

## PREFACE

**\*\*Text in red has been updated for 2017\*\***

This rule book is designed to provide for the orderly conduct of Lucas Oil Regional Off Road Series competitive motor sport racing events. No pretense is made of having designed a foolproof set of rules and regulations. The spirit and intent of the rules is going to be the standard by which Lucas Oil Regional Off Road Series is guided. **If this rule book does not specifically say that you can do something, then you must consider that the change is illegal.** It is the responsibility of each participant to ensure that his/her conduct and equipment complies with all applicable rules. **These rules are subject to amendment or change by Lucas Oil Regional Off Road Series headquarters at any time in the interest of competition.**

**This rule book is intended to serve as a guide for the conduct of short course racing and is in no way a guarantee against injury or death to participants, spectators, or others.**

## TERMINOLOGY

**LORORS** – Lucas Oil Regional Off Road Series

**LORORS Headquarters** – 302 North Sheridan Street, Corona, CA 92880

**LORORS Rules** – The rules in this rule book, along with any amendments issued by LORORS Headquarters

**LORORS Officials** – Any person appointed by LORORS to officiate at a LORORS event either as an employee or independent contractor

**LORORS Event** – A LORORS sanctioned motor sports event, to include the designated race as well as all periods for track move-in, registration, pre and post-race inspections, time trials, qualifying races, practice, and track move-out

**Participant**– A driver, crew member, team owner, mechanic, or any other team member or person who participates competitively in an LORORS event

**OEM** – Original Equipment Manufacturer

**Race Vehicle** – Any vehicle, prototype, or model that fits the specifications in this rule book

**DOT Tires** – Department of Transportation approved, street legal tires

## LUCAS OIL REGIONAL OFF ROAD SERIES GENERAL RULES

### SECTION 1 – RULE BOOK

- 1-1 Effective Date** – The LORORS rules are effective upon the date of publication regardless of when a competitor receives actual notice.
- 1-2 Amendment** – LORORS rules may be amended or changed by written notice from LORORS headquarters at any time. The amendment/change is also effective upon the date of publication.
- 1-3 Interpretation and Application** – If there is a disagreement regarding the meaning or application of the LORORS rules, the interpretation and application by the LORORS officials at the event shall prevail. This decision is final and non-appealable.
- 1-4 Finality of Interpretation and Application** – All participants, including but not necessarily limited to competitors, team owners, sponsors and officials, expressly agree that determinations by LORORS officials as to the application and interpretation of the rules are non-litigable, and covenant that they will not initiate or maintain litigation of any kind against LORORS or anyone acting on its behalf with respect to such determinations, unless it is determined that the LORORS officials made such determinations for no other purpose other than a bad faith intent to harm or

cause economic loss to the participant or official. In the event that a participant violates this covenant and initiates litigation, it is agreed that the participant will reimburse LORORS for all litigation costs and that the right to a trial by jury will be waived. LORORS reserves the right to take any other action hereunder, including suspension or termination of license/membership for violation of this covenant not to sue.

## **SECTION 2 – SAFETY**

**2-1 Responsibility** – Off road racing is a dangerous sport. Each participant assumes the risk of bodily injury, death, or property damage when he/she participates in an event. Although safety is a concern, LORORS cannot be held responsible for the safety of participants.

- A. LORORS considers safety a top priority and works with competitors, track owners, manufacturers, and outside experts to exchange useful information regarding safety designs, products, practices, and procedures and to publish and amend rules to reflect the latest safety practices as needed. LORORS is not and does not claim to be an expert in safety standards, designs, practices, or procedures, nor is LORORS a standards organization or a designer, manufacturer, or seller of safety-related products, facility, or vehicle designs.
- B. All officials and participants are obligated to inspect the racing facilities, safety personnel, equipment, and conditions at the track on a continuing basis throughout the event. Any inadequacy should be reported to senior LORORS officials immediately.
- C. Participants are solely responsible for their own safety when performing duties as a driver, owner, or crew member and should carry out these duties in a way that ensures minimum amount of risk or injury to themselves and others.
- D. Neither LORORS nor the track owner will be responsible for the adequacy of a participant's race vehicle, equipment, or racing activity.

**2-2 Injury Reports** – Any participant involved in an accident while on the racing premises must report to a LORORS official before leaving the premises if able to do so, or as soon as the participant is physically able.

## **SECTION 3 – LICENSES**

**3-1 License Required** – Any person who desires to participate in a LORORS sanctioned event as a driver must apply for, purchase, and receive a valid, current LORORS license.

**3-2 Eligibility/Requirements** – To secure a LORORS license, a person must:

- A. Be at least 16 years of age for the Pro 4 & Pro 2 (grouped together as Pro Open) classes.
- B. Be at least 14 years of age by approval for the Pro Buggy, Pro Lite, Mini Open Truck, Full Stock Truck, Mini Stock Truck, 1600 Desert Buggy, Pilot, Lite Buggy, UTV, Limited Buggy, and Minilite classes.
- C. Be at least 8 years of age for the Kart classes. Kart drivers may be younger than 8 with race director approval.
- D. Be at least 6 years of age for the RZR 170 class.
- E. If required by LORORS officials, submit to and pass driving ability tests conducted by and at the discretion of LORORS officials.
- F. Be physically fit in the sole discretion of LORORS. LORORS reserves the right to require an applicant to pass a physical examination by a qualified physician at the applicant's expense.
- G. Must execute and deliver all authorizations, releases, applications, consents, waivers, and other documents as may be required by LORORS.
- H. LORORS may make exceptions to the age requirements above at officials' discretion.

**3-3 Application Process** – Application forms must be fully executed, signed, and submitted to LORORS Headquarters accompanied by the requisite fee. Receipt of an application does not

guarantee a license will be issued. Applicants will receive a license following LORORS approval of their application. LORORS reserves the right to reject a license application for any reason.

- 3-4 Minors** – Any applicant legally considered a minor under the laws of his/her state must also submit a fully executed and signed minor's release. This release must be signed by the applicant's legal guardian.
- 3-5 License Non-Transferable** – A LORORS license is non-transferable. Any attempt to transfer, lend, or permit any other person to use a license shall result in a penalty imposed on the licensee and/or the driver that licensee is affiliated with. LORORS will not be responsible for any damages arising in connection with such unauthorized use of a license.
- 3-6 Suspension/Termination** – LORORS may suspend or terminate a license in the interest of off road racing or LORORS. The participant will not be obligated to a refund of any license fees submitted.
- 3-7 Expiration** – A license automatically expires on the last day of the calendar year in which it was issued.
- 3-8 Ejection** – A LORORS official may eject a licensed participant from an event or from the racing premises to promote the orderly conduct of an event. An ejection is final and not appealable.
- 3-9 Interim Review of Qualifications** – LORORS may review the qualifications of a licensee at any time and may require the licensee to submit to additional physical exams, to pass additional driver tests, to submit a resume of experience, or take any other action that LORORS deems appropriate to determine whether the licensee continues to qualify for a license.

## **LUCAS OIL REGIONAL OFF ROAD SERIES EVENT PROCEDURES**

### **SECTION 1 – MEMBER OBLIGATIONS/AGREEMENTS/RELEASES**

- 1-1 General Agreements** – By submitting an entry blank and/or participating in any activity related to a LORORS event, a participant agrees to the following:
  - A. All rules set forth in the LORORS rule book and its amendments are applicable and will be followed.
  - B. All decisions of LORORS officials are final, non-appealable, and non-litigable with the exception of those instances described in the protest procedure.
  - C. All participants voluntarily assume the risk of damage to the race vehicle, the driver, pit crew, or any other person and have no claim for said damages against LORORS, track owners, officials, agents, or employees of LORORS.
  - D. All participants assume full responsibility for any and all injuries sustained, including death and property damage, anytime they are in the racing areas or en-route to or from the racing areas.
  - E. All participants understand the risk of serious injury or death, which may result from racing, and that participants solely assume that risk when choosing to participate in a LORORS event.
  - F. No participant may enter the racing areas (to include the hot pits) unless he/she has personally signed all required entry forms, waivers, release of liability forms, and pit permits applicable to the event.
- 1-2 Advertising and Promotion Release** – Each participant by entering a LORORS sanctioned event, grants to LORORS and authorized agents and assigns a license to use and sub-license on an exclusive basis with regard to the products/services of the series sponsors, and otherwise a non-exclusive basis his/her name, likeness and performance, including photographs, images and sounds of the participant and/or any of the participant's race vehicles in any way, medium, or material for promoting, advertising, and publicizing any LORORS sanctioned event or related

telecast or programming. Each participant hereby relinquishes to LORORS in perpetuity all rights thereto for such purposes.

- 1-3 Telecast and Other Rights** – Each participant, by entering a LORORS sanctioned event, acknowledges that LORORS, and licensees and assigns, exclusively and in perpetuity own any and all rights to broadcast, transmit, film, tape, capture, overhear, photograph, collect, or record by any means, process, medium or device whether or not currently in existence, all images, sounds, and data arising from or during any LORORS sanctioned event or the participant's performance in the event, and that, except for works created pursuant to the fair use doctrine or the LORORS Media Access Policy, LORORS is and shall be the sole owner of any and all copyrights, intellectual property rights, and proprietary rights worldwide in and to these works and in to any other works, copyrightable or otherwise, created from the images, sounds, and data arising from or during any LORORS event or the participant's performance in the event. Each participant agrees to take all steps reasonably necessary and all steps requested by LORORS, to protect, perfect or effectuate LORORS' ownership or interest in these rights. Each participant agrees not to take any action, nor cause others to take any action, nor enter into any third party agreement that would contravene, diminish, encroach, or infringe upon these LORORS rights.
- 1-4 Substance Abuse** – No LORORS participant may use or be under the influence of any stimulants, depressants, or tranquilizers during an event. This includes but is not limited to alcohol, narcotics, etc. LORORS reserves the right to require drug and/or alcohol testing of any event participant.

## **SECTION 2 – ENTRIES**

- 2-1 Entry Requirements** – In order to compete in a LORORS event, a participant must complete and submit an official entry blank for each event by the deadline specified. LORORS is not responsible for forms not received or filled out incorrectly.
- 2-2 Entry Approval** – Acceptance of any entry is at the discretion of LORORS. A participant is not eligible to compete until entry blank is received and approved by LORORS headquarters regardless of fees submitted.
- 2-3 Late Entries** – In the event an entry is submitted after the specified deadline, LORORS may accept the late entry with a late registration fee.
- 2-4 Refund Policy** – All refunds must be requested through LORORS Headquarters within 14 days of the scheduled event. Once a vehicle enters the race course, whether in practice or competition, a refund can no longer be issued.

## **SECTION 3 – ELIGIBILITY**

- 3-1 Vehicle Eligibility** – Only vehicles, parts, components, and equipment determined by LORORS officials to meet the specifications set forth in the stated rules are eligible to compete in a LORORS event. Determinations can be made at any time before, during, or after an event.

## **SECTION 4 – INSPECTIONS**

- 4-1 Time/Manner** – All vehicles, parts, components, and equipment are subject to inspection by LORORS officials at any time and in any manner. Decisions made in regards to the time or manner of inspection are final, non-appealable, and non-reviewable.
- 4-2 Inspection Area** – Only those persons permitted by LORORS officials are allowed in the inspection area.

- 4-3 Competitor Obligations** – A participant must take whatever steps requested by LORORS officials, including tear down of the vehicle to facilitate inspection. This may include but is not limited to installing inspection holes, inspection ports, and any other means of inspection deemed necessary. In passing a vehicle through technical inspection, LORORS does not warrant that vehicle's adherence to all rules. The participant is responsible for ensuring his/her vehicle is in compliance with all LORORS rules at every event.
- 4-4 Pre-Race Inspection** – All vehicles must pass a technical inspection before entering the race track.
- A. If a vehicle does not pass this inspection it will not be allowed to compete unless, in the opinion of the LORORS official, the deficiency: will not adversely affect the race, cannot be corrected in time for qualifying for the race or it is insubstantial and does not warrant disqualification from the race.
  - B. If technical inspection is passed but a deficiency is noted on the inspection sheet, it must be corrected by the date and time specified or a penalty may be imposed.
- 4-5 Post-Race Inspection** – All vehicles must either be inspected or released from inspection by a LORORS official at the conclusion of each race. If a vehicle leaves the inspection area without being cleared by a LORORS official a penalty may be imposed.
- 4-6 Technical Penalties** - Penalties imposed for technical infractions are final, non-appealable, and non-reviewable. Penalties may include position change and/or disqualification from one/multiple events.
- 4-7 Equipment/Parts Failing Inspection** – LORORS can confiscate any illegal parts and/or equipment found during any inspection.
- 4-8 Sealing/Impounding** – LORORS has the right to seal or impound race vehicles or parts for inspection purposes. LORORS assumes no responsibility for those parts or vehicles.

## **SECTION 5 – RACE PROCEDURES**

- 5-1 Finality** – All decisions made by LORORS officials involving race procedures are final and may not be appealed – subject only to review if one or more officials determine that a review is required. If a review determines that action is required, officials reserve the right to revise race results, impose penalties, and/or award or subtract points.
- 5-2 Driver/Crew Responsibilities** – The driver is ultimately responsible for the behavior and actions of all members of his/her team to include crew members, team owners, and spotters. Penalties can be imposed on drivers for actions taken by members of his/her team.
- A. Drivers must check in and attend all driver meetings.
  - B. Drivers must be on time to compete in events as scheduled. Any driver or vehicle that is not ready to compete at the designated race time may be sent to the back of the field or be disqualified from the race completely at the discretion of LORORS officials.
  - C. An eligible driver may drive any qualified vehicle in any event. A rookie driver must have practiced in the vehicle before driving it in competition.
  - D. A driver may not attempt to qualify more than one vehicle per race division.
  - E. Nobody under the age of 16 may operate a motorized pit vehicle at any time.
- 5-3 Engine Replacement** - Engines may be replaced during a LORORS event only after the LORORS technical director has been notified. An engine change may result in a starting position change.

#### **5-4 Race Start**

- A. Starting grid position will be established by LORORS prior to each event.
- B. Race vehicles must be in the staging area thirty minutes prior to the beginning of the race.
- C. All vehicles must be ready to race when entering the starting grid.
- D. Late vehicles may start after the green flag, only with permission from a LORORS official.
- E. Making contact with the official pace truck may result in disqualification. This is not appealable. Passing the pace truck without permission may also result in a penalty.
- F. Scoring and timing of the race does not begin until the official starter waves the green flag. Any vehicle that does not maintain its designated position to that point may be repositioned and/or penalized by LORORS officials at their discretion.

#### **5-5 Race Halt – LORORS officials may stop a race at any time the track is deemed unsuitable for racing. Under adverse conditions, a race may be called official after 50% of the laps have been completed.**

- A. When a race is halted prior to the completion of one lap, there shall be a complete restart in the original starting position.
- B. In the event of a complete restart, all vehicles that took the first green flag will be awarded the appropriate finishing position based on position in the field.
- C. When a race is halted after the completion of one lap, vehicles will line up in the order in which they were running at the completion of the last full lap before the halt. If there is no restart, drivers will be scored and paid on the positions they would have held in a restart.
- D. When an event is halted due to rain or adverse circumstances prize money shall only be paid for the races completed. LORORS may reschedule the event to a mutually agreeable date. In that case, the incomplete races would be finished first, and original entries would start in the position they were halted in previously.

