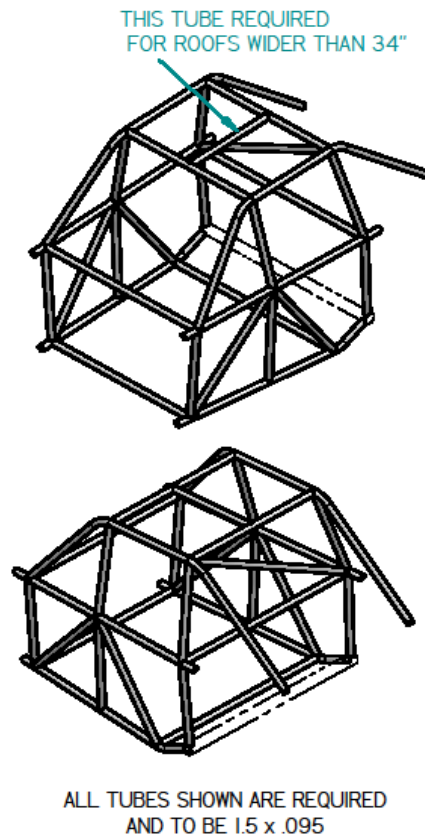


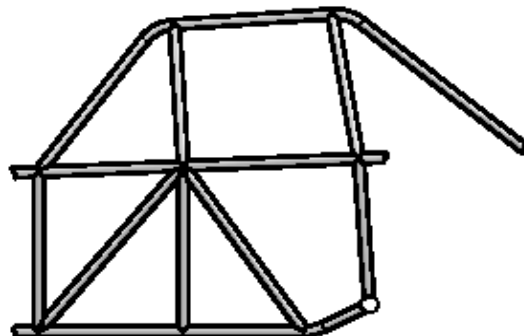
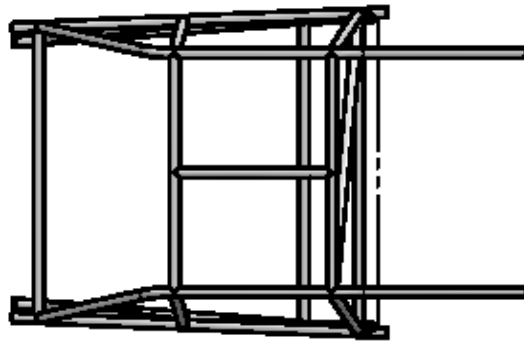
**LUCAS OIL OFF ROAD RACING REGIONAL SERIES GENERAL BUGGY RULES**  
**PRO BUGGY RULES START ON PAGE 10**



\*Suggested design for newly constructed buggies. Final design is up to individual builder, but all bars within the driver's compartment must be 1.5 inch by .095 round steel seamless or DOM tubing. All intersections must be gusseted. All designs are subject to LOORRS approval.

\*Buggies constructed before 2002 must have a minimum of two 1.5 inch by .095 bars added to each side of the existing frame in such a way to protect the driver from side impact. All two-seat vehicles must have 1.5 inch by .095 tubing added to the center roof. All intersections within the driver's compartment must be gusseted. All designs are subject to LOORRS approval.

**BUGGY LEFT SIDE AND TOP VIEW**



ALL TUBES SHOWN ARE REQUIRED  
AND TO BE 1.5 x .095

## LUCAS OIL OFF ROAD RACING SERIES GENERAL BUGGY RULES

*These are the general rules for the Pro Buggy Unlimited and Limited Buggy classes. Class specific rules begin on page 64.*

### **GBR-1 MARKING AND IDENTIFICATION**

- A. All vehicle numbering is subject to approval and is assigned by LOORRS.
- B. LOORRS officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- C. In the event that a vehicle number is not visible from the timing and scoring area, the competitor will not be scored. It is the competitor's responsibility to make sure that the number is visible during all race conditions.
- D. Advertising on race vehicles must be in good taste.
- E. Foil or reflective numbers are not permitted.
- F. All LOORRS vehicles are required to have LOORRS stickers on each side of the front of the door area, 4 inches down from the window opening.
- G. LOORRS may require the use of specific sponsor decals.
- H. Team vehicles with the same paint and colors must have distinguishing markings of some kind.
- I. All numbers must be block style only with a minimum space of 1 inch between them.
- J. Numbers must be applied side by side. No slanted numbers.

