

# NASCAR Technical Bulletin

**National Association for Stock Car Auto Racing, Inc.  
P.O. Box 2875 • Daytona Beach, FL 32120-2875 • (386) 253-0611**

NCATS13 – 7 – 12/4/13

## **TO: ALL NASCAR CANADIAN TIRE SERIES, CAR OWNERS, CREW CHIEFS AND DRIVERS:**

Effective January 1, 2014 – The following are amendments to the 2013 NASCAR Canadian Tire Series Rule Book and will be incorporated into the 2014 NASCAR Rule Book:

**NOTICE:** All NASCAR Rule Books and Technical Bulletins may be accessed by any licensed NASCAR Member by visiting [www.NASCARmembers.com](http://www.NASCARmembers.com).

### **SECTION 20E NASCAR CANADIAN TIRE SERIES**

#### **NOTICE**

ALL MODEL ENGINE OR EQUIPMENT CHANGES OR MODIFICATIONS NOT SPECIFICALLY ADDRESSED IN THIS RULE BOOK BY NASCAR MUST BE SUBMITTED, IN A COMPLETED FORM/ASSEMBLY, TO NASCAR FOR CONSIDERATION OF APPROVAL ON OR PRIOR TO **SEPTEMBER 2, 2014**, UNLESS OTHERWISE AUTHORIZED BY NASCAR, TO BE CONSIDERED FOR COMPETITION FOR THE **2015** SEASON. THE APPLICANT WILL BE NOTIFIED OF APPROVAL OR REJECTION FROM NASCAR. RACE EQUIPMENT WILL NOT BE CONSIDERED AS HAVING BEEN APPROVED BY REASON OF HAVING PASSED THROUGH INSPECTION AT ANY TIME OR ANY NUMBER OF TIMES UNOBSERVED OR UNDETECTED. ANY RACE EQUIPMENT WHICH DOES NOT CONFORM TO SPECIFICATIONS OR TOLERANCES CONTAINED IN THE **2014** NASCAR RULE BOOK, OR IS NOT OTHERWISE APPROVED BY NASCAR, MAY NOT BE USED IN NASCAR COMPETITION IN **2014**. ALL SUBMITTED RACE EQUIPMENT MUST BE ACCOMPANIED BY COMPUTER-AIDED DESIGN (CAD) FILES AND/OR MECHANICAL DRAWINGS AND REQUISITE FEE AS DETERMINED BY NASCAR.

#### **20E - 1.1 NASCAR Canadian Tire Series Races**

NASCAR Canadian Tire Series Races are open to eligible 2006 through **2014 approved** models of passenger cars.

## 20E – 1.3 APPROVED COMPETITION MANUFACTURERS AND MODELS

### 2014 Racing Season:

The following are the only approved models for competition in the NASCAR Canadian Tire Series in 2014:

YEAR	MANUFACTURER	MODEL
2009 - <u>2014</u>	Chevrolet	Impala SS
2007 - 2008	Chevrolet	Monte Carlo SS
2007 - <u>2014</u>	Dodge	Avenger
2011 - <u>2014</u>	Dodge	Challenger
2006 - <u>2014</u>	Ford	Fusion

Other models may be selected by NASCAR when available providing they are the same in body configuration and meet the spirit and intent of competitive racing as currently evidenced in this Series.

## 20E - 2.1 Car Bodies

The car body must be acceptable to NASCAR Officials and meet the following requirements: All car bodies must be approved by NASCAR. The only NASCAR- approved manufacturer for this Series is Performance Fiberglass. **All car bodies must remain as manufactured and supplied by the approved manufacturer** and must meet all other specifications as set forth in this Section of the NASCAR Rule Book. NASCAR Officials may use body panels and other approved body components provided by the approved manufacturer as a guide in determining whether a Competitor's car body conforms to the specifications of the NASCAR Rule Book.

A. The 2006 through 2014 eligible bodies will be volume production models as selected and approved by NASCAR (see sub-section 1.3).

B. and C. remains the same.

D. The exterior dimensions and minimum weight of all body panels must remain as supplied by the NASCAR-approved supplier.

E. through O. remains the same.

## 20E - 3.2.4 Headlights / Parking Lights

A. Approved headlight, parking light, taillight and grille decals must be installed.

B. All cars must use the front and rear body graphics for brand identity. The body graphics must be from an approved manufacturer and must be acceptable to NASCAR Officials.

## 20E - 3.7 Grilles

A. The lower grille opening must retain the same shape and size as outlined on the approved front bumper cover for the model car being used.

B. Grille openings will not be permitted above the front bumper. An approved upper grille opening decal must be installed as described in sub-section 20E-3.2.4.

