



# **OFFICIAL RULE BOOK**

## **2026 SEASON**

**[CHAMPOFFROAD.COM](http://CHAMPOFFROAD.COM)**

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## CHAMP OFF-ROAD GENERAL RULES

### SECTION 1 – RULE BOOK

- **Effective Date** – The CHAMP OFF-ROAD rules are effective upon the date of publication regardless of when a competitor receives actual notice.
- **Amendment** – CHAMP OFF-ROAD rules may be amended or changed by written notice from CHAMP OFF-ROAD headquarters at any time. The amendment/change is also effective upon the date of publication.
- **Interpretation and Application** – If there is a disagreement regarding the meaning or application of the CHAMP OFF-ROAD rules, the interpretation and application by the CHAMP OFF-ROAD officials at the event shall prevail. This decision is final and not appealable.
- **Finality of Interpretation and Application** – All participants, including but not necessarily limited to competitors, team owners, sponsors and officials, expressly agree that determinations by CHAMP OFF-ROAD 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 CHAMP OFF-ROAD or anyone acting on its behalf with respect to such determinations, unless it is determined that the CHAMP OFF-ROAD 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 initiate litigation, it is agreed that the participant will reimburse CHAMP OFF-ROAD for all litigation costs and that the right to trial by jury will be waived. CHAMP OFF-ROAD 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

- **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, CHAMP OFF-ROAD cannot be held responsible for the safety of participants.
- CHAMP OFF-ROAD 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. CHAMP OFF-ROAD is not and does not claim to be an expert in safety standards, designs, practices, or procedures, nor is CHAMP OFF-ROAD a standards organization or designer, manufacturer, or seller of safety-related products, facility, or vehicle designs.

- 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 CHAMP OFF-ROAD officials immediately.
  - 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.
  - Neither CHAMP OFF-ROAD nor the track owner will be responsible for the adequacy of a participant's race vehicle, equipment, or racing activity.
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- **Injury Reports** – Any participant involved in an accident while on the racing premises must report to Carl Schubitzke ([Carl@isocracing.com](mailto:Carl@isocracing.com)) before leaving the premises if able to do so, or as soon as the participant is physically able, to report their injury with an injury form that will be provided on-site.
  - **Testing in unauthorized areas** – No race vehicles are permitted to “Test”, “run through the gears”, “Drive at any speed over 7 mph” at any time on any event grounds / facility when not on the racetrack in a controlled environment. There will be NO designated testing area at any event and no competitor or team member should assume any area is permitted to do any of these actions. No team member or driver is permitted to drive any vehicle at any speed faster than 7 miles per hour in the pits or on the grounds, and any adjoining properties at any event except when on the actual racetrack. Any time any race vehicle is taken out of the designated pit area it must be on a trailer and not driven outside of the main pit area for any reason.
  - **Track Walk** – Any authorized track walks must be done with small vehicles (pit bike, UTV, golf cart) and no official race vehicles, no large vehicles. Track walk should be done carefully at all times and no one should be driving / riding any faster than the 7 miles per hour limit. No one should be roosting or pulling wheelies or any other similar action during track walk activities. No team member or driver is permitted to go onto the racetrack at any time other than authorized track walk times or with explicit permission from the Competition Director.

### SECTION 3 – LICENSES

- **License Required** – Any person who desires to participate in a CHAMP OFF-ROAD sanctioned event as a driver, crew member, or spotter must apply for, purchase, and receive a valid, current CHAMP OFF-ROAD license and USAC license. No person will be allowed in the hot pit or spotter area without the proper license.

- **Eligibility/Requirements** – To secure a CHAMP OFF-ROAD driver's license, a person must:
  - Age eligibility is determined for entry to a class as of the persons actual birthday. Maximum age eligibility or "Age Out" will be determined by using the persons age on the 1<sup>st</sup> of June. Racer must be 15 years of age by this date. CHAMP OFF-ROAD will use the age as of that date for the entire season of racing.
  - Be at least 16 years of age for the PRO4, PRO2, Pro SxS classes.
  - Be at least 14 years of age and have prior approval from CHAMP OFF-ROAD for the PRO LITE, PRO Buggy, all Sportsman, PRO Spec, or Non-PRO UTV classes.
  - Be at least 8 years of age for the Kart classes in accordance with the CHAMP OFF-ROAD Kart Rule Book.
  - Be approved by CHAMP OFF-ROAD officials prior to competing. Drivers may be removed from competition, qualifying, or testing any time at the sole discretion of CHAMP OFF-ROAD.
  - If required by CHAMP OFF-ROAD officials, submit list of prior racing experience and/or pass driving ability tests.
  - Be physically fit in the sole discretion of CHAMP OFF-ROAD. CHAMP OFF-ROAD reserves the right to require an applicant to pass a physical examination by a qualified physician at the applicant's expense.
  - Execute and deliver all authorizations, releases, applications, consents, waivers, and other documents as may be required by CHAMP OFF-ROAD.
  - Racers who have competed in PRO2 or PRO4 within the past three years are not eligible to participate in PRO Spec or Sportsman. Sportsman classes are intended for drivers who have not raced in any PRO division class(es) for the past three years.
  - PRO Class drivers may petition to move down to the Sportsman level, giving reasons for the change in competition level. The Champ Off-Road race official will review the request and approve or deny it.

#### Sportsman to PRO SPEC Participation Allowance

- Champ Off-Road permits Sportsman-class drivers to compete in a maximum of two (2) PRO-Spec rounds for evaluation purposes during the first two (2) race weekends of the season (Rounds 1–4).
- Any additional PRO-level participation will result in automatic reclassification to PRO status, requiring full compliance with all PRO-class regulations and rendering the driver ineligible for Sportsman competition for the remainder of the season unless otherwise approved in writing by Champ Off-Road.
  - o PRO Spec is intended to be a steppingstone to PRO2 & PRO4

- **Application Process** – Application forms must be fully executed, signed, and submitted to CHAMP OFF-ROAD Headquarters accompanied by the requisite fee. Receipt of an application does not guarantee a license will be issued. Applicants will receive a license following CHAMP OFF-ROAD approval of their application. CHAMP OFF-ROAD reserves the right to reject a license application for any reason.
- **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.
- **License Non-Transferable** – A CHAMP OFF-ROAD driver's license is non-transferable. Any attempt to transfer, lend, or permit any other person to use any license shall result in a penalty imposed on the licensee and/or the driver that licensee is affiliated with. CHAMP OFF-ROAD will not be responsible for any damage arising in connection with such unauthorized use of a license.
- **Suspension/Termination** – CHAMP OFF-ROAD may suspend or terminate a license in the interest of off-road racing or CHAMP OFF-ROAD . The participant will not be obligated to a refund of any license fees submitted.
- **Expiration** – A license automatically expires on the last day of the calendar year in which it was issued.
- **Ejection OR Disqualification** – A Champ Off-Road Race Director or Series Director may eject a license participant from an event or from the racing premises to promote the orderly conduct of an event or for any action deemed detrimental by Championship Off-Road to the sport, Cham Off-Road or the event. An ejection is final and not appealable.
- **Interim Review of Qualifications** – CHAMP OFF-ROAD may review the qualification of a licensee at any time and 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 CHAMP OFF-ROAD deems appropriate to determine whether the licensee continues to qualify for a license.

## CHAMP OFF-ROAD EVENT PROCEDURES

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

- **General Agreements** – By submitting an entry blank and/or participating in any activity related to a CHAMP OFF-ROAD event, a participant agrees to the following:
  - All rules set forth in the CHAMP OFF-ROAD rule book and its amendments are applicable and will be followed.
  - All decisions of CHAMP OFF-ROAD officials are final, non-appealable, and non-litigable
  - 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 CHAMP OFF-ROAD, track owners, officials, agents, or employees of CHAMP OFF-ROAD.
  - All participants assume full responsibility for any and all injuries sustained, including death and property damage, anytime they are in the racing areas or enroute to or from the racing areas.
  - 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 CHAMP OFF-ROAD event.
  - 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.
- **Advertising and Promotion Release** – Each participant by entering a CHAMP OFF-ROAD sanctioned event, grants to CHAMP OFF-ROAD 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 CHAMP OFF-ROAD sanctioned event or related telecast or programming. Each participant hereby relinquishes to CHAMP OFF-ROAD in perpetuity all rights there to for such purposes.
- **Telecast and Other Rights** - Each participant, by entering a CHAMP OFF-ROAD sanctioned event, acknowledges that CHAMP OFF-ROAD, 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 CHAMP OFF-ROAD sanctioned event or the participant's performance in the event, and that, except for works created pursuant to the fair use doctrine or the CHAMP OFF-ROAD Media Access Policy, CHAMP OFF-ROAD 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 CHAMP OFF-ROAD event or the participant's performance in the event. Each participant agrees to take all steps reasonably necessary and all steps requested by CHAMP OFF-ROAD, to protect, perfect or effectuate CHAMP OFF-ROAD 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 CHAMP OFF-ROAD rights.

- **Substance Abuse** – No CHAMP OFF-ROAD participant (Driver or crew member) may use or be under the influence of alcohol, drugs or any other controlled substance while competing. The Series reserves the right to require drug testing in order to assist its enforcement of the Series' no alcohol and no drugs policy. Decision on drug testing and disciplinary action (which may include but is not limited to immediate ejection from an event, a fine of \$1000.00, a 90- day suspension, and/or a denial of further entry to any CHAMP OFF-ROAD events is at the sole discretion of the Series.
- **General Conduct** – No CHAMP OFF-ROAD participant or team member is allowed to act in an unprofessional manner towards any CHAMP OFF-ROAD official at any time during the race event time. Any discussion or communication during a race weekend with the Competition Director will be done in a reasonable manner at a specific time and location of the Competition Director's choosing. No one may try to question a call during a "Live Track" or race.



- **Social Media Policy** – Social media includes all means of communication or posting information or content of any sort on the internet, including to your own or someone else’s web blog, journal or diary, personal website, social networking or affinity website, web bulletin board or a chat room, whether or not associated or affiliated with USAC/Champ Off-Road, as well as any other form of electronic communication. The most common forms of social media are Facebook, Twitter (X), Instagram and YouTube. Even though these forums may seem informal, as a Competitor, Crew, Member, or Media Personnel participating in Champ Off-Road events, you are still expected to act professionally at all times. Ultimately, you are solely responsible for what is posted online. Before creating online content yourself and/or allowing others the ability to post online content for you, consider some of the risks and rewards that are involved. Keep in mind that any of your conduct that adversely affects Champ Off-Road, other competitors/team members or participants may result in disciplinary action up to and including suspension.

This policy applies to Champ Off-Road/USAC Competitors and Officials. A Competitor is a Driver, Entrant, Family member, Crew Member, Manufacturer or any other individual or entity who is a member and participates competitively in an event. Ensure your postings are consistent with these policies. Inappropriate postings that may include discriminatory remarks, harassment, and threats of violence or similar inappropriate or unlawful conduct will not be tolerated and may subject you to disciplinary action, loss of points, up to and including suspension.

Be respectful  
Be honest and accurate  
Retaliation is prohibited

## SECTION 2 – ENTRIES

- **Entry Requirements** – In order to compete in a CHAMP OFF-ROAD event, a participant must complete and submit an official entry blank for each event by the deadline specified. CHAMP OFF-ROAD is not responsible for forms not received or filled out incorrectly.
- **Entry Approval** – Acceptance of any entry is at the discretion of CHAMP OFF-ROAD. A participant is not eligible to compete until entry blank is received and approved by CHAMP OFF-ROAD headquarters regardless of fees submitted.
- **Late Entries** – In the event an entry is submitted after the specified deadline, CHAMP OFF-ROAD may accept the late entry with a late registration fee. Late fees are \$100 per day after specified deadline. A late entry may be placed in the last starting position. An entry will not be allowed on competition day. All entries must be submitted by 9pm before the event day for that specific class.

- **Refund Policy** – All refunds must be requested through CHAMP OFF-ROAD Headquarters within 7 days of the scheduled event. Once a vehicle enters the racecourse, 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 CHAMP OFF-ROAD officials to meet the specifications set forth in the stated rules are eligible to compete in a CHAMP OFF-ROAD event. A competitor must have Champ Off-Road provided decal on Race Vehicle. Determinations can be made at any time before, during, or after an event.

### SECTION 4 – INSPECTIONS

- **Time/Manner** – All vehicles, parts, components, and equipment are subject to inspection by CHAMP OFF-ROAD officials at any time and in any manner. Decisions made in regard to the time or manner of inspection are final, non-appealable, and non-reviewable.
- **Inspection Area** – Only those persons permitted by CHAMP OFF-ROAD officials are allowed in the inspection area.
  - Technical Inspection area will be restricted to a maximum of 2 crew members in the Technical Inspection area at all times. Tech Director may allow additional team members to assist for advanced tear down in special circumstances.
  - Staging area will be restricted to the driver and 1 crew member at all times. Once vehicles have cleared pre- tech no modifications / adjustments are allowed for any reason while in staging or on the way to staging after leaving the tech area.
- **Competitor Obligations** – A participant must take whatever steps requested by CHAMP OFF-ROAD 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. Any inspection that requires tear down or dismantling of any assembly to inspect components is the sole financial responsibility of the competitor and or team. CHAMP OFF-ROAD is not in any way financially responsible for any tear down or disassembly or reassembly of components to ensure rules compliance. In passing a vehicle through technical inspection, CHAMP OFF-ROAD does not warrant that vehicle's adherence to all rules. The participant is responsible for ensuring his/her vehicle is in compliance with all CHAMP OFF-ROAD rules at every event.
- A competitor must have Champ Off- Road patch on the upper chest area of his/her drivers suit in order to compete in any class. Competitors who do not have the series patch may be subject to a fine.

- **Pre-Race Inspection** – All vehicles must pass a technical inspection before entering the racetrack.
  - If a vehicle does not pass this inspection, it will not be allowed to compete unless, in the opinion of the CHAMP OFF-ROAD official, the deficiency: Is not safety related, presents no danger to the driver, other competitors, crew or race personal. 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. All trucks must pass through a final pre-race tech inspection prior to entering the racetrack. Any and all deficiencies must be fixed and approved by tech prior to entering the racing surface.
  - 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.
  - All helmets and driver gear to be used during the weekend must be presented for pre-race inspection with vehicle. All gear must be clean.
  - Vehicle can't be touched 50 yards before entering tech.
- **Post-Qualifying/Race Inspection** – All vehicles must either be inspected or released from inspection by a CHAMP OFF-ROAD official at the conclusion of each race/qualifying session. If a vehicle fails to arrive at or leaves the inspection area without being cleared by a CHAMP OFF-ROAD official a penalty may be imposed. No one including team members or drivers are permitted to “tamper” with the vehicle in any way in preparation for pre-technical inspection or post technical inspection. Race vehicle can not be touched 50 yards before entering tech.
- **Technical Penalties** - Penalties imposed for technical infractions are final, non-appealable, and non-reviewable.
  - 3 Strike Penalty for technical infractions -
    - 1st: lose points for the day
    - 2<sup>nd</sup>: lose points for the day and start in the back next round
    - 3<sup>rd</sup>: suspended for the next round
- **Equipment/Parts Failing Inspection** – CHAMP OFF-ROAD can confiscate any illegal parts and/or equipment found during any inspection. Any items/parts confiscated will not be returned. No compensation will be made by CHAMP OFF-ROAD for illegal parts that are seized.
- **Sealing/Impounding** – CHAMP OFF-ROAD has the right to seal or impound race vehicles or parts for inspection purposes. CHAMP OFF-ROAD assumes no responsibility for those parts or vehicles.

## SECTION 5 – RACE PROCEDURES

- **Finality** – All decisions made by CHAMP OFF-ROAD 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. Race and Tech Directors have final say in all decisions.

- **Protest Procedure** – Protest letters are available upon request from a Champ Off-Road Race Official
  - All protests must be turned in to a Champ Off-Road Race Official within thirty (30) minutes of the completion of the race.
  - The protest fee of \$500 must be paid at the time of the protest.
  - The protest must be valid in the eyes of the Race Director, or he has the option not to accept it for action.
- **Tech Protest Procedures**
  - All Technical protest must be made in writing and turned into the Champ Off Road Tech Director within thirty (30) minutes of the completion of the race
  - Each Protest must be paid at the time of the protest. A fee of \$500 per technical protest, per technical item will be collected at the time of protest.
  - The protest must be valid in the eyes of the Tech Director, or he has the option not to accept it for action.
  - If the person protesting wins the protest, his protest money will be returned to him. If the person being protested is found to be legal, he will then keep the protest fee for his troubles.
- **DQ Procedure**- Any technical or on-track disqualification call must be finalized before the race vehicle in question enters back on to the racetrack.
- **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.
- **Conduct of Participant/Crew** - All following actions are general examples of behavior that may fall under different penalty levels and are not limited to only the listed examples. Crew members are the rider's responsibility and may fall under these penalties for their actions. These actions may result in fines up to \$5,000, **loss of Championship points (2-point minor, 4-point major)**, ejection from the race site, suspension (Race Directors discretion):
  - Vulgarity, derogatory, offensive language, or verbal abuse towards a Race Official, Event Official, any ISOC staff member, media, or fan.
  - Any participant or crew that threatens bodily harm or assaults any official, rider, crew, etc.
  - Vandalism, tampering, or stealing of competitors machine(s), equipment, etc.
  - Vandalism, tampering, or stealing from venues or series

- Refusal to submit a machine for inspection/allow examination or measurement of a machine's components
- Competing under a false name, age, or producing false documents
- A physical confrontation with another participant, ISOC staff member, media, fans, etc. on the premises prior to, during, or after the event
- Attempting to manipulate the outcome of a race or championship
- Substance abuse (zero tolerance)
- Drivers must check in and attend all driver meetings.
  - Drivers are considered late to Drivers meeting at the time his/her name is called at roll call. If a driver races in multiple classes, this applies to each class roll call.
  - If a driver misses roll call and sign in, he or she will start at the rear of the field for that race.
  - If a Driver fails to show up at any mandatory Drivers meeting, he/she will not be permitted to qualify and will start at the back of the pack for that next scheduled race.
  - Any post qualifying technical inspection violations will start behind any drivers meeting violation penalties.
- A driver will not race in an event if the driver does not have specified spotter in spotter tower. Spotters may only spot or talk to drivers from designated spotter area.
- Drivers must be on time to compete in events as scheduled. Any driver or vehicle that is not at staging 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 CHAMP OFF-ROAD officials.
- A class rookie driver must have practiced in the vehicle before driving it in competition. A racer must be approved by CHAMP OFF-ROAD official to further advance Off-Road classes.
- A driver may not attempt to qualify more than one vehicle per race division.
- **Engine Replacement** - Engines may be replaced during a CHAMP OFF-ROAD event only after the CHAMP OFF-ROAD technical director has been notified. Any engines removed for any reason must be brought to tech for inspection. Engine seal numbers will be tracked back to engine declaration sheets turned into tech. All new replacement engines must be pre-approved by Tech Director, inspected and sealed.
- **Starting Positions Sportsman-** Starting positions for the first round of the year will be determined by random computer generated "luck of the draw." Round 2, positions are determined by round 1's best lap time from each competitor. The remainder of the season, the lineup will be based off of the best lap times from the previous event day (for example, the lineup for Saturday of Antigo will be based off competitors best lap times from Sunday of Wheatland). If a racer did not compete in the previous event day, they will be placed after all competitors who had a best lap time in a random order. This grid process continues at each venue throughout the entire season. If your transponder does not work during the race, therefore not giving you a

lap time, you will be placed at the bottom of the lineup in front of the competitors who did not race the previous round.

- Drivers entering after the close of registration for an event will be placed at the back of the field.
- The invert will be 10 for all Sportsman Classes. If there are less than 10 entries in a given class, the inversion will be equal to the number of entries.
  
- **Starting Positions PRO2, PRO4, PRO LITE, PRO Spec, Pro SxS, Pro Stock SxS, Pro Buggy** -The second practice and the first race day at each event will serve as a qualifying session for the following day's race. The lineup will be determined based off the driver's fast lap from these qualifying sessions. The fastest qualifier will pull a pill for the inversion. Inversions will be done on even numbers only being – 2, 4, & 6. Pill draw will be a maximum of 50% of the entries, round up. For example, if there are 8 drivers, the maximum inversion will be 4. Champ Off Road reserves the right to change number of inversions based on track size or layout.
  - When there are less than 10 registered in a class, the following may apply at the sole discretion of CHAMP OFF-ROAD.
    - May join classes and run them with another class of 10 or less.
- Inversion will be done by positions. (i.e. if the inversion number drawn is a 6 then position 6 will move to position 1,- position 1 will move to position
  - Possible Inversion numbers are 2,4, & 6
- Land-Rush Start - If there is a land rush start each row will have a maximum of 10 drivers in each row.

- **Race Start**

- Starting grid position will be established by CHAMP OFF-ROAD prior to each event.
- Race vehicles must be in the staging area thirty minutes prior to the beginning of the race.
- All vehicles must be ready to race when entering the starting grid.
- Late vehicles may start after the green flag, only with permission from a CHAMP OFF-ROAD official.
- The penalty for making contact with the official pace truck is disqualification. This is not appealable. Passing the pace truck without permission will also result in a penalty.
- 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 CHAMP OFF-ROAD officials at their discretion. (see section 6.1 for more detail on green flag / start procedures)

- **Race Halt** – CHAMP OFF-ROAD 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, or if any race is halted due to exceeding the allowed time limit for that race of 15 minutes or at the race director's discretion
- When a race is halted prior to the completion of one lap, there shall be a complete restart in the original starting position.
- 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 and there will be a Delaware restart. If there is no restart, drivers will be scored and paid on the positions they would have held in a restart.
- When an event is halted due to rain or adverse circumstances prize money shall only be paid for the races completed. CHAMP OFF-ROAD 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.

- **Race Start/Finish Line** – The official race start line will be indicated at each event during pre-race driver's meetings. The start line may be different from the finish line. The transponder loop is where the drivers will be scored and is the official finish line. The loop may not always be directly in line with the flag stand.
  
- **Race Duration** - The race length will be determined by a number of laps or a predetermined amount of time. The number of laps and or time will be presented the day of each race event. A predetermined time of each race will be set. Race conditions and delays throughout the race may shorten the number of laps in a race.
  
- **Racecourse Procedure**
  - A vehicle may be pulled from competition at any time if a CHAMP OFF-ROAD official feels it is a hazard to others.
  - Vehicles must race under their own power and in forward gears only.
  - If a vehicle gets off the designated racetrack, speed must be reduced significantly, and the vehicle must merge back into the line safely without gaining time or position.
  - **Yellow Flag - Caution Procedures**
    - In a caution where no penalty is imposed any vehicles charged with the caution may be put to the back of the pack.
    - In any caution where a penalty is imposed to a driver at fault for the caution, any other involved vehicles may be given their position in the field back or be placed at the back of the pack at the discretion of the race director.

Any competitor that has gone one or more laps down must go to the tail of the field during a full course caution and or competition caution. Any competitor attempting to pass the leader(s) to get back on the lead lap must make the passes with very limited or no contact at all. Any contact by the vehicle attempting to pass the leader(s) may be deemed as aggressive driving and result in applicable penalties as deemed necessary by CHAMP OFF-ROAD officials. Contact that results in the retirement of any of the vehicles being passed by the lapped competitor may result in severe penalty which may include disqualification and or other penalties at the sole discretion of CHAMP OFF-ROAD officials.