#### **5-6 Race Start/Finish Line – The official race start/finish line will be indicated at each event during pre-race driver's meetings. The start line may be different from the finish line.**

#### **5-7 Race Course Procedure**

- A. A vehicle may be pulled from competition at any time if a LORORS official feels it is a hazard to others.
- B. Vehicles must race under their own power and in forward gears only.
- C. If a vehicle gets off the designated race track, speed must be reduced significantly and the vehicle must merge back into the line safely without gaining time or position.

#### **5-8 Official Competition – All races will run until the leader has completed the required distance.**

#### **5-9 Hot Pit Procedures**

- A. Race vehicles may not be pushed onto the race track from the hot pit area. Vehicles may be started by hand pushing in the hot pit area, but may not be pushed past the flagman at the track entrance.
- B. No race vehicle may receive any assistance after the white flag has been shown with the exception of those making regular pit stops.
- C. All equipment used to service the race vehicle must be removed from the vehicle before entering the race track and must be returned to the equipment side of the pit wall immediately following the pit stop.
- D. Lug nuts must be fully tightened before the race vehicle leaves the pit area. Vehicles will return to pit area for inspection if LORORS officials detect a violation of this rule.
- E. All major repairs must be done behind the pit wall.

- F. Only one jack may be used for tire changes. The same jack must be used when changing tires on both sides of the vehicle during a pit stop. A second jack may only be used in the event that a vehicle falls off the first jack, in order to facilitate the use of the first jack.
- G. Air supply tanks and pressure regulators for all air equipment must remain on the equipment side of the pit wall.
- H. There is no fueling in the hot pits.
- I. During a pit stop, one crew member must stand at the front of the vehicle in the driver's direct view for the duration of the stop. The vehicle may not leave the pit until that crew member sees that all work is completed and signals that it is safe to proceed.
- J. No more than five crew members may be over the hot pit wall during their division race.
- K. Long pants and closed toe shoes must be worn in the hot pits and race track area at all times.

**5-10 Team Spotters-** Spotters are mandatory for all classes.

- A. One spotter per race vehicle must be in the LORORS designated area any time the race vehicle is on the race track.
- B. Spotter must check in with the LORORS official in the designated spotter area before the start of the race and must remain in the area as long as his/her vehicle is on the track.
- C. Spotter should have two working radios consisting of 1 "listen only" radio and headset with the ability to hear the competition director, as well as 1 two way radio to communicate directly with the driver in the race vehicle.
- D. Drivers may be penalized for inappropriate spotter behavior.
- E. Spotters must have vehicle numbers marked clearly on back of headset so as to be easily visible to LORORS officials. Numbers must be black on a white background with a minimum size of 2 inches by 3 inches.

**SECTION 6 – FLAG RULES**

**6-1 Green Flag (Start/Restart)** – All race vehicles must remain in appropriate positions until the starter displays the green flag signifying the start or restart of the race.

**6-2 Blue Flag with Diagonal Yellow Stripe (Passing Flag)** – Race vehicles given this flag must prepare to yield to overtaking traffic.

**6-3 Yellow Flag (Caution)** – Race vehicle must immediately slow to 30 miles per hour or other speed indicated by LORORS officials. No passing is allowed under a yellow flag.

- A. Waiving yellow flag indicates a caution affecting only area where flag is being displayed.
- B. Stationary yellow flag indicates a full course caution situation. Lap counting may or may not cease during a full course caution at the discretion of LORORS.
- C. Penalties will be imposed for vehicles not abiding the yellow flag. Violators will be notified by receipt of a black flag at the finish line. Continued participation in the race after the black flag for this offense may result in disqualification of the vehicle. This is not an appealable disqualification.
- D. Only LORORS safety personnel will attend to race vehicles and drivers involved in caution incidents. LORORS officials may request assistance from trained crew members as needed, but other than that crew members may not enter the race track to assist their vehicles.

**6-4 Red Flag (Race Stop)** – Race vehicle must stop in a safe matter immediately, regardless of position on track.

- A. Failure to obey the red flag will result in disqualification. This is not an appealable disqualification.

- B. Repairs, refueling, or service of any nature is not allowed during a red flag. If a vehicle is in the hot pits being serviced, all work must stop immediately when the red flag is displayed and nothing can be continued until the flag is withdrawn and the race is restarted.
- C. Red and yellow flags together designate a complete restart before one lap has been completed. Damaged vehicles may go to the hot pit area for repairs and restart the race in their original position only if they are able to return before the restart of the race. Timing on the restart is at the discretion of LORORS officials.

**6-5 Black Flag (Penalty)** – Race vehicle must report to penalty area and remain until released by a LORORS official. This flag will be displayed at the finish line only.

- A. The black flag may be displayed for rough driving, an unsafe vehicle, failure to acknowledge other flags, failure to adhere to LORORS rules or directives, and other offenses at the discretion of LORORS officials.
- B. After a black flag is displayed to the driver for three consecutive laps with no penalty served, scoring of the vehicle will be discontinued for the remainder of the race.
- C. If a driver receives a black flag during the final two laps and does not serve the penalty, LORORS officials may drop the finishing position of the vehicle, deduct championship points, or both.

**6-6 White Flag (One Lap to Go)** – Display of the white flag at the finish line means the leader has started his/her last lap.

**6-7 Checkered Flag (End of Race)** – display of the checkered flag at the finish line means the race is completed. All vehicles must go to the designated finish area and remain there until released by a LORORS official.

- A. When the checkered flag is displayed to the leader, the balance of the field receives the checkered flag in the same lap. Finishing position will be awarded according to most laps traveled in the allocated amount of time, whether the vehicle is still running or not.

## SECTION 7 – TIMING AND SCORING

**7-1 Official Scoring** – All decisions of the designated LORORS official scorer for an event are final unless a recheck has been requested by a driver or a LORORS official.

**7-2 Scoring Re-Check Procedures** – A participant must submit a request for a scoring re-check in person within twenty minutes after the declaration of finishing positions has been made by LORORS officials. Results are not considered official until any requested re-checks have been concluded.

## SECTION 8 – VIOLATIONS AND DISCIPLINARY ACTIONS

**8-1 General Procedure** – If it comes to the attention of LORORS officials that a participant has violated a LORORS rule or has acted in a manner that is detrimental to off road racing or to LORORS, and the act warrants a penalty, the member will be notified by LORORS officials of the violation, the circumstances involved, and the penalty imposed.

**8-2 Emergency Action** – LORORS reserves the right to take temporary emergency action against a participant in the event that he/she acts in a manner that can be considered a threat to the orderly conduct of an event. Such action may include ejection from premises, suspension of license, or any other action designed to remove the threat created. Consumption of alcohol or drugs before or during an event, fighting, inappropriate driving, and failure to obey the black flag or other directive of a LORORS official are examples of conduct that would warrant emergency action.



- 8-3 Payment of Fines** – Fines shall be paid to LORORS headquarters promptly after receipt of penalty notice. Teams with outstanding fines will not be permitted to compete in future events. All unpaid fines can be collected by deduction from winnings. Any fines left unpaid at the end of the season will be grounds for refusal of a LORORS license for the next year.
- 8-4 General Scope of Penalties** – Penalties for violation of LORORS rules are determined by the severity of the violations and the effect on fairness of competition, the orderly conduct of the event, and the interests of off road racing and LORORS. Penalties may include, but are not limited to: disqualification, probation, license suspension, fines, or loss of points.
- 8-5 Unsportsmanlike Conduct** – Any participant found by LORORS officials to be engaging in unsportsmanlike behavior or any inappropriate behavior that affects the orderly conduct of an event, the interests of off road racing, or LORORS will receive a penalty.

**SECTION 9 – POINTS AND POINTS FUND**

**9-1 Eligibility for Points and Points Fund**

- A. A driver cannot receive points for more than one race vehicle in the race.
- B. Points are awarded to the driver who starts the race under his/her registered vehicle number. Any driver changes must be reported to LORORS to insure proper scoring for the driver. If a different driver races the vehicle, a number change must be made and reported. All points follow the driver.
- C. To be eligible to receive points, the driver and race vehicle must take the green flag and start the race.
- D. In the event that a driver is unable to compete due to a death in the family, injury, or other special circumstance, another LORORS licensed driver may act as a substitute driver. This driver substitution can only be done one time in a season and must be approved by the LORORS competition director in advance.
- E. In the case of a tie in year end points, the tie will be broken by using the greatest number of first place finishes. If a tie still exists, seconds, thirds, etc. will be considered until the tie is broken. If a tie still exists, the driver establishing the first victory of the season will prevail.
- F. Eligibility to participate in the points fund may be forfeited by any member violating LORORS rules or regulations prior to the presentation of the awards.
- G. In order to be eligible for the year end points championship, a driver must compete in a minimum number of LORORS events. The minimum number in Southern California is 6 out of 8, **Arizona is 6 out of 10, Utah is TBD.**
- H. The points championship is not official until after the last race.

**9-2 Driver Points** – Points for the main events will be awarded according to the following point scale:

| Position | Points | Position | Points |
|----------|--------|----------|--------|
| 1        | 50     | 14       | 24     |
| 2        | 48     | 15       | 22     |
| 3        | 46     | 16       | 20     |
| 4        | 44     | 17       | 18     |
| 5        | 42     | 18       | 16     |
| 6        | 40     | 19       | 14     |
| 7        | 38     | 20       | 12     |
| 8        | 36     | 21       | 10     |
| 9        | 34     | 22       | 8      |
| 10       | 32     | 23       | 6      |
| 11       | 30     | 24       | 4      |
| 12       | 28     | 25       | 2      |
| 13       | 26     | 26       | 1      |

Points for qualifying will be awarded according to the following point scale:

| Position | Points |
|----------|--------|
| 1        | 5      |
| 2        | 4      |
| 3        | 3      |
| 4        | 2      |
| 5        | 1      |

## LUCAS OIL REGIONAL OFF ROAD SERIES SAFETY RULES

The aforementioned safety rules will apply to all classes with the exception of Karts (see Kart rule book).

### SR-1 Equipment

- A. No passenger is allowed on the race vehicle any time the vehicle is in motion.
- B. Race vehicles will not be allowed on the race track without safety and emergency equipment on the premises.
- C. No race vehicle is permitted on the track without approval from a LORORS official.
- D. No driver will compete in any event with his/her head or arm extended outside of the vehicle.

### SR-2 Driver's Wear

- A. One-piece driver suits are required. The suits must cover from the neck to the ankles and to the wrists. All suits must have the SFI label attached and meet SFI Spec 3-2A/5 (3-2A/1 for RZR 170 class) or higher.
- B. Drivers must wear gloves and driving shoes that meet SFI Spec 3.3/5 (3.3/1 for RZR 170 class) or higher and have the SFI label attached. If at any time any LORORS official notices a driver missing or having a glove with holes or fingers cut out the driver may be black flagged from the track immediately and it will be the sole discretion of the competition director if the driver will be allowed to re-join the race or if they will remain parked for the duration.
- C. Fire retardant socks, head sock and/or helmet skirt **are required**. Fire retardant underwear **is highly recommended**.
- D. All driver apparel must be clean, in good condition, and free from rips or worn areas.

### SR-3 Helmets

- A. Full face helmets with a Lexan shield are required.
- B. Helmets must be certified to one or more of the following standards:
  - 1. Snell Memorial Foundation SA **2010** or better with a legible Snell sticker attached.
  - 2. SFI Spec 31.1/**2010** (or youth 24.1 for RZR 170 class) with a legible SFI sticker attached.
  - 3. FIA 8868 with a legible FIA sticker attached.

### SR-4 Eye Protection

- A. It is required that drivers wear eye protection in the form of Lexan shields.

#### **SR-5 Seats**

- A. Only manufactured race seats are permitted. Custom manufactured aluminum seats must be approved by LORORS.
- B. All seats, rib protectors, leg extensions, and head rests must be padded.

#### **SR-6 Seat Belts and Shoulder Harnesses**

- A. A quick release lap belt not less than three inches wide is required. A 2 inch belt may be used provided it is certified to spec 16.1, 16.2 (youth only) or 16.5. Both ends of the lap belt must be fastened to the roll bar cage. Bolt in style belts must be fastened with high quality graded bolts, not less than 3/8". Clip in style belts must be cotter pinned or safety wired.
- B. Shoulder harnesses are mandatory. Harnesses must be no less than three inches wide and must come from behind driver's seat. 2 inch harnesses may be used provided they are certified to SFI spec 16.5. When crossing the roll cage the harness must pass through a steel guide welded to the cage that will prevent the harness from sliding from side to side.
- C. A crotch belt is mandatory and must be securely mounted to the lower seat frame or roll cage at the bottom, and to the lap seat belt on the top.
- D. Sternum straps are not allowed.
- E. At any place the lap belt, harness, or crotch belt passes over any substance that could cause cutting of the belt, the belt must be rolled, padded, or have a grommet installed.
- F. All seat belts and shoulder harnesses must connect at the lap belt with a quick release buckle.
- G. Seat belts must be certified to SFI specs 16.1, 16.2 (for youth only) or 16.5 and dated by the manufacturer. Belts must not be used beyond two years after stated date.
- H. Seat belts may be rejected by LORORS officials if dirty, frayed, oily, greasy, or otherwise considered unsafe by officials.

#### **SR-7 Head and Neck Restraints**

- A. Head and neck restraints are mandatory in all classes any time the vehicle is on the track.
  - 1. D-Cell, R3, Hans, Hybrid or other restraint certified to SFI spec 38.1 with a legible sticker attached are allowed.
  - 2. The head and neck restraint, when connected, must be mounted, configured, maintained and used in accordance with the manufacturer's instructions.
  - 3. It is the responsibility of the driver to ensure that his/her restraint is correctly installed, maintained, and properly used.

#### **SR-8 Gas Pedals**

- A. All purpose-built vehicles must have a flat full support gas pedal with a toe hook. This is highly recommended in the stock classes as well. Toe hook is not required on fly by wire vehicles.
- B. Toe hook must enable the driver to pull back on the pedal with foot in the event of a stuck throttle.

#### **SR-9 Roll Bars**

- A. Chromoly or D.O.M. is required for the basic roll cage and must be LORORS approved. Aluminum and/or soft metals are not allowed. Roll bar construction must be welded.