C. The lower grille opening must not exceed a maximum of 189 square inches. The lower grille opening may be covered with two (2) layers of screen wire attached to the bumper cover. A one (1) inch wide metal strip with a maximum of four (4), evenly spaced one (1) inch wide vertical supports to

hold the screen wire to the bumper cover may be installed only on the outer edges of the grille opening. Baffles or any type of air directional devices, unless acceptable to NASCAR Officials, will not be permitted between the backside of the grille opening and the radiator.

D. Closed grilles for racing will not be permitted.

### **20E - 3.11 Identification / Marking**

A. remains the same.

#### **B. Decals / Advertising**

(1) NASCAR may, in its sole discretion, refuse to permit for any reason, or it may restrict or assign the size or placement of, decals, identification, and advertising of any kind including but not limited to the car, equipment, personnel, uniforms, garage and pit areas, promotional materials, and/or support vehicles. All NASCAR Members agree to accept NASCAR's decision in this regard.

(2) through (12) remains the same.

### **20E - 4.1 General Engine Eligibility**

A. The eligible engines must be production engines as determined, selected and approved by NASCAR. All major components (engine block, heads, etc.) must be produced by the manufacturer for sale in a regular product offering. Prior to being used in competition, all major engine and component parts must be submitted, in a completed form/assembly, to the office of the NASCAR Competition Administrator on or prior to September 2, 2014, for consideration of approval and approved by NASCAR. Each such part may thereafter be used until NASCAR determines that such part is no longer eligible.

B. As an option, Teams may compete in the NASCAR Canadian Tire Series with a NASCAR-approved "Spec Engine". If used, the "Spec Engine" must be completely assembled using only NASCAR-approved "Spec Engine" components without any modifications. All parts, pieces and components that are used in the "Spec Engine" must originate from an approved NASCAR supplier. If used, the "Spec Engine" may be purchased in kit form to be assembled by the engine builder of the team's choice, or may be purchased as a completely assembled engine. NASCAR-approved "Spec Engine" kits and assembled engines are available directly from Robert Yates Racing Engines, LLC. Weight adjustments (if any) will be made through NASCAR Technical Bulletins and/or announcements.

Robert Yates Racing Engines, LLC  
159 Bevan Drive  
 Mooresville, North Carolina 28115  
Phone: 704-660-7015  
Email: [dlewis@ryr.com](mailto:dlewis@ryr.com)

### C. Modifications Permitted

(1) through (11) remains the same.

(12) Milling of the engine block cylinder head surface (decking) to ensure proper sealing will be permitted. The engine block cylinder head surface may be milled (decked) up to a maximum of 0.005 inch. When installed the top of any piston must not be more than 0.015 inch at any point above the engine block cylinder head surface.

### D. Modifications Not Permitted

(1) remains the same.

(2) Any and all machine work done to the engine block with the exception of the engine overbore and milling (decking) of the cylinder head surface **must be performed by Robert Yates Racing Engines, LLC only.**

(3) through (13) remains the same.

(14) No machining of the cylinder heads.

(15) through (33) remains the same.

E. remains the same.

## 20E - 5.2 Engine Ground Clearance

The engine ground clearance will be measured from the center of the crankshaft accessory drive bolt and the frame height set at four (4) inches. All currently approved engines must maintain a minimum of 11 inches and a maximum of 12 inches from the center of the crankshaft to the ground at all times during the inspection process. Nothing may be located directly forward or below the front of the crankshaft that would prevent crank height inspection.

### 20E - 5.5.1 Eligibility

A. through C. remains the same.

D. All engine blocks must use individual magnetic steel crankshaft main bearing caps. The main bearing bore size must be the same for all main bearings.

### 20E- 5.10.3 Carburetor Restrictor

A. A carburetor restrictor must be used when required by NASCAR.

B. For Events where a carburetor restrictor is required:

(1) A carburetor restrictor will be issued by NASCAR for competition. Spacer(s) between the carburetor restrictor and the intake manifold or above the NASCAR-issued four-hole spacer or tapered bore spacer will not be permitted.

(2) Carburetor restrictors used for testing must be furnished by the Competitors, unless otherwise authorized by the Series Director.

(3) Competitors must use the carburetor restrictor as designated on the Official Entry Blank to prepare for the Event. A final carburetor restrictor size will be determined after the completion of the final practice prior to the Race. Any attempts to, and/or actions that result in, pulling air from sources other than normal approved methods through the air filter and carburetor venturis, such as, but not limited to, drilling of holes or altering of carburetor restrictor(s) or gaskets will not be permitted.

(4) When a carburetor restrictor is used taller carburetor studs will be required to allow for proper installation of the carburetor and carburetor restrictor.

#### **20E - 6.1.1 Ignition System Wiring**

- A. remains the same.
- B. With the exception of the distributor pickup wire pairs and coil wire pairs, each ignition system wire must remain separate and inaccessible during competition. All ignition system wiring must be mounted on top of the dash panel and must remain visible and accessible at all times.
- C. through K. remains the same.