- A race vehicle that has a tire that is starting to delaminate or come apart in any way must reduce speed below 30 mph and enter the hot pit and change that tire within one lap, that race vehicle may only pass the flag stand one time in this condition. A race vehicle that continues to throw any debris or parts from their vehicle and or does not comply with the rules above may be disqualified from the race or will not continue to be scored.
- Competition Rules Definitions:
  - Track Limits – the track limit or designated racetrack is determined by CHAMP OFF-ROAD as the only area that can be raced on, usually laid out between two or more of the following items, K-rail, fencing, banners, bright colored cones, dirt wall or dirt furrow, sometimes referred to as the racing surface.
  - Competitive racing surface - defined as the area within the track limit that a race competitive speed can be maintained. One example would be, a turn may have a track limit of 80 feet wide but late in the race the competitive racing surface may only be about 40 feet wide, because the dirt beyond the cushion becomes too deep or too soft that a competitive speed cannot be maintained.
  - Cushion – the inside edge of loose dirt that gets pushed and or built up, usually to the outside of a turn.
  - Heavy contact – when one race vehicle contacts another race vehicle with enough momentum and or force, that the other race vehicle is significantly displaced from its current position, path, trajectory and or significantly breaks its momentum.
  - Light contact - when one race vehicle contacts another race vehicle with very low momentum and or force, as not to significantly displace the other race vehicle from its current position, path, trajectory and or significantly breaks its momentum.
  - Defensive move – a race vehicle intentionally moving left or right in order to block or reduce the momentum of another race vehicle.
  - Incidental contact - contact that is believed to be unplanned or unintended, sometimes in conjunction with something else. One example would be but not limited to, two race vehicles racing side by side through a turn, the vehicle on the inside hooks a rut that puts it up on two wheels and instinctively turns outward in order to regain control, in the process of doing so it contacts the vehicle on the outside of the turn.
  - Holding your line – a race vehicle maintaining its course, path or trajectory. (Following the arc or radius of a turn within the track limits).
  - Not holding your line – a race vehicle not maintaining its course, path or trajectory.
  - Aggressive Driving – being at the limit of light contact, multiple light contacts within the same race, the appearance of not being in control and or putting others at unnecessary risk.

- Competition Rules: A competitor may receive a penalty for any of the following listed below. \*\*\*If any of the following is believed to be incidental contact, there must be no call (no penalty). \*\*\*If two or more race vehicles are involved in an incident and all involved are equally at fault there will be no call, unless all involved are deemed to be overly aggressive or unsafe, then all involved will receive the same penalty.
  - Any contact on the approach to a jump that result in a race vehicle leaving the jump in an unsafe manner.
  - Heavy contact.
  - Light contact that is maintained: both parties must try to detach or break contact immediately.
  - When one race vehicle forces another race vehicle outside of, or off the competitive racing surface.
  - If a race vehicle makes more than one consecutive defensive move: A race vehicle may make one defensive move, only if the lead vehicle has a clear track in the direction of the move. If the track is not clear, a race vehicle may move over but avoid contact and must leave space on the competitive racing surface for the other race vehicle to continue racing.
  - If a race vehicle makes heavy contact or fails to leave room on the competitive racing surface while making a defensive move.
  - If a black flag (penalty) is given in the last two laps of a race, that race vehicle will be scored in last position of the last lap that it completes. If the penalized contact or act results in another race vehicle losing positions or not finish the race, an additional penalty will also be extended to one or more of the following, a points loss, fine, and or next race starting position penalty.
  - Driving through another race vehicle: An example would be, if a race vehicle leading another race vehicle has changed its trajectory and or over rotated in front of another race vehicle, the oncoming vehicle must reduce speed and try to avoid contact, (on the brakes and off the gas). If contact is unavoidable (incidental) you may not attempt or continue to push that race vehicle, even if it may result in the loss of position.
  - Not reducing speed when a spin, crash or other unnatural or possible unsafe incident is happening in front of your race vehicle.
  - Not reducing speed or getting off the gas when not on the racing surface. "Off the line off the gas". If at any time a race vehicle is not on the racing surface or track limits and still on the gas without showing clear intent to slow down (i.e., throwing roost off tires)
  - If there is ANY contact made at any time other than under green flag (racing) conditions.
  - If more than one warning for the same offence is given during the same race to the same race vehicle.
  - If more than one wheel is over or outside of the track limit and an advantage or position is gained.

- Not holding your line when the track is not clear to do so.
- Aggressive Driving

**Official Competition** – All races will run until the checkered flag is shown to the leader.

- **Hot Pit Procedures**

- Hot pit speed limit is 30 MPH.
- Race vehicles may not be pushed in or out of the hot pit area.
- 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.
- Lug nuts must be fully tightened before the race vehicle leaves the pit area. Vehicles will return to pit area for inspection if CHAMP OFF-ROAD officials detect a violation of this rule.
- All major repairs must be done behind the pit wall.
- 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.
- Air supply tanks and pressure regulators for all air equipment must remain on the equipment side of the pit wall.
- There is no fueling in the hot pits.
- 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.
- No more than five crew members may be over the hot pit wall during their division race.
- Long pants and closed toe shoes must be always worn in the hot pits and racetrack area.
- All pro truck team crew members are required to wear team uniform shirts in the hot pits.
- Correct Crew member credentials or valid CHAMP OFF-ROAD driver license is required for access to the hot pits.

- **Team Spotters**- All teams in all divisions are required to have one spotter per race vehicle, in the CHAMP OFF-ROAD designated area any time the race vehicle is on the racetrack.

- Spotter must check in with the CHAMP OFF-ROAD 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.
- Spotters must have 2 working radios consisting of 1 working "listen only" receiver 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.
- No communication to the driver from other than one spotter is allowed during the race.

- Drivers may be penalized for inappropriate spotter behavior.
- Spotters must have vehicle numbers marked clearly on front and back of person so as to be easily visible to CHAMP OFF-ROAD officials. Numbers must be black on a white background with a minimum size of 2 inches by 3 inches.
- Spotters for rookie drivers must have yellow stripes on headset on both sides of race car number.

## SECTION 6 – FLAG SPECIFIC RULES

- **Green Flag (Start/Restart)**– All race vehicles must remain in appropriate positions until the race is started as outlined below signifying the start or restart of the race.
  - **For all classes except JR SxS**
    - Each racetrack will have a designated start box marked by start line and designated end of start area line (the start box). ON any start or re-start the pole sitter will start the race on his/her discretion upon start entry of the start box and before leaving the start box area. The flag man will be pulled during all starts allowing drivers to pass after the leader fires in the start box area.
    - No competitors are permitted to start the race until the pole sitter starts or penalties may be applied.
    - An official will waive the green flag when the pole sitter starts the race. (see section 5.5 section F for more detail on green flag / start)
    - It is the responsibility of the pole sitter to maintain a consistent pace to the start area and will not be permitted to “brake check” or slow speed as set by the pace truck or about 25 MPH before entering the start box. Failure to comply may result in a penalty to the pole sitter, including losing positions.
    - If the pole sitter does not start the race before leaving the start box area the flag man will waive the green flag and all competitors are free to start at will regardless of the pole sitter actions.
    - On standing starts, the Official Starter will indicate the start of the race by waving the green flag or by some other means.
    - In the event of a caution on a start or restart before a single lap is completed the following will apply:
      - In the event of a full caution before one lap is completed, we will have a full restart.
      - If a single vehicle caused the incident alone, he/she may be placed at the back of the pack for the restart.
      - The field will be re-gathered based on the starting position from that start attempt. If some vehicles are damaged and will not continue those positions will be vacated and left open in the field. If a full row

is vacated the next row may move forward to remove the gap in the field.

- Only one attempt will be made at a restart. If the restart attempt fails and we have a second caution before that lap is completed, we will go to single file restart at that time.
- Any vehicle that enters the hot pit area in this process will go to the back of the pack for the restart. If multiple vehicles enter the hot pit or leave the track, they will be lined up at the back of the pack based on the order in which the vehicle leaves the hot pit and rejoins the field.
- In the event of a complete restart, all vehicles that took the first green flag will be awarded the appropriate finishing position based on the position in the field. Starting grid position settles any multiple vehicle issues in the same location on the track.

- **For Classes JR SxS**

- Each racetrack will have a designated start box marked by start line and designated end of start area line (the start box). ON any start or re-start the flag man will start the race on his/her discretion upon entry of the pole sitter into the start box and before leaving the start box area.
- No competitors are permitted to start the race until the green flag is waived or penalties maybe applied.
- It is the responsibility of the pole sitter to maintain a consistent pace to the start area and will not be permitted to “brake check” or slow speed as set by the pace truck or about 15 MPH before entering the start box. Failure to comply may result in a penalty to the pole sitter, including losing positions.
- On standing starts, the Official Starter will indicate the start of the race by waving the green flag or by some other means.
- In the event of a caution on a start or restart before a single lap is completed the following will apply:
  - In the event of a full caution before one lap is completed, we will have a full restart.
  - If a single vehicle caused the incident alone, he/she will be placed at the back of the pack for the restart.
  - The field will be re-gathered based on the starting position from that start attempt. If some vehicles are damaged and will not continue those positions will be vacated and left open in the field. If a full row is vacated the next row may move forward to remove the gap in the field.
  - Only one attempt will be made at a restart. If the restart attempt fails and we have a second caution before that lap is completed, we will go to single file restart at that time.

- Any vehicle that enters the hot pit area in this process will go to the back of the pack for the restart. If multiple vehicles enter the hot pit or leave the track, they will be lined up at the back of the pack based on the order in which the vehicle leaves the hot pit and rejoins the field.
  - In the event of a complete restart, all vehicles that took the first green flag will be awarded the appropriate finishing position based on the position in the field. Starting grid position settles any multiple vehicle issues in the same location on the track.
- Blue Flag with Diagonal Yellow Stripe (Passing Flag)**– Race vehicles given this flag must prepare to yield to overtaking traffic.
- Yellow Flag (Caution)** – Race vehicle must immediately slow to 30 miles per hour or other speed indicated by CHAMP OFF-ROAD officials. No passing is allowed under a yellow flag. A call on the Race receiver by the Race Director of Yellow is to be treated the same as seeing the yellow flag displayed.
  - Stationary yellow flag indicates a full course caution situation. Lap counting will cease during a full course caution. A waving yellow flag is a local yellow only 30 mph speed limit and no passing rule apply.
  - Penalties may 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 and or no scoring after the incident. This is not an appealable disqualification.
  - Only CHAMP OFF-ROAD safety personnel will attend to race vehicles and drivers involved in caution incidents. CHAMP OFF-ROAD officials may request assistance from trained crew members as needed, but other than that, crew members may not enter the racetrack to assist their vehicles.
  - Vehicles will be placed at the back of the pack when a caution is called, and the driver is charged with the caution. Multiple vehicles may be charged with a caution.
- Red Flag (Race Stop)** – Race vehicle must stop in a safe matter immediately, regardless of your scored position on track.
  - Failure to obey the red flag will result in disqualification. This is not an appealable disqualification.
  - 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 red flag is withdrawn and returns to a yellow flag or the race is restarted.
  - 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 must go to the back of the pack for the restart. Timing on the restart is at the discretion of CHAMP OFF-ROAD officials.

- **Black Flag (Penalty)** – Race vehicle must immediately report to the hot pits and remain until released by a CHAMP OFF-ROAD official. A black flag penalty may either be issued as a “stop and go” by the Race Director or a flag will be displayed at the finish line.
  - The black flag may be displayed for rough driving, an unsafe vehicle, failure to acknowledge other flags, failure to adhere to CHAMP OFF-ROAD rules or directives, and other offenses at the discretion of CHAMP OFF-ROAD officials.
  - After a black flag is displayed to the driver for TWO consecutive laps with no penalty served, scoring of the vehicle will be discontinued for the remainder of the race and/or will be disqualified.
  - If a driver receives a black flag during the final two laps and does not serve the penalty, CHAMP OFF-ROAD officials may drop the finishing position of the vehicle, deduct championship points, or both.
  - Any black flag penalty may be a stop and go penalty or shall put the offending Drivers’ vehicle to the back of the pack. CHAMP OFF-ROAD officials will place vehicle back on track after penalty is served.
  - Any competitor receiving a 2<sup>nd</sup> black flag penalty in the same race will not be allowed to continue.
- **White Flag (One Lap to Go)** – Display of the white flag at the finish line means the leader has started his/her last lap.
  - No race vehicle may receive any assistance after the white flag has been shown with the exception of those making regular pit stops.
  - In the event a caution is required on the white flag lap the field will be lined up based on the last completed green flag lap and the last lap will be run to complete the race. Any vehicle entering the hot pit will be placed at the back of the pack.
- **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 CHAMP OFF-ROAD official.
  - 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 completed in the allocated amount of time, whether the vehicle is still running or not.
  - In the event of a caution on the last lap after the leader and or other competitors have crossed the line and taken the checkered flag any competitors that cross the line will be scored with the appropriate position as crossed before the caution came out. All other competitors that have not crossed the line before the caution comes out will be scored with position from the last completed green flag lap or based on the last restart if the prior lap was not run under green condition.

- In the event of an exact tie at the finish line the tie will be broken by the driver with the higher position for the previous lap.

## SECTION 7 – TIMING AND SCORING

- **Official Scoring** – All decisions of the designated CHAMP OFF-ROAD official scorer for an event are final unless a recheck has been requested by a driver or a CHAMP OFF-ROAD official.
- **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 CHAMP OFF-ROAD officials. Results are not considered official until any requested re-checks have been concluded. Any recheck request must be accompanied by a \$100.00 deposit. If an error is found, the deposit will be refunded. If no error is found, the deposit is forfeited.

## SECTION 8 – VIOLATIONS AND DISCIPLINARY ACTIONS

- **General Procedure** – If it comes to the attention of CHAMP OFF-ROAD officials that a participant has violated a CHAMP OFF-ROAD rule or has acted in a manner that is detrimental to off road racing or to CHAMP OFF-ROAD, and the act warrants a penalty, the member will be notified by CHAMP OFF-ROAD officials of the violation, the circumstances involved, and the penalty imposed.
- **Emergency Action** – CHAMP OFF-ROAD 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 any flag or other directive of a CHAMP OFF-ROAD official are examples of conduct that would warrant emergency action.
- **Payment of Fines** – Fines shall be paid to CHAMP OFF-ROAD 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 CHAMP OFF-ROAD license for the next year.
- **General Scope of Penalties** – Penalties for violation of CHAMP OFF-ROAD 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 CHAMP OFF-ROAD. Penalties may include, but are not limited to: disqualification, probation, license suspension, fines, or loss of points.

- **Unsportsmanlike Conduct** – Any participant found by CHAMP OFF-ROAD 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 CHAMP OFF-ROAD will receive a penalty. This includes any aggressive action toward a CHAMP OFF-ROAD official by participant including arguing, yelling or raising your voice when talking to an official, or touching the official in any physical way. Drivers are solely responsible for the actions of all team members at all times and in the event that a team member shows Unsportsmanlike Conduct, CHAMP OFF-ROAD officials may penalize the driver for the actions of the team member in addition to any penalty to the team member for his / her actions. (Refer Back to “**Conduct of Participant/Crew**” on pg. 10)
- **Repeat offenses**- Any participant found by CHAMP OFF-ROAD officials to be engaged in any repeat offense of any technical violation or any other action that causes the CHAMP OFF-ROAD officials to impose any penalty to the driver or team will see the penalty more than double on the second offense for the same action or violation. In the event that any participant is found repeating any offense for a third time the participant may be removed from the event and put on suspension solely at the discretion of the CHAMP OFF-ROAD Competition Director.
- **Physical Altercations** – Any competitor or team member involved in a personal confrontation where one person touches another with intent of physical harm to the other will be placed on indefinite probation and the Series may impose additional disciplinary sanctions given the severity of the offense.
- **Vehicular Acts of Aggression** - In the event that CHAMP OFF-ROAD officials deem that a Driver committed premeditated intentional acts of aggression with their vehicle toward another driver’s vehicle at any time during the event will be placed on indefinite probation and will receive a disqualification from that event. Any driver that is involved in a subsequent offense of premeditated acts of aggression with their vehicle toward another driver’s vehicle will be subject to review by the executive management of CHAMP OFF-ROAD and may carry further extreme penalty which can include suspension and or permanent suspension and expulsion from the series. Any driver using their vehicle and attempting to cause another driver bodily harm or cause substantial equipment damage will be disqualified and removed from the property immediately for the remainder of the event and will be subject to further penalties, fines, and CHAMP OFF-ROAD will exercise the right to allow the local authorities deal with the situation within all limits of the law.

## **SECTION 9 – PRIZE MONEY/EVENT PAYBACK**

- **Distribution of Prize Money and/or Event Payback** - all events shall be contested for a guaranteed finishing position purse as set forth in the payoff schedule.
  - Prize money shall be distributed by CHAMP OFF-ROAD Headquarters.
  - In the event of a dispute, filed in accordance with section 9 of this rulebook, prize money shall be held until the dispute is decided.

## SECTION 10 – POINTS AND POINTS FUND

- **Eligibility for Points and Points Fund**

- The primary driver of record in the PRO classes will be allowed one substitute driver for the season. The substitute driver can participate in two event weekends or 4 individual rounds.
- A Sportsman team can list a total of two substitute drivers for the season. A substitute driver may participate for two event weekends or 4 rounds. One of the two substitute drivers submitted for the season is the sole allowable substitute driver.
- The named substitute PRO driver (1) or Sportsman driver (2) must also obtain a USAC Driver's License, hold a CHAMP OFF-ROAD Racer Membership, and remain in good standing with CHAMP OFF-ROAD. This substitute driver must be named on the racer's profile prior to the first event of the season
  - ☐ Sportsman are able to substitute drive in PRO SPEC/PRO Buggy
  - ☐ No PRO class driver can substitute drive in any Sportsman class
- The substitution of the primary driver of record can only occur with prior approval from the CHAMP OFF-ROAD competition director. The competition director will have the sole discretion to approve or deny such a request. This approval or disapproval shall be non-appealable. Requests to use a substitute driver must be submitted in writing to a CHAMP OFF-ROAD official. Only the substitute driver(s) submitted for the 2025 season are permitted. If a CHAMP OFF-ROAD official does not give prior approval for the substitution, you will lose all points from that given race day.

- **Driver Points** – Points will be awarded according to the following point scale:

| Position | Points | Position | Points |
|----------|--------|----------|--------|
| 1        | 50     | 14       | 23     |
| 2        | 47     | 15       | 21     |
| 3        | 45     | 16       | 19     |
| 4        | 43     | 17       | 17     |
| 5        | 41     | 18       | 15     |
| 6        | 39     | 19       | 13     |
| 7        | 37     | 20       | 11     |
| 8        | 35     | 21       | 9      |
| 9        | 33     | 22       | 7      |
| 10       | 31     | 23       | 5      |
| 11       | 29     | 24       | 3      |
| 12       | 27     | 25       | 1      |
| 13       | 25     | 26       | 1      |

- \* 1 Point will be awarded for 25th position and beyond.

\* PRO's only: 5 points will be awarded to the top qualifier (fastest lap) of each qualifying session, 2 points will be awarded to the second fastest qualifier (second fastest lap), and 1 point will be awarded to the third fastest qualifier (third fastest lap).

- \* In order for a driver to receive starting points (last place points in that race), the driver and race vehicle **MUST take the green flag.**

- **Driver Bonus Points** – Bonus points will be issued as follows:

- Two bonus points for the driver who is leading any race at the halfway point and one bonus point for the driver who is in second, unless the race is halted prior to reaching the half-way point (excludes classes that run short course). If the driver/s leading at halfway are disqualified, these points will not be redistributed to the next racer.
- In the event one of the top 3 qualifiers gets a tech DQ (0 points), the "Fastest Qualifier" points will be distributed down to the next fastest qualifier as if the racer being DQ'd did not compete in that given race.

- **Sportsman Division Drop Rounds** – After the completion of the season, the two lowest scoring rounds will be dropped from the total of each competitor's overall season points. DQ rounds will NOT be dropped.



## 2026 Tire Rules for Pro Truck, Sportsman, and Buggy Classes

1. Tires must be D.O.T. only.
  - a. DOT tire classes are restricted to tires intended for highway use. All tires must be designed, built, and sold for use on passenger car, SUV or pickup truck ONLY stamped with D.O.T. number.
  - b. Tires must be available to the general public through standard dealers or standard internet retailers. If a tire model and size is not available for purchase from multiple consumer retail sources, it is not considered a legal race tire. All tire sizes and models to be considered legal must be listed in dealer communications and on company websites as available prior to use. Internet only or single store only tires are NOT legal. Tires must be available for purchase by the general public and CHAMP OFF-ROAD officials 15 days prior to a CHAMP OFF-ROAD event to be considered a legal race tire.
  - c. Tires must be part of a multi-size tire line with a minimum of 3 sizes currently available. To be considered legal a tire must be identical in construction, rubber compound, durometer, sidewall construction, and tread design as the other sizes in the tire line not considered legal. (Example – if the tire used is a 35” tire, other tires from the manufacturer in sizes like 31” and 33” will be the same as the tires being raced on).
  - d. No studded tires or any other hard-inserted objects will be permitted for any reason in the tread area or any other area of the tire.
2. CHAMP OFF-ROAD is a D.O.T. tire series for all PRO and Sportsman Truck and Buggy Classes. Any tire found to be illegal will result in the competitor(s) being DISQUALIFIED for each and every event the tire was used. Competitor will forfeit all points and prize money.
3. Maximum tread width for all classes excluding Pro Buggy is 10.200”. Pro Buggy Maximum tread width is 10.800”.
4. Maximum tire diameter is 35” Tire Circumference may not exceed 110.5”
5. All tires will be measured without vehicle load on a maximum of 9” and minimum of 4” width race ready wheel at a tire pressure of 20 psi.
6. 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.
7. Tire soaking is not permitted.
8. Inner Liners allowed only in PRO-2 and PRO-4 Classes. **No tire balls are allowed.**
9. Minimum air pressure on the starting line is 20 psi.
10. Equipment used to adjust air pressure during the race is not allowed.
11. Approved maximum tire sizes by class:  
  
PRO-Lite/PRO Spec: 15”, 16”, 17” Wheel diameter with a Maximum Tire Diameter of 32”. (maximum circumference 101.0 inches). Maximum Tire Section Width is 11.5

PRO-2: 35"x12.50R17" AND 315/70R17 (maximum circumference 110.5 inches)

PRO-4: 35"x12.50R17" AND 315/70R17 (maximum circumference 110.5 inches)

Stock Truck: "33 X 12.50 (maximum circumference 104.0 inches)

Super Stock: "33"x12.50 (maximum circumference 104.0 inches)

All Buggy classes: 24" to 32" diameter.

### **CHAMP OFF-ROAD RACING SERIES SAFETY RULES**

*The aforementioned safety rules will apply to all registered classes:*

#### **SR-1 Equipment**

- No passenger is allowed on the race vehicle any time the vehicle is in motion.
- Race vehicles will not be allowed on the racetrack without safety and emergency equipment on the premises.
- No race vehicle is permitted on the track without approval from a CHAMP OFF-ROAD official.
- No driver will compete in any event with any part of their body extended outside of the vehicle.
- Pit vehicles must be registered with each track, must be driven in a safe manner, and may not be driven by anyone under the age of 16 at any time.

#### **SR-2 Driver's Wear**

- One-piece driver suits are required. 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 or higher.
- Drivers must wear gloves and driving shoes that meet SFI Spec 3.3/5 or higher and have the SFI label attached. Gloves may not be modified or have any holes in them. If at any time any CHAMP OFF-ROAD official notices a driver missing a glove or having a glove with holes or fingers cut out the driver will 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 be parked for the duration.
- Drivers must wear SFI 3.3 labeled, full length socks of fire-retardant material at all times.
- Drivers must use a full helmet skirt made of fire-retardant material, with attached SFI 3.3/5 label or approved fire-retardant head sock with attached SFI 3.3 label at all times.
- All driver apparel must be clean, in good condition, and free from rips or worn areas.
- The designated CHAMP OFF-ROAD patch will be attached to the suit on the upper front right breast area, no more than six inches from the top of driver's shoulder.

No other racing sanctioning body patches or decals are to be worn on the suit.  
CHAMP OFF-ROAD patch must be ironed on or sewn on to suit with thread.

### **SR-3 Helmets**

- Full face helmets with a Lexan shield are required.
- Helmets must be certified to a minimum one or more of the following standards:
  - SNELL memorial foundation, **SAH2020** or **SA2025** with a legible Snell sticker attached.
  - FIA Standard 88-2018, 8860-2018-ABP, 8860-2010, and 8859-2015, and **8859-2024** with a legible FIA sticker attached.
  - FIA 8868 with a legible FIA sticker attached.
  - Youth helmets must meet Snell/FIA CM2016 or Snell CMR2016, SA2020, or **SA2025**.

### **SR-4 Eye Protection**

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

### **SR-5 Seats**

- Only manufactured race seats are permitted. Custom manufactured seats must be approved by CHAMP OFF-ROAD.
- All seats, rib protectors, leg extensions, and head rests must be padded. Head rest padding must be certified to SFI Spec 45.2.
- Seat must be located within roll cage structure.