### **GBR-2 NUMBERS**

- A. Limited Buggy numbers are 300-399.
- B. Pro Buggy Unlimited numbers are 900-999.
- C. Numbers must be located in the following positions:
  - 1. One number on each side, high and close to the back of the roof.
  - 2. The back of the vehicle facing the rear.
  - 3. Windshield number and division must be on the upper left hand corner of the windshield area and must be a minimum height of 4 inches with a minimum width of 1 inch.
- D. All vehicle numbers must be solid black on a white number plate with a minimum size of 12" by 14".
- E. Numbers must be a minimum height of 10 inches and a minimum width of 2 inches.

### **GBR-3 ROLL BARS**

- A. All tubing, welds, gussets, and roll cage construction must be approved by LOORRS.
- B. Round steel seamless or D.O.M. tubing is compulsory for the basic roll cage construction and must be LOORRS approved. Aluminum and/or other composite soft metals are not allowed.
- C. Minimum tubing diameter and thickness for all buggies is 1 ½ inch by .095.
- D. Roll bar construction must be welded.

- E. Gussets are required on all intersections in driving compartments within 3 inches of intersection.
- F. All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- G. Tube gussets and wrap gussets must be a minimum of .065.
- H. All race vehicles must have 3 door bars per side.
- I. All roll bars that may come in contact with driver must be covered with high density flame proof roll bar padding certified to SFI Spec 45.1 or better.
- J. All race vehicles are required to have a steering wheel pad.
- K. There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.

#### **GBR-4 EXOTIC MATERIALS**

- A. No titanium or any other exotic materials or fasteners may be used anywhere in the vehicle with the exception of the following:
  - 1) Limited buggies may use titanium in the engine valve retainers.
  - 2) 2. Pro Unlimited Buggies may use titanium for engine components.

#### **GBR-5 BODY**

- A. Complete bodies must be attached at the start of competition, practice or any other on track activities. Bodies must be attached in such a fashion as to not create a pointed or sharp extrusion when panels are removed. A loop body mounting construction is mandatory.
- B. Driver's compartment floors must be a minimum of 1/8 inch for all classes.
- C. All vehicles must have a roof that is properly attached to the roll cage.

#### **GBR-6 BUMPERS**

- A. Vehicles must have front and rear bumpers.
- B. Rookie driver rear bumper must be painted or taped yellow.
- C. Use of angle iron on rear bumpers is allowed.

#### **GBR-7 STEERING COMPONENTS**

- A. LOORRS officials must approve universal joints in steering shaft.
- B. Hydraulic power steering is permitted.
- C. Quick release metal coupling is mandatory and must be approved by LOORRS officials.

#### **GBR-8 SHOCKS**

- A. All vehicles must have at least one working shock on each wheel.
- B. Shocks cannot be adjusted while vehicle is in motion.
- C. Heating or cooling liquids or chemicals in shocks is not permitted.
- D. Shocks may have external bypass tubes and reservoir cans.

- E. Remote mounted shocks are not allowed unless approved by LOORRS officials.
- F. Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.

### **GBR-9 BRAKES & BRAKE COOLING**

- A. Brakes must be operational on all four wheels at all times. All brake operation must be LOORRS approved.
- B. Only disc brakes with steel (magnetic) rotors using standard metal mounting hats are permitted.
- C. Electronic wheel speed sensors or brake actuators will not be permitted.

### **GBR-10 WEIGHT**

- A. Driver will be included in race vehicle's minimum weight.
- B. Vehicles can be courtesy weighed prior to competition.
- C. LOORRS officials must approve all weight material.
- D. Added weight must be in block form.
- E. Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- F. Added weight must be securely bolted in place on the race vehicle.
- G. Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- H. All block ballast must be painted white and identified with vehicle number.
- I. Weight can be sealed at the discretion of LOORRS officials.
- J. No weight shifting devices of any kind are allowed. This includes, but is not limited to hydraulic or electronic devices.
- K. All vehicles will weigh in before and/or after competition at the discretion of LOORRS officials. Failure to do so will result in disqualification.
- L. All weight loss on track will result in a \$5.00 per pound fee.

### **GBR-11 ENGINE BLOCKS**

- A. Engines are subject to inspection by LOORRS officials at any time.
- B. LOORRS's method of measuring the weight to displacement ratio is the only valid method of cubic P&G testing.
- C. At LOORRS officials' discretion engines will be prepared for mechanical cubic inch certification and measurement.

### **GBR-12 ELECTRICAL ACCESSORIES**

- A. At the request of television, certain vehicles may compete with telemetry systems, as so installed by the series production television network requesting such information.
- B. Race vehicles cannot carry onboard computers, micro-controllers, processors, recording devices, electronic memory chips, traction control devices.