#### **20E - 6.7 Accessories**

- A. remains the same.
- B. For broadcasting and media related purposes, NASCAR may allow or require selected cars to compete with broadcast telemetry or other positioning and informational systems. Unless otherwise authorized or required by NASCAR, the broadcast telemetry signal from these systems will be limited to the following parameters:
  - (1) through (7) remains the same.
  - (8) Upon request of NASCAR Officials, Competitors must install the required camera(s) and broadcast system(s) in a manner and location acceptable to NASCAR Officials.
- C. through E. remains the same.
- F. Unapproved remote lap timing or speed sensing devices will not be permitted.
- G. and H. remains the same.
- I. Electronic oil, water and fuel pressure gauges and oil and water temperature gauges must be approved by NASCAR and they must be completely independent of the ignition system. All gauge sending units and sensors must be located forward of the front firewall.
- J. through M. remains the same.

#### **20E-6.8 In-Car Radio Communications**

- A. The in-car radio must be analog only and must not be capable of transmitting or receiving in a digitized, encrypted or scrambled format as determined by NASCAR. Keypad style and/or password protected radios will not be permitted. Scanning and/or channel hopping transmissions to or from the in-car radio will not be permitted. All transmissions to and from the in-car radio must be in the 450.000MHz-470.000MHz range, and all in-car radio transmitting and receiving frequencies (including squelch codes) should be registered annually in the NASCAR Radio Data Base <http://freqcoordination.nascar.com>. All frequency changes must be updated prior to being used during an Event and confirmed by NASCAR's Official Radio Supplier. The in-car radio is not permitted to transmit or receive any type of telemetry (data) signal or information other than audio communications and must remain independent from any electronic system in the car. Teams will not be permitted to rebroadcast transmissions to or from the in-car radio at any time during an Event. All radios must be licensed for use by Industry Canada and meet all applicable regulations and guidelines. It is the Competitors responsibility to make certain that Radio Frequencies are updated to the Industry Canada requirements for each and every Event meeting all applicable regulations and guidelines.
- B. Only one (1) NASCAR-approved, two-way radio and one (1) radio push to talk button will be permitted. It is not permitted to have any frequency of any Competitor installed in the radio at any time. The car is permitted only one (1), approved radio wiring harness system.

C. Other than antennas that are approved for broadcasting and media related purposes only, a single, NASCAR-approved, radio antenna, must be mounted on the exterior of the body, positioned not more than two (2) inches to the right or left of the roof centerline and in the center of the length measurement of the roof, will be permitted.

D. At all times during practice(s), qualifying and the Race the spotter must have radio communications with the driver and must monitor the NASCAR frequency. Spotters must be in the designated spotter location at all times during competition. The radio frequency being used will be made available by NASCAR Officials.

E. Driver to driver radio communications will not be permitted.

## **20E – 7 ENGINE COOLING SYSTEMS**

All engine cooling system components must be approved by NASCAR. Prior to being used in competition, all major engine cooling system components must be submitted, in a completed form/assembly, to the office of the NASCAR Competition Administrator for consideration of approval and approved by NASCAR. Each such part may thereafter be used until NASCAR determines that such part is no longer eligible.

A. Icing, freon-type chemicals or refrigerants must not be used in or near the engine compartment.

B. Pressurized cooling systems will not be permitted. A standard automotive radiator cap must be used in the cooling system.

C. Portable cooling machines or devices will not be permitted.

## **20E - 10.8.4 Tire Usage Rules**

A. through L. remains the same.

M. Competitors presenting cars for inspection must have their tires inflated to the recommended technical inspection inflation pressures as specified by the participating tire manufacturer for the Event. If tire pressure(s) are not at the recommended technical inspection inflation pressures after competition, tires will be adjusted to the recommended technical inspection inflation pressures as specified by the participating tire manufacturer for the Event.

## **20E - 12.1 Coil Springs / Spring Mounts / Jacking Bolts**

All downward chassis movement while the race car is in competition must be limited only by the normal increasing stiffness of the springs or the bottoming of the chassis against the race track, whichever occurs first. Any device or procedure that in the judgment of NASCAR Officials attempts to detract from or compromise the above will not be permitted.

Only coil spring suspension will be permitted. All coil springs must be constructed using solid, round magnetic steel wire; wound in a clockwise direction. Ovate and flat wire will not be permitted. The coil spring wire diameter must be the same size from the top to the bottom of the spring. All of the coils in a spring must be active. The coil springs at all four (4) wheels must be active and permit suspension movement. All coil springs must not be colder than ambient temperature.

A. Front Coil Springs

(1) through (5) remains the same.

(6) The front coil spring mounts must be located on the lower A-frames for the bottom mount, and the top mount must be a bucket-type and be welded to the front sub-frame rails. The front coil spring upper mount plate must be attached to the front jacking bolt, in a manner acceptable to NASCAR Officials. Monoball(s), excessive taper, bevels, or other devices on the end of the front jacking bolt or in the front upper spring mount plate will not be permitted. The upper coil spring mount plate must support the front coil spring for 360 degrees.