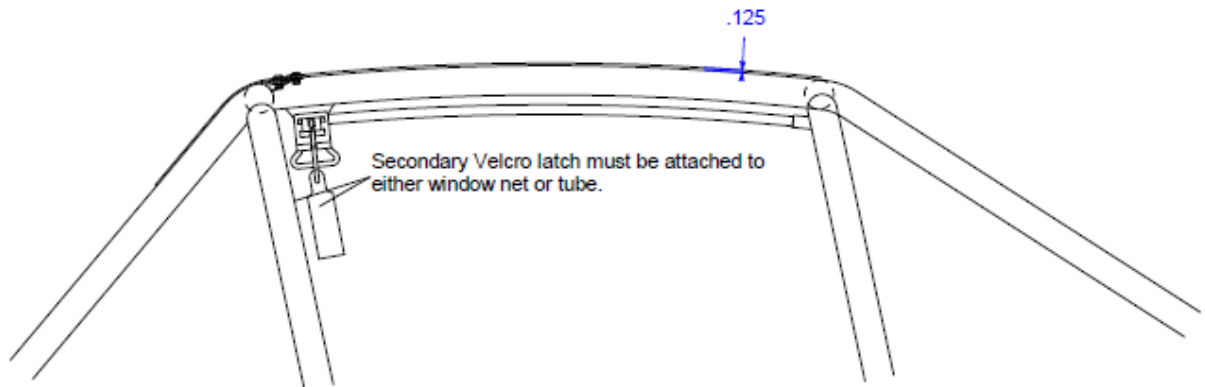
- B. Specific size and wall thickness of roll bars is addressed in race division rules and outlined in included diagrams.
- C. Roll bar padding is required on all bars that may come in contact with driver. Padding must be firmly attached so it cannot rotate or move.

**SR-10 Windshield Area**

- A. Trucks & UTVs (with the exception of RZR 170 class) must have complete left half of windshield opening covered with a LORORS approved rock guard. Buggies must have complete windshield opening covered with a LORORS approved rock guard.
- B. Rock guard must have a minimum 1/8 inch rod and a maximum 1.5 inch square opening welded at each intersection.
- C. If a passenger is in vehicle, rock guard must cover full windshield opening.

**SR-11 Side Window Nets**

- A. Window nets must be certified to SFI spec 27.1 and have the manufacturer’s SFI label attached. Honeycomb mesh or ribbon style window nets are acceptable. The ribbon type should be made from exactly 1 inch nylon material with a maximum 1 ¾ inch square opening between the ribbons.
- B. The window net must fill the entire window opening of the race vehicle to allow no more than 3 inches access to the drivers.
- C. Upper rod is required and must be made with a minimum of ½ inch solid steel and go 1 inch through upper rear mounting tab. If bottom rod is used it must also be made of ½ inch solid steel.
- D. All window net mounts must be welded to the roll cage. The window net, when in closed position must fit tight and be secured with a safety belt type of latch. Push button latches are not allowed.
- E. Velcro is not permitted.
- F. The window net latch must be located at the front top of the window opening.
- G. Spring type mounting of nets on the top or bottom is not permitted.
- H. The required latch system is the seat belt style buckle (part #Jaz-90803, Crow-11325, Mastercraft-11325). See drawing below.



#### **SR-12 Rear View Mirror**

- A. Rear view mirrors will be permitted.

#### **SR-13 Firewall**

- A. Firewalls must be metal (aluminum- .040 inch minimum or steel-20 gauge minimum) and separate the engine and fuel source from the driver's compartment (stock classes are required to use OEM firewalls).
- B. Complete front and rear firewalls are required.
- C. Engine and air cleaner must be completely covered with a metal cover or OEM hood. Cover must be a minimum thickness of .040 inch.
- D. The air cleaner opening must face away from driver and passenger if applicable.

#### **SR-14 Fire Protection**

- A. It is mandatory that all teams have 2 fully charged 10 pound dry chemical ABC fire extinguishers per entry in their pit area at all times.
- B. Bulk fuel storage is prohibited in pits.
- C. Metal drums, electric fuel pumps, and metal hand pumps are not allowed.
- D. Fuel jugs must be plastic and DOT approved.
- E. Plastic fuel pumps are the only fuel pumps allowed in the pits.
- F. Every pit must have "no smoking" signs posted every 30 feet at the front of the pit closest to the public walkways.
- G. Any awning over 100 square feet must have a valid flame certificate.
- H. It is highly recommended that all race vehicles have a remote, on board, 5 pound minimum fire suppression system.
- I. All trucks with automatic transmissions must have the fire suppression system piped to the engine and transmission compartments.
- J. Pro 4, Pro 2, and Pro Lite race trucks must have an access door on the right side of the driver's compartment. The door must be a minimum of 8 inches by 8 inches, painted red, be labeled FIRE DOOR and fold down towards the rear or outside of the truck, allowing unobstructed access to the engine and transmission. The fire door opening mechanism must only be a 2 inch by 2 inch butterfly wing quarter turn dzus button. No push button or other styles are allowed.

#### **SR-15 Batteries**

- A. Wetted fiber or gel cell batteries only.
- B. No liquid lead acid batteries will be permitted.

#### **SR-16 Driver Medical Attention**

- A. If a competitor requires medical attention, by track or other medical teams, the medical technician must release competitor before he/she may return to competition. Failure to comply with advice of the medical technician will result in disqualification from competition for the remainder of the event.
- B. If a driver loses consciousness at any time during an event, the driver cannot compete for at least 7 days or must be cleared by doctor before returning to competition.

### SR-17 Radios

- A. It is MANDATORY that driver is able to hear instructions from race control. This must be done through spotter radio communication.
- B. Radio communications between drivers is not permitted.
- C. All radio frequencies are subject to LORORS approval.
- D. Spotters are mandatory for all classes **as noted in section 5-10**.

### SR-18 Quality of Workmanship

- A. Race vehicle workmanship must meet with LORORS officials' approval.

### SR-19 Fueling of Race Vehicle

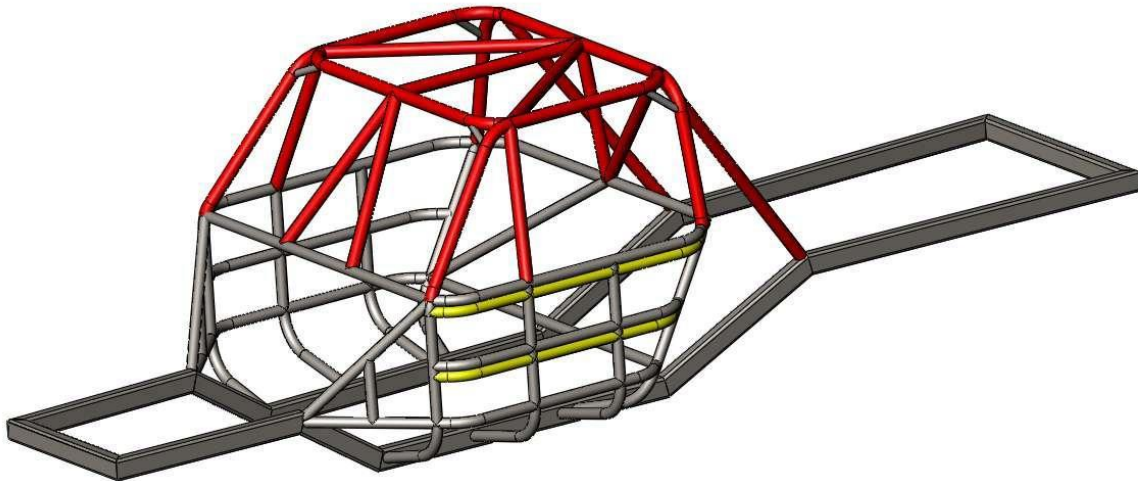
- A. No fuel will be added to race vehicles in staging, hot pits or on the starting line prior to a race or practice.

## LUCAS OIL REGIONAL OFF ROAD SERIES PRO TRUCK RULES

*Pro 4, Pro 2 & Pro Lite **technical rules** can be found in the Lucas Oil Off Road Racing Series Rule Book.*

*Lucas Oil **REGIONAL** Off Road Series Pro Lite Chassis Diagram to retrofit existing 1½ inch*

*V8 Prolite trucks*



All red tubes must be constructed from a minimum of 1¼ inch diameter x .120 tubing. Additional yellow door bars must be a minimum of 1½ inch diameter by .120 tubing. Placement of yellow bars can be adjusted in order to clear existing door plate tabs, hardware, etc.

## LUCAS OIL REGIONAL OFF ROAD SERIES OPEN V8 TRUCK RULES

*The Open V8 Truck class includes Trophy Truck, Class 8 and other V8 trucks. These trucks will be expected to adhere to division rules according to off road sanctioning bodies recognized by LORORS.*

## LUCAS OIL REGIONAL OFF ROAD SERIES FULL STOCK TRUCK RULES

*The following rules are intended to provide a cost effective, competitive fun entry level off road racing class. If there is not a rule here specifically allowing a modification from stock, it cannot be modified.*

**Full Stock Truck:** Full sized trucks and SUVs sold in the United States at least 10 years or older.

### FS-1 Marking and Identification

- A. All vehicle numbering is subject to approval and is assigned by LORORS.
- B. LORORS 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 all race vehicles must be in good taste.
- E. Foil or reflective numbers are not permitted.
- F. All LORORS vehicles are required to have LORORS stickers on each side of the front door area, 4 inches down from the window opening.
- G. LORORS may also require the use of specific sponsor decals.
- H. Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### FS-2 Numbers

- A. Numbers for the Full Stock class will be 1-99.
- B. All numbers must be block style only with a minimum space of 1 inch between them.
- C. Numbers must be side by side. **No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.**
- D. **Fonts must be chosen from one the below approved styles only:**
  - 1. **Impact**
  - 2. **Helvetica Black**
  - 3. **Mechanical Bold**
- E. Numbers will be located in the following positions:
  - 1. One number plate on each side, high and close to the back of the cab.
  - 2. Roof of vehicle as viewed from passenger side.
  - 3. One number plate on the back of the vehicle facing the rear.
  - 4. Upper left hand corner of windshield area.
- F. The side number plate must be white with a minimum size of 17 by 20 inches. Numbers must be solid black with a minimum height of 15 inches and a minimum width of 2 inches.
- G. Roof numbers must be a minimum height of 24 inches and a minimum width of 3 ½ inches.
- H. Rear facing numbers must be on a number white number plate measuring 9 inches by 9 inches. Numbers must be solid black with a minimum height of 8 inches and a minimum width of 1 ½ inches.

- I. Windshield numbers must be a minimum height of 4 inches wide and a minimum width of 1 inch.

### **FS-3 Roll Cage**

- A. All trucks must have a minimum of a six-point roll cage.
- B. All roll cages must be constructed of 1 ¾ inch diameter by .120 or larger seamless D.O.M. tubing for the main cab area. This includes all bars in the cab as well as the down bars that exit the rear of the cab.
- C. All roll cages must have 3 driver's side door bars with internal vertical supports.
- D. All roll cages must have at least 2 passenger side door bars. If carrying a passenger, the passenger side must have 3 door bars with internal vertical supports mimicking the driver's side.
- E. Driver side door bars must curve outward into the door to create a larger safer driver's compartment. If carrying a passenger, this applies to the passenger side as well.
- F. All roll cages must be constructed with diagonal supports to keep the cage from collapsing in a collision from any direction.
- G. All structural intersections of tubing must have a 3 inch by 3 inch by .120 plate gusset or a 1 inch diameter by .065 thickness tube gusset.
- H. Additional tubing beyond the minimum requirements may be added and does not have to be 1 ¾ inch by .120.
- I. All tubing, welds, gussets and roll cage construction is subject to LORORS approval.
- J. Roll bar construction must be welded.
- K. There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.



### **FS-4 Chassis**

- A. Frame:
  - 1. Complete unaltered OEM frames are required. No material may be removed with the exception of any unused brackets or tabs.
  - 2. Material may be added to reinforce the frame.
  - 3. No material may be removed from any cross member except for required driveshaft or rear end clearance.



4. Radiator may be relocated to the rear of the cab, but must have a firewall between the driver and radiator. If the radiator is positioned above the rear firewall, a protective screen must be installed to protect the radiator from puncture on the front side.
5. At no time can any portion of the radiator be outside the main roll cage structure.

**FS-5 Firewall**

- A. Complete front and rear OEM firewalls are required.
- B. All open holes in the firewalls must be filled so that no more than 3/8 inch openings exist.
- C. If vehicle has no OEM rear firewall, a firewall must be fabricated from steel or aluminum of at least .040 inch thickness. This must extend from the driver's shoulders down to the bottom of the cab and from side to side of the cab.

**FS-6 Exotic Materials**

- A. No titanium or other exotic materials or fasteners may be used anywhere in the vehicle.

**FS-7 Measurements**

- A. LORORS officials will determine all measurements and center points.
- B. Maximum track width is 70 inches as measured from outside of hub to outside of hub.
- C. Front wheel and rear wheel travel are both limited to 12 inches.
- D. Front wheel travel is measured on a vertical plane from the center point on the end of the spindle. Travel is checked with spring and wheel/tire removed. With the frame supported, the suspension is allowed to droop out. A measurement is taken from the ground to the center of the spindles (measurement B). Suspension is compressed fully and a measurement is taken from the ground to the center of the spindle (measurement A). Measurements are taken without bump stops. The wheel travel amount is measurement A minus measurement B.
- E. Rear wheel travel is measured on a vertical plane from the center of the rear axle. Rear wheel travel is measured by supporting the frame and allowing both rear wheels to droop completely. The measurement from the top of the axle housing to the bottom of the frame is rear wheel travel. Measurements are taken without bump stops.

**FS-8 Body**

- A. OEM cab must be used. No external modifications allowed except for the roll cage tubing clearance.
- B. Internal sheet metal may only be trimmed for roll cage clearance.
- C. Any unused tabs or brackets may be removed to provide a safer driver compartment.
- D. Grill with OEM appearance is recommended.
- E. All glass and removable trim must be removed.
- F. All headlights and side markers must be removed.
- G. Doors must be welded or bolted shut.
- H. Fenders must be securely bolted on. No Dzus fasteners allowed.
- I. Body must be mounted within 1 inch of factory location.
- J. Stock rubber body mounts may be removed or replaced with other material.
- K. Removal of front inner fenders is allowed.
- L. Up to 2 inches of front fender well opening may be removed and fenders may be flared out

- an additional 2 inches to allow for tire clearance.
- M. Dash may be removed. Aftermarket analog and electrical individual gauges are allowed. Electronic dashes are not allowed.
  - N. Fiberglass front and rear fenders are allowed.

### **FS-9 Bumpers & Nerf Bars**

- A. Bumpers and nerf bars must have looped ends.
- B. Front bumper may not extend more than 12 inches in front of the hood.
- C. Rear bumper must be built in a manner to protect the fuel cell from impact.
- D. Bumpers must not protrude past the outside of tires when viewed from the front or rear.
- E. Nerf bars are allowed, but may not extend more than 2 inches wider than the widest portion of the body. Nerf bars must be attached to frame.

