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## **MODIFIED 4 X 4 TRUCK**

### **Minimum Safety & Technical Requirements**

**April 2010**

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1. Snell SA2000 or newer full-face helmet and neck collar for everyone racing.
2. High back race seat securely mounted to the roll cage.
3. Five point harness in excellent condition.
4. Window net securely mounted for each seat.
5. The minimum personal fire protection will be SFI single layer fire resistant full race suit along with leather boots and leather gloves for everyone racing.
6. Six point roll cage with all of the components listed on Diagram A.
7. Fire extinguisher within reach of the driver fully harnessed.
8. Firewall and floorboards completely sealed.
9. Front and rear bumpers securely mounted.
10. One safety hoop on each driveshaft.
11. Electrical master disconnect switch within reach of the driver fully harnessed.
12. Fuel cell with a roll over valve vented as detailed in Diagram B.
13. An electric fuel pump must include a low oil pressure switch in the pump circuit.
14. Throttle linkage in excellent condition with two return springs.
15. Battery securely mounted to the frame or roll cage and properly covered.
16. All components of the steering system in excellent condition.
17. All components of the brake system in excellent condition.
18. Wheels and all the mounting hardware in excellent condition.
19. Securely mounted functioning mufflers.
20. No liquid lines in the driver's compartment.

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# MODIFIED 4 X 4 TRUCK

## Specific Technical Rules

April 2010

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### 1. ROLL CAGE

Round seamless steel or D.O.M. steel tubing must be used for roll cage construction. Any welds less than 360 degrees must be gusseted. No less than 1/8" wall gussets can be used and must have no less than 2" of weld contact on each tubing. *See Diagram A for components of the roll cage.*

Roll bar construction must all be welded, with the main hoop and rear kickers welded directly to the Original Equipment Manufacture (OEM) frame. Mounting the front down bars directly to the frame could prove to be very difficult, so this alternate method is recommended. A base plate no less than 36 square inches x 1/8" thick, should be welded to the floor directly above the body mount. The down bar should then be welded to the base plate.

Wherever possible, weld on the vertical plane to tie the front down bar to the side of the door pillar. If the body mount is unsuitable, a sub-plate of the same dimensions should be created to fit the bottom side, and bolted thru the floorboard to the top plate with no less than four - 3/8" fasteners. 1-3/4" tubing should then be welded in place connecting the sub-plate to the OEM frame.

Any roof opening must be covered with no less than .04" or 18-gauge steel. Craftsmanship and quality of welding will be part of the technical inspection. Minimum tubing diameter and thickness for a Modified Truck will be 1-3/4" diameter by .120 wall.

### 2. FRAME

The frame and body must be from the same year and the same manufacture, and retain the original mounting points for the OEM engine, transmission and transfer case.

### 3. BUMPERS

Round tubing of any diameter must be draw bent for the bumpers and nerf bars. The front bumper can extend out no more than 12 inches past the hood, and no wider than the centerline of the front tires. Front and rear bumpers ends must be looped back to the truck. Rear bumpers and nerf bars can extend out no more than 2 inches past the outside line of the rear tires.

### 4. SAFETY BELTS and SEAT

Five-point competition safety belt, three inches wide is mandatory. Metal to metal buckles are required, equipped with a quick release buckle. Belts must be in excellent condition. Seat must be a commercially manufactured high back race seat. Shoulder belt mounts must be level or just below the shoulder. No less than 3/8" bolts used to secure the seat and belts. Seat and belts must be fastened to the roll cage.

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## **5. PERSONAL PROTECTION EQUIPMENT**

SFI spec single layer fire suit and neck collar, along with leather gloves, and leather shoes is mandatory. A fully charged two-pound fire extinguisher mounted with a metal quick release latch within reach of the driver fully harnessed.

Helmets must be a minimum Snell full face SA2000. All competitors must have their blood type and known allergies marked clearly on their helmets. Face shield or goggles must be in place at all times. Helmet must be worn at all times that the Truck is on the track.

Side window openings must be covered with SFI window net material in excellent condition. The latching mechanism must be on the inside of the exterior sheet metal and will open from the top front and drop down when unlatched. Window net rods must be no less than 3/8" steel rod, with equal strength attaching points.

Any tubing or steel near a competitor's helmet must have commercially produced protective roll cage padding. No sharp edges within the driver's compartment.

## **6. ELECTRICAL**

Craftsmanship and quality of electrical wiring and components will be considered during the technical inspection. The battery must be securely mounted with steel brackets and completely covered in a corrosive resistant container. The battery must be protected from any potential impact for example near an exterior panel. With safety and fire prevention guiding the inspection, all electrical components must be securely mounted and protected from any potential hazards.