(7) remains the same.

#### B. Rear Coil Springs

(1) through (9) remains the same.

### 20E - 12.5 Spindles / Wheel Bearings / Hubs

A. remains the same.

B. Spindles must be O.E.M type. Howe Racing spindles with the part numbers 344GN and 344GNL will be permitted, and must remain as manufactured.

C. Upper ball joint mount may be used to adjust the Steering Axis Inclination (S.A.I.). Height and plane through upper ball joint, spindle pin and lower ball joint must remain as manufactured.

D. Mounts for brake caliper bracket and cooling ducts may be installed.

E. The steering arms may be modified for tire clearance and steering alignment.

F. Offset spindles will not be permitted.

G. Only magnetic steel hubs acceptable to NASCAR Officials will be permitted. Holes and/or other modifications that, in the judgment of NASCAR Officials, are made or used with the intent of weight reduction will not be permitted.

H. Offset hubs will not be permitted.

I. Wheel bearings must be magnetic steel, tapered roller bearings and bearing races. The bearings, races and seals must be assembled separately in the hubs.

J. The front spindles must be linked to the front sub-frame using two (2) Vectran® HS V-12 fiber cables. One eye of the cables must loop over the upper portion of the spindle and brake caliper mount. The other eye must loop over either the upper or lower portion of the solid magnetic steel jacking bolt, and be securely retained with a heavy-duty metal washer, minimum two (2) inches in diameter and minimum 1/8 inch thick steel or minimum 1/4 inch thick aluminum, and a locking nut. The fiber cable must be constructed from a continuous loop of 5/16 inch diameter 12 strand cable (with a red tracer thread) woven from Vectran® HS V-12 fiber. Spindle tethers must be installed using the supplied nylon thimble or a metal sleeve that prevents the spindle tether from coming in contact with the jacking bolt threads.

### 20E - 12.7 Wheelbase Requirements

All cars must compete with a wheelbase of 107-1/2 inches. When measuring the wheelbase, one (1) side must be 107-1/2 inches. The opposite side wheelbase must measure a minimum of 107 inches and a maximum of 108 inches. Any device or procedure which has the ability to dynamically change the wheelbase beyond normal travel parameters will not be permitted.

## 20E - 12.8.2 Ground Clearance Requirements

A. through D. remains the same.

E. The engine ground clearance from the center of the crankshaft accessory bolt must be a minimum of 11 inches and a maximum of 12 inches for all currently approved engines. Nothing may be located directly forward or below the front of the crankshaft that would prevent crank height inspection.

## 20E - 16.4.2 Fuel Cell Vent

The fuel cell must be vented as follows:

A. A single, one (1) inch minimum up to a 1-1/4 inches maximum inside diameter vent to outside of the body must be installed at the left rear corner in the taillight area only. The vent must have a self-closing flap-type valve at all tracks that can only be opened by inserting a wire or flat metal strip to allow refueling. The vent tube must not extend more than two (2) inches outside the car's bodywork.

B. through D. remains the same.

## 20E - 17 PERSONAL SAFETY EQUIPMENT

A. and B. remains the same.

### C. Other Safety Devices

- (1) It is required that each car have, within the driver's reach, a manually controlled push or pull knob which activates a built-in, fully charged fire extinguishing pressurized cylinder with a visible, operating pressure gauge. It is recommended that an automatic thermally activated discharge nozzle be used in addition to the manually controlled push or pull knob. This extinguisher system must meet the SFI 17.1 specification and display a valid SFI 17.1 label. This extinguisher must be certified by the manufacturer every two (2) years. An additional manufacturer's label with a visible date code must be located directly below the pressure gauge on the surface of the cylinder. This fire extinguisher cylinder must be securely mounted to the right of the driver's seat. The fire extinguisher cylinder and its mount(s) must not be beyond the inside edge of the right side main frame rail. The mounting system must secure both ends of the cylinder for its full circumference to the structure of the car and be acceptable to NASCAR Officials. Hose clamps, worm drive clamps or cable ties will not be permitted. A device(s) must be installed to keep the cylinder from sliding out of the mounting system. Clamp style or "figure eight" mounts must completely encircle the circumference of the 1-3/4 inch outside diameter of the roll bar. This cylinder must contain a minimum of five (5) pounds of fire extinguishing agent, visibly designated on the label as DuPont FE-36, 3M NOVEC 1230 or equivalent type agent.

The primary purpose of this system is to protect the driver. Nozzle(s) must be designed for the extinguishing agent used and should not be pointed directly at the driver, but should be mounted to provide flooding of the driver's compartment to the manufacturer's recommendation. If engine compartment nozzle(s) are used with this cylinder, the fire extinguishing cylinder size must be increased to a minimum of 10 pounds of fire extinguishing agent, visibly designated on the label as DuPont FE-36, 3M NOVEC 1230 or equivalent type agent to be used for this system. All discharge lines and fittings must be steel or steel reinforced hose although nozzles may be aluminum. Cylinders for all agents



must be DOT/MTO-approved steel or aluminum. Carbon fiber or composite cylinders will not be permitted.