### **FS-10 Suspension**

- A. All suspension components must remain stock, in stock locations, with original mounting methods maintained.
- B. Upper shock mounts may be relocated.
- C. Front lower shock mounting position may be relocated.
- D. Suspension components may be strengthened or gusseted as required.
- E. Rear lower shock mounts may be relocated but must remain on the rear end housing.
- F. Front and rear springs have to be in the stock location, but must remain on the A-arm.
- G. Aftermarket springs may be used. Coil carriers may not be used in place of coil springs.
- H. Rubber or polyurethane bump/droop stops are allowed.
- I. Secondary suspensions are not allowed.
- J. Limit straps are allowed.
- K. Bushings may be replaced, but must remain rubber or polyurethane.
- L. Two single point anti wrap up bars are allowed. These bars must be mounted parallel to the frame. They may only connect to the rear end housing at one point each.
- M. A-arm trucks may replace the upper A-arms with aftermarket A-arms, but they must be mounted in the stock location.
- N. A-arm trucks may replace the upper ball joint with a uni-ball or aftermarket balljoint.

### **FS-11 Shocks**

- A. No more than three 2 inch diameter shocks or one 2.5 inch diameter shock are allowed per wheel.
- B. Reservoirs are allowed.
- C. Externally adjustable shocks are not allowed.
- D. Bypass shocks, internal or external are not permitted.
- E. Shock length is open.

### **FS-12 Steering**

- A. All steering components must remain OEM stock for year and model of truck.
- B. The tie-rod sleeves may be replaced with a threaded tube of OEM length.
- C. Steering quickeners are allowed.
- D. Steering shaft that leads to the steering wheel must have at least 2 flexible joints in it.

- E. Any steering wheel may be used.
- F. Tie rods may be replaced by heim joints.
- G. Power steering is allowed.
- H. Steering box may be modified.
- I. Power steering pump is open.
- J. Power steering coolers are allowed.

### **FS- 13 Brakes & Hubs**

- A. Aftermarket brake components may be used. Only one brake pedal allowed.
- B. Modified hubs on  $\frac{3}{4}$  rear ends are legal, provided they are of the same material and maintain the same physical characteristics (weight, design, etc) as OEM hubs.

### **FS-14 Weight**

- A. 4 wheel drive trucks must weigh at least 4000 pounds.
- B. 2 wheel drive trucks must weigh at least 3750 pounds.
- C. Minimum weights are measured including driver as they come off track.
- D. Minimum weights may be measured before going on track as well.

### **FS-15 Engine**

- A. No aluminum heads of any type are allowed. Only OEM cast iron heads are allowed. Any iron heads made by an OEM for production are eligible for use. Aftermarket heads, to include Ford Racing, Mopar and GM Performance Parts are not permitted.
- B. Engine block must be OEM production cast iron block. Aftermarket blocks, to include Ford Racing, Mopar and GM Performance Parts blocks are not permitted.
- C. Maximum engine size is 360 cubic inches. Displacement formula for technical purposes is  $(\text{Bore}/2) \times (\text{Bore}/2) \times 3.14159 \times \text{Stroke} \times \# \text{ of cylinders}$ . All measurements are made in inches and rounded to the nearest thousandth.
- D. Commercially available aftermarket cast intake manifolds are allowed. No external modifications are allowed on the intake manifold. No fabricated intake manifolds are allowed.
- E. Any fuel pump and fuel pressure regulator may be used.
- F. Roller lifters are allowed if they were available from the specific manufacturer of the engine chosen.
- G. Roller rockers are allowed.
- H. Shaft-mounted rockers are not allowed unless available on production brand of choice vehicle.
- I. Porting/polishing heads is not allowed.
- J. Internal modifications (cam, crank, valve train, raise compression) to the engine are allowed as long as the the 91 octane and OEM cast iron requirements are met.
- K. Brackets/pulleys are open to use other OEM specific model serpentine systems.
- L. Water pumps are open but must be belt driven by the engine.
- M. OEM EFI are not allowed.

#### **FS-16 Oil System**

- A. All trucks with an electric fuel pump must have power to the fuel pump routed through an AC Delco low-oil-pressure switch (AC DELCO #25036938) to cut off power to the fuel pump in the event the engine stops.
- B. Any oil coolers, if used, must be located outside of the cab, and between the frame rails.
- C. No oil lines are allowed inside the cab.
- D. Accusumps are legal.

#### **FS-17 Electrical**

- A. 12 volt battery may be relocated, but must not be inside cab.
- B. 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.
- C. Master switch must be labeled, have a red circle around it, be located on the left hand 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.
- D. A working stock OEM alternator for the make and model of truck is required.
- E. A momentary switch is allowed for priming fuel system while engine is not running.
- F. Ignition components are open. HEI is allowed.

#### **FS-18 Engine Exhaust Systems**

- A. All trucks must have working muffler(s) unless not required by track management. All exhaust must pass through muffler(s).
- B. Any header may be used.

#### **FS-19 Carburetor**

- A. No fuel injections, supercharger or nitrous systems are allowed.
- B. All engines must remain naturally aspirated with a carburetor.
- C. Aftermarket carburetors are allowed. Only 1 carburetor may be used.
- ~~D. Restrictor plate is required and must be obtained from LORORS.~~

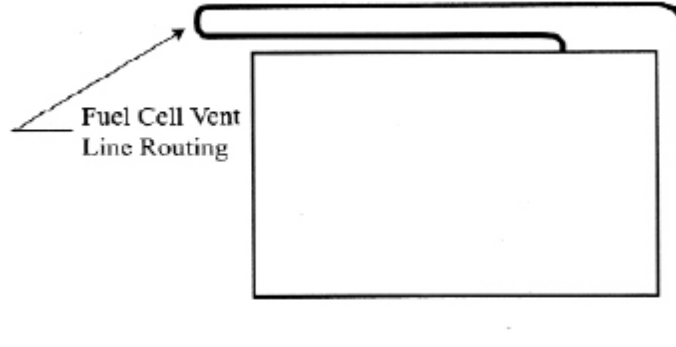
#### **FS-20 Air Cleaners**

- A. Any air cleaner may be used.

#### **FS-21 Fuel Cell**

- A. All trucks must use a commercially produced fuel cell located in the center of the bed.
- B. Fuel cell must have a bladder encased in a metal housing. The metal housing can be steel or aluminum, and must be at least 16 gauge thick.
- C. Fuel cell must be located in the middle of the bed area, and must be mounted with at least 1 inch by 1/4 inch thick flat steel bar stock.
- D. Fuel cell must have a minimum of 3 straps holding the cell in the truck.
- E. A protective skid plate of at least .125 inches thick must protect bottom of fuel cell.
- F. The fuel cell vent must be routed in such a manner to keep fuel from escaping in the event of a roll over.

- G. All fuel lines must be routed away from any moving objects and the exhaust.
- H. If the fuel cell is mounted within reach of the driveshaft, a protective shield must be mounted between the cell and the driveshaft.
- I. All mounting hardware for the fuel cell and shield must be a minimum of 3/8 inch diameter and grade 8 or better.



**FS-22 Fuel**

- A. Race fuel is not allowed. Pump gas with a maximum of 91 octane must be used.

**FS-23 Clutch**

- A. A performance clutch may be used to increase durability.

**FS-24 Transmission**

- A. A ¼ inch thick steel bell housing shield is required on manual transmission trucks. The shield must cover the top 180 degrees of the bell housing.
- B. On automatic transmission trucks, a transmission shield or blanket must cover the top 180 degrees of the main casing.
- C. Manual valve bodies are allowed.
- D. Any pan is allowed.
- E. Auxiliary transmission coolers are allowed.
- F. Any tailshaft housing/yoke is allowed.
- G. Lightening of transmission internals is not permitted.
- H. Transmissions are limited to stock ratios.
- I. All forward gears must function.
- J. Lockout/digital converters are not allowed.
- K. Computer controlled transmissions are allowed if they were in the specific OEM body/chassis chosen.

**FS-25 Rear Axle/Differential**

- A. A spool, limited slip or locker or welded spider gears are allowed.
- B. Ring and pinion gear ratio is open.
- C. Gusseting or strengthening of the rear end housing is allowed.
- D. Any manufacturer axle housing is allowed in any brand truck. Housing must be OEM (no sheet metal or fabricated rear ends).

- E. Aftermarket third members, carriers, diff covers, axles, yokes are allowed.
- F. C-clip eliminator kits are allowed.

**FS-26 Dip Sticks**

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

**FS-27 Drive Shaft**

- A. Drive shaft loop must be utilized to retain drive shaft.
- B. Drive shaft must be painted white and have vehicle number on it.

**FS-28 Tires & Wheels**

- A. Tire must be D.O.T. and available to the general public through normal dealer distribution.
- B. Maximum tire diameter is 33 inches.
- C. Beadlock wheels are permitted.
- D. No inner liners allowed.
- E. Wheels must be in good repair and may be made of either steel or aluminum.
- F. Wheel covers are not permitted.
- G. Any size wheel can be used.

**FS-29 Transponders/Timing**

- A. All teams are required to purchase remote timing transponders. Transponder numbers must be recorded with LORORS officials.
- B. 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.
- C. Transponders must be placed from front face of the front bumper center line 10 inches back on the driver's side of the the truck.

**LUCAS OIL REGIONAL OFF ROAD SERIES MINI OPEN TRUCK RULES**

*The Mini Open Truck class includes 4 cylinder and V6 1450 trucks & Trophylites. These trucks will be expected to adhere to division rules according to off road sanctioning bodies recognized by LORORS.*

**LUCAS OIL REGIONAL OFF ROAD SERIES MINI STOCK TRUCK RULES**

*The following rules are intended to provide a cost effective, competitive fun entry level off road racing class. If there is not a rule here specifically allowing a modification from stock, it cannot be modified.*

**Mini Stock Truck:** Compact or mid-sized truck or SUV sold in the United States that was produced for the 1997 model year or earlier and is included in the following list:

- A. Trucks:
  - Chevrolet Luv
  - Chevrolet S-10
  - Datsun pick-up
  - Dodge D50
  - Dodge Dakota

- Dodge Ram 50
- Ford Courier
- Ford Ranger
- GMC S-15
- Isuzu Hombre
- Isuzu P'up
- Isuzu TF
- Jeep Comanche
- Mazda B-series trucks
- Mitsubishi Mighty Max
- Mitsubishi Raider
- Nissan Hardbody
- Nissan Frontier
- Toyota pick-up
- Toyota Tacoma
- B. SUVs:
  - Chevy S-10 Blazer
  - Dodge Durango
  - Dodge Raider
  - Ford Bronco II
  - GMC Jimmy
  - Isuzu Rodeo
  - Honda Passport
  - Mitsubishi Montero
  - Nissan Pathfinder
  - Toyota 4runner
- C. Any truck not on this list must be approved by LORORS officials prior to entering a LORORS event.

### **MS-1 Marking and Identification**

- A. All vehicle numbering is subject to approval and is assigned by LORORS.
- B. LORORS 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 all race vehicles must be in good taste.
- E. Foil or reflective numbers are not permitted.
- F. All LORORS vehicles are required to have LORORS stickers on each side of the front door area, 4 inches down from the window opening.
- G. LORORS may also require the use of specific sponsor decals.
- H. Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### **MS-2 Numbers**

- A. Numbers for the Mini Stock class will be 1-99.
- B. All numbers must be block style only with a minimum space of 1 inch between them.

- C. Numbers must be side by side. **No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.**
- D. **Fonts must be chosen from one the below approved styles only:**
  - 1. **Impact**
  - 2. **Helvetica Black**
  - 3. **Mechanical Bold**
- E. Numbers will be located in the following positions:
  - 1. One number plate on each side, high and close to the back of the cab.
  - 2. Roof of vehicle as viewed from passenger side.
  - 3. One number plate on the back of the vehicle facing the rear.
  - 4. Upper left hand corner of windshield area.
- F. The side number plate must be white with a minimum size of 15 by 18 inches. Numbers must be solid black with a minimum height of 13 inches and a minimum width of 2 inches.
- G. Roof numbers must be a minimum height of 22 inches and a minimum width of 3 inches.
- H. Rear facing numbers must be on a white number plate measuring 9 inches by 9 inches. Numbers must be solid black with a minimum height of 8 inches and a minimum width of 1 ½ inches.
- I. Windshield number must be a minimum height of 4 inches and a minimum width of 1 inch.

### **MS-3 Roll Cage**

- A. All trucks must have a minimum of a six-point roll cage.
- B. All roll cages must be constructed of 1 ½ inch diameter or 1 ¾ inch diameter by .120 or larger seamless D.O.M. or 4130 tubing for the main cab area. This includes all structural bars in the cab as well as the down bars that exit the rear of the cab. Structural bars are: front down legs in cab, main hoop, main halo, dash bar, driver's side door bars and rear down bars.
- C. All roll cages must have 3 driver's side door bars with internal vertical supports.
- D. All roll cages must have at least 2 passenger side door bars. If carrying a passenger, the passenger side must have 3 door bars with internal vertical supports mimicking the driver's side.
- E. Driver side door bars must curve outward into the door to create a larger safer driver's compartment. If carrying a passenger, this applies to the passenger side as well.
- F. All roll cages must be constructed with diagonal supports to keep the cage from collapsing in a collision from any direction.
- G. All structural intersections of tubing must have a 3 inch by 3 inch by .120 gusset.
- H. Additional tubing beyond the minimum requirements may be added and does not have to be 1 ½ inch by .120.
- I. All tubing, welds, gussets and roll cage construction is subject to LORORS approval.
- J. Roll bar construction must be welded.
- K. There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.





#### **MS-4 Chassis**

- A. Frame:
  - 1. Complete unaltered OEM frames are required. No material may be removed with the exception of any unused brackets or tabs. Body mount may be modified or removed for roll cage clearance.
  - 2. Material may be added to reinforce the frame.
  - 3. No cross members may be removed except for those that interfere with the driveshaft or rear end housing. That means no moving, modifying or removing a cross member for any other reason including shock clearance, fuel cell mounting, weight reduction or suspension component mounting.
  - 4. Radiator may be replaced, but must remain in stock location. Electric fans are allowed.

#### **MS-5 Firewall & Floor**

- A. Complete front and rear OEM firewalls are required.
- B. All open holes in the firewalls must be filled so that no more than 3/8 inch openings exist.
- C. Tire clearance “tubs” may be added to the front firewall, but can only be the minimum required to clear the tires.
- D. Complete OEM floor is required.

#### **MS-6 Exotic Materials**

- A. No titanium or other exotic materials or fasteners may be used anywhere in the vehicle.

#### **MS-7 Measurements**

- A. LORORS officials will determine all measurements and center points.
- B. Front wheel travel is limited to 9 inches.
- C. Front wheel travel is measured on a vertical plane from the center point on the end of the spindle.  
Travel is checked with spring and wheel/tire removed. With the frame supported, the suspension is allowed to droop out. A measurement is taken from the ground to the center of the spindles (measurement B). Suspension is compressed fully and a measurement is taken

- from the ground to the center of the spindle (measurement A). Measurements are taken without bump stops. The wheel travel amount is measurement A minus measurement B.
- D. Rear wheel travel is limited to 11 inches.
  - E. Rear wheel travel is measured on a vertical plane from the center of the rear axle.  
Rear wheel travel is measured by supporting the frame and allowing both rear wheels to droop completely. The measurement from the top of the axle housing to the bottom of the frame is rear wheel travel. Measurements are taken without bump stops.