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

- A quick release lap belt not less than two inches wide is required. A 2-inch belt may be used provided it is certified to FIA 8853-2016 or SFI specs 16.1, 16.5 or 16.6 dated by the manufacturer. All belts must have the SFI label attached and meet SFI Spec 16.1 or higher. Both ends of the lap belt must be fastened to the roll cage. Bolt in style belts must be fastened with high quality graded bolts, not less than  $\frac{3}{8}$ " grade 8. Clip in style belts must be cotter pinned or safety wired. Cam or twist Lock type belts are not allowed.
- Shoulder harnesses are mandatory. Harnesses must be no less than two inches wide and must come from behind driver's seat. 2-inch harnesses may be used provided they are certified to FIA 8853-2016 or SFI specs 16.5, 16.6, 16.1 and dated by the manufacturer. All belts must have the SFI label attached and meet SFI Spec 16.1 or higher. 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.
- 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.
- Sternum straps are not allowed.

- At any place the lap belt, shoulder belts, or crotch belt passes over any edge or surface that could cause cutting of the belt, the belt must be rolled, padded, or have a grommet installed.
- All seat belts and shoulder harnesses must connect at the lap belt with a quick release latch and link buckle.
- Seat belts must be certified to FIA 8853-2016 or SFI specs 16.5 or 16.6 and must have the SFI label attached and dated by the manufacturer. Belts must not be used beyond 2 years after stated date of manufacture, or past their expiration date.
- Seat belts may be rejected by CHAMP OFF-ROAD officials if dirty, frayed, oily, greasy, or otherwise considered unsafe by officials.
- Shoulder harness should be mounted behind the driver approximately 4" below top of shoulder. Lap belts should be kept at a minimum 2.5" behind the seat and backrest intersection. All belts must be mounted directly to a main structure member of the same size and specification as the roll cage and include gussets. All adjustment buckles should be kept a minimum distance of 1.5" from the seat to prevent accidental loosening or chafing.
- Any belt ends using a single three bar adjuster, D-ring or slip-ring, belt must double back through the ring.

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

- Head and neck restraints are mandatory in all classes any time the vehicle is on the track.
  - R3, Hans, Hybrid or other restraint certified to SFI spec 38.1 or FIA 8858-2002 and 8858-2010 with a legible sticker attached are allowed and must be manufactured within the last 5 years to be legal.
  - All restraints will be inspected before the first race and must be deemed safe by Champ Off Road in order to race.
  - The head and neck restraint, when connected, must be mounted, configured, maintained and used in accordance with the manufacturer's instructions.
  - It is the responsibility of the driver to ensure that his/her restraint is correctly installed, maintained, within date, and properly used.
  - **MERU Safety restraints or any restraint using shock absorber will not be allowed.**

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

- All vehicles must have a gas pedal with a toe hook except for Buggy classes. It is highly recommended.
- Toe hook must enable the driver to pull back on the pedal with foot in the event of a stuck throttle. See diagram on FIG 1.
- Each vehicle must have a foot throttle incorporating two (2) positive action return springs attached directly to the carburetor/throttle body arm and must register a minimum pull of two (2) pounds each. A positive stop or over-ride prevention system must be used to keep linkage from passing over center and sticking in an open position.





Figure 1 Throttle Pedal Toe Hook

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

- Material for roll cage construction must be 4130 chromoly tubing or ASTM 1018/1026 CDS/DOM. All welding must be of the highest quality with full penetration and no undercutting of the parent metal. All welds shall conform to the American Welding Society D1.1, Structural Welding Code, Chapter 10, Tubular Structures and Standards for the material used (see AWS. Org). It is strongly recommended that the welder inspect all welds using Magnaflux™, die- penetrate, or other effective methods. All tubes must be welded 360-degrees around the circumference of the tube. No oxy-acetylene brazing or welding allowed. Good external appearance of a weld does not necessarily guarantee its quality, poor looking welds are never a sign of good workmanship. None of the tubing may show any signs of crimping or wall failure. All bends must be mandrel type. The center radius of the bends may not be less than three (3) times the outside diameter of the roll cage tubing.
- Specific size and wall thickness of roll bars is addressed in race division rules and outlined in included diagrams.
- High density flame proof roll bar padding with an SFI rating of 45.1 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**

- Trucks must have complete left half of windshield opening covered with a CHAMP OFF-ROAD approved rock guard. Open Wheel vehicles must have complete windshield opening covered with a CHAMP OFF-ROAD approved rock guard. Rock guard must have a minimum 1/8-inch rod and a maximum 1.5-inch square opening welded at each intersection.
- A 7 inch by 10-inch section may have vertical bars only. See diagram on FIG 2

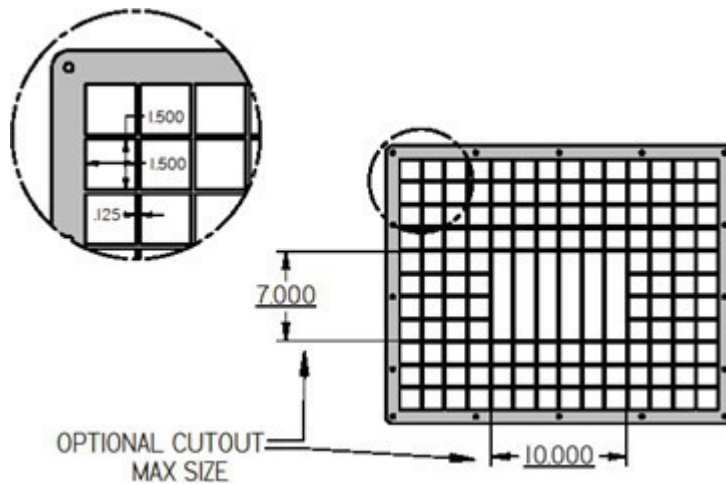


Figure 2 Rock Guard

#### SR-11 Side Window Nets

- Window nets must be certified to SFI spec 27.1 and have the manufacturer's SFI label attached. Ribbon style window nets only. The ribbon type should be made from exactly 1-inch nylon material with a maximum  $1 \frac{3}{4}$  inch square opening between the ribbons.
- The window net must fill the entire window opening including wind wing area of the race vehicle to allow no more than 1 inch gap. See diagram on FIG 4
- Upper and lower rods must be made from a minimum of 1/2-inch solid steel. Upper rod must go 1 inch through upper rear mounting tab. No fixed upper rods.
- 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.
- Window net latch must also utilize a secondary Velcro strap. Strap must be red and measure a minimum of 3 inches x 1 inch. Velcro strap must be sewn to net or bolted/riveted to cage and bolted to latch handle. See diagram on FIG 3
- The window net latch must be located at the front top of the window opening.
- No brackets protruding towards the driver.
- Spring type mounting of nets on the top or bottom is not permitted.

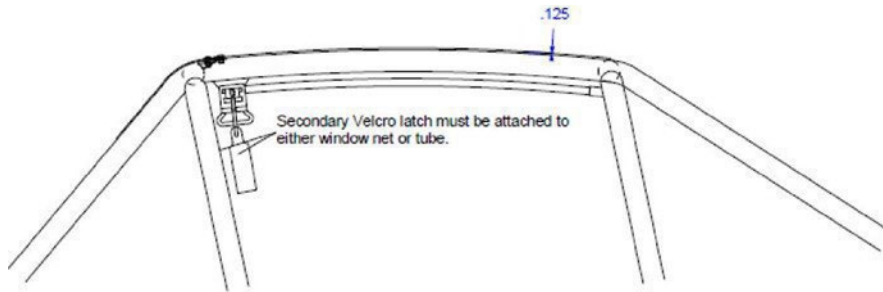


Figure 3 Upper Net Mount

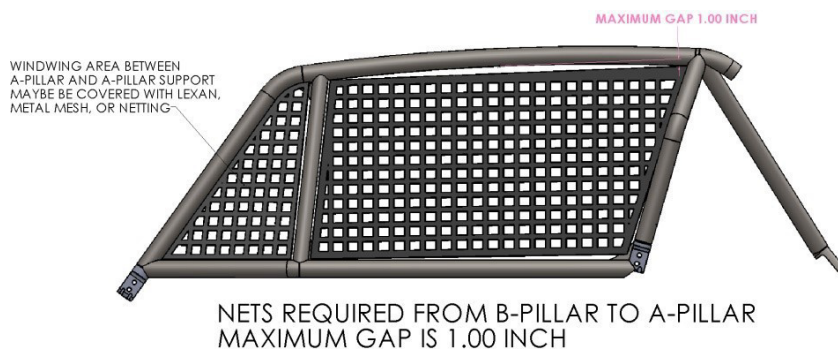


Figure 4 NETS

### SR-12 Helmet Nets

- For seats NOT considered a full containment seat (seats that do not have adequate head containment on both sides of the seat):
  - Pro 4, Pro 2 and Pro Lite vehicles must use a center and door side driver net. Only SFI 37.1 Polyester or Kevlar approved nets are allowed.
  - Nets must have an approved quick release mechanism accessible to the driver.
  - The nets should be as close to the helmet as possible, with as minimal angular divergence as possible.
  - For seats with lateral head supports, nets must be in contact with the head supports and attached slightly inboard at the rear, so as to partially wrap around the support.
  - The nets should be installed with some tension.
  - The upper strap of the net must be at or above the center of gravity of the helmet for all drivers.

- For full containment seat (Seats that have adequate head containment sides built into the seat structure):
  - Pro 4, Pro 2 and Pro Lite vehicles may not be required to use center or door side helmet nets if using a full containment seat system that provides the same or better protection to the driver's head movement as helmet nets would provide. Must be approved by the Tech Director

#### **SR-13 Headlights and Parking Lights – Grill Assembly**

- Headlight and parking light openings must be covered. Decals will be permitted.
- Single section grill pieces, which have been approved by the CHAMP OFF-ROAD Technical Director, may be used in place of factory production grills provided it fits the required template and maintains stock appearance of vehicle represented.

#### **SR-14 Rear View Mirror**

- A. Rear view mirrors will be permitted.

#### **SR-15 Firewall**

- Firewalls must be metal (aluminum- .040 inch minimum or steel-20-gauge minimum) and separate the engine and fuel source, fuel fill, fuel lines, fuel pumps, and fuel vents from the driver's compartment.
- Complete front and rear firewalls are required. Firewalls must extend to mid-rail bar.
- Engine and air cleaner must be completely covered with a metal cover. Cover must be a minimum thickness of .040 inches or use a CHAMP OFF-ROAD approved fire-resistant air cleaner side vent containment system to trap any fluid and route it out the side of the vehicle. Any competitor may consult with the CHAMP OFF-ROAD Technical Director for the approved systems.
- The air cleaner opening must face away from driver.
- All race vehicles that have an enclosed engine and/or transmission compartment must have all breathers and vents routed out the rear of the vehicle behind the rear axle.

#### **SR-16 Fire Protection**

- 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.
- Bulk fuel storage is prohibited in pits.
- Metal drums, electric fuel pumps, and metal hand pumps are not allowed.
- Fuel jugs must be plastic, and DOT approved.
- Plastic fuel pumps are the only fuel pumps allowed in the pits.
- Every pit must have "no smoking" signs posted every 30 feet at the front of the pit closest to the public walkways.
- Any awning over 100 square feet must have a valid flame certificate.

- All race vehicles are required to have a remote, on board, 5-pound minimum fire suppression system. No CO2 cartridge type allowed.
- All trucks with automatic transmissions must have the fire suppression system piped to the engine and transmission compartments.
- UTV's, Karts and Buggies must have 2.5 pound minimum fire extinguisher securely mounted within the drivers reach.
- **Fire extinguisher sticks (flare type) are not allowed.**
- All 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, labeled with minimum 1.0-inch white letters FIRE DOOR and fold down toward the rear or the outside of the truck and allow 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 and must be no more than 18 inches from outside of vehicle. No push button or other styles are allowed.
- All gas caps must be tethered to vehicle with a cable.

#### **SR-17 Batteries**

- No liquid lead acid batteries are permitted.
- Positive battery post must be covered with insulated material.

#### **SR-18 Driver Medical Attention**

- 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.
- 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-19 Quality of Workmanship**

- A. Race vehicle workmanship must meet with CHAMP OFF-ROAD officials' approval.

#### **SR-20 Fueling of Race Vehicle**

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

#### **SR-22 Vehicle External Lighting and Display Accessories**

- Vehicles may have up to 4 small lights per vehicle is authorized for use during a CHAMP OFF-ROAD event. Up to four small under chassis lights, but only if it is NOT a color that may look like fire, such as red, yellow or orange, and may have one above chassis light, such as a lighted whip, not to exceed 12" in length.
- Vehicles may have one display accessories such as a flagpole or lighted pole but

cannot be more than 12 inches in length, must be flexible, and must have a blunted end, such as a ball securely attached to the end. Said pole must not extend above the roof line of the vehicle. All lights and or flag poles and mounts must be approved by CHAMP OFF-ROAD Tech Officials before entering the track.

- A. Any lights that may interfere with another driver's visibility, or that are not approved by CHAMP OFF-ROA Tech Officials, must be removed from the race vehicle before passing through tech or entering onto the racetrack.

#### **SR-23 Class Development and R&D**

- Champ Off-Road Racing reserves the right to run noncompliant components in any vehicle, in any class at any time. This would be done as R/D for future development in a racing class. This could include engines, transmissions, injection systems, etc. This may or may not be a no points, no purse basis. It may be a per event or per season test. CORR will announce to the participants in the class prior to the season or with a minimum 30-day notice.

## PREFACE

"The rules and/or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all CHAMP OFF-ROAD ("CHAMP OFF-ROAD") events, and, by participation in these events, all CHAMP OFF-ROAD members are deemed to have acknowledged, accepted, and complied with these rules. No express or implied warranty of safety shall result from publications of, or compliance with these rules and/or regulations. The rules are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to participants, spectators, or others."

**CHAMP OFF-ROAD rules are the sole property of CHAMP OFF-ROAD. Use of these rules by any other organization or individual is forbidden unless prior written consent is given by the CHAMP OFF-ROAD.**

**CHAMP OFF-ROAD, its parent, affiliates, members, officers, directors, or staff, assumes no responsibility, legal or otherwise, for failure or malfunction of any products of manufacturers listed in this rulebook. CHAMP OFF-ROAD is NOT liable for actions or decisions made by individuals, promoters, or organizations, etc. using CHAMP OFF-ROAD rules.**

Specifications and/or suggested standards contained in this rule book are intended for use as a guide with respect to safety and for no other purpose either expressed or implied. The use of the specifications and/or suggested standards contained herein by any association, organization, manufacturer or individual is entirely voluntary and **CHAMP OFF-ROAD** will NOT accept any responsibility for consequences resulting from the application of said specifications and/or suggested standards.

## AMSOIL CHAMPIONSHIP OFF-ROAD RACING SERIES PRO RULES ADDENDUM TO THE GENERAL RULES

*The following rules apply to trucks in the PRO Spec division.*

**PRO Spec:** Vehicle manufactured as a 2-wheel drive compact pickup truck. Engines and transmissions are mandated components. All components and or their manufacture are subject to mandate.

- All pro trucks must be a standard manufacturer production model available to the general public in the USA. Vehicle style must have a manufacturer production of at least 5,000.
- All makes and models must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.

### PTR-1 MARKING AND IDENTIFICATION

- All vehicle numbering is subject to approval and is assigned by AMSOIL CHAMPIONSHIP OFF-ROAD.
- Single digit numbers can only be used in truck classes. Division ID must be indicated in lower right-hand corner of number area using and upper left-hand corner of windshield opening using 1 1/2-inch minimum numbers and letters.
- AMSOIL CHAMPIONSHIP OFF-ROAD officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- 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.
- Advertising on race vehicles must be in good taste.
- Foil or reflective numbers are not permitted.
- All AMSOIL CHAMPIONSHIP OFF-ROAD vehicles are required to have AMSOIL CHAMPIONSHIP OFF-ROAD stickers on each side of the front of the door area, 4 inches down from the window opening.
- AMSOIL CHAMPIONSHIP OFF-ROAD may require the use of specific sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### PTR-2 NUMBERS

- Numbers are 1-99 for each truck class.
- All numbers must be block style only.
- Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- Fonts must be chosen from one the below approved styles only:
  - Impact
  - Helvetica Black
  - Mechanical Bold
- Numbers will be located in the following positions:
  - (1) number plate on each side, front edge of number plate to be 6 inches from back of cab. Bottom edge to be 4 inches above top of bed side. Number plate must be below roof line. (Must also include division identification in this area)
  - Roof of vehicle, as viewed from passenger side
  - (1) number plate on the back of vehicle facing rear
  - Driver's side upper left-hand corner of windshield area (must also include division

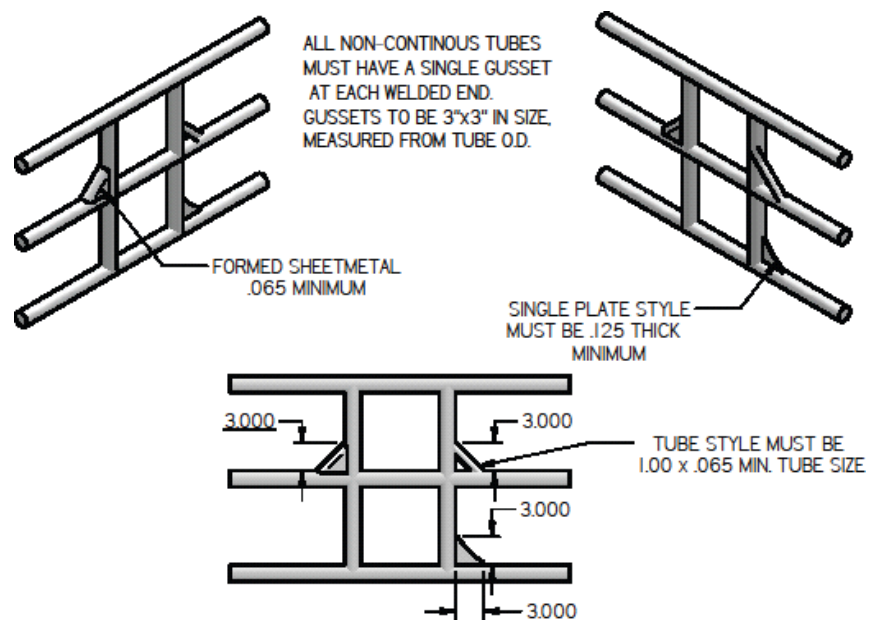
identification in this area) 1 ½ inch letters minimum.

- *PRO Spec:*

- 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.
- Roof numbers must be a minimum height of 22 inches.
- Rear facing numbers must be on a white number plate measuring 10 inches by 12 inches. Numbers must be solid black with a minimum height of 8 inches.
- Windshield number and division must be solid black on a white surface with a minimum height of 4 inches.

#### PTR-3 CHASSIS/ROLL CAGE

- All trucks must be left side steer only. Steering wheel, seat, and pedals must be in approximate stock location.
- All tubing, welds, gussets, and roll cage construction must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- Material for roll cage construction must be 4130 chromoly or ASTM 1018/1026 CDS/DOM round tubing (see SR-9).
- Minimum tubing diameter and thickness for vehicles weighing:
  - Champ Lite minimum cage tubing is 1 ½ inch diameter by .120
  - All tubes must be welded 360-degrees around the circumference of the tube.
  - Gussets are required on all intersections in driving compartments within 3 inches of intersection. See diagram on FIG 5
- All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- Tube gussets and wrap gussets must be a minimum of 1.0 diameter x .065 thick.
- All trucks must have 3 horizontal door bars per side. Effective immediately all newly built trucks must incorporate the driver's side extended impact zone bars. See diagram. Existing race vehicles will be required to update to the new driver side extended impact door bars. See diagram on FIG 6. The drivers seating location and head area in relation to the left side window opening and roof area tubing locations and construction will be under review on all trucks to maximize the driver's safety and head protection.
- 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.

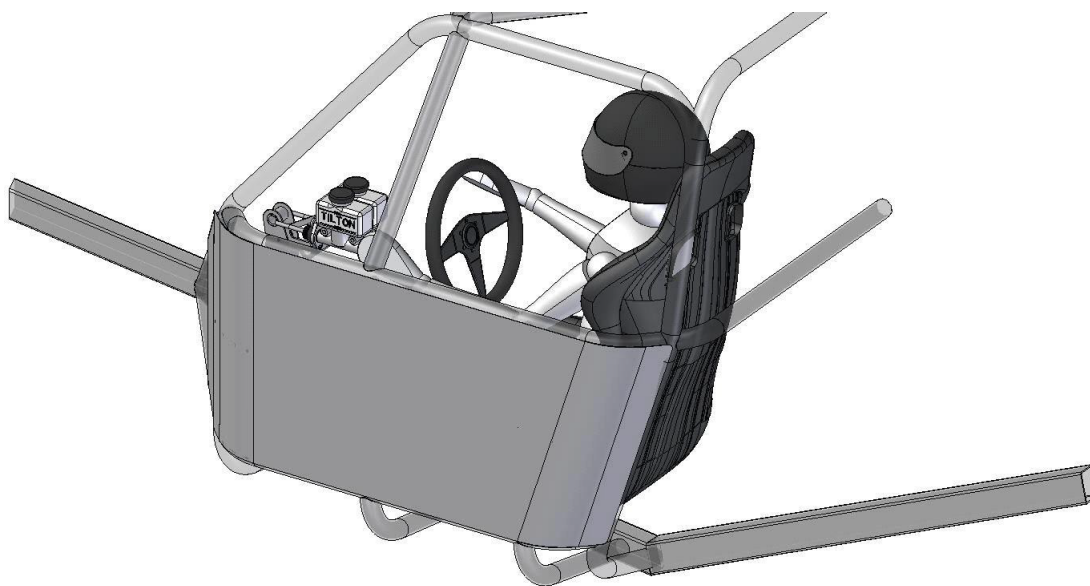


**Figure 5 GUSSETS**



**Figure 6 DOOR BARS**

- There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.
- Diagonals or similar bracing is mandatory for all truck roof openings as well as front and rear roll bar hoops.
- Driver's side door bars must be covered with a minimum of .125-inch steel plate bolted on, using a minimum of 3/8" bolts on 6" centers. See diagram on FIG 7.
- Door plating must completely cover from bottom of main rail to top of door bar and extend a minimum of 4 inches in front of pedals to a minimum of 4 inches behind the seat.
- Under driver Floor Plate: .125" thick steel or .250" 6061-T6 aluminum plate bolted every six (6) inches with 3/8 bolts. Plate must cover entire floor opening from front fire wall to back firewall side tube to side tube of driver's compartment. Plate must extend to centerline of all floor tubes. Mounting tabs must be made of .090 thick steel.
- Seat back plate: .125" thick steel or .250" 6061-T6 aluminum plate 12 inches wide must be centered on seat back. Plate must start at centerline of shoulder harness tube and extend to drivers compartment floor. Plate must be located inside the vehicle, between the seat and the rear firewall. Plate maybe me welded in (stitch welded one inch every six inches) or bolted in place. Vehicles using metal tube frame seats may attach plate to seat. Plate must be spaced away from seat 1.5 inches if attached to seat.