- (2) It is required that each car have an additional fire extinguishing cylinder solely dedicated to extinguish the fuel cell area (trunk) and as an option, the same fire extinguishing cylinder may also be directed to the engine compartment with the use of a T-type fitting and thermally activated discharge nozzles. This extinguisher must meet the SFI 17.1 specification and display a valid SFI 17.1 label. This extinguisher must be certified by the manufacturer every two (2) years. An additional manufacturer's label with a visible date code must be located directly below the pressure gauge on the surface of the cylinder. This fire extinguisher cylinder must be mounted in the driver's compartment to the right of the driver's seat. The fire extinguisher cylinder and its mount(s) must not be beyond the inside edge of the right side main frame rail. The mounting system must secure both ends of the cylinder for its full circumference to the structure of the car and be acceptable to NASCAR Officials. Hose clamps, worm drive clamps or cable ties must not be used to mount this cylinder. A device(s) must be installed to keep the cylinder from sliding out of the mounting system. Clamp style or "figure eight" mounts must completely encircle the circumference of the 1-3/4 inch outside diameter of the roll bar. This cylinder must contain a minimum of 10 pounds of fire extinguishing agent, visibly designated on the label as DuPont FE-36, 3M NOVEC 1230 or equivalent type agent. This cylinder must be activated by an automatic, thermally activated discharge nozzle(s) recommended by the manufacturer for this application. This automatic system may have a manual and/or pneumatic override from the driver-activated system. If the engine compartment discharge option is used, then an additional automatic, thermally activated discharge nozzle must be located under the hood forward of the firewall. All discharge lines and fittings must be steel or steel reinforced hose although nozzles may be aluminum. When routing pressurized fire extinguisher lines (thermally activated) either to the trunk area or the engine compartment, the lines will only be permitted to pass through the firewall near the longitudinal centerline of the vehicle. These lines must not pass through floorboards, wheel wells, or crush panels. All cylinders must have an indicator gauge and identifying label readily visible for inspection purposes. The gauge must be compatible with the agent used in the cylinder. Cylinders for all agents must be DOT/MTO-approved steel or aluminum. Carbon fiber or composite cylinders will not be permitted.

(3) remains the same.

D. remains the same.

### **20E - 17.3 Seats**

A. remains the same.

B. Each car must be equipped with an SFI 39.1 approved seat and headrest/head surround assembly displaying valid SFI 39.1 labels and be acceptable to NASCAR. Custom-manufactured aluminum seats constructed from solid aluminum sheet material from the seat bottom to above the driver's shoulders, acceptable to NASCAR, will be permitted. NASCAR-approved composite material seats will be permitted. Composite material seats and/or seats which incorporate lap and/or shoulder belt anchorages are subject to additional testing with documentation supplied to NASCAR. Each

composite seat must have a unique, identifier that matches records on file with NASCAR. Seats constructed of multiple materials, including composite materials, must be SFI 39.1-approved and must be acceptable to NASCAR. The SFI 39.1-approved seat and headrest/head surround assembly will remain approved for use in competition until their expiration date which is two (2) years after the date of manufacture. Once a seat and headrest/head surround assembly has reached the expiration date, the seat and headrest/head surround assembly must be inspected and recertified by the seat manufacturer. All seat interiors must be lined with inserts and/or padding. It is recommended that a minimum thickness of two (2) inches of SFI 45.2 insert/padding be used. It is recommended that the padding meet the SFI-45.2 specification and display a valid SFI - 45.2 label. All non-SFI 45.2 insert/padding materials must be 1/2 inch thick or less. No gaps or non-SFI 45.2 specification approved material(s) may be present between the seat structure and driver's uniform in the area directly under the driver. The area directly under the driver extends from the driver's waist (belt line) forward to the front edge of the sub-strap pass through holes, as well as extends five (5) inches to both the left and right of the driver's centerline. It is recommended, a minimum thickness of 3/4 inches of insert/padding meeting the SFI 45.2 specification must be used in this area directly under the driver. The area directly under the driver is shown in Diagram #8, in the rear pages of the Rule Book. A 3/8 inch diameter inspection through-hole must be located on the driver's centerline between the leading edge of the lap belt pass through holes as shown in Diagram #8, in the rear pages of the Rule Book. All seat coverings and/or upholstery should be flame retardant.