A master switch isolating the battery power from all electrical components must be located within reach of the driver fully harnessed. This switch must be identified with a three inch red circle around it, clearly marking the on/off positions. This switch must be located on the left side of the dash panel as to allow safety workers quick access.

## **7. FUEL SYSTEM**

The use of a commercially manufactured fuel cell with a bladder inside a steel container mounted in the rear of the Truck is mandatory. Additional steel protection on the lower half, no less than 1/8 inch wall must cover the bottom and sides of the fuel cell from a ground impact. Frame rails are considered protection from side impact; only additional front bottom and rear protection would then be needed. Filler caps must not have a vent.

A roll over valve must be included in the venting system as detailed in (Diagram B). A low oil pressure switch must be installed with the use of an electric fuel pump. Loss of oil pressure will automatically shut off fuel pump. Proper operation of the "by pass" switch will be part of the technical inspection.

Only naturally aspirated engines with carburetors, OEM fuel injection or propane mixers. Maximum 670 CFM allowed. No multi port fuel injection systems. The throttle body fuel injection system the manufacture supplied for the engine, the year the truck was produced must be retained. No aftermarket fuel injection control devices can be used. Absolutely no fuel leaks on the entire system.

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## 8. IGNITION SYSTEM

OEM distributor must be used and only aftermarket factory replacement components used. Aftermarket coils must fit in stock location. No multi coil ignitions, no multi spark systems.

## 9. EXHAUST SYSTEM

Commercially manufactured headers are allowed with a maximum tube diameter of 1.750 inches. A functioning muffler for each header securely mounted is required with a maximum 95 DBA at 100 ft. No straight-through bottle mufflers allowed. All exhaust must go through a muffler and exit behind the driver's compartment.

## 10. TIRES AND WHEELS

DOT tires no larger than 35 inches, must be in reasonable condition. No Bead Lock wheels, only steel or aluminum wheels with quality mounting hardware. Wheel nut torque will be apart of the technical inspection.

## 11. SUSPENSION

Spring hanger brackets, upper and lower control arm pivot points, torsion bar brackets, radius arm pivot points and coil buckets may be relocated. Leaf spring shackle inversion is allowed. The OEM wheelbase must be retained after any of these relocations have been done, any fabrication will be apart of the technical inspection. Maximum track width is 84 inches. The spring type (coil, leaf...) OEM provided for each wheel must be retained. Any aftermarket springs may be used to replace factory type springs. No additional springs may be used at any wheel for any reason.

Wheel travel limit of the front and rear suspension will be 12 inches. One smooth or threaded body 2.5-inch shock absorber with a reservoir per wheel, or a maximum of four shock absorbers 2 inch diameter or smaller per wheel. No air shocks or external by-pass shocks allowed. Only compound or rubber damping may be used for bump stops. The addition of any traction bars or anti-sway or pan hard bars is allowed.

## 12. STEERING

All components of the steering system must be in excellent condition and will be apart of the technical inspection. Aftermarket components may be used to improve performance and angles.

## 13. BRAKES

Any type of wheel-mounted brakes can be used. No anti-lock systems allowed. All brake system components must be in excellent operating condition.

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## **14. BODY**

The complete truck body must reflect OEM size, shape and appearance. Must retain cowl and VIN from the bottom of the windshield to the frame mount. Any doors that open must latch securely. All upholstery, panels, plastic and glass must be removed from the Truck.

Any major or filler panels must be metal or fiberglass. Trucks must start each race with all of the body panels securely in place. Body panels may only be removed if damaged during that race day. Body panel mounting brackets must be looped back towards the truck. Body panels may only be trimmed 5 inches for tire clearance.

The hood must have four securely mounted pins holding it in place. Trucks must have a firewall mounted in a manner to protect occupant(s) from fuel, oil, coolant and fire. The back of the hood should seal against the firewall. No liquid lines in the driver's compartment. Heater cores must be disconnected. Oil coolers and radiators mounted in the rear must have all fittings facing outward from the driver's compartment.

## **15. DRIVELINE**

The frame, body, engine, transmission, transfer case and differentials must all be from the same year and the same OEM. Engine, transmission and transfer case must be in the OEM position, but lowering of the transmission cross member to accommodate driveline angles is allowed. One safety hoop for each driveshaft must be attached to the truck and loop around each driveshaft no less than 6 inches from the end of the driveshaft. Flat bar, or cable may be used to create a full circle around the driveshaft.

## **16. ENGINE**

No turbochargers, superchargers or nitrous oxide. Any small block V-8 that was available for the truck can be used, to a maximum of 406 cubic inches. No motor can be stroked past 406 cubic inches. No single-plan intake manifolds. No dome pistons. No solid roller camshafts. A maximum of .500<sup>th</sup> camshaft lift. Roller valvetrain allowed.