#### **MS-8 Body**

- A. OEM cab must be used. No external modifications allowed except for the roll cage tubing clearance.
- B. Internal sheet metal may only be trimmed for roll cage clearance.
- C. Any unused tabs or brackets may be removed to provide a safer driver compartment.
- D. Grill with OEM appearance is recommended.
- E. All glass and removable trim must be removed.
- F. All headlights and side markers must be removed. Headlight openings must be covered.
- G. Doors must be welded or bolted shut.
- H. Fenders must be securely bolted on. No Dzus fasteners allowed.
- I. Body must be mounted within 1 inch of factory location.
- J. Stock rubber body mounts may be removed or replaced with other material.
- K. Removal of front inner fenders, core support and truck bed is allowed.
- L. Up to 2 inches of front fender well opening may be removed and fenders may be flared out an additional 2 inches to allow for tire clearance.
- M. Dash may be removed. Aftermarket analog and electrical individual gauges are allowed. Electronic dashes are not allowed.
- N. Fiberglass front and rear fenders are allowed.

#### **MS-9 Bumpers/Nerf Bars**

- A. Front and rear bumpers are required.
- B. Bumpers and nerf bars must have looped ends.
- C. Front bumper must be at least 36 inches wide and must not extend beyond the outside edge of each tire.
- D. Front bumper may not extend more than 12 inches in front of the hood.
- E. Rear bumpers must extend from framerail to framerail in order to protect the fuel cell from impact,
- F. Rear bumper may not extend wider than the outside edge of each bedside.
- G. Rear bumper may not extend more than 6 inches beyond the rear of each bedside.
- H. Bumpers must not protrude more than 2 inches past the outside of tires when viewed from the front or rear.
- I. Nerf bars are allowed, but may not extend more than 2 inches wider than the widest portion of the body. Nerf bars must be attached to frame below the body. No holes may be cut in body for nerf bar tubes.

#### **MS-10 Suspension**

- A. All suspension components must remain stock, in stock locations, with original mounting methods maintained.

- B. Front upper A-arms may be trimmed along the inside edge so as to allow for a 2.5" diameter shock to fit inside without contact throughout the full wheel travel motion.
- C. Upper shock mounts may be relocated.
- D. Front lower shock mounts must use the approximate factory location but may be changed to spherical bearing type mounts.
- E. Suspension components may be strengthened or gusseted as required.
- F. Rear lower shock mounts may be relocated but must remain on the rear end housing or on the leaf spring U bolt backing plate.
- G. Front and rear springs have to be in the stock location, use stock pivot points and be of the original design.
- H. Aftermarket springs may be used.
- I. If using aftermarket leaf springs, the OEM stock shackles must be used and OEM shackle mount location must be used.
- J. If OEM leaf springs are used, aftermarket shackles are allowed and shackle mount location is open.
- K. Rubber or polyurethane bump/droop stops are allowed.
- L. Secondary suspensions are not allowed.
- M. Limit straps are allowed.
- N. Bushings may be replaced, but must remain rubber or polyurethane.
- O. Two single point anti wrap up bars are allowed. These bars must be mounted parallel to the frame. They may only connect to the rear end housing at one point each.
- P. Sway bar parts may be removed.
- Q. Rear lowering blocks may be used.

#### **MS-11 Shocks**

- A. One shock can be used per wheel.
- B. Shocks may not be larger than 2.5 inch diameter.
- C. Reservoirs are allowed.
- D. Externally adjustable shocks are not allowed.
- E. Bypass shocks, internal or external are not permitted.
- F. Shock length is open.

#### **MS-12 Steering**

- A. All steering components must remain OEM stock for year and model of truck.
- B. The tie-rod sleeves may be replaced with a threaded tube of OEM length.
- C. Steering quickeners are allowed.
- D. Steering shaft that leads to the steering wheel must have at least 2 flexible joints in it.
- E. After market steering shaft and steering wheel may be used.
- F. Any aftermarket power steering pump or reservoir is allowed.

#### **MS-13 Brakes**

- A. No disc brakes unless factory installed.
- B. Brake parts may be removed.
- C. Master cylinder and clutch cylinder may be moved for tire clearance.
- D. Aftermarket brake and clutch lines may be used.

#### **MS-14 Weight**

- A. 4 cylinder trucks with engines less than 2.5 liters must weigh at least 2600 pounds.
- B. 4 cylinder trucks with 2.5 to 2.7 liter engines must weigh at least 2800 pounds.
- C. 6 cylinder trucks with engines less than 3.0 liters must weigh at least 3200 pounds.
- D. Minimum weights may be measured at any time, before or after entering/exiting track.

#### **MS-15 Engine**

- A. No internal performance modifications may be made to the engine. Standard rebuild type machine work is allowed with prior written approval from LORORS officials.
- B. Engine must have been available in the year and model of truck being raced.
- C. Any fuel pump and fuel pressure regulator may be used.
- D. 4 cylinder engines are limited to a displacement of no more than 2.7 liters.
- E. 6 cylinder engines are limited to a displacement of no more than 3.0 liters.
- F. All internal engine parts must be OEM or OEM replacement.
- G. All emissions equipment can be removed and/or blocked off.
- H. Aftermarket motor mounts may be used but must remain in stock location.

#### **MS-16 Oil System**

- A. All trucks with an electric fuel pump must have power to the fuel pump routed through an AC Delco low-oil-pressure switch (AC DELCO #25036938) to cut off power to the fuel pump in the event the engine stops.
- B. Any oil coolers, if used, must be located forward of the firewall, and between the frame rails.
- C. No oil lines are allowed inside the cab.

#### **MS-17 Electrical**

- A. Battery may be relocated, but must not be inside cab.
- B. 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.
- C. Master switch must be labeled, have a red circle around it, be located on the left hand 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.
- D. A working stock OEM alternator for the make and model of truck is required.
- E. A momentary switch is allowed for priming fuel system while engine is not running.
- F. Aftermarket ignition boxes may be used on trucks with carburetors but must be mounted away from driver. ECUs can be remapped.
- G. MSD 6425, 6430 and 6440 ignition boxes are allowed.
- H. Any coil is allowed.

#### **MS-18 Engine Exhaust System**

- A. All trucks must have working muffler(s). All exhaust must pass through muffler(s).
- B. Any header may be used.

### MS-19 Carburetor

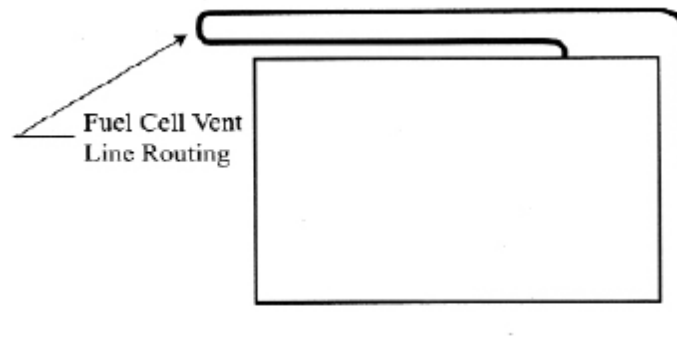
- A. No supercharger, turbo or nitrous systems are allowed.
- B. Only OEM EFI systems are allowed. No aftermarket or modified components are allowed with the exception of the fuel pump and fuel pressure regulator.
- C. Conversion from fuel injection to carburetor is allowed. Adapter may be no more than 1.25" thick including any gaskets. OEM intake manifold is still required but can be from engine if available.
- D. Only the OEM carb or a Holley 350 style 2-barrel carb are allowed on carbureted trucks.
- E. On carbureted trucks, no modifications may be made to the throttle plates, base plate or venturi. Choke plates may be permanently open, but must remain.

### MS-20 Air Cleaners

- A. Any air cleaner may be used.

### MS-21 Fuel Cell

- A. All trucks must use a commercially produced fuel cell located in the center of the bed.
- B. Fuel cell must have a bladder encased in a metal housing. The metal housing can be steel or aluminum, and must be at least 16 gauge thick.
- C. Fuel cell must be located between the frame rails, and must be protected with by 1 ½ inch by .120 tubing in front of, below and next to the fuel cell to protect from contact.
- D. Fuel cell must have a minimum of 2 straps holding the cell in the truck,
- E. A protective skid plate of at least .125 inches thick must protect bottom of fuel cell.
- F. The fuel cell vent must be routed in such a manner to keep fuel from escaping in the event of a roll over.
- G. All fuel lines must be routed away from any moving objects and the exhaust.
- H. If the fuel cell is mounted within reach of the driveshaft, a protective shield must be mounted between the cell and the driveshaft.
- I. All mounting hardware for the fuel cell and shield must be a minimum of 3/8 inch diameter and grade 8 or better.



### MS-22 Fuel

- A. Race fuel is not allowed. Pump gas with a maximum of 91 octane must be used.

**MS-23 Clutch**

- A. A performance clutch may be used to increase durability.

**MS-24 Transmission**

- A. A ¼ inch thick steel bell housing shield is required. The shield must cover the entire top clutch assembly 180 degrees.
- B. No internal performance modifications may be made to the transmission. Standard rebuild type machine work is allowed with prior written approval from series tech officials.
- C. Transmission type must have been available in the year and model of truck being raced.
- D. Fabricated rear transmission cross member and mount are allowed.

**MS-25 Rear Axle/Differential**

- A. A spool, limited slip, locker or welded spider gears are allowed.
- B. Ring and pinion gear ratio is open.
- C. Aftermarket wheel studs are allowed.
- D. Gusseting or strengthening of the rear end housing is allowed.
- E. The rear end must have been available in the year and make of the truck used.
- F. C clip eliminators are allowed.

**MS-26 Front Axle/Differential**

- A. 4 wheel drive trucks must remove front driveline.
- B. Front differential parts may be removed.
- C. Aftermarket wheel studs are allowed.

**MS-27 Dip Sticks**

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

**MS-28 Drive Shaft**

- A. Drive shaft loop must be utilized to retain drive shaft.
- B. Drive shaft must be painted white and have vehicle number on it.

**MS-29 Tires & Wheels**

- A. Tire must be D.O.T. and available to the general public through normal dealer distribution.
- B. Maximum tire diameter is 31 inches.
- C. Beadlock wheels are not permitted.
- D. No inner liners allowed.
- E. Wheels must be in good repair and may be made of either steel or aluminum.
- F. Wheel covers are not permitted.

## **MS-30 Transponders/Timing**

- A. All teams are required to purchase remote timing transponders. Transponder numbers must be recorded with LORORS officials.
- B. 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.
- C. Transponders must be placed from front face of the front bumper center line 10 inches back on the driver's side of the truck.

### **LUCAS OIL REGIONAL OFF ROAD SERIES DESERT BUGGY RULES**

*The Desert Buggy class includes Class 1, Class 10 and Class 12 purpose built desert buggies. The 1600 Desert Buggy class includes Class 1600 purpose built desert buggies. These vehicles will be expected to adhere to all LORORS General Buggy Rules as well as appropriate division rules according to off road sanctioning bodies recognized by LORORS. .*

### **LUCAS OIL OFF ROAD RACING SERIES GENERAL BUGGY RULES**

***These are the general rules for all buggy classes. Class specific rules are listed after these. Refer to the LOORRS rule book for Pro Buggy class rules.***

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

- A. All vehicle numbering is subject to approval and is assigned by LORORS.
- B. LORORS 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 LORORS vehicles are required to have LORORS stickers on each side of the front of the door area, 4 inches down from the window opening.
- G. LORORS 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. All numbers must be block style only.
- C. Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- D. Fonts must be chosen from one the below approved styles only:
  - 1. Impact
  - 2. Helvetica Black
  - 3. Mechanical Bold
- E. Numbers must be located in the following positions:

1. One number on each side, high and close to the back of roof. Numbers must be solid black with a minimum height of 10 inches on a 12 inch by 14 inch white number plate.
2. The back of the vehicle facing the rear. Numbers must be solid black with a minimum height of 8 inches on a 10 inch by 12 inch white number plate.
3. Windshield number and division must be on the upper driver's side corner of the windshield area and must be solid black on a white surface with a minimum height of 4 inches.

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

- A. All tubing, welds, gussets, and roll cage construction must be approved by LORORS.
- B. Round steel seamless or D.O.M. tubing is compulsory for the basic roll cage construction and must be LORORS 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 x 3 inches.
- 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. Pro Buggies may use titanium for engine components.

### **GBR-5 BODY**

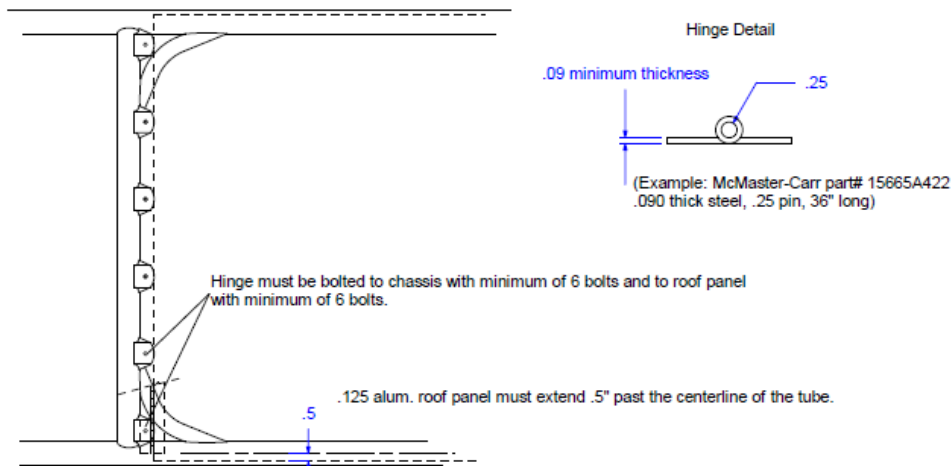
- A. Complete bodies must be attached at the start of competition, practice or any other on track activities. Bodies must be attached in such a fashion as to not create a pointed or sharp extrusion when panels are removed. A loop body mounting construction is mandatory.
- B. Driver's compartment floors must be a minimum of 1/8 inch for all classes. Floor must extend from 4 inches in front of pedals to 4 inches in rear of seat.

### **GBR-6 ROOF**

- A. All vehicles must have a roof that is properly attached to the roll cage.
- B. Roof mounting must not interfere with roll bar padding.
- C. Aluminum sheeting with a minimum thickness of 1/8 inch must completely cover the top of the roll cage.
- D. Sheeting must extend 1/2 inch past the center line of tubes on sides.
- E. Sheeting must be attached with a steel hinge in front.



- F. Hinge must be full width of front of cage and must be made of steel with a minimum thickness of .090. This is required for Limited and Pro Buggy classes and recommended in all other buggy classes. See diagram.
- G. Hinge must have a steel pin with a minimum diameter of .250.
- H. Hinge must be attached to cage with a minimum of six 1/4 bolts evenly spaced across the hinge.
- I. Hinge must be attached to sheeting with a minimum of six 1/4 inch bolts.
- J. Mounting tabs must be a minimum of .095 thick.
- K. Positive latching system must be LORORS approved.