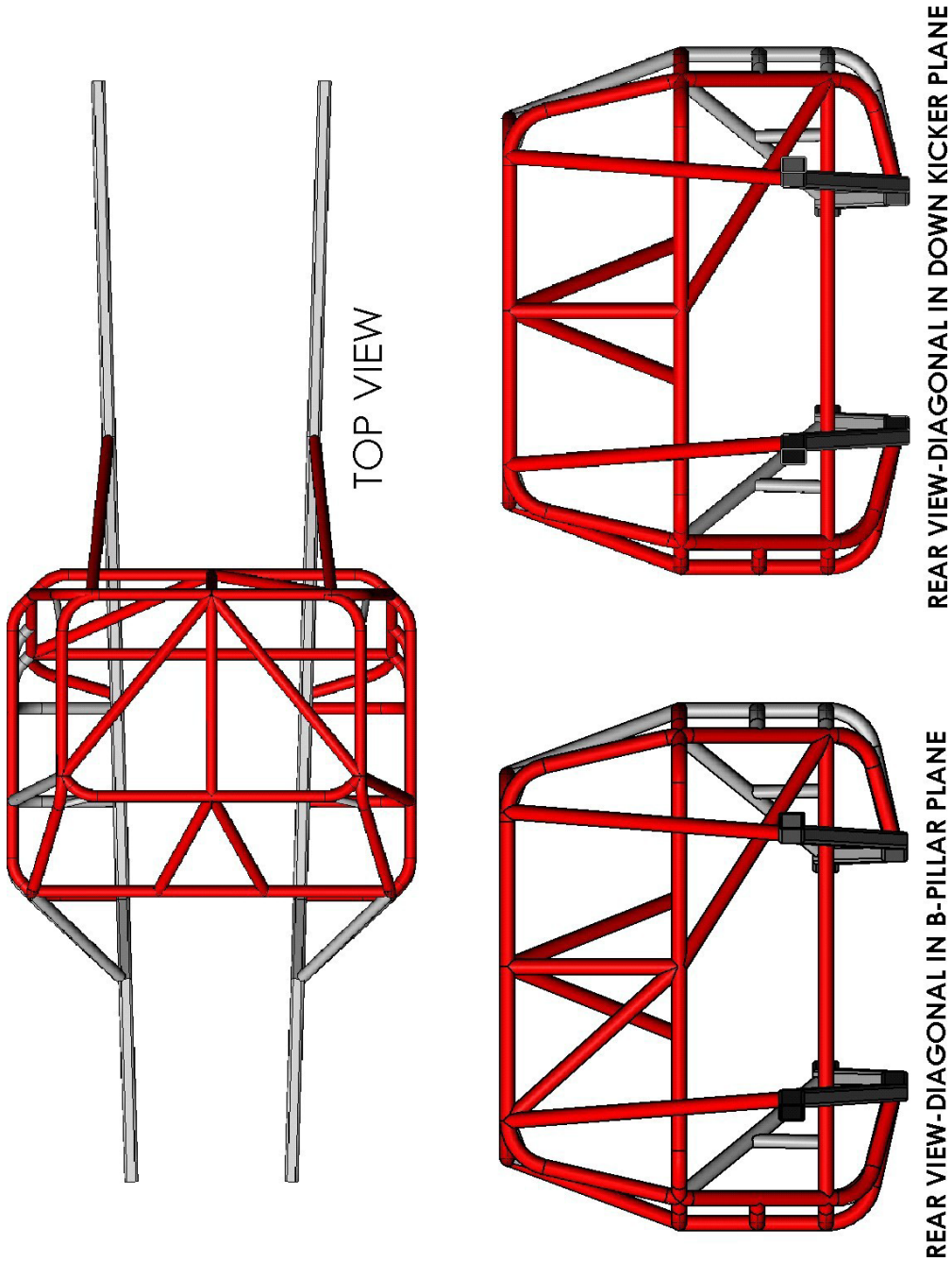


**Figure 7 DRIVER DOOR BAR COVERING**

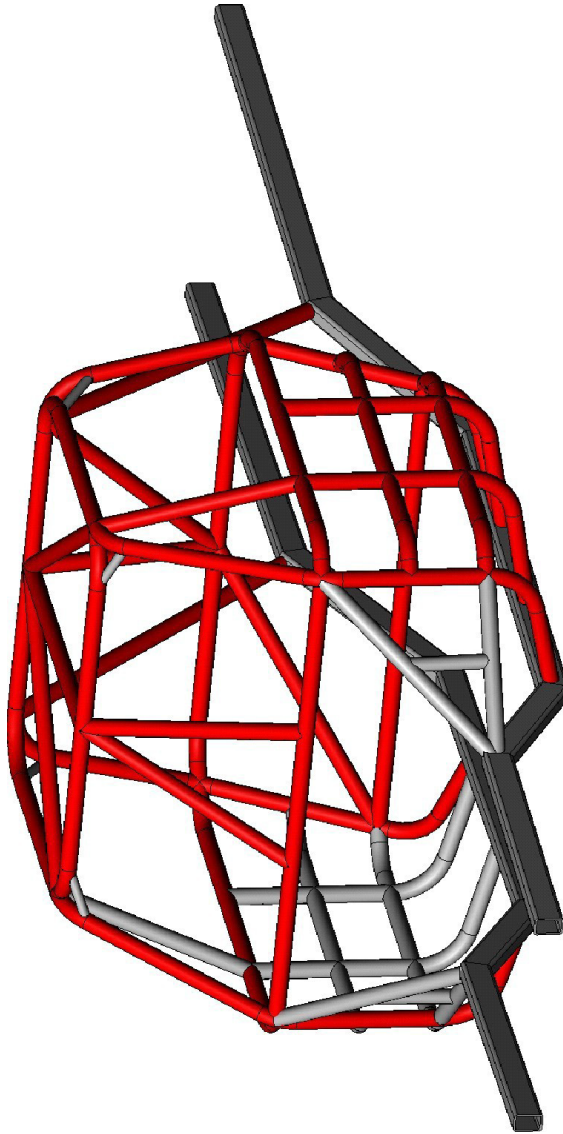
- Chassis must be constructed of 3 inch by 2-inch rectangular tubing only, with a minimum wall thickness of 1/8 inch and must be built in accordance to the AMSOIL CHAMPIONSHIP OFF-ROAD standardized prints.
- Removal of frame material is permitted only for steering rack clearance. Removal of

this material must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.

- Pro Lite top roll cage width will be 46 ½ inches from outside of bar to outside of bar.
- Elbow bar shall be a 61 ½ inch minimum from outside of bar to outside of bar.
- All trucks must have a 3x4 inch opening at bottom of door on both sides of vehicle. Must be horizontal and facilitate tow hook for safety crew.



**Figure 8 ROLL CAGE**



ROLL CAGE CONSTRUCTION:  
ALL TUBES IN RED MUST BE LEGAL SIZE AS DEFINED MY VEHICLE WEIGHT

#### PTR-4 EXOTIC MATERIALS

A. No exotic materials such as but not limited to titanium or carbon fiber may be used anywhere on the vehicle including fasteners with the exception of engine and seat components.

#### PTR-5 MEASUREMENTS

- Trucks may be measured as they enter and or leave the racetrack and must comply with measurements at all times. Common sense will be used for any trucks coming off the track with heavy obvious damage at the discretion of the Technical Director.
- All measurements will be performed with AMSOIL CHAMPIONSHIP OFF-ROAD technical instruments or gauges.
- Wheelbase will be measured on one side from center of the front wheel to the center of the rear wheel on the same side. Maximum allowable tolerance must not exceed ½ inch plus or minus on the either side.
- Front wheel travel is measured on a vertical plane from the center point on the end of the spindle. Rear wheel travel is measured on a vertical plane from the center of the rear axle.
- All wheel travel measurements will be from stop to stop with spring removed.
- Track width measurement will be taken at the widest outer surface of the tire. Gauge must pass freely all the way to the ground.
- AMSOIL CHAMPIONSHIP OFF-ROAD officials determine all measurements and center points.
- Maximum track width is 74 inches.
- Wheelbase is 106 inches.

#### PTR-6 RIDE HEIGHT

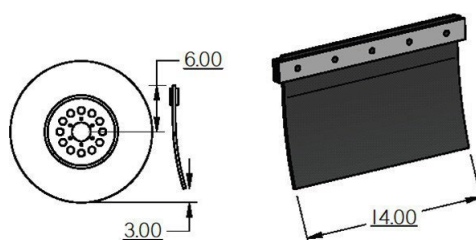
- Truck must race at a minimum 10-inch ride height. This will be measured at the lowest point from front suspension mounting point to rear suspension mounting point. This includes belly pan bolt heads and any other items that may be under the chassis or belly pan.
- Trucks may be measured for proper ride height before and after competition.

#### PTR-7 BODY

- All trucks must have complete bodies, cabs, hoods, doors, fenders, grills, and roofs in top quality condition, in standard location. All body lines must meet AMSOIL CHAMPIONSHIP OFF-ROAD approval. Bodies and their manufacturer may be mandated.
- Complete bodies must be attached at start of competition, qualifying, or any other track activities. Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed. A rounded loop body mounting bracket construction is mandatory. Bodies may be removed for practice.
- All body and fender shapes and configurations must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- All body components must be installed in their standard location, plus or minus 1 inch, as referenced by a production model truck.

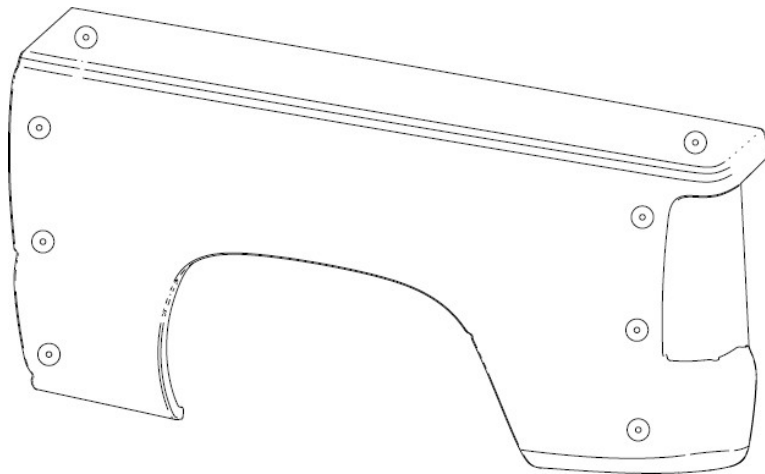
- Additions to the body or the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.
- The addition of front air dams under grill is restricted to be no taller than 9" from the bottom of the grill. Air dam must also be a minimum of 12" from the ground at ride height.
- The interior of the race vehicle must be completely enclosed by metal with a minimum thickness of .040 from front to rear. This includes both front and rear fire walls.
- Vehicles must be equipped with a complete set of AMSOIL CHAMPIONSHIP OFF-ROAD approved bumpers.
- Roof line, rocker panels, and top of bed side must be parallel to horizontal frame members.
- Body hangers MUST be constructed from aluminum flat materials with a minimum thickness of .090". All hangers must have a minimum of 4 bolts attaching the aluminum hanger to the main chassis. Bolts must be evenly spaced. The inner attachment points of the body hanger must have a minimum span of 12 inches. Bolts must be a minimum of ¼" diameter. All parts must not have any sharp corners or dangerous edges. Minimum one inch radius on all corners. All hangers must be rounded. All parts must be approved by the Tech Director.
- Bed sides must be full length including the taillight wrap around.
- Bed sides must have a minimum of four ¼inch minimum bolts or Dzus buttons evenly spaced at front of bedside and four ¼ inch minimum bolts or Dzus buttons evenly spaced at rear of bedside. Bolts or Dzus buttons must have 2-inch washers and be aligned in a vertical fashion. Forward bed side hangers must be independent of cab. See diagram on FIG 3.
- Door panels must retain all factory-molded contours and accent lines and be fastened with Dzus buttons or hex head bolts only. Cab and bed side mounting must be independent of each other.
- Driver's compartment floor must be a minimum of 1/8 inch for all classes. Floor must extend from 4 inches in front of pedals to 4 inches behind seat.
- Mud flaps are required and must extend from 6 inches above center line of rear axle to 3 inches from ground at ride height. See diagram on FIG 7
- Flaps must be 14 inches wide and made from hard plastic polymer or equivalent with a minimum thickness of ¼ inch.
- No mounting with zip ties or chains.
- Must be captured between two ⅝ inch by 1-inch metal plates and mounted to resist folding back.
- Each flap must be installed with a minimum of five ¼ inch bolts.
- Must be centered on tire.

**Figure 11 MUD FLAP**



- Roof must be properly attached to the roll cage of the truck and be fastened with Dzus buttons or 5/16-inch hex head bolts only. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.
- Aluminum or steel sheeting (minimum thickness of ¼ inch aluminum or 1/8-inch steel) must completely cover the top left of the roll cage above driver's head from the front to the rear of the roll bar tube. Right hand side must be sheeted with minimum .060 thick aluminum securely fastened (i.e. bolts or Dzus fasteners)
- Sheeting must be firmly attached to the cage and extend ½ inch past the center line of tubes in all four directions.
- Sheeting must be installed with a minimum of 6 evenly spaced 5/16-inch bolts, not protruding toward the driver. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle when bodywork is removed. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts. The use of Riv-nuts or press in Captive nuts is not permitted unless they are welded in place. Bolts should be lubricated for easy removal. Use of Lock-tite should be avoided.
- Mounting tabs must be at least .095 thick.
- The hood must be locked down with 3 hood pins or 3 bolts with 2 inch washers evenly spaced across the front of the hood. The rear of the hood should be fastened securely to retain body integrity with bolts, hood pins, etc. Must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD official.  
Hoods and front fenders cannot have any holes, flaps, and or any air releases.

- Tires must retract into fender wells.



**Figure 10 TRUCK BEDSIDE PANEL**

#### PTR-8 BUMPERS

- Race vehicles must have front and rear bumpers. AMSOIL CHAMPIONSHIP OFF-ROAD officials must approve all bumpers.
- Front bumper **back side must be 1.5 (1-1/2)** in front of and cannot extend more than 12 inches beyond **body**. Bumper can be no wider than the inner sidewall of the front tire when straight.
- Rear bumper must have a minimum of 6 inches between bumper and fuel cell and may not extend more than 1 inch beyond the outside front to rear tire line.
- Bumpers must be constructed of tubing with a minimum of 1.5-inch diameter by .095.
- Any bumper brackets must be a minimum of .095.
- Rear bumper must be 1 inch behind bed side as measured in a straight line between the rear of stock production length bedsides.
- Nerf bars may not extend more than 2 inches beyond the outside front to rear tire line.
- Nerf bars and bumpers must be rounded.
- All rookie drivers must have the rear bumper painted or taped yellow.

- Minimum front and rear bumper width is 32 inches.

#### PTR-9 SUSPENSION

- All four corners must be coil over suspension.
- No suspension or sway bar adjustment of any kind is allowed when vehicle is moving.  
This includes but is not limited to hydraulic, electric, mechanical, and manual adjustment.
- Front wheel travel limit is 12 inches maximum.
- Rear wheel travel limit is 14 inches maximum.
- Sway bars are allowed.
- Four bar rear suspension only.
- Rear axle housing may not rotate independently of pivot points
- On the front suspension, the A arm must be constructed symmetrical about the center line of vehicle.

#### PTR-10 STEERING COMPONENTS

- AMSOIL CHAMPIONSHIP OFF-ROAD officials must approve universal joints in steering shaft.
- Hydraulic power steering is mandated, must be driven by engine.
- Steering wheel quick release metal coupling is mandatory and must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD officials.
- All race vehicles are required to have a steering wheel pad.

#### PTR-11 SHOCKS

- AMSOIL CHAMPIONSHIP OFF-ROAD officials must approve all shocks. Shocks and/or their manufacturer may be mandated.
- All trucks must have at least one working shock on each wheel and a maximum of 2 shocks per corner.
- Shocks may have external bypass tubes and reservoir cans.
- External bypass is allowed on 1 shock per corner.
- Maximum shock diameter is 2 1/2 (2.50) inches.
- Maximum coil over shock is 2.0 inches.
- Shocks cannot be adjusted while truck is in motion.
- Heating or cooling liquids or chemicals in shock is not permitted.
- Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.
- No linkage mounted shocks.
- Determination of air shock usage will be done in the following manner: Truck will be presented to AMSOIL CHAMPIONSHIP OFF-ROAD officials on level ground at existing ride height. Truck height will be measured from a given point on the chassis and all canisters will be purged of air, nitrogen, or other charged support. If truck droops more than 1 1/2 inches, the truck will be illegal.
- Bump stops will be allowed on the front and rear.
  - Bump stops will only be legal if they absorb a maximum of the last 3 inches of upward compression.
  - Bump stops cannot be attached to any moving suspension parts and may only be attached to the chassis of the truck.

- 1 spring stack is allowed per corner with a maximum of 2 springs on 1 shock.

#### PTR-12 BRAKES & BRAKE COOLING

- Brakes must be operational on all four wheels at all times. All brake operation must be AMSOIL CHAMPIONSHIP OFF-ROAD approved.
- Only disc brakes with steel (magnetic) rotors using standard metal mounting hats are permitted.
- Electronic wheel speed sensors or brake actuators will not be permitted.
- Brake pressure sensors are allowed.

#### PTR-13 WEIGHT

- Driver will be included in race vehicle's minimum weight seated in the driving position with drivers back contacting back of seat.
- Vehicles can be courtesy weighed prior to competition.
- AMSOIL CHAMPIONSHIP OFF-ROAD officials must approve all weight material.
- Added weight must be in block form.
- Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- Added weight must be securely bolted in place on the race vehicle on a primary chassis component / tube(s).
- Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- All block ballast must be painted white and identified with vehicle number.
- Weight can be sealed at the discretion of AMSOIL CHAMPIONSHIP OFF-ROAD officials.
- No weight shifting devices of any kind are allowed. This includes but is not limited to hydraulic or electronic devices.
- All vehicles will weigh in before and/or after competition at the discretion of AMSOIL CHAMPIONSHIP OFF-ROAD officials. Failure to do so will result in disqualification.
- All vehicles must meet minimum weight and front percentage both pre and post-race.
- All weight lost on track will result in a \$5.00 per pound fine.
- Minimum weight is 3000 pounds. Maximum weight for 1 ½ inch chassis is 3200 pounds.
- Minimum front axle weight is 45% of total truck weight.

#### PTR-14 ENGINE OILING SYSTEM

- Filter adapter will be used to allow external oil cooler and filter system and connection for external pressurized oil reservoir.
- Any manufacture filter allowed.
- Any manufacture oil cooler allowed.

#### PTR-15 IGNITION SYSTEMS

- Ignition systems as supplied by the engine manufacturer must be retained.

#### PTR-16 ELECTRICAL ACCESSORIES

- All AMSOIL CHAMPIONSHIP OFF-ROAD **CHAMP SPEC** trucks:
- Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:
  - Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), water pressure, power steering pump pressure, power steering oil temperature
  - Transmission Related items – transmission fluid oil temp. Sensors, Electronic gear indicators for manual transmissions may connect to main dash.
  - Other Drive Train Related Items – Gear oil temperature, brake pressure sensors.
  - Other sensors are permitted, accelerometers, GPS, lap timing device or recording device of any kind is permitted (except those listed as restricted for traction control below in letter F. Any sensors listed in letter F will not be allowed).
- Any configuration of data measurement or recording must be completely open and available for AMSOIL CHAMPIONSHIP OFF-ROAD inspection at any time during a AMSOIL CHAMPIONSHIP OFF-ROAD event weekend. All stored data must be cleared before the start of competition, this will include any practice or qualifying data. If data is stored on a removable chip (i.e. RacePak style) the chip must be installed and sealed by AMSOIL CHAMPIONSHIP OFF-ROAD prior to entering the track. A “lack” of data or no data may result in a penalty including disqualification.
  - The following Digital dash units are permitted:
    - Motec – any model
    - RacePack – any model
    - AIM – any model
    - Life – any model
    - All other Digital dashes subject to AMSOIL CHAMPIONSHIP OFF-ROAD approval.
- No traction control devices allowed.
- No wireless devices in or on the vehicle are permitted.
- No data transfer is allowed to or from vehicle when in motion.
- AMSOIL CHAMPIONSHIP OFF-ROAD OEM Platform Engine specific
  - Only AMSOIL CHAMPIONSHIP OFF-ROAD mandated sensors may be used as issued.
  - No modifications to any wire loom or sensors are permitted for any reason.

#### PTR-17 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS

- Ignition systems restricted to unit as supplied by engine manufacture.

- No computerized systems are permitted unless AMSOIL CHAMPIONSHIP OFF-ROAD approved.
- Any make or brand of spark plug may be used.
- All vehicles must have a working alternator/generator system that as supplied by engine manufacture.
- All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- All electrical switches must be located on the dash panel.
- 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.
- Maximum Engine set back is 34.0 +or- 2.0 inches. This will be measured from spindle centerline to back of the block at ride height.
- Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of and must be accessible from the outside of the race vehicle. Switch centerline must be 8 inches inside frame, 10 inches forward of frame rear. Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide.

#### PTR-18 ENGINE COOLING SYSTEMS

- Installation, location, and type of electrical cooling fan must be acceptable to AMSOIL CHAMPIONSHIP OFF-ROAD.
- No icing refrigerant chemicals may be used in or near the engine compartment or in any place on the truck.
- Electrical engine cooling fans are optional.
- Any Radiators of any size may be used.
- Radiator may be placed in front or rear of vehicle.
- Must maintain water pump as installed by engine manufacture without modification as delivered from the manufacturer.

#### PTR-19 ENGINE EXHAUST SYSTEMS

- Exhaust manifolds must remain as delivered by the engine manufacturer.
- Exhaust mufflers are required on all exhaust systems.
- Muffler must meet a maximum decibel of.
  - A penalty of 1 percent per DB over the maximum allowed level front weight bias will be added for first offense.
    - Consecutive events of non-compliance will result in weight penalty doubling with each event.
    - Any competitor that remains out of compliance after 4 consecutive events will not be permitted to compete or may be disqualified
    - DB readings may not grow more than 2 DB from the first readings of any event leading into the last race of the weekend
- Exhaust pipes must be attached to headers or manifolds in a secure manner.
- Exhaust pipes must extend past driver compartment to the outer edge of the truck and to the rear of the driver.
- All exhaust must discharge downward or outward to either side of vehicle.
- Exhaust heat shields are permitted.

- Exhaust pipes that enter the cab of the truck must have a protective heat shield.
  - OEM exhaust manifolds must be maintained as delivered by engine manufacture.

#### PTR-20 AIR AND INTAKE CLEANERS

- 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.

#### PTR-21 FUEL INJECTION

##### ***Champ Spec - Champ lite LV1 ECU only.***

- Must use AMSOIL CHAMPIONSHIP OFF-ROAD mandated ECU only. ECU must be registered with AMSOIL CHAMPIONSHIP OFF-ROAD Technical department before installed into vehicle. AMSOIL CHAMPIONSHIP OFF-ROAD may change the ECU programming at any time.
- An RJ45/8P8C Ethernet port must be located within easy reach of outside of vehicle to allow connection for technical inspection of ECU.
- Must use a AMSOIL CHAMPIONSHIP OFF-ROAD wiring loom. Loom may not be tampered with or repaired without permission of a AMSOIL CHAMPIONSHIP OFFROAD tech official.

##### Intake

- Intake and throttle body must remain as issued from COR engine supplier and may not be modified in any way.

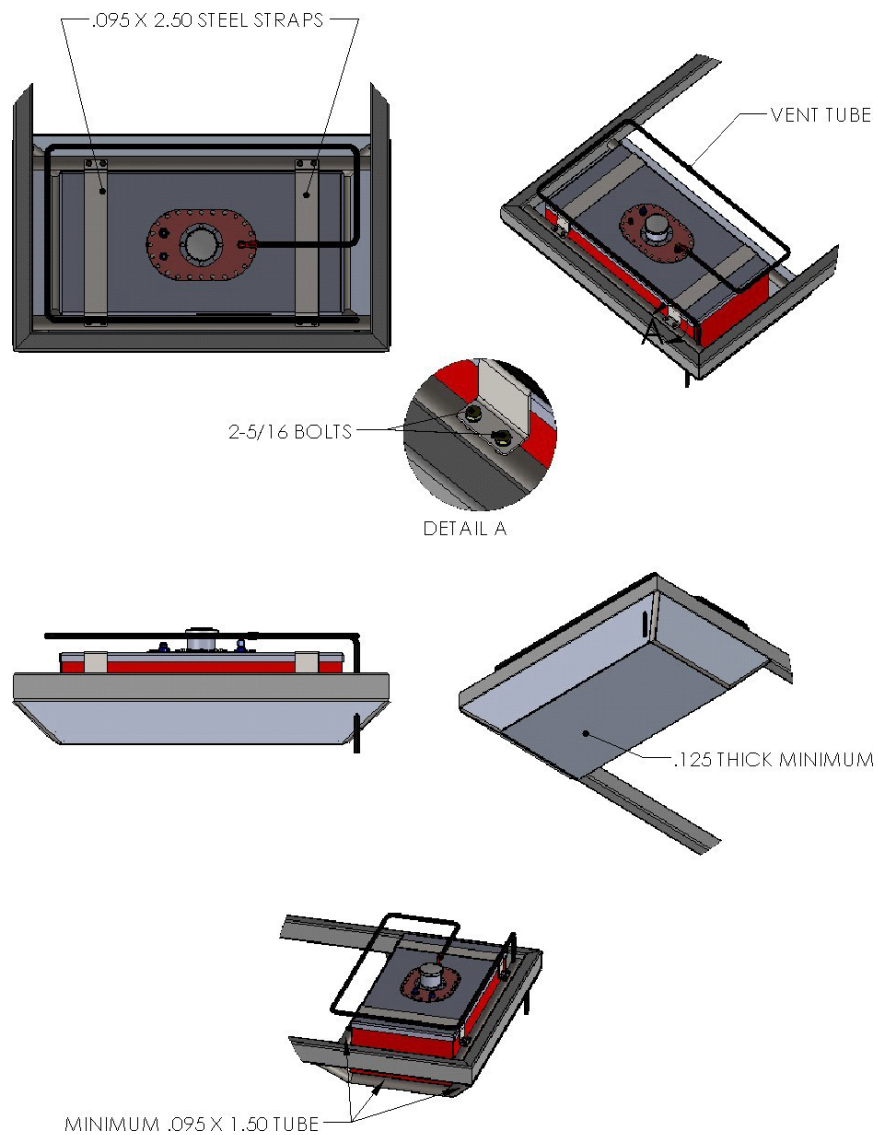
##### Fuel Rails

- Fuel Rails must remain stock as delivered by COR engine supplier, and may not be modified in any way.

