) No adjustable (jetted) air bleeds or circuits.
- F) No "hp" parts allowed.

The carburetor must pass the Waterford Speedbowl tech gauges as part of the routine technical inspection process.

#### **5.5.18 CARBURETOR SPACER:**

- A) One spacer with a maximum height of 1" may be used.
- B) Only one .075" max. gasket per side.
- C) Spacer can be no larger than base of carburetor.
- D) No additional openings for the induction of air allowed.

#### **5.5.19 CARBURETOR JETS:**

Holley type jets must be used.

#### **5.5.20 CARBURETOR AIR FILTER/AIR FILTER HOUSING:**

- A) Only one round, dry type, paper air filter element, 12" to 14" in diameter and 2" to 3" tall must be used. All air must be filtered through this element.
- B) The air filter housing top must be round, 12" to 15" in diameter, and made of steel or aluminum. The air filter housing base must be round, 12" to 15" in diameter, made of steel or aluminum, and must have one 5" to 5-3/8" diameter round hole in it (for mounting on the carburetor). The air filter housing top and bottom must be the same diameter, and must sit level and centered on the carburetor.
- C) The bottom of the air filter element must measure within 1" in height to the carburetor top (air filter housing mount) flange.
- D) A shield may be run on the front of the air filter element. It may cover up to 1/2 the diameter of the element, and must be no taller than the element.
- E) Anything that alters air flow in, on, or around the carburetor and air filter is illegal.

#### **5.5.21 AIR INTAKE:**

No cowl air induction permitted. Absolutely no ducts or baffles permitted on or leading to the air cleaner or element.

### **5.6 ENGINE/CAR ELECTRICAL SYSTEM:**

#### **5.6.1 IGNITION SYSTEM:**

- A) A stock OEM type HEI distributor must be used. The distributor must have a stock type housing, have stock type controls and modules, be equipped with a magnetic pickup, be gear driven, and be mounted in the stock location.
- B) Only one **OEM type** ignition coil is permitted.
- C) Electronic firing module amplifier box is not permitted.
- D) Adjustable timing controls are not permitted.
- E) Retard or ignition delay devices are not permitted.
- F) Accessories to regulate the power supply are not permitted.
- G) The tachometer wire must run from the distributor to the tachometer along the #8 dash bar separate from any other wires and in unobstructed view for inspection. The tachometer wire must be isolated from any other wires, connection or devices. The entire length of the tachometer wire must be visible from distributor to gauge.
- H) The Vacuum advance unit may be replaced with a manual non-electronic timing adjuster that does not extend more than two inches beyond the distributor housing.

#### **5.6.2 ALTERNATOR:**

The alternator (if used) must be mounted to, and driven off of, the front of the engine.

#### **5.6.3 STARTER:**

- A) An OEM style or a gear reduction style starter is allowed.
- B) The starter must mount in the stock OEM position for your make of engine.
- C) All cars must be capable of starting under their own power.

#### **5.6.4 BATTERY:**

- A) One automotive type lead acid or gel battery must be used (gel is recommended).
- B) The battery may be located in the right side front firewall or behind the drivers seat, mounted to the floor. The battery and/or box may not extend below the frame rails where it is mounted.
- C) The battery box may be made of steel and welded in place, or made of plastic and have a steel frame welded in place around it.
- D) The battery must be padded or lined to prevent battery from moving inside the box.
- E) The battery box must be completely sealed off from the drivers compartment.

#### **5.6.5 ELECTRICAL SWITCH LOCATION:**

- A) All electrical switches must be located on the dash panel or within easy reach of the driver.
- B) A master battery switch must be installed within reach of the driver and clearly marked "on" & "off".

### **5.7 ENGINE COOLING SYSTEM:**

#### **5.7.1 WATER PUMP:**

- A) An OEM type mechanical water pump must be used.
- B) The stock OEM V belt or stock OEM serpentine belt and pulleys must be used for your model/year engine, except the lower crank pulley, which may be an aftermarket reduction pulley.

#### **5.7.2 FAN:**

An engine mounted, pulley driven mechanical fan or an electric fan may be used.

#### **5.7.3 RADIATOR:**

- A) The radiator must be located in front of the engine. The radiator support may be stock or may be fabricated.
- B) Only water and "water wetter" brand additive may be used in the cooling system.