### **GBR-13 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS**

- A. All ignition systems must be approved by LOORRS.
- B. No computerized systems are permitted unless LOORRS approved.
- C. Any make or brand of spark plug may be used.
- D. All vehicles must have a working alternator/generator system.
- E. All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- F. All electrical switches must be located on the dash panel.
- G. All vehicles must have a master on/off switch wired to the battery in a manner that will cut off all electrical power and the engine.
- H. Master switch must be labeled as such, have a red circle around it, be located on the left side of the dash panel, and must be accessible from the outside of the race vehicle. Red circle must be at least 1 inch wide.

### **GBR-14 ENGINE COOLING SYSTEMS**

- A. Installation, location, and type of electrical cooling fan must be acceptable to LOORRS.
- B. No icing refrigerant chemicals may be used in or near the engine compartment or in any place on the truck.
- C. Electrical engine cooling fans are optional.

### **GBR-15 ENGINE EXHAUST SYSTEMS**

- A. Muffler must meet a maximum decibel of 100 as measured 50 feet from track side.
- B. Exhaust pipes must be attached to headers in a secure manner.
- C. Exhaust pipes must extend past driver compartment to the outer edge of the vehicle and to the rear of the driver.
- D. All exhaust must discharge downward and outward to either side of vehicle.
- E. Exhaust heat shields are permitted.

### **GBR-16 CARBURETOR RESTRICTOR PLATES**

- A. No devices between the carburetor and the intake manifold, designed to increase or redirect airflow will be allowed.

### **GBR-17 AIR AND INTAKE CLEANERS**

- A. Intake air or filtered air cannot be blended with alcohols, ether, or other oxygenates, nor blended with aniline or its derivatives, nitrous compounds, or any other nitrogen containing compounds.

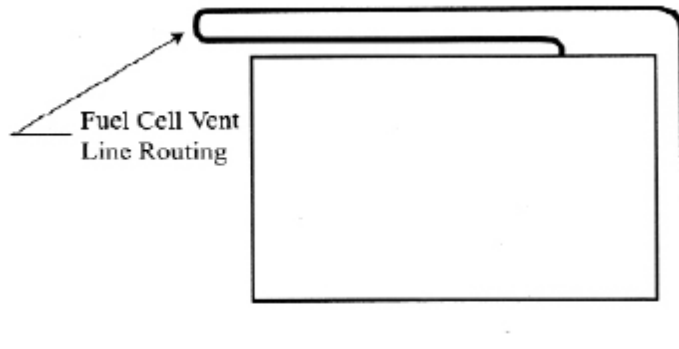
### **GBR-18 FUEL INJECTION**

- A. Fuel injection is not allowed.

## **GBR-19 FUEL CELL**

- A. All fuel cells must be LOORRS approved.
- B. LOORRS will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- C. No pressure systems will be allowed. Any concealed or not concealed pressure type containers, feed lines or actuating mechanisms will not be permitted, even if inoperable.
- D. Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.
- E. Electric fuel pumps must have oil pressure shut-off. Loss of oil pressure will automatically shut off fuel pump. A momentary on bypass may be installed. The momentary on by pass may be like a push button, 2-pole starter button, which can be mounted in a position best suited to the driver. The oil pressure-sending unit is AC Delco part number 25036938. The sending unit receives power from the ground.
- F. The use of a commercially manufactured fuel cell is mandatory.
- G. No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- H. Rear mounted fuel cell must have a chassis or body cross member of substance between the fuel cell and driver and be protected from ground obstacles.
- I. Fuel cells must be dated by manufacturer. Fuel cells will become obsolete 5 years after date of manufacture and must be replaced.
- J. All fuel cell fillers and vents must have check valves installed.
- K. A splash shield must be in place to direct any spill away from the driver, motor, and motor exhaust. A body panel is considered sufficient splash shield.
- L. Fuel cell cannot be vented into the driver's compartment of any vehicle.

## FUEL VENT ROUTING



**ALL FUEL CELL LINES AND VENTS MUST COME OUT OF THE TOP OF THE FUEL CELL (PICTURED).**

### GBR-20 FUEL

- A. Fuel shall be automotive gasoline only.
- B. Gasoline shall not be blended with alcohols, ethers, or other oxygenates, and it shall not be blended with aniline or its derivatives, nitrous compounds, or their nitrogen containing compounds.
- C. Cooling of any type is not permitted during competition.
- D. In the Event an "Official Fuel" is named, LOORRS will sample the actual fuel provided at the track by the fuel supplier and that sample will become the benchmark from which all competitors samples will be judged.
- E. LOORRS has the right to sample a competitor's fuel at anytime the vehicle is entered in an LOORRS Event. All samples will be impounded for observation and/or testing by LOORRS or outside laboratories at LOORRS discretion.
- F. No nitrous oxide.
- G. If LOORRS officials suspects maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- H. Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.