#### PTR-22 FUEL CELL

- All fuel cells must be AMSOIL CHAMPIONSHIP OFF-ROAD approved.
- AMSOIL CHAMPIONSHIP OFF-ROAD will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- 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.
- Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.

- 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 bypass 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 either AC Delco part number 25036938, Niehoff part number OP23481, Wells part number PS119 or PS122, Napa part number OP6624 or OP6616, Standard ignition Blue Streak part number PS126 or Niehoff Borg Warner part number OP23311. The sending unit receives power from the ground.
- Digital dash or electrical device such as Performance Engineering's Fuel Pump Safety Switch 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.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- 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.
- Fuel cells must be dated by manufacturer. Fuel cells will become obsolete five (5) years after date of manufacture and must be replaced.
- All fuel cell fillers and vents must have check valves installed.
- Fuel pressure regulator vent line must do one of the following:
  - Connect to intake manifold vacuum.
  - Connect to air cleaner so that any fuel enters engine.
  - Connect to fuel cell.
  - Have vent hose routed past the rear axle.
- 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.
- Fuel cell cannot be vented into the driver's compartment of any truck.
- The fuel cell must be located behind the cab. The fuel cell must have a 1/8 inch skid plate minimum covering the complete bottom, sides and rear of the cell. All mountings must be AMSOIL CHAMPIONSHIP OFF-ROAD approved. Fuel cell cannot be mounted to skid plate. Cell must be mounted to chassis. See diagram on FIG 1
- Fuel cell must have a minimum of two 2 1/2 inch steel straps, evenly spaced on top of the cell with a minimum of two 5/16-inch bolts or one 3/8 inch bolt on each end of strap. Fuel cell must also have two 2 1/2 inch steel straps or 1 1/2 inch tubing underneath cell. Alternative mounting methods may be approved at the discretion of the AMSOIL CHAMPIONSHIP OFF-ROAD Technical Director. See diagram. See FIG - 9
- All fuel cells must be housed in a metal can, .060 thick aluminum minimum. Slip over lid must be .090 thick aluminum minimum with 1.0-inch return.
- Fuel Cell must be behind rear axle



**FIG - 9 ALL FUEL CELL LINES AND VENTS MUST COME OUT OF THE TOP OF THE FUEL CELL**

#### **PTR-23 FUEL**

- Fuel may be mandated to type and manufacturer.
- VP 98 is the Spec Fuel
- All cars shall use fuel, as defined in the following graph, unless a specific exemption is made in the provisions for a specific category/class.
- 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 a AMSOIL CHAMPIONSHIP OFF-ROAD Fuel Check Meter. The 0 (zero) calibration of the AMSOIL CHAMPIONSHIP OFF-ROAD Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at AMSOIL CHAMPIONSHIP OFF-ROAD events by the determination of the dielectric constant using the AMSOIL CHAMPIONSHIP OFF-ROAD Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, AMSOIL CHAMPIONSHIP OFF-ROAD shall take appropriate action. Penalties for use of non-compliant fuel can include fine, and/or reduction of points, and/or suspension.

- **Cooling:** The cooling of fuel is not permitted during competition.

**Fuel Samples:** AMSOIL CHAMPIONSHIP OFF-ROAD 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 AMSOIL CHAMPIONSHIP OFF-ROAD and/or any outside laboratories at AMSOIL CHAMPIONSHIP OFF-ROAD discretion.

If the services of an outside laboratory were 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.

- **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.

| Fuel Standards                                                                               |                            |        |
|----------------------------------------------------------------------------------------------|----------------------------|--------|
| Classes                                                                                      | Type                       | DC Max |
| All Classes Except Karts                                                                     | Gasoline without added oil | 3      |
| Karts                                                                                        | VP MS98L                   | 1.5    |
| The user of any substance in the following table in excess of the stated limit is prohibited |                            |        |
| either in fuel or otherwise introduced into the engine                                       |                            |        |
| Chemical Compounds Prohibited or Restricted in                                               |                            |        |

| AMSOIL CHAMPIONSHIP OFF-ROAD Race Fuels |                                                                                                                                                                                       |                                                |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Compounds                               | Examples                                                                                                                                                                              | Maximum Weight or Percentage by Weight Allowed |
| Total Aldehydes                         | Acetaldehyde, Acrolein, Formaldehyde                                                                                                                                                  | 1.00%                                          |
| Benzene                                 |                                                                                                                                                                                       | 5.60%                                          |
| 3,3-dienthyl-1 butene                   |                                                                                                                                                                                       | 0.05%                                          |
| Total ethers                            | 1,4 Dioxane, ETBE, Furan, MTBE, Tetrahydrofuran                                                                                                                                       | 0.00%                                          |
| Total Dienes (Diolefins)                | 1,4 Butadiene, Isoprene                                                                                                                                                               | 1.00%                                          |
| Ethanol                                 |                                                                                                                                                                                       | 0.00%                                          |
| Total Epoxides                          | Ethylene oxide, Propylene oxide                                                                                                                                                       | 0.00%                                          |
| Total Nitrogen Compounds                | Nitromethane, Nitroethane, Nitropropane, and all aromatic nitrogen compounds such as Nitrobenzene, Ammonia, Amines, and their salts, Aniline, Hydrazine, Pyridine, Pyrrole, Benzidine | 0.00%                                          |

- Specified Fuel: AMSOIL CHAMPIONSHIP OFF-ROAD reserves the right to have all cars use the same blend of fuel in a given event or series class. When this right is exercised, it will be stated in the AMSOIL CHAMPIONSHIP OFF-ROAD rule book and/or in other AMSOIL CHAMPIONSHIP OFF-ROAD bulletins. In all such cases, fuel used for practice, qualifying and the race itself must be the specified fuel blend as produced by the manufacturer of the fuel. At an event where a specified fuel has been named, AMSOIL CHAMPIONSHIP OFF-ROAD will use a sample of the actual fuel provided at the event by the specified fuel supplier to determine whether the fuel used by a competitor conforms to the specifications of the specified fuel blend. The addition of chemicals additives or fuels to the specified fuel is strictly forbidden.
- If AMSOIL CHAMPIONSHIP OFF-ROAD officials suspect maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.
- Pro Lite trucks are restricted to Non-Oxygenated gasoline. Gasoline cannot be blended, mixed, or modified in any way.

#### PTR-24 OIL COOLERS

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

#### PTR-25 TRANSMISSION

- Transmissions must be approved by Champ Off-Road.
- Gear ratios are open. Gears must be supplied by G-Force.
- G-Force shifter required. Shifter may be modified for driver fit.
- Bell housing, fly wheel, Clutch, throw out bearing are open.

#### PTR-26 DRIVE PARTS

- Engine to transmission adapter plate can be a maximum of 1 ½ inch thick.
- A combination of multiple adapter plates can be used if it does not exceed 1 ½ inch thickness.

#### PTR-27 PROTECTIVE SHIELDS

- Location of all shields must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- Transmission must be covered completely by a protective shield placed to protect the driver from exploding parts from beginning of transmission case/bell housing to 4 inches before a bolt on tail housing. All shields must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- Shields must be constructed of a metal covering with a thickness of ¼ inch aluminum or 1/8-inch steel or have a SFI approved bell housing.

#### PTR-28 DIP STICKS

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

#### PTR-29 DRIVE SHAFT

- One 360-degree solid steel bracket, no less than 2 inches wide and ¼ inch thick or 1-inch tubing with a minimum thickness of .095 inches must be placed around each drive shaft. Must be located within 4 to 6 inches aft of the centerline of front u joint.
- Drive shaft must be painted white and have vehicle number on it.

#### PTR-30 REAR AXLE/DIFFERENTIAL

- Quick change rear ends are not allowed.
- Only steel axles are permitted.
- Independent rear suspension is not allowed.
- Must be in stock location as approved by AMSOIL CHAMPIONSHIP OFF-ROAD officials.
- Rear differential must be spool type only and approved by AMSOIL CHAMPIONSHIP OFF-ROAD officials.
- Rear differential must have a minimum of 1 ½ inch inspection bung or plate placed in such a manner that AMSOIL CHAMPIONSHIP OFF-ROAD officials can see and identify the spool. If inspection area does not exist, crew chief will remove

differential for AMSOIL CHAMPIONSHIP OFF-ROAD technical inspection.

- Must use conventional Ford style 9-inch third member assembly.
- Gear ratio restricted to 5:67

## PTR-31 TIRES

Tires must be DOT only.

- DOT tire classes are restricted to tires that are intended for highway use. All tires must be designed, built, and sold for use on passenger car or pickup truck ONLY.
- Tires must be available to the general public through standard dealers or normal internet retail stores. All tires must be listed in dealer communication as available prior to use and must be listed on company web site in the same size and model of tires. Internet only or one store only tires are NOT acceptable. Tires must be able to be purchased by the general public and or AMSOIL CHAMPIONSHIP OFF-ROAD officials before being allowed to be used in any race.
- Tires need to be part of a multiple line of tire sizes within a currently sold design. A minimum of 2 sizes in addition to what is allowed in the class must be offered. A tire used in the race should be identical in construction: rubber compound, durometer, construction, 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).
- The only allowed tire sizes are 265-75-16”, as indicated on the tire, or 31x10.5-15” as indicated on the tire.
- Tire circumference may not exceed 101”.
- Tires will be measured without load of vehicle, from the widest and highest point, inflated to 20 psi, and mounted on a race ready wheel.
- 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.
- Inner liner is allowed in only PRO2 and PRO4
- AMSOIL CHAMPIONSHIP OFF-ROAD at its sole discretion may purchase tire(s) from a retail outlet of its choosing at any given time to be brought to the track to be used in the inspection process. Any cost associated with AMSOIL CHAMPIONSHIP OFF-ROAD obtaining the required tire(s) for comparison to the tire(s) brought to the track will be billed back to the participating manufacturer at the same cost incurred by AMSOIL CHAMPIONSHIP OFF-ROAD in the process including any and all testing procedures and lab costs. AMSOIL CHAMPIONSHIP OFF-ROAD officials may at their sole discretion disassemble or cut the tire(s) apart for testing purposes as part of the testing process. At the end of the inspection process time the purchased tire(s) will be returned to the Manufacturer by AMSOIL CHAMPIONSHIP OFF-ROAD tech officials.

#### PTR-32 WHEELS

- Wheel size, type, dimensions, and manufacturer may be mandated.
- All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- Lug nut must be open ended, and of proper size.
- Studs must extend a minimum of 2 full threads past the end of the lugnut.
- Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
- All bead locks must have recessed bolts only that do not protrude past the face of the ring.
- Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not be permitted.
- Maximum wheel diameter will be 16"

#### PTR-33 RADIOS

- Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- Radio communication between drivers is not permitted.
- All radio frequencies must be approved and reported to AMSOIL CHAMPIONSHIP OFF-ROAD prior to their use.
- All race vehicle radio communication systems must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- See Section 5 of AMSOIL CHAMPIONSHIP OFF-ROAD General Rules for spotter requirements.
- Spotters are required for all race teams.
- Any 2-way radios used at a AMSOIL CHAMPIONSHIP OFF-ROAD event may not exceed 6 watts output.
- Each competitor race vehicle must use at all times while on the track an override race receiver to listen to race control that overrides any communication from the spotter when race control is transmitting to the vehicles. The receiver device must be approved by AMSOIL CHAMPIONSHIP OFF-ROAD and meet AMSOIL CHAMPIONSHIP OFF-ROAD standards at all times. Competitors will not be allowed on the track at any time without the race receiver installed and functional.

#### PTR-34 TRANSPONDERS/TIMING

- Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by AMSOIL CHAMPIONSHIP OFF-ROAD.
- All teams are required to purchase remote timing transponders. Transponders can only be purchased through AMSOIL CHAMPIONSHIP OFF-ROAD and numbers must be recorded with AMSOIL CHAMPIONSHIP OFF-ROAD officials.
- 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.

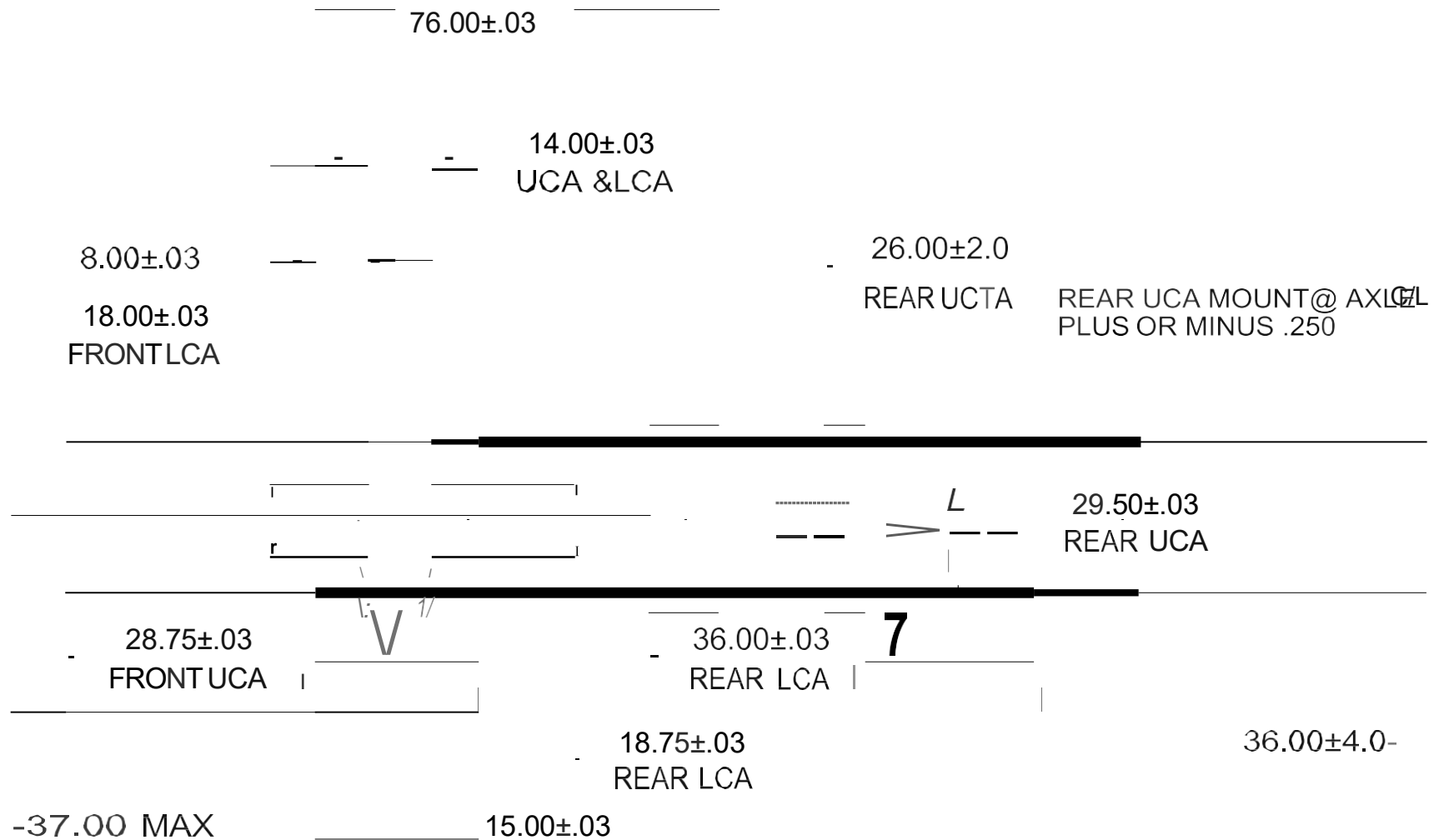
- Transponders must be placed from front face of the front bumper to transponder center line 115 inches back on the driver's side of the truck.
- Transponder MUST be in going through tech

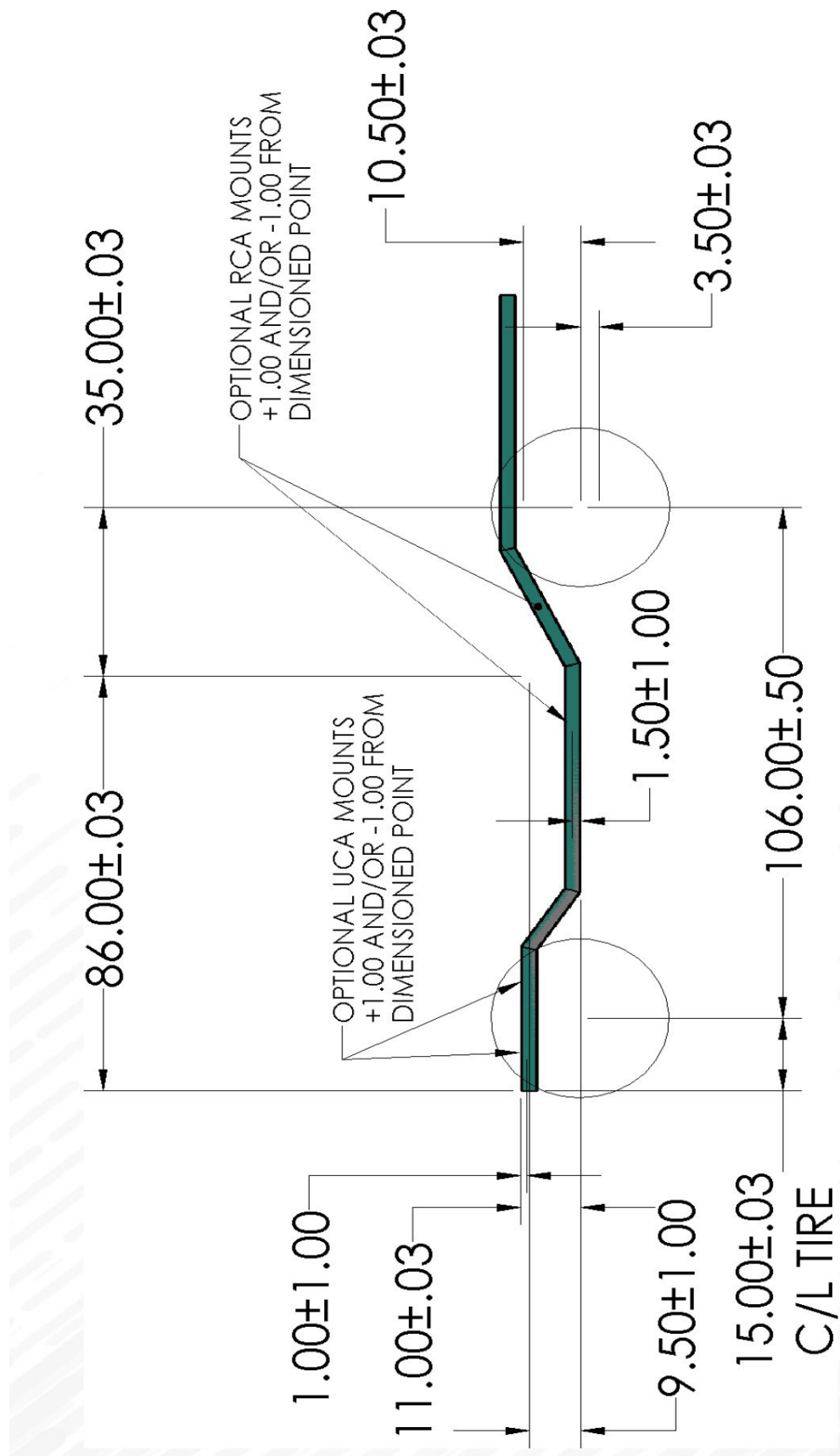
#### **AMSOIL CHAMPIONSHIP OFF-ROAD CHAMP SPEC ENGINE**

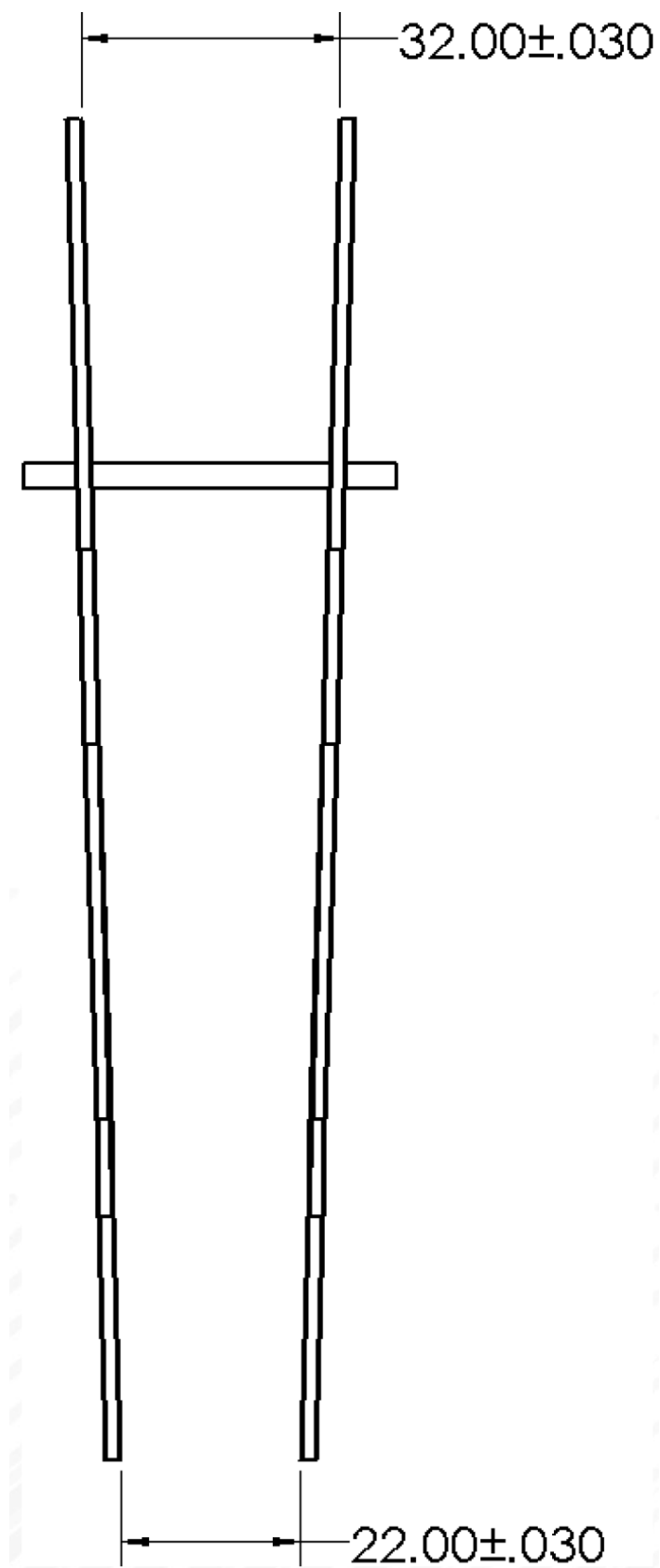
- All AMSOIL CHAMPIONSHIP OFF-ROAD OEM Production Engine packages must come from AMSOIL CHAMPIONSHIP OFF-ROAD, or a COR designated supplier. Engines must be sealed by AMSOIL CHAMPIONSHIP OFF-ROAD or COR supplier.
- Any team is only permitted to have 2 engines checked out to a team per truck being raced at any given time. One in the truck and one spare.
- Engines will be sold to teams through AMSOIL CHAMPIONSHIP OFF-ROAD or supplier only on a check in and check out basis. Teams will pay for an engine and before any team can receive an additional engine the team must return engine seals for the exchange. Engine may be required for inspection.
- No engines may be taken apart or rebuilt for any reason by any team or any builder.
- Teams will be limited to purchasing a maximum of 3 engines per race season unless permitted by AMSOIL CHAMPIONSHIP OFF-ROAD due to special circumstances and proven hard part failures. This will be done at the sole discretion of AMSOIL CHAMPIONSHIP OFF-ROAD. Multiple car teams may have additional restrictions to these purchase rules to limit added expenses.
- Approved Engine package will be ONLY the following:
- GM LV1 sealed engine, front drive, and electronics package.
- Teams are not permitted to change any external components on the engine package. This includes but is not limited to upper and lower intake, throttle bodies, fuel injectors, fuel rails, diameter of pullies on crank or accessories, coils, valve covers, timing chain covers, oil pan, engine main wire loom, stock exhaust manifolds. No component may be changed unless specifically allowed herein.
- System may be connected to existing digital dash units for normal monitoring and functions as most of the current trucks have so long as the digital dash complies with the data collection rules
- AMSOIL CHAMPIONSHIP OFF-ROAD will have access to data port on ECU, and dash at any time to pull data out of the vehicle.
- Fly by wire throttle pedal must be maintained from the stock configuration and parts provided with engine kit. Pedal may be modified for mounting, but electric components must remain stock.
- Teams must retain factory exhaust manifolds but may use any exhaust so long as it meets the rest of the rules for the class
- Teams may use any air cleaner configuration and filter.
- No add on electronic components or tuners permitted.
- Use of external pressurized oil reservoir will be mandatory.
- Engines will have oil filter adapter installed to allow for external oil cooler and filter installation.