**GBR-7 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-8 STEERING COMPONENTS**

- A. LORORS 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 LORORS officials.

**GBR-9 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 tunes and reservoir cans.
- E. Remote mounted shocks are not allowed unless approved by LORORS officials.
- F. Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.

### **GBR-10 BRAKES & BRAKE COOLING**

- A. Brakes must be operational on all four wheels at all times. All brake operation must be LORORS 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-11 WEIGHT**

- A. Driver will be included in race vehicle's minimum weight.
- B. Vehicles can be courtesy weighed prior to competition.
- C. LORORS 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 LORORS 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 LORORS 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-12 ENGINE BLOCKS**

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

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

- A. All ignition systems must be approved by LORORS.
- B. No computerized systems are permitted unless LORORS 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 LORORS.
- B. No icing refrigerant chemicals may be used in or near the engine compartment or in any place on the car.
- 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 not extend past driver compartment and be routed to the outer edge of the vehicle and to the rear of the vehicle.
- 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**

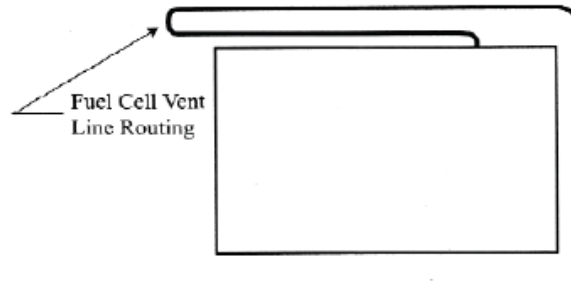
- A. Fuel injection is allowed in the Desert Buggy class only.

#### **GBR-19 FUEL CELL**

- A. All fuel cells must be LORORS approved.
- B. LORORS 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. Digital dash or electrical device may replace mandated mechanical fuel pressure switch for operation of electric fuel pump, provided operation can be verified by the tech team to only allow power to fuel pump for a maximum of 4 seconds when engine is not running.
- 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. **Permitted Fuel:** Permitted fuel is herein defined as gasoline meeting specified dielectric constant standards and not contain any prohibited substance in excess of stated limits. Gasoline is a mixture of refined hydrocarbons. Gasoline is an electrical insulator and its relative effectiveness as an insulator is represented by its dielectric constant (D.C.). The D.C. of gasoline will be measured by an LORORS FTK01 Fuel Check Meter. The 0 (zero) calibration of the LORORS Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at LORORS events by the determination of the dielectric constant using the LORORS Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, LORORS shall take appropriate action. Penalties for use of non-compliant fuel can include one or more of the following: fine, reduction of points, disqualification and loss of prizes and/or suspension. If the services of an outside laboratory was used and the fuel was found to be non-compliant by the laboratory, the racer will be assessed the cost of the fuel transportation to the laboratory and laboratory fees.
- B. **Restricted Substances:** The fuel must not be blended with other alcohols, ethers, or oxygenates, and it must not be blended with aniline or its derivatives, nitroparaffins or other nitrogen containing compounds Nitrous oxide is forbidden.
- C. **Cooling:** The cooling of fuel is not permitted during competition.
- D. **Fuel Samples:** LORORS has the right to sample a Competitor's fuel at any time during the Event. Samples will be impounded for observation and or testing by LORORS and/or any outside laboratories at LORORS discretion.
- E. No nitrous oxide.
- F. If LORORS officials suspects maskers in fuel, chemical testing will be conducted at possible expense to the competitor.

- G. 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 LORORS.
- 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.
- E. All bead locks must have recessed bolts only that do not protrude past the face of the ring.

#### **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 LORORS prior to their use.
- D. All race vehicle radio communication systems must be approved by LORORS.
- E. See Section 5 of LORORS General Rules for spotter requirements.
- F. Spotters are required for all race teams.
- G. Any 2 way radios used at a LORORS event may not exceed 6 watts output.

#### **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 LORORS.
- B. All LORORS teams are required to purchase remote timing transponders. Transponders can only be purchased through LORORS and numbers must be recorded with LORORS 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.

## **LUCAS OIL REGIONAL OFF ROAD SERIES LIMITED BUGGY RULES**

***-A limited 4 wheel vehicle utilizing a type-1, 1600 cc Volkswagen air-cooled engine with one person in the vehicle.***

### **LB-1 RACE VEHICLE**

- A. The front bumper must be a minimum of 32 inches with rounded ends.

### **LB-2 WHEEL BASE**

- A. Minimum 95 inches.

### **LB-3 FRONT SUSPENSION**

#### **Allowed:**

- A. Type .1. Volkswagen suspension only. Stock beam width only—34 3/16 inches.
- B. Any manufacturer of parts as long as stock dimensions and measurements are maintained.
- C. Reinforcement of stock components.
- D. Front axle torsion tubes may be cut, rotated, torsion adjusters installed and re-welded.
- E. Ball joint or kingpins.
- F. Any manufacturer tie rods and tie rod ends.
- G. Shock towers may be strengthened, replaced, extended, but must be attached to the front beam.
- H. Trailing arms can be reinforced or replaced with after-market arms. Stock dimension must be maintained.
- I. Lower shock mounting stud may be relocated and/or enlarged.
- J. Spindles may be reinforced or replaced.
- K. Any manufacturer torsion bars allowed.
- L. Sway bars can be removed.

#### **Not Allowed:**

- A. Any type of secondary suspension.
- B. Aluminum front axle beams.

### **LB-4 REAR SUSPENSION**

#### **Allowed:**

- A. Volkswagen type 1 IRS or swing axle only. The rear track width must not exceed 51 inches from the backing plate flange to the backing plate flange, while at ride height.
- B. Strengthening or replacement of the IRS swing arms as long stock dimensions are retained plus or minus one 1 inch. Stock dimensions: from the center line of the rear torsion housing to the center of the rear stub axle-16.25 inches, plus or minus 1 inch. The maximum measurement will be 17.25 inches.
- C. Torsion adjusters.

- D. Any manufactured rear torsion bars, axles, spring plates and additional retainer straps as long as original type suspension is retained.
- E. Rear torsion tube may be strengthened or replaced stock/maximum width is 40.5 inches.
- F. Trailing arm bracket must be 13.50 inches plus or minus 1 inch, measured from the inside of the spring/flex plate to the inner most flange of the trailing arm pivot point.

**Not Allowed:**

- A. Any type of secondary suspension.

**LB-5 STEERING**

- A. Open.

**LB-6 SHOCK ABSORBERS**

**Allowed:**

- A. Any size or number.
- B. Cooling fins.

**Not Allowed:**

- A. Air or coil over shocks.

**LB-7 BRAKES**

- A. Any manufacturer drum or disk brakes allowed.
- B. Maximum front track width from wheel mounting surface to wheel mounting surface at ride height will be 56".
- C. Maximum rear wheel track width from wheel mounting surface to wheel mounting surface at ride height will be 58.75".
- D. Track width may be adjusted as more information becomes available.

**LB-8 WEIGHT**

**Allowed:**

- A. Minimum weight with driver, 1600 pounds at race end with driver, cleaning of vehicle may be required.
- B. Ballast allowed with  $\frac{3}{8}$  minimum hole to secure to the frame.

**LB-9 ENGINE**

- A. Must be Volkswagen type 1, 1600 CC US spec. as received from the factory.
- B. Maximum engine displacement will be 1600 CC-85.5 MM bore diameter x 69 MM stroke, plus or minus .015 stroke.
- C. Maximum stroke allowed is 2.7465.
- D. No titanium composite parts or materials allowed in engine except valve spring retainers.

**LB-10 CASE**

**Allowed:**

- A. Any type 1, 2, 3 or universal case.
- B. Align bored.

- C. Drilled and/or tapped for oil pressure and/or temperature sending unit.
- D. Machined or push in crank pulley seal.
- E. Case savers.
- F. Seating surfaces for cylinders may be machined.
- G. Oil galleries on the early cases may be enlarged to 10 MM the same as a universal case.
- H. All oil gallery plugs may be removed and threaded.
- I. Oil by pass pistons and springs-open.
- J. Windage trays.
- K. Internal de-burring.

**Not Allowed:**

- A. Any other modifications.

**LB-11 CRANKSHAFT**

**Allowed:**

- A. Stock Volkswagen type .1. 1600 CC only.
- B. Any gears.
- C. Any size power pulley.
- D. Sand seals
- E. 030 undersize
- F. Balancing

**Not Allowed:**

- A. Polishing, knifing and/or lightening.
- B. Counterweights.

**LB-12 FLYWHEEL**

**Allowed:**

- A. Stock Volkswagen type 1 design only.
- B. Lightening and balancing.
- C. Stock diameter.
- D. Eight doweled.
- E. Any gland nut and washer.

**Not Allowed:**

- A. Aluminum.

**LB-13 BEARINGS**

- A. Any brand manufactured as long as stock dimensions are maintained.

**LB-14 CAMSHAFT AND CAMSHAFT GEAR**

- A. Any manufacturer.

**LB-15 PISTON ASSEMBLIES AND CYLINDERS**

**Allowed:**

- A. Any manufactured flat top pistons but stock dimensions must be retained 85.5 MM. Three ring pistons only.



- B. Wrist pin retainer may be of any style.
- C. Volkswagen # 311 B or any VW aftermarket rods . Minimum length 5.395 plus or minus .010.
- D. Balancing of rod and pistons allowed
- E. One rod must be left untouched.
- F. Minimum piston weight of 310 grams.
- G. Cylinders be machined for proper deck height.
- H. Piston skirts may be drilled. Three 1/8 inch diameter holes per side. A total of 6 holes.

**Not Allowed:**

- A. Slipper skirts.
- B. Volkswagen "a" rods. I.D. rod bolts.
- C. Polishing or profiling.
- D. Dished or domed pistons.
- E. Machined notching for valves.
- F. Cutting of the piston top other than 90 degrees.

**LB-16 CYLINDER HEADS**

**Allowed:**

- A. U.S. sedan stock single port or dual port design. VW Dual Port original equipment #'s:
  - 1. # 0401013752
  - 2. # 04010137513
  - 3. # 04010137519
  - 4. # OEM 311
  - 5. Aftermarket direct replacement head Mofoco #MFC-CC040 is also allowed.
- B. Fly cutting for compression.
- C. Combustion chamber volume open.
- D. Welding of the cylinder head-may not be welded 360 degrees in the cylinder seating surfaces.
- E. Welding for repairs only.

**Not Allowed:**

- A. Grinding, polishing or porting in any area of the head, no back cutting of the valves.
- B. Angle cutting of the head.

**LB-17 VALVES**

**Allowed:**

- A. One-piece valve of any manufacturer, stock sizes must be maintained. Intake 35.5 MM, exhaust 32.0 MM. Stainless steel.
- B. Single 45-degree angle.
- C. Valve guide may be bronze, cast iron or steel of any, manufacture and length.
- D. Valve guide seal.
- E. Any manufacture of valve springs, spring retainers and lifters.
- F. The valve spring seat diameter may be machined for dual springs.

**Not Allowed:**

- A. Grinding, polishing, blending or porting of any kind.
- B. Titanium valves or any other exotic materials.
- C. No carbon fiber push rods or ceramic lifters allowed.

## **LB-18 ROCKER SHAFTS AND ARMS**

### **Allowed:**

- A. Any shaft that permits the use of stock Volkswagen type 1 1600 cc 1.1 to 1 rocker arms only.
- B. Any manufacturer push rods and tubes
- C. Resurfacing on the adjusting screw end to permit the use of swivel feet adjusters.
- D. Any manufacturer valve covers and gaskets

### **Not Allowed:**

- A. Any other modifications.
- B. No needle or roller bearings permitted.

## **LB-19 OIL PUMP / SYSTEM**

### **Allowed:**

- A. Any manufacturer.

### **Not Allowed:**

- A. Deep and/or dry sumps.
- B. Sump alterations.

## **LB-20 IGNITION SYSTEMS**

- A. A distributor must be used to activate spark to the spark plugs.
- B. One distributor only.

### **Allowed:**

- A. Battery 6 or 12 volt.
- B. Any manufacturer distributor.
- C. Any Volkswagen alternator or generator in the stock location.
- D. Magnetic pick-ups that directly replaces the points.

### **Not Allowed:**

- A. Magneto, multiple coil and direct fire ignition system.

## **LB-21 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, microcontrollers, processors, recording devices, electronic memory chips, traction control devices or digital dashes.

## **LB-22 STOCK FAN SHROUD**

- A. Any manufacturer.

## **LB-23 EXHAUST**

- A. After-market exhaust allowed; mufflers are optional.

## **LB-24 CARBURETOR**

### **Allowed:**

- A. Stock Volkswagen 30 pic 1, 2, 3, and H-30 pic only.
- B. Maximum Venturi size 24.10 MM.
- C. Removing of automatic choke housing, choke plate and shaft.
- D. Stock float bowl vent may be removed and plugged, external float vent allowed.
- E. Any fuel pump stock or electrical, any fuel pressure regulator.
- F. Any manufacturer air/fuel filter and any location allowed.
- G. Velocity Stacks
- H. Brosol PIC carburetor is allowed, no modifications to throttle shaft, throttle plate or venturi.

**Not Allowed:**

- A. No bonding or welding of velocity stack to the carburetor.
- B. No internal modifications.
- C. No polishing or filing.
- D. No chemical milling.
- E. Removal of any parts from the throat area.

**LB-25 RESTRICTOR PLATE**

**Allowed:**

- A. Restrictor plate may be removed. Existing restrictor plate may remain in place and be bored out if needed as a spacer.
- B. Must be the only piece between the carburetor and the intake manifold.
- C. Dual port manifolds must have 34mm to 30mm adapter. Part number EMPI 981293B.

**LB-26 INTAKE MANIFOLD**

**Allowed:**

- A. Stock single or dual port only.
- B. Heater tubes removed.
- C. May be shortened but not welded back together. Hose and clamps must be used to secured the manifold back together and allow inspection.
- D. Intake must have OEM dual port casting only with VW casting numbers.
- E. The sleeving of a dual port manifold center section ends to accept better hoses.
- F. Welding balancing slots closed.

**Not Allowed:**

- A. Any modifications.
- B. Chemical milling.

**LB-27 FUEL CELLS**

- A. Mandatory.
- B. Maximum size is 9 gallons.
- C. All fuel and vent lines must come out of the top of the cell.

**LB-28 OIL COOLERS**

**Allowed:**

- A. Any full flows system.

**Not Allowed:**

- A. Deep or dry sump.

## **LB-29 CLUTCH AND PRESSURE PLATE**

### **Allowed:**

- A. Stock diameter only.
- B. Balancing.

## **LB-30 TRANSMISSION**

### **Allowed:**

- A. Stock Volkswagen type 1 or 2 transaxle housing.
- B. Four forward gears only.
- C. Internal modifications.
- D. Any gear combinations.
- E. Only Volkswagen style gears.

### **Not Allowed:**

- A. Gears other than Volkswagen.