### GBR-21 OIL COOLERS

- A. All oil coolers and their installation must be approved by LOORRS.
- B. Engine and transmission oil to air or oil to water heat exchangers are permitted.
- C. Cooling fans are permitted. No coolers are allowed in the driver's compartment.

### **GBR-22 TRANSMISSION**

- A. Transmissions must be standard production, catalogued, and available through regular dealer channels.
- B. All forward and reverse gears must be in working order.
- C. Motor crankshaft must be connected to transmission input shaft via a conventional clutch assembly or vane type torque converter.

### **GBR-23 DIP STICKS**

- A. All dipsticks must be secured in dipstick tube with a positive locking or securing method.

### **GBR-24 WHEELS**

- A. All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- B. Lug nut must be open ended, and of proper size.
- C. Studs must extend a minimum of 2 full threads past the end of the lug nut.
- D. Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening or wheel. Stud ends must be rounded.

### **GBR-25 RADIOS**

- A. Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- B. Radio communication between drivers is not permitted.
- C. All radio frequencies must be approved and reported to LOORRS prior to their use.
- D. All race vehicle radio communication systems must be approved by LOORRS.
- E. See Section 5 of LOORRS General Rules for spotter requirements. F. Spotters are required for all race teams.

### **GBR-26 TRANSPONDERS/TIMING**

- A. Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by LOORRS.
- B. All LOORRS teams are required to purchase remote timing transponders. Transponders can only be purchased through LOORRS and numbers must be recorded with LOORRS officials.
- C. Drivers are responsible for the charging and installation of all transponders. Any entry without a properly charged, properly installed, functioning transponder may not be scored and may be subject to further penalty.
- D. Transponders must be mounted just behind the front beam on a limited buggy.
- E. Transponders must be mounted 98 inches behind the front bumper on a Pro Buggy Unlimited.

## LUCAS OIL OFF ROAD RACING SERIES PRO BUGGY UNLIMITED RULES

*-A 4 wheel vehicle utilizing many different engine combinations with unlimited suspension chassis designs. Engines are limited to cc limits from 1650 to 1835 depending on design and manufacturer.*

### **PB-1 RACE VEHICLE**

- A. Maximum track width is 93 inches from measured from the outside tire to the outside tire.
- B. The front bumper must be a minimum of 36 inches with rounded ends.

### **PB-2 ROOF**

#### **Required:**

- A. The roof must be comprised of a minimum .090 aluminum or 16 gauge steel sheeting.
- B. The roof must have a heavy-duty hinge with a secure latching system.
- C. Positive latching system must be LOORRS approved.

### **PB-3 WEIGHT**

- A. Minimum weight with driver is 1800 pounds.
- B. LOORRS officials may request vehicle be cleaned before weighing.
- C. Air cooled weight with driver is 1580 pounds.

### **PB-4 ENGINE**

#### **Allowed:**

- A. Any automotive engine with production of 5000 or more and available to the public in the United States.
- B. Maximum of 4 valves per cylinder.
- C. Air cooled, 1835 cc maximum
- D. 2 valves per cylinder, 1715 cc maximum, water cooled.
- E. 3 or more valves per cylinder, 1650 cc maximum, water cooled.

#### **Not Allowed:**

- A. Rotary engines.
- B. No fuel injection.
- C. No-Variable cam timing or lift.

### **PB-5 EXHAUST**

- A. Mufflers are required.

**PB-6 CARBURETOR**

**Allowed:**

- A. One carburetor for water-cooled; two carburetors for air-cooled.
- B. Maximum of two venturis per carburetor.
- C. Maximum venturi size:
  - 42 MM for two valve engines.
  - 29 MM for four valve engines 1600 CC and smaller
  - 28 MM for four valve engines 1601 CC to 1650 CC.

**PB-7 FUEL CELL**

- A. Maximum size is 9 gallons.
- B. All fuel lines and vent lines must be routed (meaning come out) from the top of the fuel cell.

**PB-8 TRANSMISSION**

- A. No sequential shift transmissions will be allowed.

**PB-9 WHEELS AND TIRES**

- A. DOT tires only.
- B. Tires must be available to the general public and cannot exceed \$200 in price.