C. Seats manufactured or recertified after January 1, 2014, must use the insert/padding meeting the SFI 45.2 specification and display a valid SFI 45.2 label. All non-SFI 45.2 insert/padding materials must be 1/2 inch thick or less. No gaps or non-SFI 45.2 specification approved material(s) may be present between the seat structure and driver's uniform in the area directly under the driver. The area directly under the driver extends from the driver's waist (belt line) forward to the front edge of the sub-strap pass through holes, as well as extends five (5) inches to both the left and right of the driver's centerline. A minimum thickness of 3/4 inches of insert/padding meeting the SFI 45.2 specification must be used in this area directly under the driver. The area directly under the driver is shown in Diagram #8, in the rear pages of the Rule Book. A 3/8 inch diameter inspection through-hole must be located on the driver's centerline between the leading edge of the lap belt pass through holes as shown in Diagram #8, in the rear pages of the Rule Book. All seat coverings and/or upholstery should be flame retardant.

D. The seat and headrest/head surround assembly must be installed in accordance with the directions provided by the system supplier and/or manufacturer. SFI 39.1 seats and headrest/head surround assemblies must not be modified or altered. The back of the seat, at the shoulder level, must be positioned as close to the horizontal shoulder bar (#7) as possible.

E. All seats must have padded seat leg extensions on the left side and the right side. Leg extensions must be securely mounted to the seat and car structure. Leg extensions must be padded. It is recommended that the padding meet the SFI 45.2 specification and display a valid SFI 45.2 label. Composite material seat leg extensions should meet the SFI 56.1 specification for flammability. All leg extension coverings and/or upholstery should be flame retardant.

F. Headrests/head surround assemblies must be designed to provide rigid support around both sides of the helmet and across the back and from the forward most point of the helmet chin bar in addition to allowing extra length for forward head motion during impact. The left side of the

headrest/head surround assembly may be shortened to permit egress of the driver but must not be shortened to a location rearward of the helmet chin bar. Foam, tape or other non-original coverings may not be added to the headrest without the approval of the seat manufacturer and must be acceptable to NASCAR Officials. The headrest/head surround assembly must be rigidly bolted to the top of the seat using a minimum of 5/16 inch diameter bolts, except for the NASCAR-accepted composite seats. Steel brackets welded to the roll cage must be a minimum 1/8 inch thick and aluminum brackets welded to the headrest/head surround assembly should be a minimum 3/16 inch thick. All bolts must have a minimum of 3/4 inch of metal from the center of the mounting bolt to the edge of the bracket. In addition, it is recommended that the headrest/head surround assembly be bolted to the shoulder supports with a minimum 3/16 inch thick brackets and a minimum 5/16 inch diameter bolts. The headrest/head surround assembly must not extend into the window opening beyond the area defined by the upper roll cage. All headrests must be fabricated in a rigid construction and of materials which provide adequate support in an impact. The headrest/head surround assembly must be padded with flat impact absorbent material, a minimum of four (4) inches thick on the right side and a minimum of 2-1/2 inches thick on the left side, meeting the SFI 45.2 specification. At road course Events only, as an option to the preceding impact absorbent material requirements, the arrangement of the impact absorbent material in the headrest/head surround assembly may be changed to a minimum of three (3) inches thick on both the right side and left side. The headrest/head surround must be padded with flat impact absorbent material, meeting the SFI 45.2 specification.

G. Optional strap-type headrest supports or nets must be equipped with a quick release fastener accessible by the driver.

H. The upper seat back must be secured to horizontal shoulder bar (#7) or to a bracket that is secured to horizontal shoulder bar (#7) with a minimum of three (3) high quality 5/16 inch minimum diameter bolts through the horizontal shoulder bar (#7). For aluminum seats, if a seat bracket is used to attach the seat to the horizontal shoulder bar (#7), the bracket must be constructed using a minimum of 3/16 inch metal plate, and it must have a minimum of 3/4 inch of metal the center of the mounting bolt to the edge of the bracket or the bracket may utilize the composite seat bracket design. For composite seats, the seat bracket must attach the seat to the horizontal shoulder bar (#7) and must be constructed from magnetic steel.

Minimum upper seat bracket thicknesses:

Hendrick: 0.090 inch

Sabert: 3/16 inch

The magnetic steel seat bracket to be used with a composite seat must be constructed according to the manufacturer's instructions, including all required gussets and reinforcements (see Diagrams # 7A and 7B, in the rear pages of the Rule Book). All gussets must be solid and must run from the centerline of the seat mounting hole to the centerline of the roll cage mounting hole. Outer diagonal gusset edge must be straight unless the gusset is relieved to make room for the horizontal shoulder bar (#7). Holes and or other modifications that, in the judgment of NASCAR Officials, were made with the intent of weight reduction will not be permitted.

The seat bracket must be fastened to the seat with a minimum of four (4) high quality 5/16 inch minimum diameter bolts for aluminum seats, and two (2) high quality 5/16 inch minimum diameter bolts for composite seats.