## **LB-31 WHEELS AND TIRES**

- A. Tires must be DOT only, produced in quantity each year, must be available to the general public through normal dealer distribution and must not exceed \$200 in price.
  - 1. DOT tire classes are restricted to car/truck tires that are intended for highway use and are available to the general public through standard dealers. Internet or one store only tires are NOT acceptable.
  - 2. Tires need to be part of a multiple line of tire sizes within a currently sold design. A tire used in the race should be identical in construction: rubber compound, sidewall with identical tread design as other sizes not used in the race (Example – if the tire used is a 32" tire, other tires from the manufacturer in sizes like 31" and 33" will be the same as the tires raced upon).
- B. Durometer testing will be done and shall not be below 58 points. Tires may be Durometer tested with race ready conditions prior to any competition on the track.
- C. Wheels must have a Volkswagen big 5 bolt pattern.

## **LUCAS OIL REGIONAL OFF ROAD SERIES UTV RULES**

***The following rules are intended to provide a cost effective, competitive fun entry level off road racing class. If there is not a rule here specifically allowing a modification from stock, it cannot be modified.***

**Unlimited UTV:** Heavily modified UTV up to 1000cc displacement.

**SR1 UTV:** Heavily modified Yamaha Rhino, utilizing a Yamaha R1 1000cc engine or a Kawasaki Teryx, utilizing a ZX-10, 1000 cc engine.

~~**RZR XP:** Stock Polaris RZR XP 900 UTV~~

**Production 1000:** Stock 1000 cc UTV

**Production Turbo:** Stock 1000 cc factory turbo UTV

**RZR 170:** Stock Polaris RZR 170 UTV driven by children ages 6-12

### UTVR-1 Marking and Identification

- A. All vehicle numbering is subject to approval and is assigned by LORORS.
- B. LORORS officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- C. In the event that a 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 LORORS vehicles are required to have LORORS stickers on each side of the front of the door area, 4 inches down from the window opening.
- G. LORORS may require the use of specific sponsor decals.
- H. Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### UTVR-2 Numbers

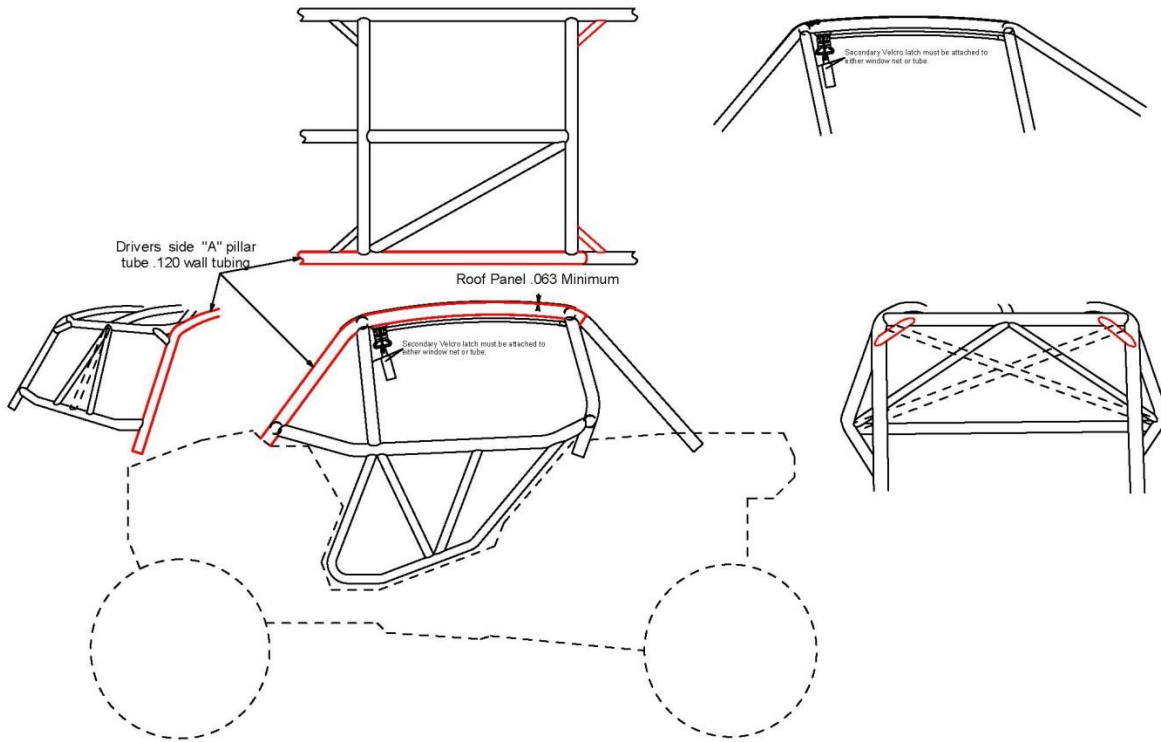
- A. Numbers are 600-699 for the Unlimited UTV class.
- B. Numbers are 700-799 for the ~~RZR-XP~~ **Production Turbo** class.
- C. Numbers are 1-99 for the SR1 UTV class.
- D. Numbers are 900-999 for the Production 1000 class.
- E. Numbers are 100-199 for the RZR 170 class.
- F. Numbers must be applied side by side. **No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.**
- G. **Fonts must be chosen from one the below approved styles only:**
  - 1. **Impact**
  - 2. **Helvetica Black**
  - 3. **Mechanical Bold**
- H. Number plates must be white with solid black block style numbers.
- I. Numbers must be located in the following positions:
  - 1. One number on each side of the vehicle, on a number plate mounted high and close to the back of the roof. Minimum number plate size: 10 inches high by 14 inches long. Minimum number size: 8 inches by 1 ½ inches.
  - 2. The back of the vehicle facing the rear, on a number plate. Minimum number plate size: 6 inches high by 8 inches wide. Minimum number size: 5 inches by 1 ½ inches.
  - 3. Roof of vehicle. Minimum number size: 8 inches by 1 ½ inches.
  - 4. Upper left hand corner of windshield area. Minimum number size: 4 inches.

### UTVR-3 Roll Cage & Chassis

- A. All vehicles must utilize the stock chassis and maintain stock appearance. The stock chassis (frame) is defined as the main lower rails running along the inner sides of the UTV and the front and rear tubes that connect them. The chassis may be modified for durability and strength but must retain the stock width, length, and configuration. Any modifications must be pre-approved by LORORS officials.
- B. After market roll cage required.

- C. Cages must be constructed with one front vertical hoop, one rear vertical hoop, two interconnecting top bars, two rear down braces, one diagonal brace, and all necessary gussets.
  - 1. Two top interconnecting bars must be placed as far to the outside of the top part of the front and rear hoops as possible.
  - 2. Rear down braces and diagonal brace must angle a minimum of 30 degrees from vertical. At the bottom of the diagonal brace there must be a cross member of the same tubing material and dimensions as the hoop.
- D. There must be a minimum of 3 inches clearance between driver's helmet and roll cage.
- E. Gussets must be installed at all major intersections, including diagonal and rear down braces, where single weld fractures can affect occupant's safety.
- F. Gussets may be constructed of minimum .090 inch x 3 inch x 3 inch flat plate or tubing gussets made of same material and thickness as roll cage.
- G. Roll cage terminal ends must be attached to a frame or body member that will support maximum impact and not shear or allow more than 1 ½ inches of movement in the cage terminal end.
- H. Minimum tubing diameter and thickness is 1 ½ inch diameter by .095. This includes the front to back mid rail shoulder bar.
- I. Roll cage material must be dom or 4130 chromoly.
- J. All tubing, welds, gussets, and roll cage construction must be approved by LORORS.
- K. Entire roof must be covered with sheet metal or .063 inch minimum aluminum.
- L. **SR1:** Yamaha vehicles must utilize the stock Rhino chassis or Weller aftermarket chassis. Kawasaki vehicles must utilize the stock Teryx chassis.
  - 1. No bolts on connections to chassis are allowed. All joints must be welded and attached to the frame securely.
  - 2. Top left half of roll cage above driver's head must have one 1 ½ inch x .095 inch 'X' diagonal bracing bars and/or be covered with .125 inch minimum aluminum plate.
  - 3. If plate is used, a single diagonal bar is sufficient.
  - 4. Plate must be attached with 2 bolts on each of the four sides.
- M. **Production Turbo, Production 1000 & Unlimited UTV:**
  - 1. 1 ¾ inch chromolly tubing is highly recommended for main roll cage tubes.
  - 2. Driver's side only main A pillar hoop must be .120 inch minimum tubing on all new roll cages. This is the tube from the left front top of fender cage mount up to the A pillar back over driver's left shoulder to rear main hoop.
  - 3. One front to back center bar is required in top cage. Top left half of roll main cage above driver's head must have one 1 ½ inch x .095 inch diagonal bracing bar.
  - 4. It is recommended that stock cage mounts and seat belt mounting plates be reinforced.
  - 5. Roll cage width must be similar in style to a stock 2 seat UTV. No narrow width cages.
  - 6. Preferred method of race cage mounting is bolt on roll cages. Welded on cages are allowed but must be approved.
- N. **RZR 170:**
  - 1. 1 ¼ inch x .095 inch minimum tubing is required for main roll cage.
  - 2. Top of roll cage above driver's head must have either an 'X' or a front to back center bar.

**PRODUCTION TURBO, PRODUCTION 1000, RZR 170 & UNLIMITED UTV BASIC ROLL CAGE & DRIVER  
DOOR BAR DESIGN**



**UTVR-4 Doors**

- A. Door area must be covered with sheet metal or a minimum of .063 inch thick aluminum. Panel must be attached with bolts or dzus buttons.
- B. **SR1:** Doors must have 'X', 'A' or Ladder design bracing designed to provide maximum protection to the driver.
  - 1. X or A designs must use a minimum 1 ½ inch diameter by .095, 4130 chromoly or DOM.
  - 2. Ladder design must use a minimum 1 ½ inch diameter by .095 for main rails and 1 ¼ inch by .095 for rungs.
- C. **Unlimited, Production Turbo & Production 1000:** Door opening must have a 'U' shaped tube bent to follow the door opening. **Fully integrated door bars to floor are also allowed.** Tube must be a minimum 1 ¼ inch diameter by .095, 4103 chromoly or DOM.
  - 1. U shaped tube must be attached in multiple spots to stock frame or chassis.
  - 2. Doors must have 'X', 'A', 'V' or Ladder design bracing designed to provide maximum protection to the driver.
  - 3. X, A or V designs must use a minimum 1 ¼ inch diameter by .095, 4130 chromoly or DOM.
  - 4. Ladder design must use a minimum 1 ¼ inch diameter by .095 for main rails and 1 ¼

inch by .095 for rungs.

- D. **RZR 170:** Door opening must have a 'U' shaped tube bent to follow the door opening. Tube must be a minimum 1 inch diameter by .095, 4103 chromoly or DOM.
1. U shaped tube must be attached in multiple spots to stock frame or chassis.
  2. Doors must have 'X', 'A', 'V' or Ladder design bracing designed to provide maximum protection to the driver.
  3. X, A or V designs must use a minimum 1 inch diameter by .095, 4130 chromoly or DOM.
  4. Ladder design must use a minimum 1 inch diameter by .095 for main rails and 1 inch by .095 for rungs.

### UTVR-5 Driver Compartment

- A. Driver must be able to enter and exit, unassisted and with great ease, the driving compartment with the vehicle in any position. Firewalls and/or bulkheads must separate the driving compartment from any fuels, engine fluids, and acids.
- B. **Production Turbo, Production 1000 & RZR 170:**
1. Race seat is required. Driver's seat must be **within 2 inches left or right of stock location** and be bolted in.
  2. Seat may be lowered. Stock plastic panel below seat to floor may not be cut down or trimmed with the exception of minimal holes allowed for seat tabs or mounting of seat. Minimal trimming may be allowed in the case of full containment seats. This must be pre-approved by LORORS.
  3. If no passenger seat is used, gas tank area must be completely covered with aluminum firewall
- C. **Production 1000 & Production Turbo:**
1. Dash and all floor and interior panels in stock location are required. **Stock dash is recommended, however aluminum will be allowed.** Minimal cuts or openings are allowed for roll cage and tabs. Glove box and door and center foam lined storage box may be removed.
  2. **Stock rear firewall is recommended, however aluminum will be allowed. Rear firewall can only be replaced with complete, tightly fitting .063" aluminum and must be stock height or above to completely replace the stock plastic firewall. No holes, screens or openings allowed.**
  3. **Driver side foot floor well can be covered or replaced with .090" aluminum for safety.**
  4. **Lower front firewall can be covered or replaced with .063" aluminum for safety.**
  5. **No complete aluminum interiors are allowed. With the exception of the panels specified above, all other floor and interior panels must remain stock.**
- D. **RZR 170:**
1. Stock dash and all floor and interior panels in stock location are required. Minimal cuts or openings are allowed for roll cage and tabs. Glove box and door and center foam lined storage box may be removed.
  2. Rear firewall only can be replaced with complete, tightly fitting .063" aluminum.
  3. Bed plastic may be removed or remounted for easy removal for service.
    - a. If rear bed plastic is removed, aluminum panel must extend 6" toward rear from top of firewall. This flat panel would extend from top of firewall back 6" and cover complete bed width from side to side.



## UTVR-6 Measurements & Weight

- A. All measurements will be performed with LORORS technical instruments and gauges. LORORS officials determine all measurements and center points.
- B. Driver will be included in race vehicle's minimum weight.
- C. Vehicles can be courtesy weighed prior to competition.
- D. LORORS officials must approve all weight material.
- E. Added weight must be in block form.
- F. Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- G. Added weight must be securely bolted in place on the race vehicle.
- H. Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- I. All block ballast must be painted white and identified with vehicle number.
- J. Weight can be sealed at the discretion of LORORS officials.
- K. No weight shifting devices of any kind are allowed. This includes, but is not limited to hydraulic or electronic devices.
- L. All vehicles will weigh in before and/or after competition at the discretion of LORORS officials. Failure to do so will result in disqualification.
- M. All weight loss on track will result in a \$5.00 per pound fee.
- N. Weight may be adjusted at the discretion of LORORS officials throughout the season in the interest of competition.
- O. **Unlimited:** The maximum overall wheelbase from spindle to spindle can be increased to 8 inches over stock dimensions. The minimum vehicle weight is 1400 pounds including driver.
- P. **Production Turbo:** The minimum vehicle weight and maximum overall width is TBD.
- Q. **Production 1000:** The maximum overall width is TBD. Minimum vehicle weights:
  - 1. RZR: 1610 pounds including driver
  - 3. Arctic Cat & Can Am: 1610 pounds including driver.
  - 4. Yamaha: 1780 pounds including driver.
- R. **RZR 170:** The minimum vehicle weight is 700 pounds including driver. The maximum overall width is 53.5 ". The maximum wheelbase is 68.5".
- S. **SR1:** Maximum width is not to exceed 78" wide (measured from outside of tire to outside of tire at the widest point). The maximum length is not to exceed 83" (measured from the center of front hub to center of rear hub). The minimum vehicle weight is 1400 pounds including driver.