The air filter housing must attach directly to the carburetor, injection body or mixer. A single gasket no more than ½ inch thick can be installed between the intake manifold and carburetor, injection body or mixer. Cold air induction is permitted. It must fit without modification to the hood. No holes in the hood.

## **17. PIT AREA**

Each pit crew must have a fire extinguisher visible in their pit area. Entrance to the racetrack will only be at the designated entrance under the direction of the Pit Boss.

## **18. RACE VEHICLE NUMBERING**

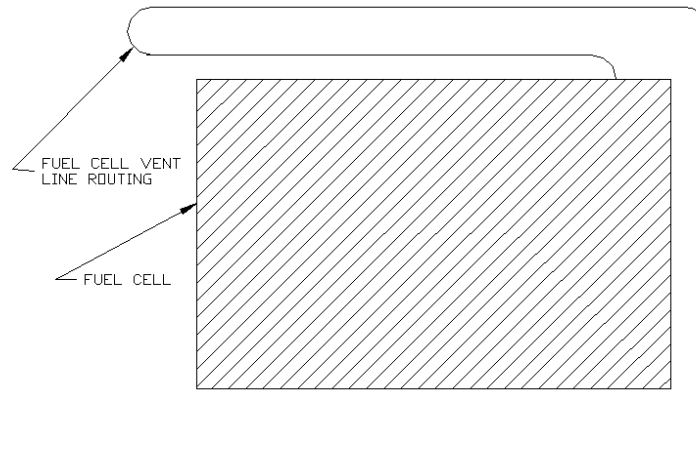
The top 5 inches of the windshield opening must be covered with a smooth material of any kind, and left blank to provide an area for the sponsors visor sticker. All Race Vehicles must have their number on both sides, up high and close to the back of the cab, a white background with black numbers a minimum of 8 inches in height. It is the competitor's responsibility to make sure truck numbers are visible during all race conditions. Any advertising on the Truck must be in good taste.

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**19. ORIGINAL EQUIPMENT MANUFACTURE “OEM”**

Any OEM reference within these rules that is questioned during the technical inspection shall be supported with an acceptable shop manual provided by the competitor.

**REAR VIEW OF FUEL CELL**



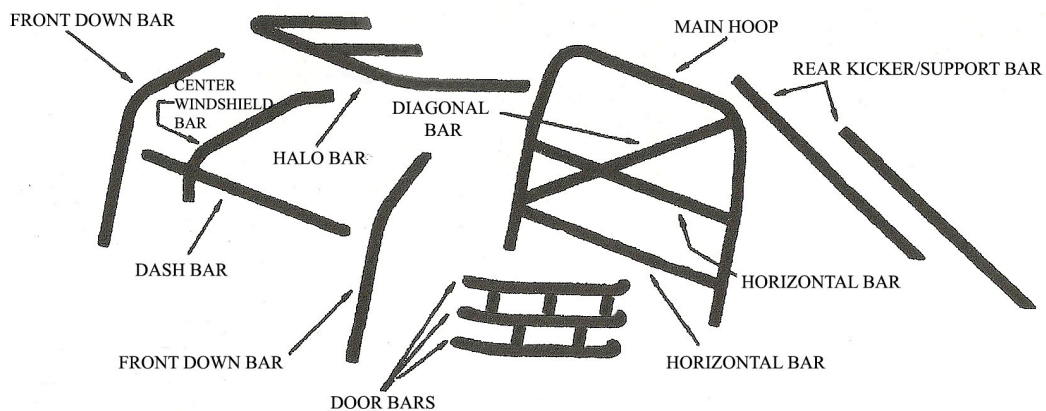


DIAGRAM A

### MINIMUM ROLL CAGE COMPONENTS

- A) 1 continuous main hoop draw bent
- B) 1 continuous diagonal bar within the main hoop
- C) 2 horizontal bars within the main hoop
- D) 1 halo bar draw bent
- E) 2 front down bars draw bent
- F) 1 vertical center windshield bar
- G) 1 center halo bar (not labeled)
- H) 1 dash bar
- I) 2 rear kicker/support bars
- J) 3 drivers side door bars with vertical connections
- K) 3 passenger side door bars with vertical connections \* only with passenger seat
- L) 1 bar connecting the main hoop to the front down bar \* no passenger seat
- M) 2 1"x 1/8" wall tubing or 1/8" plate gussets from halo, down to main hoop
- N) 2 1"x 1/8" wall tubing or 1/8" plate gussets from halo, down to front down bar