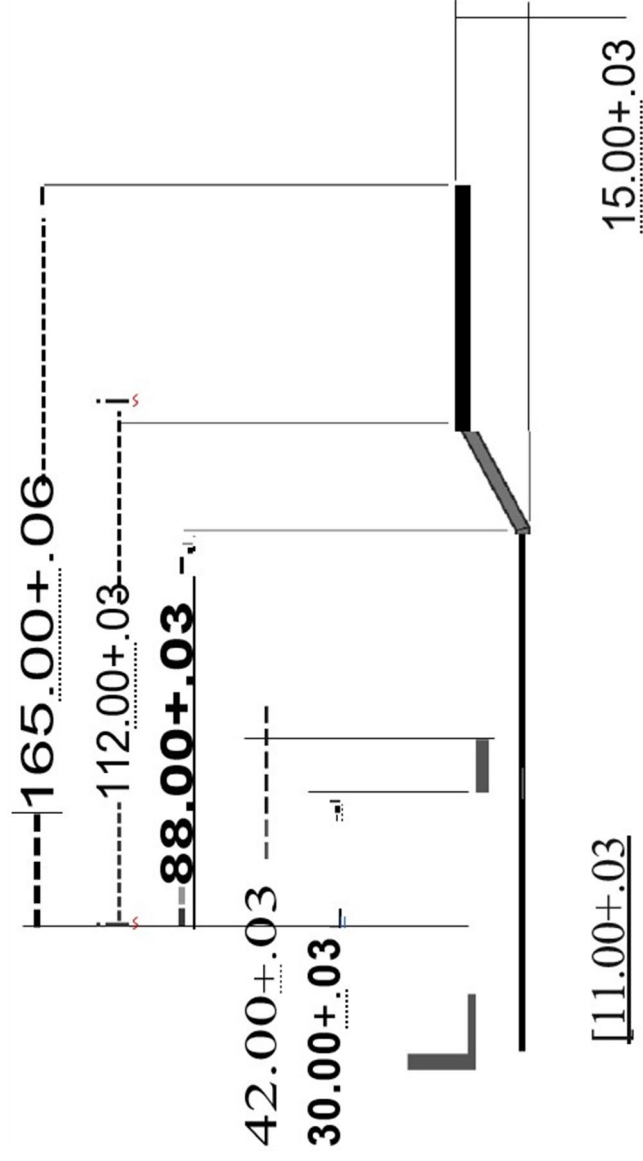


# ALL DIMENSIONS SYMETRICAL TO CHASSIS C/L





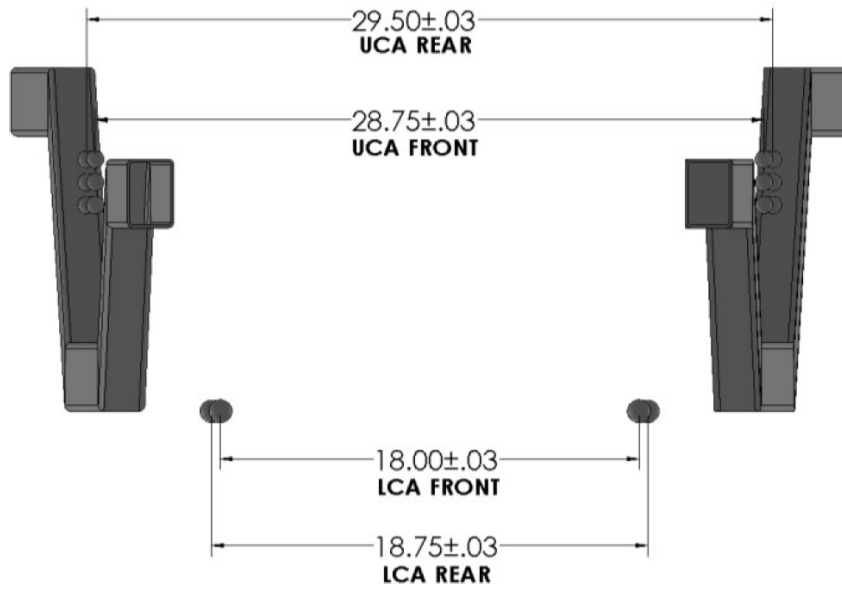




FRAME MATERIAL= 2"X3" X.120 WALL RECT. TUBE ONLY  
 FRAME TO MAINTAIN 2"X3"X.120 PROFILE FOR ENTIRE LENGTH



## FRONT CONTROL ARMS





## Pro Spec Engine Package



The LV1 is a 4.3-liter six-cylinder engine produced by General Motors for use in large vans.

The engine is essentially the same as the 4.3L LV3 V-6, but without Active Fuel Management technology. It is part of the EcoTec3 engine family.

The LV1 made its debut in the 2018 model year GM full-size vans — the 2018 Chevrolet Express and 2018 GMC Savana.

|                      |                                        |
|----------------------|----------------------------------------|
| Type:                | 4.3L Gen V V6 VVT (LV1)                |
| Displacement:        | 4301 cc (262 ci)                       |
| Engine Orientation:  | Longitudinal                           |
| Compression ratio:   | 11.0:1                                 |
| Valve configuration: | Overhead valves                        |
| Valves per cylinder: | 2                                      |
| Assembly site:       | TBD                                    |
| Valve lifters:       | Hydraulic roller                       |
| Firing order:        | 1 – 6 – 5 – 4 – 3 – 2                  |
| Bore x Stroke:       | 99.6 x 92mm                            |
| Fuel system:         | Spark Ignition Direct Injection (SIDI) |

|                       |                          |
|-----------------------|--------------------------|
| Fuel type:            | Regular unleaded and E85 |
| Maximum Engine Speed: | 5800 RPM                 |
| Horsepower hp (kw):   | 285 (213) @ 5300 RPM     |
| Torque lb.-ft. (Nm):  | 305 (413) @ 3900 RPM     |
| Materials             |                          |
| Block:                | Cast Aluminum            |
| Cylinder head:        | Cast Aluminum            |
| Intake manifold:      | Composite                |
| Exhaust manifold:     | Cast Nodular Iron        |
| Main bearing caps:    | Powder Metal             |
| Crankshaft:           | Forged Steel             |
| Camshaft:             | Billet Steel             |
| Connecting rods:      | Powder Metal             |

### Kit Contents

Complete engine package including:

Complete engine with induction and 72mm. throttle body

Performance 5-quart wet sump oil pan to fit Pro lite chassis

Stand-alone harness and controller with custom locked calibration

Complete front accessory drive with 150 amp alternator

Cast iron exhaust manifolds for durability and excellent heat-managing properties Engine shipping stand and crate.

Engine sealed and coded

## Requirements for Purchase

Contact [carl@isocracing.com](mailto:carl@isocracing.com) to order.

Engine must only be used in competition for AMSOIL Championship Off-Road

Purchaser is required to run Chevrolet badging on vehicle and drivers suit per Chevy Performance

Badging Standards (to be entered into year end fund

LV1 PRO SPEC Engine (see engine details bottom of rules on website)

- Champ – Carl – [carl@isocracing.com](mailto:carl@isocracing.com)
- Kit Cost \$8,999 Shipping Included – Shipping initial units April 16<sup>th</sup>

G-Force Transmission G101A 4 or G101A

- Paul Long 717.202.8367
- Transmission & Shifter
- Code - 2021COR

Clutch, Throw Out Bearing, Flywheel and Bellhousing

- Adam Wiks Engines – 702.837.2522
- Tilton Engineering – Jeff 805.688.353 Ext 191 or Chris 714.530.8701 Ex

## Approved Shocks

- Bilstein Shocks
- Junior Africa 858.386.5956
- Shocks & Coil Over
- Doug Cimins technical contact 858.386.5940

## VP Racing Fuel

- JP Remington 715.216.2410

## CHAMP OFF-ROAD RACING SERIES PRO LITE TRUCK RULES ADDENDUM TO THE GENERAL RULES

*The following rules apply to trucks in the PRO LITE division.*

**Pro-Lite:** Vehicle manufactured as a 2-wheel drive compact pickup truck.

- All pro trucks must be a standard manufacturer production model available to the general public in the USA. Vehicle style must have a manufacturer production of at least 5,000.
- All makes and models must be approved by CHAMP OFF-ROAD.

## PTR-1 MARKING AND IDENTIFICATION

- All vehicle numbering is subject to approval and is assigned by CHAMP OFF-ROAD.
- Single digit numbers can only be used in truck classes. Division ID must be indicated in lower right-hand corner of number area and upper left-hand corner of windshield opening using 1 1/2-inch minimum numbers and letters.
- CHAMP OFF-ROAD officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- 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.
- Advertising on race vehicles must be in good taste.
- Foil or reflective numbers are not permitted.
- All CHAMP OFF-ROAD vehicles are required to have CHAMP OFF-ROAD stickers on each side of the front of the door area, 4 inches down from the window opening.

- CHAMP OFF-ROAD may require the use of specific sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.

#### PTR-2 NUMBERS

- Numbers are 1-99 for each truck class.
- All numbers must be block style only.
- Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- Fonts must be chosen from one the below approved styles only:
  - Impact
  - Helvetica Black
  - Mechanical Bold
- Numbers will be located in the following positions:
  - (1) number plate on each side, front edge of number plate to be 6 inches from back of cab. Bottom edge to be 4 inches above top of bed side. Number plate must be below roof line. (must also include division identification in this area)
  - Roof of vehicle, as viewed from passenger side
  - (1) number plate on the back of vehicle facing rear
  - Driver's side upper left-hand corner of windshield area (must also include division identification in this area 1 ½ inch letters minimum)
- *Pro-Lite:*
  - 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.
  - Roof numbers must be a minimum height of 22 inches.
  - Rear facing numbers must be on a white number plate measuring 10 inches by 12 inches. Numbers must be solid black with a minimum height of 8 inches.
  - Windshield number and division must be solid black on a white surface with a minimum height of 4 inches.

#### PTR-3 CHASSIS/ROLL CAGE

- All trucks must be left side steer only. Steering wheel, seat, and pedals must be in approximate stock location.
- All tubing, welds, gussets, and roll cage construction must be approved by CHAMP OFF-ROAD.
- Material for roll cage construction must be 4130 chromoly or ASTM 1018/1026 CDS/DOM round tubing (see SR-9).
- Minimum tubing diameter and thickness for vehicles weighing:
  - Up to 3000 pounds – 1 ½ inch diameter by .120
  - 3001 to 5000 pounds – 1 ¾ inch diameter by .120 (1 ½ inch diameter is allowed with pre-approval from tech director prior to entering race track) 1 ½ inch caged vehicles will not be allowed after January 1, 2022)
  - Over 5000 pounds – 2-inch diameter by .120
- All tubes must be welded 360-degrees around the circumference of the tube.

- Gussets are required on all intersections in driving compartments within 3 inches of intersection. See diagram on FIG 5
- All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- Tube gussets and wrap gussets must be a minimum of 1.0 diameter x .065 thick.
- All trucks must have 3 horizontal door bars per side. Effective immediately all newly built trucks must incorporate the driver's side extended impact zone bars. See diagram. Existing race vehicles will be required to update to the new driver side extended impact door bars. See diagram on FIG 6. The drivers seating location and head area in relation to the left side window opening and roof area tubing locations and construction will be under review on all trucks to maximize the driver's safety and head protection.
- 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.

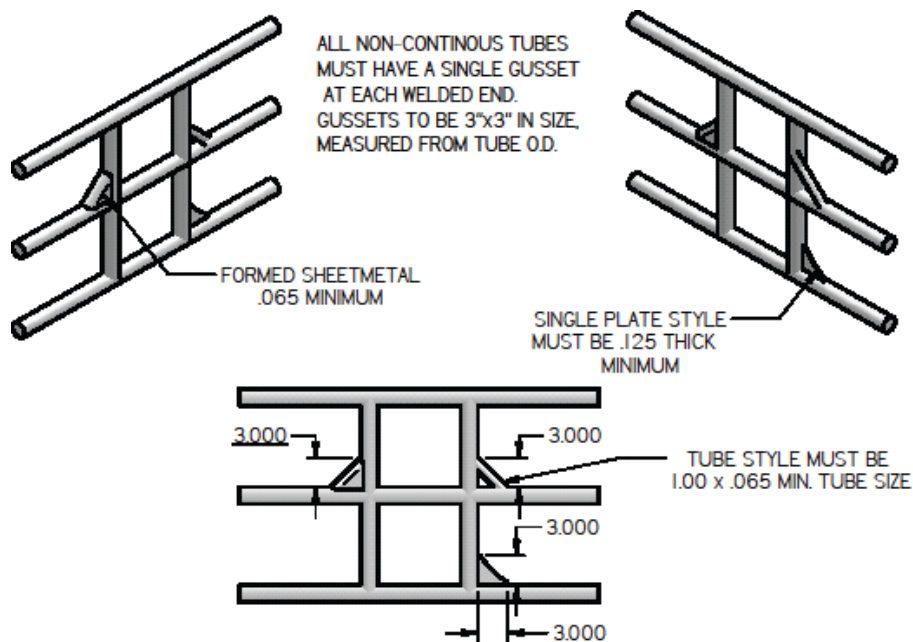


Figure 5 GUSSETS



Figure 6 DOOR BARS

- There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.
- Diagonals or similar bracing is mandatory for all truck roof openings as well as front and rear roll barhoops.
- Driver's side door bars must be covered with a minimum of .125-inch steel plate bolted on, using a minimum of 3/8" bolts on 6" centers. See diagram on FIG 7.
- Door plating must completely cover from bottom of main rail to top of door bar and extend a minimum of 4 inches in front of pedals to a minimum of 4 inches behind the seat.
- Under driver Floor Plate: .125" thick steel or .250" 6061-T6 aluminum plate bolted every six (6) inches with 3/8 bolts. Plate must cover entire floor opening from front fire wall to back firewall side tube to side tube of driver's compartment. Plate must extend to centerline of all floor tubes. Mounting tabs must be made of .090 thick steel.
- Seat back plate: .125" thick steel or .250" 6061-T6 aluminum plate 12 inches wide must be centered on seat back. Plate must start at centerline of shoulder harness tube and extend to drivers compartment floor. Plate must be located inside the vehicle, between the seat and the rear firewall. Plate maybe me welded in (stitch welded one inch every six inches) or bolted in place. Vehicles using metal tube frame seats may attach plate to seat. Plate must be spaced away from seat 1.5 inches if attached to seat.

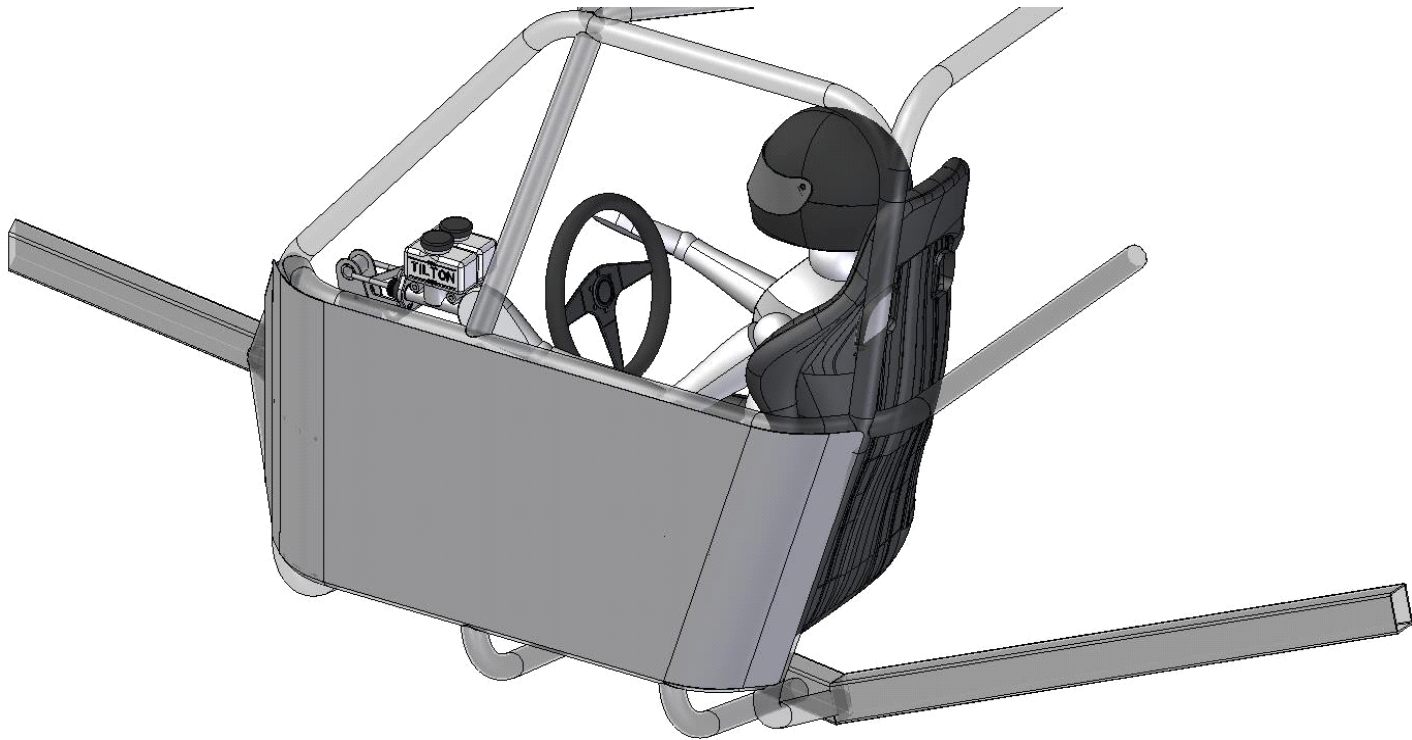


Figure 7 DRIVER DOOR BAR COVERING

- Chassis must be constructed of 3 inch by 2-inch rectangular tubing only, with a minimum wall thickness of  $\frac{1}{8}$  inch and must be built in accordance to the CHAMP OFF-ROAD standardized prints.
- Removal of frame material is permitted only for steering rack clearance. Removal of this material must be approved by CHAMP OFF-ROAD.
- Pro Lite top roll cage width will be 46  $\frac{1}{2}$  inches from outside of bar to outside of bar.
- Elbow bar shall be a 61  $\frac{1}{2}$  inch minimum from outside of bar to outside of bar.
- All trucks must have a 3X4 inch opening at bottom of door, on both sides of vehicle. Must be horizontal and facilitate tow hook for safety crew.

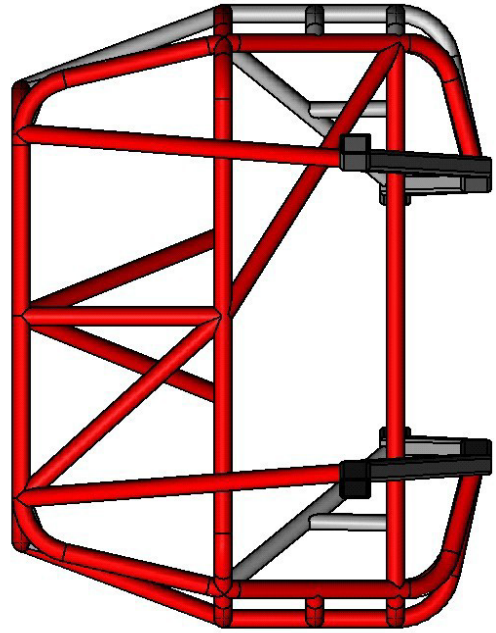
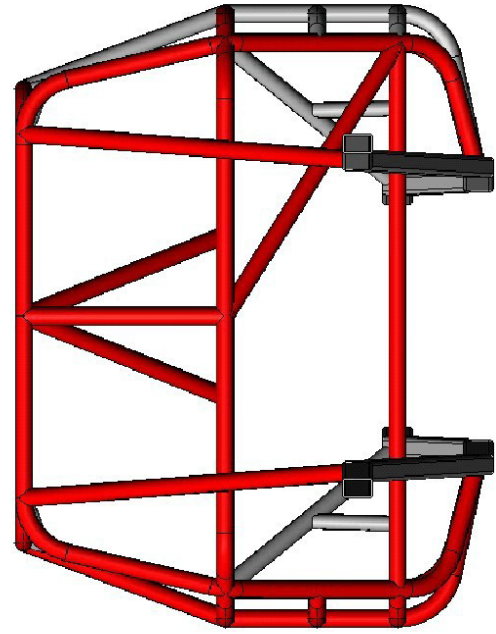
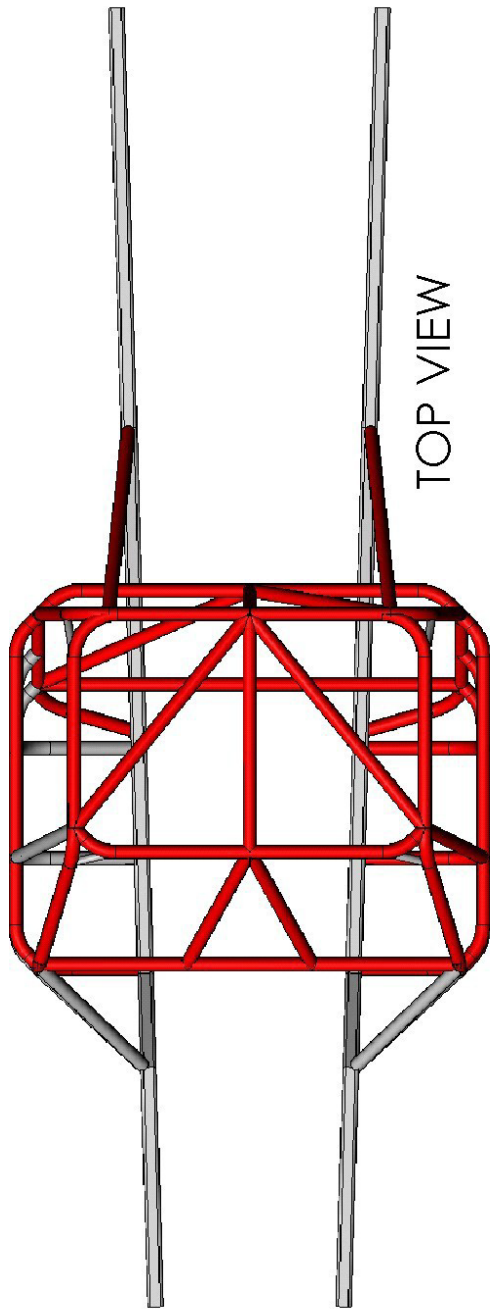
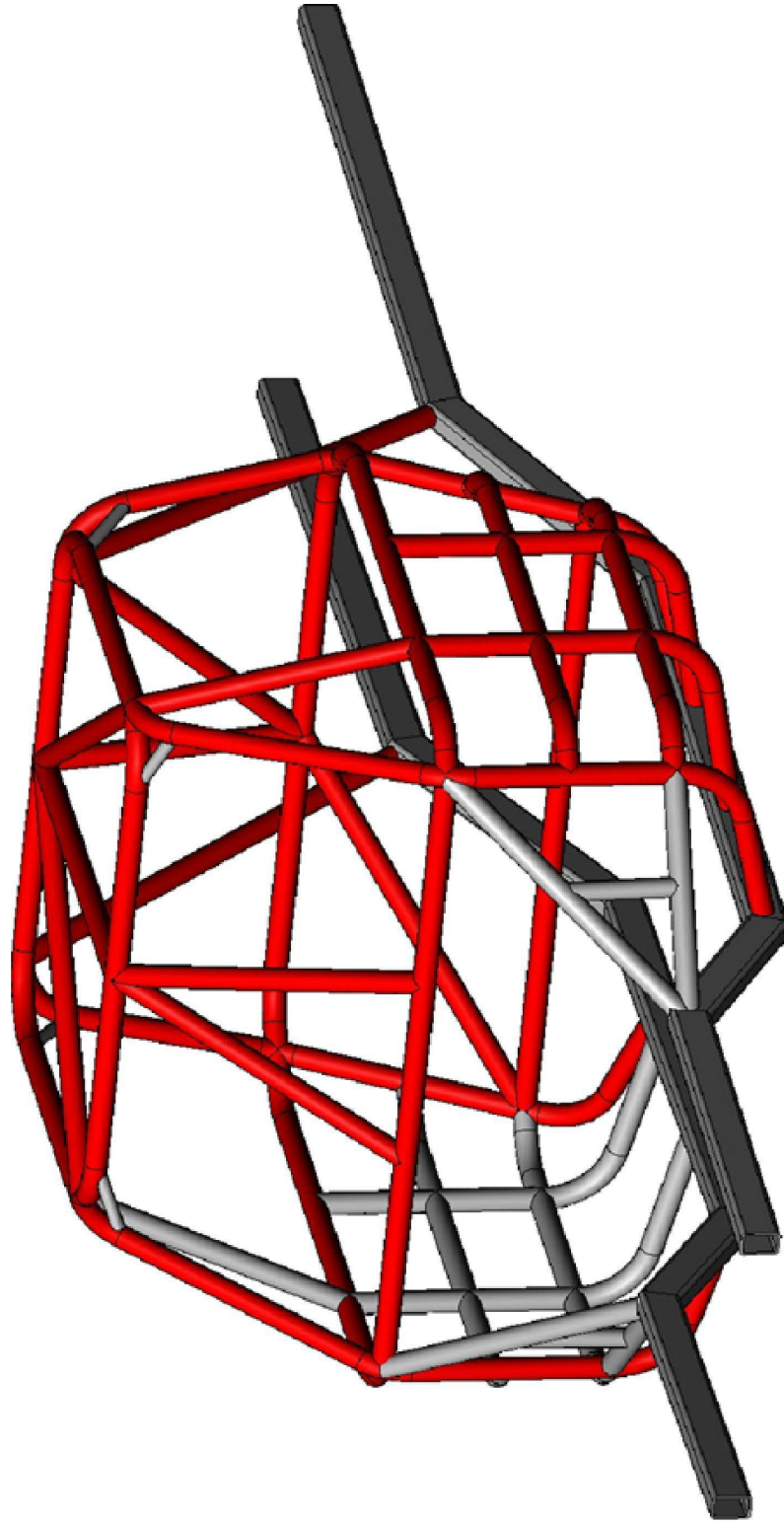