## UTVR-7 Fenders

- A. Fenders must be securely attached to vehicle. The removal of fenders during competition during any reason other than damage incurred during the race will result in disqualification.
- B. Fenders must be attached in such a fashion as not to create a pointed or sharp extrusion when removed. A loop body mounting bracket construction is mandatory.
- C. Additions to the body of the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.
- D. Vehicles must maintain an appearance similar to the stock UTV.
- E. **SR1 & Unlimited:** A loop body mounting bracket construction is mandatory.
- F. **Production Turbo, Production 1000 & RZR 170:** All body panels must be stock or aftermarket stock replacement & be mounted in the stock location.
  - 1. Two piece rear bed plastic may be removed or stock bed bottom and sides of bed may be cut out.

2. Front headlights and rear taillights can be removed. Aluminum fill-in panels with stickers that look like lights are recommended.
3. Rear taillight body panel may be removed.

#### UTVR-8 Bumpers

- A. Vehicles must have front and rear bumpers. LORORS officials must approve all bumpers.
- B. No hazardous bumpers, nerf bars, frame heads or other protruding objects from vehicles are permitted.
- C. Bumpers and nerf bars cannot be made from aluminum.
- D. Rear bumper must be secured to frame using a minimum 1 ½ inch diameter .095 chromoly.
- E. Bumpers must be designed in such a way as to inhibit two vehicles from becoming locked together.
- F. Ends must be capped and rounded with no sharp edges. All bumpers must have looped ends.
- G. **SR1 & Unlimited:** Vehicles must have front and rear bumpers. Rear bumper must be secured to frame using a minimum 1 ½ inch diameter .095 chromoly. Minimum front bumper width is 35 inches. Side nerf bars are recommended.
- H. **Production Turbo, Production 1000:** Side nerf bars are mandatory. Nerf bars must be at least as wide as the center line of tire or wider from front to back. Length should be a minimum of 12 inches from the front and rear tires.
- I. **RZR 170:** Side nerf bars are mandatory. Bumpers are optional at this time but are highly recommended. If bumpers are used, above bumper rules must be followed.

#### UTVR-9 Skid Plates/Floorboards

- A. Skid plates designed to reasonably protect the front suspension, steering, and brake components are recommended on all vehicles. Plates must be made of metal and be securely attached.
- B. Stock UTV floorboards are acceptable but extra protection made of metal or aluminum is highly recommended.

#### UTVR-10 Suspension

- A. All A-arm mounting points must remain in the stock location and position as delivered from the manufacturer, however they may be reinforced for strength.
- B. **SR1:** Stock suspension, or any suspension less than 6 inches over stock will not be allowed.
- C. **Production Turbo & Production 1000:** Aftermarket stock length replacement arms and links may be used. Rear sway bar manufacturer and mount location is open. Limit straps are allowed.
- D. **RZR 170:** Aftermarket front arms 3" wider than stock are allowed. Rear aftermarket replacement swing arm is allowed.

#### UTVR-11 Steering

- A. All steering components must be in good condition and proper working order. Drag link and tie rod ends must be secured with a cotter pin in each one.
- B. Power steering is permitted.
- C. LORORS officials must consider steering reasonably safe before vehicle is permitted to compete.

- D. **Production Turbo & Production 1000:** Aftermarket replacement steering rack and tie rods are allowed.
- E. **RZR 170:** Aftermarket tie rods are allowed.

#### UTVR-12 Shocks

- A. There must be at least one and only one shock absorber per wheel in working condition at the start of the race.
- B. **SR1 & Unlimited:** Shock absorber mounting points may be moved.
- C. **SR1:** Max shock length not to exceed 10 inches of shaft travel.
- D. **Production Turbo, Production 1000 & RZR 170:** Shock mounts must remain in stock location but can be reinforced. No bolt on extensions. No **external** bypass shocks. Shock manufacturer is open.
- E. **RZR 170: Air shocks are permitted.**

#### UTVR-13 Bump Stops

- A. Suspension bump stops must be of the solid type.

#### UTVR-14 Torsion System

- A. The only torsion system that is acceptable is a coil-over shock.

#### UTVR-15 Wheel Spacers

- A. Wheel spacers are permitted.

#### UTVR-16 Brakes

- A. Brakes must be in safe working condition and be able to apply adequate force to lock up all four tires. Brakes must remain in safe working condition during entire event.
- B. Turning or cutting brakes are not permitted.
- C. **Production Turbo & Production 1000:** Aftermarket brakes are allowed. **Aftermarket hubs are allowed as long as stock dimensions are maintained.**

#### UTVR-17 Engine

- A. All vehicles must use stock engine cases and cylinder head. LORORS reserves the right to mark engine blocks prior to event.
- B. All vehicles must use same fuel delivery system as stock and designed by factory. Electric fuel pumps are permitted in accordance with LORORS safety requirements for fuel pumps.
- C. **Unlimited UTV:** Engine displacement not to exceed 1000 cc.
- D. **SR1:**
  1. Stock Yamaha R1 engine (year 2002-2008) is allowed.
  2. Stock Kawasaki ZX-10 engine (year 2004-2010) is required for all Teryx vehicles.
  3. Stock Honda CBR1000 engine (year 2004-2012) is allowed.
  4. No modifications of any kind can be made to engine.
  5. No modifications to throttle bodies can be made.
  6. R1 tip over sensor must be left intact and in working order on Rhinos.
  7. Engines must be mounted between the driver and passenger seat locations utilizing the spec mounting plate. Contact LORORS officials for details.
  8. Valve spring shims are allowed for valve adjustment.

- E. **Production Turbo, Production 1000 & RZR 170:** Engine year and vehicle model year may be different with prior approval only. Engines and all internal parts must remain completely stock for that model year. No internal modifications.
  - 1. Stock throttle body must be used.
  - 2. Air intake/air cleaner is open.
  - 3. Flywheel must remain stock with no modifications made.
- F. **RZR 170:** stock carb as delivered from factory must be used.
- G. **Production 1000:**
  - 1. RZR 900 cam buckets, lash shims and retainers are allowed. No aftermarket cam buckets or retainers are allowed.
  - 2. GYTR internal parts are not allowed.

#### UTVR-18 Superchargers & Turbochargers

- A. **SR1, Production 1000 & RZR 170, Unlimited UTV:** Superchargers or turbochargers are not permitted.
- B. **Production Turbo:** Factory installed turbochargers are allowed. No modifications are allowed.

#### UTVR-19 Auxiliary Equipment

- A. All vehicles must start race with a functional generator or alternator, fan, water pump (water-cooled vehicles), and a complete functional electrical system.

#### UTVR-20 Ignition

- A. All vehicles must have a positive action on/off switch in good working order. Switch must be labeled "ignition on/off", have a red circle around it, be located on the left hand 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.
- B. All electric fuel pumps with independent switches must be labeled "fuel on/off" and be within easy reach of the driver and accessible from the outside of the vehicle.
- C. Aftermarket CDI boxes/ECUs are permitted with LORORS approval.
- D. **SR1 & Unlimited:** Ignition switch must be located on the left hand side of the dash panel, and must be accessible from the outside of the race vehicle.
- E. **Production 1000:** Stock ignition switch is allowed. ECU is open.
- F. **Production Turbo:** Stock OEM ECU is required. ECU may be flashed.
- G. **RZR 170:** Stock ignition is allowed. ECU is open. Power commander is allowed.

#### UTVR-21 Batteries

- A. Batteries must be securely mounted with metal-to-metal tie downs.
- B. Wetted fiber or gel cell batteries only. Liquid lead acid batteries are not permitted.
- C. Batteries may be located in the driver's compartment with an adequate firewall or factory engine cover.

#### UTVR-22 Cooling

- A. Oil coolers, transmission coolers, ~~and radiators~~ located ahead of the driver or ~~behind cockpit in the passenger compartment~~ must have a shroud that will prevent liquids from blowing back

or leaking onto the driver in the event of a rupture or leakage. Radiators may not be in cab or cockpit area.

- B. All hoses running through the driver compartment must be shielded. Steel braided hose does not constitute a shield.
- C. Radiator may be relocated to back behind passenger cab area. If radiator is mounted close to driver, panels are required to keep hot coolant off of driver.

#### **UTVR-23 Exhaust**

- A. **SR1 & Unlimited:** Exhaust systems must be a minimum of 6 inches away from fuel lines and 18 inches away from fuel filler. Muffler must meet a maximum decibel of 100 as measured 50 feet from track side.
- B. **Production Turbo, Production 1000 & RZR 170:** Aftermarket exhaust is allowed.

#### **UTVR-24 Starter**

- A. All vehicles must be self-starting by use of an onboard electric starter.

#### **UTVR-25 Engine Replacement**

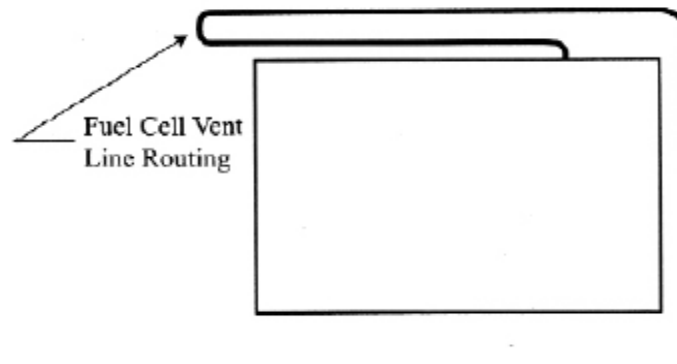
- A. Engines may be replaced during a LORORS event only if competitor has notified LORORS officials.
- B. Engine change may result in a starting position change.

#### **UTVR-26 Fuel Cells**

- A. All fuel cells must be LORORS approved.
- B. LORORS 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. The use of a commercially manufactured fuel cell is mandatory. Aluminum cans with foam inside are not allowed.
- F. Safety fuel cells shall consist of a bladder enclosed in a smooth skinned container. The container shall be constructed of 20 gauge steel, 0.060-inch aluminum or 0.125-inch Marlex. Rotary molded polymer cells are acceptable.
- G. No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- H. 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 from manufacturer. Fuel cells will become obsolete five years after date of manufacture and must be replaced.
- J. All fuel cell fillers and vents must have check valves installed.
- K. Fuel filler lines and positive-locking non-vented fuel filler caps must be located and secured in such a manner as to prevent them from being knocked off or opened during movement, rollover, or impact.
- L. A splash shield must be in place to direct any spill away from the driver, motor, and motor exhaust. A body panel is considered a sufficient splash shield.
- M. Fuel cell cannot be vented into the driver's compartment of any vehicle.
- N. All mountings must be LORORS approved. Fuel cell must be mounted to chassis and cannot be mounted on skid plate.

- O. Any fuel cell mounted in the passenger compartment area must be fully enclosed with sheet metal or aluminum.
- P. An 8 inch by 8 inch fire access door is required on top of the fuel cell cover. This door must be painted red and labeled FIRE DOOR.
- Q. Any battery or electrical components mounted in the passenger compartment with the fuel cell must be separated by sheet metal or aluminum.
- R. **Production Turbo, Production 1000 & RZR 170:** Stock fuel tank is allowed in stock location. Tank, lines and fuel filler may not be modified in any way.

#### Fuel Vent Routing



**All fuel cell vents and lines must come out of the top of the fuel cell as pictured.**

#### UTVR- 27 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 of fuel is not permitted during competition.
- D. In the event an "official fuel" is named, LORORS 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. LORORS has the right to sample a competitor's fuel at any time. All samples will be impounded for observation and/or testing by LORORS or outside laboratories at LORORS discretion.
- F. No nitrous oxide.
- G. If LORORS officials suspect maskers in the 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, disqualification and/or suspension.
- I. **Production Turbo, Production 1000 & RZR 170:** Pump gas with a maximum of 91 octane must be used. Race fuel is not allowed.

#### UTVR-28 Transmission

- A. **Unlimited, Production Turbo & Production 1000:**
  1. Every vehicle must use the stock transmission and clutch design.

2. The stock rear differential must also be used.
  3. All vehicles must have a functional reverse gear.
  4. Aftermarket axles and c/v joints are allowed.
  5. Stock transmission and differential gear ratios **and gears** only. **No GYTR internal parts are allowed.**
- B. **RZR 170:** Wider rear axle is allowed.
1. Gearing is open.
  2. **Side cover added bearing and shaft gear fix is allowed. No other modifications or coatings are allowed.**
- C. **SR1:** Must use stock transmission as delivered from manufacturer. Vehicle must use direct chain drive.

### UTVR-29 Clutch

- A. **SR1:**
1. Must use stock clutch design as delivered from manufacturer.
  2. After market clutch plates and springs will be allowed.
  3. Must utilize either a clutch pedal mounted on floor or mounted on shifter, as well as a stick shift style shifter.
  4. Electric paddle shifters and automatic clutch systems are not allowed.
- B. **Production Turbo & Production 1000:**
1. Must use stock clutch and design as delivered from manufacturer.
  2. No billet or aftermarket clutches.
  3. Clutches may not be modified in any way.
  4. After market springs, weights and helix are allowed.
  5. **Factory paddle shifters as delivered from factory are allowed. No retro fitting to other years, makes or models.**
- C. **RZR 170:**
1. Stock clutch, aftermarket **C&D, Sims/Dr.** Pulley and NCY clutches are allowed.
  2. Must use clutch and design as delivered from manufacturer.
  3. Clutches may not be modified in any way.
  4. After market springs, weights and helix are allowed.

### UTVR-30 Wheels & Tires

- A. **Production Turbo, Production 1000 & Unlimited:** Maximum tire size is 30 inches outside diameter.
- B. **SR1:** Maximum tire size is 26 inches outside diameter.
- C. No more than 1 tire per corner is permitted.
- D. Tires will be visually checked and must be considered reasonably safe by LORORS prior to competing.
- E. All bead locks must have recessed bolts only that do not protrude past the face of the ring. Button head bolts may be used if bead lock bolt area cannot be recessed.

### UTVR-31 Fasteners

- A. All components on the vehicle's suspension system, chassis, and running gear must be secured with S.A.E. Grade 8 or better nuts and bolts.
- B. Bolts must be secured with either lock nuts, lock washers, cotter pins, or safety wire and have at least one full thread showing through the nut.

**UTVR-32 Hoses**

- A. All fuel and brake line hoses including metal lines and fittings must be clamped and/or safety wired.

**UTVR-33 Mirrors**

- A. Rear view mirror with at least 6 square inches of mirror surface and a reasonably unobstructed view of area behind vehicle is recommended on all vehicles.

**UTVR-34 Exotic Materials**

- A. No titanium or any other exotic materials or fasteners may be used anywhere in the vehicle.

**UTVR-35 Transponders/Timing**

- A. Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by LORORS.
- B. All teams are required to purchase remote timing transponders. Transponders can only be purchased through LORORS and numbers must be recorded with LORORS officials.
- C. Drivers are responsible for the charging and installation of all transponders. Any entry without a properly installed, functioning transponder may not be scored and may be subject to further penalty.
- D. Transponders must be mounted 10 inches back from the leading edge of the front bumper on the passenger side.