## **5.8 ENGINE EXHAUST SYSTEM:**

### **5.8.1 EXHAUST PIPE/MUFFLER:**

- A) The unaltered stock OEM cast iron exhaust manifold for your engine must be used.
- B) The maximum exhaust pipe diameter allowed is 2-1/2" OD. Flex exhaust pipe is not allowed.
- C) The exhaust pipe must extend rearward past the main cage hoop.
- D) One unaltered Lobak # RCM-25-12-25 or Moroso #94050 muffler must be used on the exhaust pipe. The muffler must be removable for inspection.
- E) Thermal wrap is not permitted anywhere on exhaust system.
- F) Race teams are responsible for the condition of their muffler. Mufflers found to have deteriorated baffles due to rust/rot will be treated the same as if they were modified. Your muffler must be in good condition and have complete baffles.

### **5.8.2 HEAT SHIELDS:**

A heat shield, to cover exhaust manifold, can be no more than 6" wide and no longer than the valve cover.

## **5.9 DRIVE TRAIN:**

### **5.9.1 FLYWHEEL AND CLUTCH:**

- A) A stock OEM steel flywheel with stock OEM dimensions for your engine, weighing a minimum of 20lbs, must be used.
- B) A stock OEM pressure plate or a stock OEM replacement for your engine must be used.
- C) A stock OEM clutch disc or a stock OEM replacement for your engine must be used.
- D) Drilling or lightening of any part is not permitted.
- E) 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.
- F) Stock OEM or aftermarket clutch pedal and master cylinder assembly is allowed.

### **5.9.2 BELL HOUSING:**

The stock OEM bellhousing for your engine/transmission must be used.

### **5.9.3 TRANSMISSION:**

A stock OEM 3, 4, or 5 speed standard (manual) transmission for your application may be used. High gear ratio must be 1 to 1 only. All forward and reverse gears must be in working order. No internal or external modifications are allowed.

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.

### **5.9.4 DRIVE SHAFT:**

- A) A stock OEM magnetic steel driveshaft must be used.
- B) 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 frame/cage.
- C) All driveshafts must be painted white.

### **5.9.5 REAR AXLE:**

- A) You must use the unaltered stock OEM rear end housing for your car.
- B) A completely stock OEM "open" differential must be used. Any modifications that "lock" the rear at any time is not allowed.

- C) Any gear may be used as long as it fits into the housing unmodified.
- D) Aftermarket solid magnetic steel racing axles may be used. Aftermarket axles must retain all stock dimensions and weight.
- E) Wheel spacers are not allowed.
- F) Coatings or finishings of any kind are NOT allowed anywhere in or on the rear axle assembly.

#### **5.9.6 WHEELS AND LUG STUDS/NUTS:**

- A) All wheels (rims) must be magnetic steel, heavy duty, 14" diameter x 7" wide, with ZERO offset. Wheel offset will be measured as follows:  
The inside surface of the wheel flange (mounting surface) must be in the center of the wheel as determined by measuring from the inside bead seat to outside bead seat. A tolerance of +/-1/4" will be allowed.
- B) Solid magnetic steel lug studs and oversized magnetic steel lug nuts must be used.
- C) Wheel spacers are not allowed.
- D) Bead locks are not allowed.

#### **5.9.7 TIRES:**

- A) A track tire rule is in effect (See tire rule as posted by track).
- B) All tires must be purchased from the track tire dealer.
- C) The use of tire altering chemicals is forbidden ("soaking", inside or out).

**Notice:** Participants competing in any race at the Waterford Speedbowl 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.

#### **5.9.8 APPROVED TIRE REQUIREMENTS:**

All tires must be used in approved positions, as dictated by the track tire rule in effect.

### **5.10 FRAMES:**

#### **5.10.1 GENERAL FRAME ELIGIBILITY:**

The frame and all its components must be stock OEM for your make/model car, and meet the requirements described in the following paragraphs. **No modifying of frame rails to gain frame height. Frame rails must remain stock**

#### **5.10.2 FRAME REQUIREMENTS:**

- A) Only factory stock OEM frames with a minimum 100" wheelbase are eligible. The frame must retain all factory listed dimensions, lines and angles.
- B) 2"x 3" rectangular steel tubing may be used to replace the frame rails from the aft side of the rear shock mounts to the rear bumper, and forward of the shock/strut tower area to the front bumper. The replacement 2" x 3" rails must be stock OEM height at the bumper ends.
- C) Unibody cars must connect subframes with 2" x 3" x .125" wall rectangular steel tubing.
- D) **No modifying of frame rails to gain frame height. Frame rails must remain stock**

### **5.11 SUSPENSION:**

#### **5.11.1 SPRINGS:**

- A) Front springs must be magnetic steel, and must fit into the stock OEM spring pockets.
- B) Rear springs must be magnetic steel, and must retain the stock OEM outside diameter.
- C) Front and rear adjustable spring spacers may be installed in the spring pockets.
- E) Spring rubbers may be used.