Figure 8 ROLL



ROLL CAGE CONSTRUCTION:  
ALL TUBES IN RED MUST BE LEGAL SIZE AS DEFINED BY VEHICLE WEIGHT



#### PTR-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 engine components.

#### PTR-5 MEASUREMENTS

- Trucks may be measured as they enter and or leave the racetrack and must comply with measurements at all times. Common sense will be used for any trucks coming off the track with heavy obvious damage at the discretion of the Technical Director.
- All measurements will be performed with CHAMP OFF-ROAD technical instruments or gauges.
- Wheelbase will be measured on one side from center of the front wheel to the center of the rear wheel on the same side. Maximum allowable tolerance cannot exceed ½ inch plus or minus on the other side.
- Front wheel travel is measured on a vertical plane from the center point on the end of the spindle. Rear wheel travel is measured on a vertical plane from the center of the rear axle.
- All wheel travel measurements will be from stop to stop with spring removed.
- Track width measurement will be taken at the widest outer surface of the tire. Gauge must pass freely all the way to the ground.
- CHAMP OFF-ROAD officials determine all measurements and center points.
- Maximum track width is 74 inches as measured outside of tire to outside of tire at ride height.
- Wheelbase is 106 inches.

#### PTR-6 RIDE HEIGHT

- Truck must race at a minimum 10-inch ride height. This will be measured at the lowest point from front suspension mounting point to rear suspension mounting point. This includes belly pan bolt heads and any other items that may be under the chassis or belly pan.
- Trucks may be measured for proper ride height before and after competition.

#### PTR-7 BODY

- All trucks must have complete bodies, cabs, hoods, doors, fenders, grills, and roofs in top quality condition, in standard location. All body lines must meet CHAMP OFF-ROAD approval.
- Complete bodies must be attached at start of competition, practice, or any on track activities. Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed. A rounded loop body mounting bracket construction is mandatory.
- All body and fender shapes and configurations must be approved by CHAMP OFF-ROAD.

- All body components must be installed in their standard location, plus or minus 1 inch, as referenced by a production model truck.
- Additions to the body or the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.
- The addition of front air dams under grill is restricted to be no taller than 9" from the bottom of the grill. Air dam must also be a minimum of 12" from the ground at ride height.
- The interior of the race vehicle must be completely enclosed by metal with a minimum thickness of .040 from front to rear. This includes both front and rear fire walls.
- Vehicles must be equipped with a complete set of CHAMP OFF-ROAD approved bumpers.
- Roof line, rocker panels, and top of bed side must be parallel to horizontal frame members.
- Body hangers MUST be constructed from aluminum flat materials with a minimum thickness of .090". Sheet metal hangers must extend from frame to bed side. All hangers must have a minimum of 4 bolts attaching the aluminum hanger to the main chassis. Bolts must be evenly spaced. The inner attachment points of the body hanger must have a minimum span of 12 inches. Bolts must be a minimum of ¼" diameter. All parts must not have any sharp corners or dangerous edges. All hangers must be rounded. Minimum one inch radius on all corners. All parts must be approved by the Tech Director.
- Bed sides must be full length including the taillight wraparound.
- Bed sides must have a minimum of four ¼inch minimum bolts or Dzus buttons evenly spaced at front of bedside and four ¼ inch minimum bolts or Dzus buttons evenly spaced at rear of bedside. Bolts or Dzus buttons must have 2-inch washers and be aligned in a vertical fashion. Forward bed side hangers must be independent of cab. See diagram on FIG 3.
- Door panels must retain all factory-molded contours and accent lines and be fastened with Dzus buttons or hex head bolts only. Cab and bed side mounting must be independent of each other.
- Driver's compartment for CHAMP OFF-ROAD must be a minimum of 1/8 inch for all classes. Floor must extend from 4 inches in front of pedals to 4 inches behind seat.
- Mud flaps are required and must extend from 6 inches above center line of rear axle to 3 inches from ground at ride height. See diagram on FIG 7
  - Flaps must be 14 inches wide and made from hard plastic polymer or equivalent with a minimum thickness of ¼ inch.
  - No mounting with zip ties or chains.
  - Must be captured between two ½ inch by 1-inch metal plates and mounted to resist folding back.
  - Each flap must be installed with a minimum of five ¼ inch bolts.
  - Must be centered on tire.

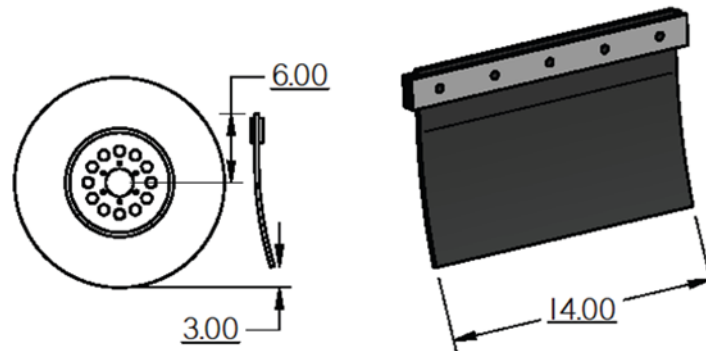


Figure 11 MUD FLAP

- Roof must be properly attached to the roll cage of the truck and be fastened with Dzus buttons or 5/16-inch hex head bolts only. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.
- Aluminum or steel sheeting (minimum thickness of ¼ inch aluminum or 1/8-inch steel) must completely cover the top left of the roll cage above driver's head from the front to the rear of the roll bar tube. Right hand side must be sheeted with minimum .060 thick aluminum securely fastened (i.e. bolts or Dzus fasteners)
  - Sheeting must be firmly attached to the cage and extend ½ inch past the center line of tubes in all four directions.
  - Sheeting must be installed with a minimum of 6 evenly spaced 5/16-inch bolts, not protruding toward the driver. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle when bodywork is removed. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts. The use of Riv-nuts or press in Captive nuts is not permitted unless they are welded in place. Bolts should be lubricated for easy removal. Use of Lock-tite should be avoided.
  - Mounting tabs must be at least .095 thick.
- The hood must be locked down with 3 hood pins or 3 bolts with 2 inch washers evenly spaced across the front of the hood. The rear of the hood should be fastened securely to retain body integrity with bolts, hood pins, etc. Hoods and front fenders cannot have any holes, flaps, and or any air releases. Must be approved by CHAMP OFF-ROAD official.
- Tires must retract into fender wells.

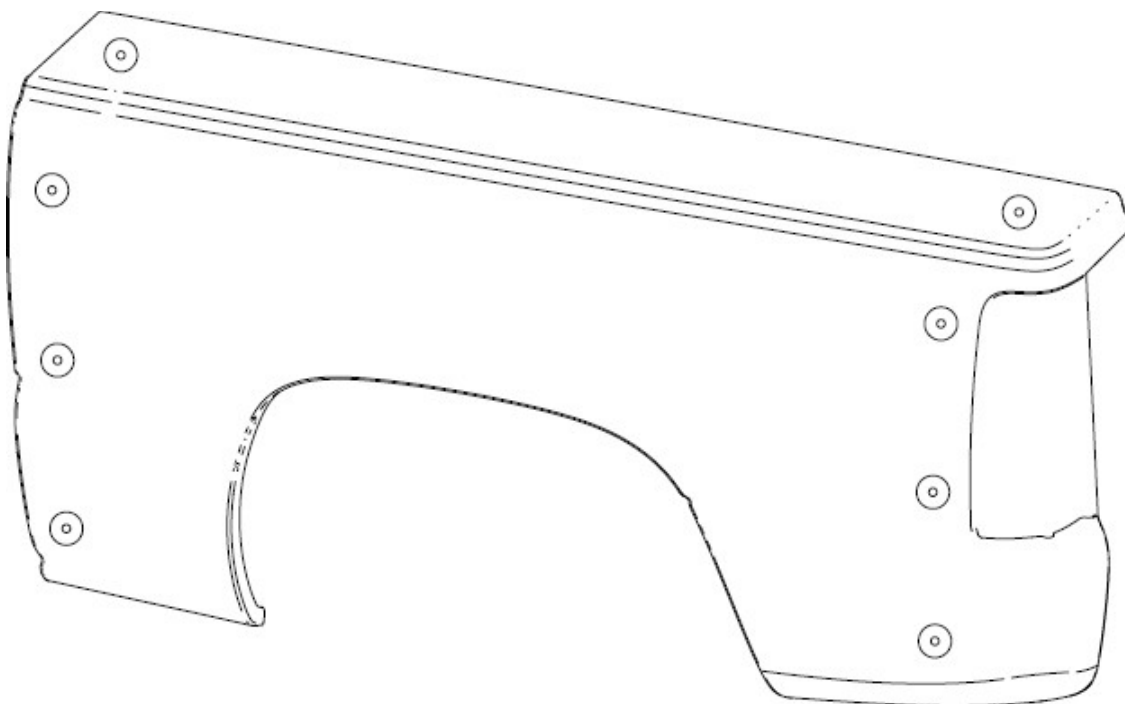


Figure 10 TRUCK BEDSIDE PANEL

#### PTR-8 BUMPERS

- Race vehicles must have front and rear bumpers. CHAMP OFF-ROAD officials must approve all bumpers.
- Front bumper **back side** must be 1.5 (1-1/2) inch in front of and cannot extend more than 12 inches beyond **body**. Bumper can be no wider than the inner sidewall of the front tire when straight.
- Rear bumper must have a minimum of 6 inches between bumper and fuel cell and may not extend more than 1 inch beyond the outside front to rear tire line.
- Bumpers must be constructed of tubing with a minimum of 1.5-inch diameter by .095.
- Any bumper brackets must be a minimum of .095.
- Rear bumper must be 1 inch behind bed side as measured in a straight line between the rear of stock production length bedsides.
- Nerf bars may not extend more than 2 inches beyond the outside front to rear tire line.
- Nerf bars and bumpers must be rounded.
- All rookie drivers must have the rear bumper painted or taped yellow.
- Minimum front and rear bumper width is 32 inches.

#### PTR-9 SUSPENSION

- All four corners must be coil over suspension.
- No suspension or sway bar adjustment of any kind is allowed when vehicle is moving. This includes but is not limited to hydraulic, electric, mechanical, and manual adjustment.
- Front wheel travel limit is 12 inches maximum.

- Rear wheel travel limit is 14 inches maximum.
- Sway bars are allowed.
- Four bar rear suspension only.
- Rear axle housing may not rotate independently of pivot points
- On the front suspension, the A arm must be constructed symmetrical about the center line of vehicle.

#### PTR-10 STEERING COMPONENTS

- CHAMP OFF-ROAD officials must approve universal joints in steering shaft.
- Hydraulic power steering is permitted.
- Steering wheel quick release metal coupling is mandatory and must be approved by CHAMP OFF-ROAD officials.
- All race vehicles are required to have a steering wheel pad.

#### PTR-11 SHOCKS

- CHAMP OFF-ROAD officials must approve all shocks.
- All trucks must have at least one working shock on each wheel and a maximum of 2 shocks per corner.
- Shocks may have external bypass tubes and reservoir cans.
- External bypass is allowed on 1 shock per corner.
- Shocks cannot be adjusted while truck is in motion.
- Heating or cooling liquids or chemicals in shock is not permitted.
- Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.
- No linkage mounted shocks.
- Determination of air shock usage will be done in the following manner: Truck will be presented to CHAMP OFF-ROAD officials on level ground at existing ride height. Truck height will be measured from a given point on the chassis and all canisters will be purged of air, nitrogen, or other charged support. If truck droops more than 1 ½ inches, the truck will be illegal.
- Bump stops will be allowed on the front and rear.
  - Bump stops will only be legal if they absorb a maximum of the last 3 inches of upward compression.
  - Bump stops cannot be attached to any moving suspension parts and may only be attached to the chassis of the truck.
  - 1 spring stack is allowed per corner with a maximum of 2 springs on 1 shock.

#### PTR-12 BRAKES & BRAKE COOLING

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

- Brake pressure sensors are allowed.

#### PTR-13 WEIGHT

- Driver will be included in race vehicle's minimum weight seated in the driving position with drivers back contacting back of seat.
- Vehicles can be courtesy weighed prior to competition.
- CHAMP OFF-ROAD officials must approve all weight material.
- Added weight must be in block form.
- Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- Added weight must be securely bolted in place on the race vehicle on a primary chassis component / tube(s).
- Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- All block ballast must be painted white and identified with vehicle number.
- Weight can be sealed at the discretion of CHAMP OFF-ROAD officials.
- No weight shifting devices of any kind are allowed. This includes but is not limited to hydraulic or electronic devices.
- All vehicles will weigh in before and/or after competition at the discretion of CHAMP OFF-ROAD officials. Failure to do so will result in disqualification.
- All vehicles must meet minimum weight and front percentage both pre and post-race.
- All weight lost on track will result in a \$5.00 per pound fine.
- Spec V-8 trucks and CHAMP OFF-ROAD OEM Platform Engine trucks must weigh a minimum of 3400 pounds.
- Minimum front axle weight is 45% of total truck weight.

#### PTR-14 ENGINE BLOCK

- Cubic inch of race vehicle motor must be declared at time of inspection.
- Engines are subject to inspection by CHAMP OFF-ROAD officials at any time.
- CHAMP OFF-ROAD officials' method of measuring the weight to displacement ratio is the only valid method of cubic inch P & G testing.
- At CHAMP OFF-ROAD officials' discretion, engines will be prepared for mechanical cubic inch certification and measurement.
- All engines must comply with the corresponding CHAMP OFF-ROAD Engine Spec Sheet. Each brand Engine Spec sheets are published in the Pro Lite Engine Spec Sheet section of the most current rule book.
- CHAMP OFF-ROAD officials must approve all manufacturer engine blocks.
- V8 Spec Engine block must be of the same material as delivered by the manufacturer and must be for sale in the USA. CHAMP OFF-ROAD OEM Platform Engines have mandated block that cannot be modified in any way for any reason and are sealed and must remain sealed.
- The center line of the crankshaft cannot be less than 8 inches above the lowest part of the frame rail, as measured from the front of the engine.
- No rear engine trucks will be allowed. Engine must remain in the front of the truck.

- Motor set back will be a maximum of 42 inches + or - 2 inches measured from the spindle centerline to the back of the block at the bell housing mounting surface.
- Engine and transmission oil pans must be positioned between frame rails as viewed from the top.
- Blocks may not be modified by addition of material unless approved by CHAMP OFF-ROAD officials.

#### PTR-15 ENGINE HEADS

- V8 Spec engines:
  - Only CHAMP OFF-ROAD authorized engine builders or agents will be allowed to perform any internal maintenance or repairs and then re-certify engine with CHAMP OFF-ROAD serial numbered bolt head seals. A list of authorized engine builders is available from CHAMP OFF-ROAD technical officials upon request.
    - All V8 spec engines must have CHAMP OFF-ROAD serial numbered seals or CHAMP OFF-ROAD approved OEM engine supplier serial numbered seals applied only by CHAMP OFF-ROAD authorized engine builders or agents on the following parts.:
      - Valve covers
      - Intake manifold
      - Front engine timing cover
  - CHAMP OFF-ROAD approved engines:
    - All V8 Spec engines must comply with corresponding CHAMP OFF-ROAD Engine Spec Sheet as published by CHAMP OFF-ROAD. Each brand Engine Spec sheets are published in the Pro Lite Engine Spec Sheets section of the most current rule book.
  - If at any time CHAMP OFF-ROAD determines that any particular engine brand or make of engine has an advantage, we may equalize that engine either by a reduction in RPM or the use of a restrictor or by changing the fuel injection tune. These changes may be required during the racing season.

#### PTR-16 ENGINE OILING SYSTEM

- V8 Spec Engines may be wet or dry sump. Any type of oil pan is allowed on either setup.
- V8 Spec engine:
  - Engine oil pans will not be part of the sealed engine program.
  - Dry sump pump can have no more than 4 stages (3 scavenge, 1 pressure).
- CORLS engines must retain oiling system as issued by CORLS and may not be modified for any reason.
  - Dry sump systems not permitted on CORLS engines

- All trucks will use an external pressurized oil reservoir system with electrically operated solenoid. (Recommend use of Accusump by Canton Racing)
- Filter adapter will be used to allow external oil cooler and filter system and connection for external pressurized oil reservoir.

#### PTR-17 IGNITION SYSTEMS

- All ignition systems must be approved by CHAMP OFF-ROAD.
- V8 Spec Engine:
  - MSD Ignition with module 6AL-6420-6430-6440-6425 (or ALN) will be required with RPM limits as stated below. Other ignitions may be run upon approval only. Ignition boxes may be sealed by CHAMP OFF-ROAD during technical inspection.
    - Mopar engines may use up to 6000 RPM limit maximum.
    - Ford engines may use up to 6200 RPM limit maximum.
    - Chevy 604 series engines may use up to 6200 RPM limit maximum.
    - LOPE engine 6000 RPM limit maximum.
  - Ignition box must be out of reach of driver or covered with CHAMP OFF-ROAD approved fixed panel.
- CORLS Engine:
  - Must run mandated MoTec ECU and wire loom as supplied by LOPE. Wire loom may not be modified in any way.
  - CHAMP OFF-ROAD will control ECU firmware at all times.
  - CORLS engine may use up to 6000 RPM limit maximum

#### PTR-18 ELECTRICAL ACCESSORIES

- At the request of television, certain vehicles may compete with telemetry systems, as so installed by the series production television network requesting such information.
- All CHAMP OFF-ROAD **PRO LITE** MoTec Fuel Injected trucks:
  - Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:

- Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), water pressure, power steering pump pressure, power steering oil temperature
  - Transmission Related items – transmission fluid / oil temp, Transmission main pump PSI. Sensors, Electronic gear indicators for manual transmissions may connect to main dash.
  - Shift spark interrupters may be wired to shifter and / or transmission shift drum when using manual transmission
  - Other Drive Train Related Items – Transfer case oil temperature, Transfer case oil pressure, gear oil temperature, brake pressure sensors.
  - other sensors are permitted, accelerometers, GPS, lap timing device or recording device of any kind is permitted (except those listed as restricted for traction control below in letter F. Any sensors listed in letter F will not be allowed.).
- Any configuration of data measurement or recording must be completely open and available for CHAMP OFF-ROAD inspection at any time during a CHAMP OFF-ROAD event weekend. All stored Data must be cleared before the start of competition; this will include any practice or qualifying data. If data is stored on a removable chip (i.e. RacePak style) the chip must be installed and sealed by CHAMP OFF-ROAD prior to entering the track. A “lack” of data or no data may result in a penalty including disqualification.
  - The following Digital dash units are permitted
    - Motec – any model
    - RacePack – any model
    - AIM – any model
    - Life-any model
    - All other Digital dashes subject to CHAMP OFF-ROAD approval.
  - No traction control devices allowed.
  - No wireless devices in or on the vehicle are permitted.
  - No data transfer is allowed to or from vehicle when in motion.
  - CHAMP OFF-ROAD OEM Platform Engine specific
    - Only CHAMP OFF-ROAD mandated sensors may be used as issued.
    - No modifications to any wire loom or sensors are permitted for any reason.

#### PTR-19 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS

- All ignition systems must be approved by CHAMP OFF-ROAD.
- No computerized systems are permitted unless CHAMP OFF-ROAD approved.
- Any make or brand of spark plug may be used.

- All vehicles must have a working alternator/generator system.
- All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- All electrical switches must be located on the dash panel.
- 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.
- Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of, and must be accessible from the outside of the race vehicle. Switch centerline must be 8 inches inside frame, 10 inches forward of frame rear. Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide.

#### PTR-20 ENGINE COOLING SYSTEMS

- Installation, location, and type of electrical cooling fan must be acceptable to CHAMP OFF-ROAD.
- No icing refrigerant chemicals may be used in or near the engine compartment or in any place on the truck.
- Electrical engine cooling fans are optional.
- Any Radiators of any size may be used.
- Radiator may be placed in front or rear of vehicle.
- CHAMP OFF-ROAD OEM Platform Engine specific
  - Must maintain water pump as issued from CHAMP OFF-ROAD without modification as delivered from the manufacturer.