**I.** The seat bottom must be secured to the car's structure with a minimum of two (2) high quality 5/16 inch minimum diameter bolts per side. Seat mount brackets or slotted mounting systems welded to the seat frame must be a minimum of 1/4 inch thick. All mounting brackets must have a minimum of 1/2 inch of metal from the center of the mounting bolt to the edge of the bracket. All seat mounting brackets, welded to the frame rail, frame crossmembers, floors, roll bars, or removable seat mounting frame assemblies, must be made of a minimum of 1/4 inch magnetic steel if single shear or a minimum of 3/16 inch if the double shear configuration is used. If a slotted mount is used to mount the seat to the seat frame, the seat must be bolted to the seat frame bracket using an additional bolt to prevent sliding. When mounting through the aluminum seats or brackets large diameter washers must be used.

**J.** The seat shoulder support angle should not exceed 25 degrees from vertical when measured where the driver's shoulder contacts the seat with the seat installed in the car. Additional angle may be added to the bottom of the shoulder support for driver arm clearance, if necessary. The interior shoulder support surface should be positioned perpendicular to the seat back in a plan view.

**K.** Rib/chest support structures, if used, should not interfere with the natural ingress and egress of the driver from the seat. Rib/chest support structures, if used, should provide full coverage from the seat back to the front of the driver's chest. Partial rib/chest supports constructed of foam, meeting the SFI 45.2 specification, will be permitted. Rib/chest support structures should not continue forward past the front of the driver's chest and should not curve or wrap around the front of the driver's chest. Rib/chest support foam, meeting the SFI 45.2 specification will be permitted to curve or wrap around the front of the driver's chest.

## **20E - 18 Roll Bars**

A. remains the same.

### **B. Basic NASCAR Roll Cage Structure**

(1) through (3) remains the same.

(4) The centerline roof bar (#4) **must be a continuous length of tubing**, extending from the main roll bar (#1) forward to the roof bar (#3) near the car's centerline. The center windshield bar (#4A) must extend forward from the roof bar (#3) near the car's centerline and bend downward and be welded to the dash panel bar (#8) near the car's centerline.

(5) remains the same.

(6) One (1) horizontal shoulder bar (#7) **must be a continuous length of tubing** and must be welded, with no bends, inside the vertical legs of the main roll bar (#1) and should be the same height as the top door bars (#9A & B) on both the left and right side. An additional shoulder belt bar (#7B) **must be a continuous length of tubing** and may be added above the horizontal shoulder bar (#7) to facilitate shoulder harness mounting height. The shoulder belt bar (#7B) must be welded to the main roll bar (#1) and the main roll bar diagonal bar (#5) or it may be a bent tube constructed of 1-3/4 inches by 0.090 inch minimum wall thickness, steel, round tubing, meeting the ASTM A-519 specification, welded at each end to the horizontal shoulder bar (#7) to form a loop above the horizontal shoulder bar (#7). The shoulder belt bar (#7B) must not be forward of the plane of main roll bar (#1).

(7) remains the same.

- (8) The dash panel bar (#8) must be a continuous length of tubing, with no bends, welded beneath the dash panel between the two (2) front roll bar legs (#2 A & B) and should be the same height as the top door bars (#9A & B) on both the left and right side.
- (9) The door bars (#9 A & B), must have a minimum of four (4) bars on the left side and a minimum of three (3) bars on the right side equally spaced from top to bottom that must be welded horizontally between the vertical uprights of the main roll bar (#1) and the front roll bar legs (#2 A & B) All door bars must each be a continuous length of tubing and should match up with the intersection of the dash panel bar (#8) at the roll bar legs (#2A & B) at the front and the intersection of the horizontal shoulder bar (#7) at the main roll bar (#1) at the rear. All door bars must be convex in shape. The door bars (#9 A & B) must have a minimum of six (6) vertical supports on the left side and a minimum of four (4) on the right side, with two (2) equally spaced between each door bar. These supports must be made from a minimum diameter of 1-3/4 inches by 0.090 inch minimum wall thickness magnetic steel seamless round tubing (not numbered but shown in the left side view of Diagrams #3, #4 and #5).

**NOTE: Any frame and roll cage assembly manufactured for use in the NASCAR Canadian Tire Series after January 1, 2008 must meet the following minimum requirements:**

**The shoulder bar (#7), dash panel bar (#8) and the top door bars (#9 A & B) must maintain a minimum vertical height of 21-1/4 inches from the top of the main frame rails to the center of the shoulder bar (#7), dash panel bar (#8) and the top door bars (#9 A & B). Door bars (#9 A & B) must remain equally spaced from top to bottom. All door bars must be convex in shape. The rear support bars (#13 A & B) must be continuous lengths of tubing welded to the left and the right back side of the main roll bar (#1) near the roof panel at the top. They must extend to and be welded to the top of the rear sub-frame rail and must be within one (1) inch of the rear edge of the fuel cell.**

The area that extends from the top of the frame to the top door bar (#9A) between the main roll bar (#1) and the front roll bar leg bar (#2A) on the driver's side must be covered with a minimum 16 gage (0.0625 inch thick) magnetic steel plate. The (anti-intrusion) plate must be welded to the top door bar and the top of the frame rail.