#### **5.11.2 SWAY BAR:**

- A) One 1-5/16" diameter or smaller stock OEM steel swaybar may be used. The swaybar must remain in

the stock OEM location. Stock OEM swaybar links, threaded rod, or bolts may be used to attach sway bar to control arm.

B) Rear sway bars are not allowed.

### **5.11.3 SHOCKS:**

A) Stock OEM replacement non-adjustable steel shocks/struts as purchased from a stock automotive parts supplier only must be used. No racing shocks/struts allowed.

B) Shocks may not be altered in any way, and must bolt into the stock OEM mounts in the stock OEM location, front and rear.

### **5.11.4 UPPER/LOWER A-FRAMES:**

A) Strut towers may be cut and moved (at the top) a maximum of 1" for camber/caster purposes only. Bolt in aftermarket camber/caster adjustment plates maybe used at the top of the strut.

B) The upper and lower a-frames must be stock OEM for your car, and may not be modified in any way. 1979-1993 Mustangs may use the 1" longer Mustang GT or T-Bird lower a-frame on the right side only.

C) ALL bushings must be stock OEM rubber bushings or aftermarket polyurethane bushings. Off-set bushings may be used on the steering rack only.

D) The mounting points for all suspension components must remain stock OEM for the frame being used.

### **5.11.5 SPINDLES, WHEEL BEARINGS, AND HUBS:**

A) Unaltered stock OEM steel spindles for your chassis must be used. Spindles must match, left and right. No modifications are allowed to the spindles.

B) Stock OEM steel hubs/rotors or an aftermarket steel racing hub/rotor may be used. The aftermarket hub/rotor must be dimensionally similar to the stock OEM unit.

C) Stock OEM type greased steel bearings must be used.

D) Wheel spacers are not allowed.

### **5.11.6 TRACK WIDTH REQUIREMENTS:**

The maximum track width measured across the rear, from tire bulge to tire bulge is 70".

The maximum track width measured across the front, from tire bulge to tire bulge is 70" at spindle height.

Wheel spacers are not allowed.

### **5.11.7 WHEELBASE REQUIREMENTS:**

A) The stock OEM wheelbase must be maintained.

B) The allowable tolerance is +/- 1/2" on the other side.

### **5.11.8 BODY HEIGHT AND GROUND CLEARANCE REQUIREMENTS:**

#### **5.11.8.1 BODY HEIGHT REQUIREMENTS:**

The minimum roof height is 52", measured 6" back, at all times.

The minimum body panel height is 6" at all times.

The maximum rear spoiler height is 4".

The overall body width (at its widest points) cannot exceed 72", not including the side nerf bars.

#### **5.11.8.2 GROUND CLEARANCE REQUIREMENTS:**

The minimum frame height is 6" at all times.

The minimum crankshaft centerline height to the ground is 14" at all times.

The minimum fuel cell container height to the ground is 12" at all times.

#### **5.11.9 WEIGHT SHIFTING DEVICES:**

A) The stock OEM chassis bumpstops may be used

B) Any mechanical, hydraulic or electronic device that may be used for the transfer of weight is not permitted.

#### **5.11.10 REAR SUSPENSION:**

- A) Unaltered stock OEM trailing arms for the frame must be used. ALL bushings must be stock OEM rubber bushings or aftermarket polyurethane bushings, but cannot be offset.
- B) Leaf springs may be added or removed on each side. All leafs must be steel and be the same width. Adjustable shackles and lowering blocks may be used. The leafs must bolt into their stock location, front and rear. No other modifications are allowed.

## **5.12. STEERING COMPONENTS:**

- A) All cars must use the stock OEM steering box or rack for their frame.
- B) All cars must use the stock OEM idler arm, pitman arm, and tie rods for their frame.
- C) Magnetic steel steering shaft must be used.
- D) The center of the steering wheel must be padded.
- E) A quick release coupling must be used on the steering wheel. The coupling cannot be covered with plastics or coatings.

## **5.13 BRAKES AND BRAKE COOLING:**

### **5.13.1 BRAKE COMPONENTS:**

- A) A fully operational stock OEM 4 wheel hydraulic disc/drum brake system must be used.
- B) All brake components must be stock steel OEM.
- C) All brake components must be in their stock OEM location.
- D) No brake components may be altered for weight reduction.