To facilitate emergency removal of the left side door bars (#9A), the anti-intrusion plate must have six (6), 2-1/2 inch diameter holes cut in the anti-intrusion plate, with three (3) holes near each end of the plate in the following locations:

The upper two (2) holes must be centered vertically between the left side door bars (#9A-1&2), at an on-center distance of three (3) inches from the center of the left front roll bar leg (#2A) and the main roll bar (#1).

The middle two (2) holes must be centered vertically between the left side door bars (#9A-2&3), at an on-center distance of three (3) inches from the center of the left front roll bar leg (#2A) and the main roll bar (#1).

The lower two (2) holes must be centered vertically between the left side door bars (#9A-3&4), at an on-center distance of three (3) inches from the center of the front roll bar leg (#2A)

and the main roll bar (#1). Refer to Construction Guidelines (Diagram #6) at the rear of the Rule Book.

**NOTE: Any frame and roll cage assembly manufactured for use in the NASCAR Canadian Tire Series after January 1, 2008 the (anti-intrusion) plate must be a minimum 13 gage (0.0897 inch thick) magnetic steel.**

- (10) The vertical vent window bars (#10 A & B) must each be a continuous length of tubing, welded from the upper surface of the top door bars on the right side and left side to the front roll bar legs (#2 A & B). The vertical vent window bars (#10 A & B) must be perpendicular to the top door bars (#9 A & B).
- (11) and (12) remains the same.
- (13) The rear support bars (#13 A & B) must be continuous lengths of tubing welded to the left and the right back side of the main roll bar (#1) near the roof panel at the top. They must extend to and be welded to the top of the rear sub-frame rail and should be within one (1) inch of the rear edge of the fuel cell.

**NOTE: Any frame and roll cage assembly manufactured for use in the NASCAR Canadian Tire Series after January 1, 2008 must meet the following minimum requirements:**

The rear support bars (#13 A & B) must be continuous lengths of tubing welded to the left and the right back side of the main roll bar (#1) near the roof panel at the top. They must extend to and be welded to the top of the rear sub-frame rail and must be within one (1) inch of the rear edge of the fuel cell.

A trunk reinforcement bar (#14) must be installed. The trunk reinforcement bar must be a continuous length of tubing forming a loop directly above the rear sub-frame side rails and the rear-most crossmember and be welded to the rear support bars (#13 A & B). The trunk reinforcement bar (#14) must maintain a minimum height of five (5) inches from the top of the rear crossmember to the trunk reinforcement bar (#14's) center. The trunk reinforcement bar (#14) must remain parallel to the rear sub-frame rear side rails and rear crossmember.

Three (3) rear vertical support bars (#15), evenly spaced, must be welded perpendicular to the top of the rear crossmember and to the bottom surface of the trunk reinforcement bar (#14). The trunk reinforcement bar (#14) and vertical supports must be made from a minimum diameter of 1-3/4 inches by 0.090 inch minimum wall thickness magnetic steel seamless round tubing.

- (14) The two (2) front sub-frame bars (#16 A & B) must each be a continuous length of tubing a minimum diameter of 1-3/4 inch diameter by 0.090 inch minimum wall thickness magnetic steel seamless round tubing. They must be welded to the right side and the left side of the front roll bar legs (#2 A & B). The front sub-frame bars (#16 A & B) must extend forward through the firewall, turn down, and must be welded to the front sub-frame rails forward of the spring buckets near the radiator mount.
- C. through G. remains the same.

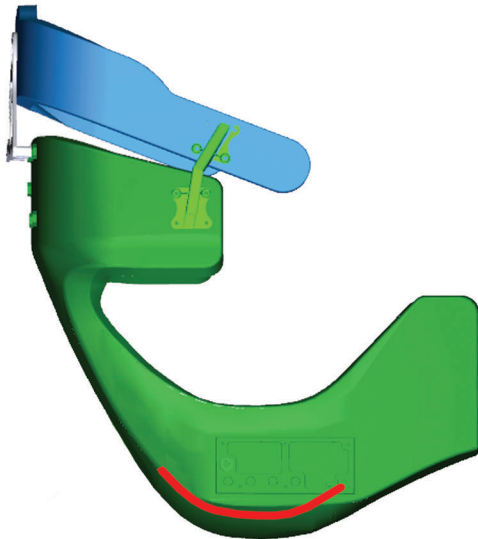
H. At the discretion of NASCAR Officials, additional material and/or tubing may be required to be welded to any car that does not conform to the [January 1, 2014](#) roll cage or roll bar specifications as described in sub-section 20E-18.

# DIAGRAM 8 - SEAT PADDING

TOP VIEW



SIDE VIEW



FRONT VIEW