### **5.13.2 BRAKE COOLING:**

One air duct per wheel may be used for brake cooling. Front brake ducts must be a maximum of 3" x 8", and may be mounted to the front bumper cover. Rear brake scoops must be a maximum of 10" long x 8" wide, and may be mounted under the car, not visible from outside the body. Brake ducts, front and rear, may have one piece of screen covering their opening, with a minimum of 1/2" openings.

## **5.14 FUEL:**

### **5.14.1 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.

### **5.14.2 FUEL SPEC'S:**

- A) Pump gas and track supplied Sunoco racing gas may be used.
- B) You may not mix or blend any additives to your fuel.
- C) Icing or cooling of the fuel system is not permitted at any time.
- D) Gasoline may be tested and certified at any event through the application of various chemical analyses as considered appropriate by officials. Gasoline may be checked before, during and after the racing events.

### **5.14.3 FUEL SYSTEM:**

- A) Fuel cells, containers, or check valves which appear to be damaged will not be allowed in competition.
- B) Fuel cell vent check valves are mandatory.

### **5.14.4 FUEL CELL:**

The use of a commercially manufactured fuel cell is mandatory.

- A) The maximum fuel cell capacity, including the filler spout and overflow, is 24 gallons. The nominal fuel cell dimensions are 24-1/4" x 16-3/8" x 13-1/4".
- B) No material other than standard foam as provided by the fuel cell manufacturer is permitted to make

#### **5.14.5 FUEL CELL CONTAINER:**

The use of a magnetic steel fuel cell container is mandatory.

A) The fuel cell must be encased in a 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.

#### **5.14.6 FUEL CELL AND FUEL CELL CONTAINER INSTALLATION:**

A) The fuel cell and fuel cell container must be installed as far forward as possible, behind the rear axle, be centered between the frame rails, and maintain a minimum ground clearance of 12" at all times.

B) 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 four (4) pieces of (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.

#### **5.14.7 FUEL FILLER:**

The gas cap must be painted white with your car number on it for identification.

#### **5.14.8 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.

#### **5.14.9 FUEL LINES AND FUEL PUMP:**

##### **5.14.9.1 FUEL LINES:**

A) Only one fuel line permitted from fuel cell to fuel pump, and one fuel line permitted from fuel pump to carb.

C) The fuel line can be no larger than 1/2" ID.

D) Fuel line from cell to pump must remain under floor of car.

##### **5.14.9.2 FUEL PUMP:**

An OEM style mechanical fuel pump that mounts in the stock location on the engine must be used.

##### **5.14.9.3 FUEL SHUT-OFF:**

A) A 1/4 turn fuel shut-off valve is required in the fuel line.

B) The fuel shut-off valve's ON and OFF positions must be clearly labeled.

C) 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.

#### **5.15 ACCESSORIES:**

##### **5.15.1 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](http://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.

##### **5.15.3 ELECTRONICS:**

No Onboard Computers, Automated Electronics, Recording Devices or Digital Readout Gauges of any kind are permitted. "Tell-Tale" Type Tachometers are the only standard exception to this rule.

You must get approval before using any in-car camera equipment.

### 5.16.0 ROLL CAGE

All bars described in the roll cage description must be made with 1-3/4"x.095" wall (HREW or DOM) steel tubing unless otherwise specified. If your car does not have a frame to attach the cage to, then 2"x3"x.125 wall steel box tubing and/or 8"x8"x1/4" steel plates welded to the floor must be used at the attaching point of the roll cage bars to the chassis. The 2"x3" tubing must be placed in the drivers compartment, from the front firewall to the rear firewall, on each side in the stock "rocker" area. This 2x3 tubing may not extend beyond the drivers compartment, front or rear.

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 the 2 x 3 box tubing sub-frame.

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 feet, being welded to the frame or the 2 x 3 box tubing.

D. A minimum of three "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 horizontal 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).

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 2 x 3 box tubing in that area. If mounting to the floor, an 8" x 8" x 1/4" plate must be used as a foundation. 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.

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. 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 shown in the back of this chapter (see accompanying diagrams). If you have any questions call the tech inspector.

Front and rear hoops, made of 1-3/4"x.095" wall round steel tubing (HREW or DOM) are mandatory. The diagram at the end of these rules illustrates the typical mandatory front and rear hoop.

**\*\*It is mandatory that you "plate" the drivers door bars with minimum .080 thick steel plate. The plate must cover the entire door bar area from the top bar to the bottom bar, and from the main cage down bar to the forward convex bend in the door bars. You must have 2-1/8" holes in the plates at the front and rear, to allow access to cut the door bars off in an emergency situation.**