#### PTR-21 ENGINE EXHAUST SYSTEMS

- Exhaust mufflers are required on all exhaust systems.
- Muffler must meet a maximum decibel of.
  - A penalty of 1 percent per DB over the maximum allowed level front weight bias will be added for first offense.
    - Consecutive events of non-compliance will result in weight penalty doubling with each event.
    - Any competitor that remains out of compliance after 4 consecutive events will not be permitted to compete or may be disqualified
    - DB readings may not grow more than 2 DB from the first readings of any event leading into the last race of the weekend
- Exhaust pipes must be attached to headers or manifolds in a secure manner.
- Exhaust pipes must extend past driver compartment to the outer edge of the truck and to the rear of the driver.
- All exhaust must discharge downward or outward to either side of vehicle.
- Exhaust heat shields are permitted.
- Exhaust pipes that enter the cab of the truck must have a protective heat shield.
- V8 Spec engines:

- Headers must be made from 1 ¾ inch primary tubing with a simple formed canister style collector (not merged and may not have internal dividers or cone). 1 5/8-inch primary tubing may be used in the first 10 inches as measured from the exhaust flange. A O2 sensor bung or 3/4 pipe bung must be welded at the intersection of collector and tubes. Must be located for easy access for inspection of inside of collector
- CORLS engines
  - OEM exhaust manifolds must be maintained as delivered from CORLS Engine kit. The following stock manifold part numbers are permitted:
    - i. 12616286
    - ii. 12616285
    - iii. 12611639
    - iv. 12611638

#### PTR-22 CARBURETOR

- No turbo, nitrous, or superchargers permitted.
- All carbureted vehicles must use a CHAMP OFF-ROAD approved float bowl vent catch tank system, roll over vent valve, or tube vent line exiting at rear of vehicle behind rear axle to limit fuel leakage or escape when the vehicle is upside down.
- V8 Spec engines:
  - A single 650 Holley 80541-1 650 CFM is mandated.
  - Adjustments to maintain performance levels or tailor the metering system are permitted.
  - Adjustments which are not perceived as modifications are: - Idle speed, idle mixture, power valve, jets, air bleeds, metering blocks and float level.
  - Replacement float bowl of original design with fuel sight glass window may be used.
  - No other modifications are allowed.
  - A single 1-inch spacer that must have 4 holes is allowed. Tapering of holes is permitted.
- COPLS Engines:
  - Only mandated MoTec ECU and fuel injection system will be used.

#### PTR-23 CARBURETOR RESTRICTOR PLATES

- No devices between the carburetor and the intake manifold designed to increase or redirect airflow will be allowed.
- Trucks must use open plenum or straight bore design spacer with standard design gaskets only.
- Restrictor plates may be added to a carburetor or throttle body at any time CHAMP OFF-ROAD deems it necessary

## PTR-24 AIR AND INTAKE CLEANERS

- 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.

## PTR-25 FUEL INJECTION

### ***Pro Lite --CORLS LS3 Engine Platform only***

#### **ECU**

- Must use MoTeC/ CHAMP OFF-ROAD mandated ECU only. ECU must be registered with CHAMP OFF-ROAD Technical department before installed into vehicle. CHAMP OFF-ROAD may change the ECU programming at any time.
- An RJ45/8P8C Ethernet port must be located within easy reach of outside of vehicle to allow connection for technical inspection of ECU.
- Must use a CHAMP OFF-ROAD/MoTeC wiring loom. Loom may not be tampered with or repaired without permission of a CHAMP OFF-ROAD tech official.

#### **Intake**

- Intake and throttle body must remain as issued from CORLS and may not be modified in any way.
- Upper intake may be facing forward or reverse mounted to allow for front drive accessories and or air cleaner routing. Engines when ordered from CHAMP OFF-ROAD must specify orientation before sealing or may have to pay for a seal replacement.

#### **Fuel Rails**

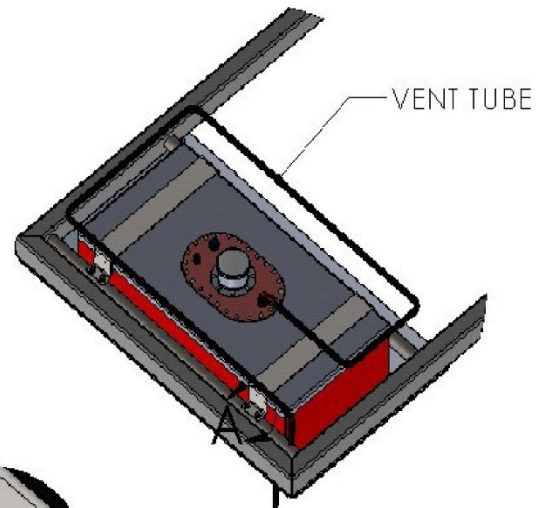
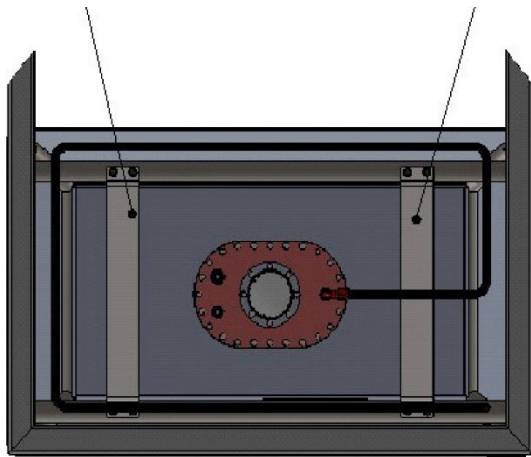
- Fuel Rails must remain stock as delivered by CORLS and may not be modified in any way.

## PTR-26 FUEL CELL

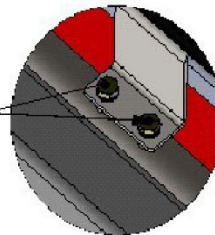
- All fuel cells must be CHAMP OFF-ROAD approved.
- CHAMP OFF-ROAD will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- No pressure systems will be allowed. Any concealed or not concealed pressure type containers, feed lines or actuating mechanisms will not be permitted, even if inoperable.
- Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.

- 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 either AC Delco part number 25036938, Niehoff part number OP23481, Wells part number PS119 or PS122, Napa part number OP6624 or OP6616, Standard ignition Blue Streak part number PS126 or Niehoff Borg Warner part number OP23311. The sending unit receives power from the ground.
- Digital dash or electrical device such as Performance Engineering's Fuel Pump Safety Switch 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.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- 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.
- Fuel cells must be dated by manufacture. A window in the fuel cell can must be over the date to allow for date inspection. Fuel cells will become obsolete five (5) years after date of manufacture and must be replaced.
- All fuel cell fillers and vents must have check valves installed.
- Fuel pressure regulator vent line must do one of the following:
  - Connect to intake manifold vacuum.
  - Connect to air cleaner so that any fuel enters engine.
  - Connect to fuel cell.
  - Have vent hose routed past the rear axle.
- 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.
- Fuel cell cannot be vented into the driver's compartment of any truck.
- The fuel cell must be located behind the cab. The fuel cell must have a ½ inch skid plate minimum covering the complete bottom, sides and rear of the cell. All mountings must be CHAMP OFF-ROAD approved. Fuel cell cannot be mounted to skid plate. Cell must be mounted to chassis. See diagram on FIG 1
- Fuel cell must have a minimum of two 2 ½ inch steel straps, evenly spaced on top of the cell with a minimum of two 5/16-inch bolts or one 3/8 inch bolt on each end of strap. Fuel cell must also have two 2 ½ inch steel straps or 1 ½ inch tubing underneath cell. Alternative mounting methods may be approved at the discretion of the CHAMP OFF-ROAD Technical Director. See diagram. See FIG - 9
- All fuel cells must be housed in a metal can, .060 thick aluminum minimum. Slip over lid must be .090 thick aluminum minimum with 1.0-inch return.
- Fuel Cell must be behind rear axle

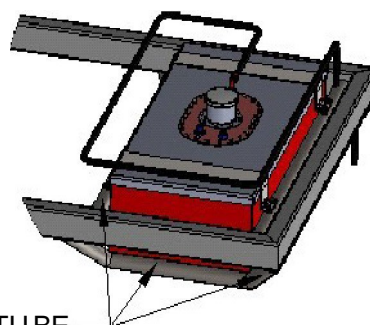
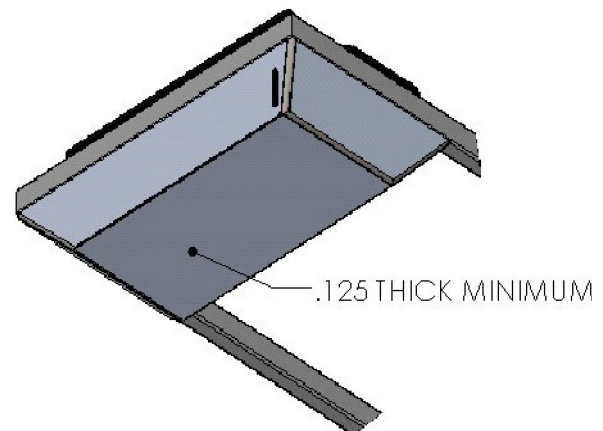
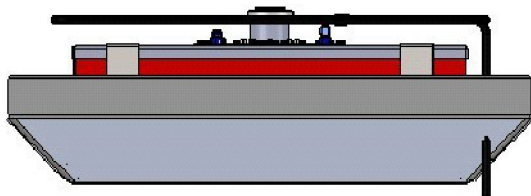
.095 X 2.50 STEEL STRAPS



2-5/16 BOLTS



DETAIL A



MINIMUM .095 X 1.50 TUBE  
F816G - 9 ALL FUEL CELL LINES AND VENTS MUST COME OUT OF THE TOP OF THE FUEL CELL

## PTR-27 FUEL

- All cars shall use fuel, as defined in the following graph, unless a specific exemption is made in the provisions for a specific category/class.
- 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 a CHAMP OFF-ROAD Fuel Check Meter. The 0 (zero) calibration of the CHAMP OFF-ROAD Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at CHAMP OFF-ROAD events by the determination of the dielectric constant using the CHAMP OFF-ROAD Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, CHAMP OFF-ROAD shall take appropriate action. Penalties for use of non-compliant fuel can include fine, and/or reduction of points, and/or suspension.

- Cooling: The cooling of fuel is not permitted during competition.

Fuel Samples: CHAMP OFF-ROAD 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 CHAMP OFF-ROAD and/or any outside laboratories at CHAMP OFF-ROAD discretion.

If the services of an outside laboratory were 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.

- 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.

| Fuel Standards                                                                               |                            |                                                |
|----------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------|
| Classes                                                                                      | Type                       | DC Max                                         |
| All Classes Except Karts                                                                     | Gasoline without added oil | 3                                              |
| Karts                                                                                        | VP MS98L                   | 1.5                                            |
| The user of any substance in the following table in excess of the stated limit is prohibited |                            |                                                |
| either in fuel or otherwise introduced into the engine                                       |                            |                                                |
| Chemical Compounds Prohibited or Restricted in CHAMP OFF-ROAD Race Fuels                     |                            |                                                |
| Compounds                                                                                    | Examples                   | Maximum Weight or Percentage by Weight Allowed |

|                          |                                                                                                                                                                                        |       |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Total Aldehydes          | Acetaldehyde, Acrolein, Formaldehyde                                                                                                                                                   | 1.00% |
| Benzene                  |                                                                                                                                                                                        | 5.60% |
| 3,3-dienthyl-1 butene    |                                                                                                                                                                                        | 0.05% |
| Total ethers             | 1,4 Dioxane, ETBE, Furan, MTBE, Tetrahydrofuran                                                                                                                                        | 0.00% |
| Toal Dienes (Diolefins)  | 1,d Butadiene, Isoprene                                                                                                                                                                | 1.00% |
| Ethanol                  |                                                                                                                                                                                        | 0.00% |
| Total Epoxides           | Ethelene oxide, Propylene oxide                                                                                                                                                        | 0.00% |
| Notal Nitrogen Compounds | Nitromethane, Nitroethane. Nitro-propane, and all aromatic nitrogen compounds such as Nitrobenzene, Ammonia, Amines, and their salts, Aniline, Hydrazine, Pyridine, Pyrrole, Benzidine | 0.00% |

- Specified Fuel: CHAMP OFF-ROAD reserves the right to have all cars use the same blend of fuel in a given event or series class. When this right is exercised, it will be stated in the CHAMP OFF-ROAD rule book and/or in other CHAMP OFF-ROAD bulletins. In all such cases, fuel used for practice, qualifying and the race itself must be the specified fuel blend as produced by the manufacturer of the fuel. At an event where a specified fuel has been named, CHAMP OFF-ROAD will use a sample of the actual fuel provided at the event by the specified fuel supplier to determine whether the fuel used by a competitor conforms to the specifications of the specified fuel blend. The addition of chemicals additives or fuels to the specified fuel is strictly forbidden.
- If CHAMP OFF-ROAD officials suspect maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.
- Pro Lite trucks are restricted to Non-Oxygenated gasoline. Gasoline cannot be blended, mixed, or modified in any way.

#### PTR-28 OIL COOLERS

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

#### PTR-29 TRANSMISSION

- Transmissions must be standard production, catalogued, and available through regular dealer channels.
- All forward and reverse gears must be in working order.

- Components must be installed in stock order: engine to transmission to differential via a drive shaft. Engine must be located in front of truck.
- All transmissions must be approved by CHAMP OFF-ROAD officials.
- Motor crankshaft must be connected to transmission input shaft via a conventional clutch assembly or vane type torque converter.
- Automatic transmissions must operate through a conventional torque converter.
- Manual shifting of all transmissions is mandatory, unless other method is needed to accommodate handicap condition of driver. CHAMP OFF-ROAD officials must approve all non-manual shifting procedures.
- Use of any Turbo 400 based automatic transmission must use SFI 4.1 approved case and SFI 30.1 approved bell housing. Will allow stock case with shatter-shield but must be pre-approved from CHAMP OFF-ROAD tech official prior to entering racetrack.
- V8 spec engines and CHAMP OFF-ROAD OEM Production Engines:
  - GM turbo 400 transmission with standard gearing (2:48, 1:48, 1:0) will be the only transmission allowed.
  - Aftermarket Billet short extension housing is allowed.
  - Use of aftermarket SFI 4.1 transmission case and bell housing SFI 30.1 Mandatory.
  - Transmission must operate through a conventional torque converter.
  - Manual shifting of transmission is mandatory unless other method need be employed for handicap condition of the driver.
  - Remove accessory drives are not allowed
  - Under drives are not permitted.
  - Torque converter must be steel with a minimum 8-inch diameter. Two-piece take apart torque converter is allowed. Two-piece convertor may have aluminum front cover, must retain steel rear shell (pump). Two-piece convertor must weigh minimum of 24.5lbs full of oil.
  - All transmission hubs, drums, planetaries, shafts and carriers must be of magnetic metal-based materials. All parts must retain stock dimensions, no lightening or removal of material. Billet replacement parts are not permitted with the exception of the direct drum, forward drum, and valve body.
  - 300M input shaft and intermediate shaft is allowed
  - Direct Drum Housing, Forward Hub, and Forward Drum Housing may be billet and must be made from ferrous metal-based material. No other billet parts are allowed.
  - Transmission tail housings may be billet but must maintain stock configuration/style of tail housing.

#### PTR-30 DRIVE PARTS

- Engine to transmission adapter plate can be a maximum of 1 ½ inch thick.
- A combination of multiple adapter plates can be used if it does not exceed 1 ½ inch thickness.



#### PTR-31 PROTECTIVE SHIELDS

- Location of all shields must be approved by CHAMP OFF-ROAD.
- Transmission must be covered completely by a protective shield placed to protect the driver from exploding parts from beginning of transmission case/bell housing to 4 inches before a bolt on tail housing. All shields must be approved by CHAMP OFF-ROAD.
- Shields must be constructed of a metal covering with a thickness of ¼ inch aluminum or 1/8-inch steel or be SFI approved.
- If you have an SFI 4.1 approved transmission case and SFI 30.1 approved bell housing no shield will be required.

#### PTR-32 DIP STICKS

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

#### PTR-33 DRIVE SHAFT

- One 360-degree solid steel bracket, no less than 2 inches wide and ¼inch thick or 1-inch tubing with a minimum thickness of .095 inches must be placed around each drive shaft. Must be located within 4 to 6 inches aft of the centerline of front u joint.
- Drive shaft must be painted white and have vehicle number on it.

#### PTR-34 REAR AXLE/DIFFERENTIAL

- Quick change rear ends are not allowed.
- Only steel axles are permitted.
- Independent rear suspension is not allowed.
- Must be in stock location as approved by CHAMP OFF-ROAD officials.
- Rear differential must be spool type only and approved by CHAMP OFF-ROAD officials.
- Rear differential must have a minimum of 1 ½ inch inspection bung or plate placed in such a manner that CHAMP OFF-ROAD officials can see and identify the spool. If inspection area does not exist, crew chief will remove differential for CHAMP OFF-ROAD technical inspection.
- Must use conventional Ford style 9-inch third member assembly.

#### PTR-35 TIRES

Tires must be DOT only. Look in General Rules for Specifics.

## PTR-36 WHEELS

- All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- Lug nut must be open ended, and of proper size.
- Studs must extend a minimum of 2 full threads past the end of the lugnut.
- Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
- All bead locks must have recessed bolts only that do not protrude past the face of the ring.
- Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not be permitted.
- Maximum wheel diameter will be 16"

## PTR-37 RADIOS

- Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- Radio communication between drivers is not permitted.
- All radio frequencies must be approved and reported to CHAMP OFF-ROAD prior to their use.
- All race vehicle radio communication systems must be approved by CHAMP OFF-ROAD.
- See Section 5 of CHAMP OFF-ROAD General Rules for spotter requirements.
- Spotters are required for all race teams.
- Any 2-way radios used at a CHAMP OFF-ROAD event may not exceed 6 watts output.
- Each competitor race vehicle must use at all times while on the track an override race receiver to listen to race control that overrides any communication from the spotter when race control is transmitting to the vehicles. The receiver device must be approved by CHAMP OFF-ROAD and meet CHAMP OFF-ROAD standards at all times. Competitors will not be allowed on the track at any time without the race receiver installed and functional.

## PTR-38 TRANSPONDERS/TIMING

- Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by CHAMP OFF-ROAD.
- All teams are required to purchase remote timing transponders. Transponders can only be purchased through CHAMP OFF-ROAD and numbers must be recorded with CHAMP OFF-ROAD officials.
- 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.
- Transponders must be placed from front face of the front bumper to transponder center line 115 inches back on the driver's side of the truck.

## CHAMP OFF-ROAD PRO LITE OEM PRODUCTION ENGINE SPEC SHEET

- All CHAMP OFF-ROAD OEM Production Engine packages must come from CHAMP OFF-ROAD and be sealed by CHAMP OFF-ROAD.
- Any team is only permitted to have 2 engines checked out to a team per truck being raced at any given time. One in the truck and one spare.
- Engines will be sold to teams through CHAMP OFF-ROAD only on a check in and check out basis. Teams will pay for an engine and before any team can receive an additional engine the team must return an engine for the exchange. Pre- payment registration will be required and done through CHAMP OFF-ROAD registration staff. Engines may be ordered by contacting the Tech Director Bill Savage at 760-594-1037 or email at [Bill@isocracing.com](mailto:Bill@isocracing.com)
- No engines may be taken apart or rebuilt for any reason by any team or any builder. CHAMP OFF-ROAD may repair engine and re-seal at its sole discretion.
- Teams will be limited to purchasing a maximum of 3 engines per race season unless permitted by CHAMP OFF-ROAD due to special circumstances and proven hard part failures. This will be done at the sole discretion of CHAMP OFF-ROAD. Multiple car teams may have additional restrictions to these purchase rules to limit added expenses.
- No warranty is issued on any engine by CHAMP OFF-ROAD for any reason.
- Approved Engine package will be ONLY the following:
  - GM LS3 sealed engine kit with electronics package from MoTeC acquired from CHAMP OFF-ROAD tech. 525RLB(part number 19435005) Must use stock OEM fuel injector manifold. Complete intake assembly GM part number 19418251. Intake manifold GM part number 12686561. Throttle body GM part number 19420701. Fuel injectors GM part number 12576341. All parts must remain stock as delivered by the manufacturer.
  - The GM 525RLB 6.2 liter is delivered from GMC sealed. Seals cannot be removed, replaced, or tampered with. Valve covers must be sealed by the engine builder. Must run stock OEM intake manifold, fuel injectors, and throttle body. Stock valley plate may be replaced or modified, to reverse the intake manifold. Manifold, throttle body, fuel rails must be seal by approved CORLS engine rebuilders.
  - The front drive including power steering pump, alternator, mechanical water pump are open. Pulleys and belts are open. Any stock oil pan may be used. Oil pan may be modified for fit. Must be resealed by an approved engine rebuilder.(Wik's Racing Engines or **Advanced Airflow Engineering**)
- Teams are not permitted to change any external components on the engine package. This includes but is not limited to upper and lower intake, throttle bodies, fuel injectors, fuel rails, diameter of pullies on crank or accessories, coils, valve covers, timing chain covers, oil pan, engine main wire loom, stock exhaust manifolds. No component may be changed unless specifically allowed herein.

- Any mechanical stock style water pump may be used. No electric water pumps. Pump must be driven by main engine dress belt system.
- Any of the following stock GM Exhaust manifolds are permitted with the following part numbers. **12616286, 12616285, 12611639, 12611638**
- The following harmonic balancer parts are allowed and can be used as needed to accommodate any accessory drive configuration needed to work with Power Steering pump, alternator, and water pump drive. Hub: ATI pn 916430M, Damper body: ATI pn 917071, ATI pn 917073, ATI pn 917030, ATI pn 917070 Bolt pack: ATI pn 950200 Crank bolt: ARP ATI pn 951503
- Only use of mandated MoTeC CHAMP OFF-ROAD approved ECU and wire loom is permitted and the firmware in ECU will be locked down. ECU - MoTeC M130 with software developed specifically for CHAMP OFF-ROAD Pro Lite. Wiring The following harnesses will be delivered with each system: Chassis – 3800-EC008 Engine – 3800-EE007 Purchase/Delivery Systems must be purchased from: MoTeC Systems East 169-5 Gasoline Alley Mooresville, NC 28117 704-799-3800. All harnesses are built to order and take up to 6-8 weeks to complete.
- System may be connected to existing digital dash units for normal monitoring and functions as most of the current trucks have so long as the digital dash complies with the data collection rules
- CHAMP OFF-ROAD will have access to data port on ECU at any time to pull data out of the vehicle.
- CHAMP OFF-ROAD will have the ability to exchange ECU with team at any time deemed necessary.
- Fly by wire throttle pedal must be maintained from the stock configuration and parts provided with engine kit.
- Teams must retain factory exhaust manifolds but may use any exhaust so long as it meets the rest of the rules for the class
- Teams may use any alternator
- Teams may use any power steering pump
- Teams may use any air cleaner configuration and filter and upper intake section may be installed forward facing or reverse facing to assist in front drive accessory mounting
- No add on electronic components or tuners permitted
- Use of external pressurized oil reservoir will be mandatory.
- Engines will have oil filter adapter installed to allow for external oil cooler and filter installation.

CORLS engines may be rebuilt by the following companies only:

Wiks Racing Engines  
Adam Wik  
3265 Birtcher Dr

Las Vegas NV 89118  
(702) 837-2522  
[wiksracing@aol.com](mailto:wiksracing@aol.com)

Advanced Airflow Engineering  
Ron Sharp  
3422 Havenwood Dr  
Johannesburg, MI 49751  
(734) 891-0768  
[Advancedairflowengineering@gmail.com](mailto:Advancedairflowengineering@gmail.com)

## CHAMPIONSHIP OFF-ROAD PRO LITE FORD ENGINE SPEC SHEET

ENGINE: FORD M-6007-D347SR7, FORD M-6007-D347SR

BLOCK: M-6010-BOSS302

INTAKE MANIFOLD: M-9424-0302 EDELBROCK VICTOR JR (NO PORTING OR POLISHING)

CYLINDER HEADS: M-6049-Z304DA7, NO PORTING OR POLISHING, NO REMOVAL OF ALUMINUM OTHER THAN ON DECK SUFRACE

VALVE JOB: 3 ANGLE ONLY, NO GRINDING/BLENDING OR BOWL MODIFICATION

VALVES: NP2955 INTAKE 7MM OR EQUIVALENT

VALVE SPRINGS: COMP #26918 OR PAC #1218 OR EQUIVELENT

CAM SHAFT: M-6250-F303 HYD ROLLER

DURATION @ .050": 226\*- INT/EX

LOBE LIFT: .320" INT/EX

INT. C/L: 109\*

LIFTERS: M-6500-R-302H HYD ROLLER, COMP #877-16

ROCKER ARMS: M-6564-F351C 1.65 CROWER, COMP & CRANE ALUMINUM

CRANKSHAFT: M-6303-C340, STROKE 3.400 MAX, MINIMUM 49 LBS +/- .5LB, NO LIGHTENING OR KNIFE- EDGING.

CONNECTING RODS: 2-1CR5400-927 SCAT

PISTONS: SBF090030F06 MAHLE, JE, CP OR RACETEC OR EQUIVALENT.

MIN. WEIGHT W/O PIN- 395 GRAMS

RINGS: .043", .043", 3MM MINIMUM

BORE SIZE MAX: 4.0625"

HARMONIC BALANCER: ANY MANUFACTURE ANY TYPE

COMP RATIO MAX: 10.75 TO 1

DRY SUMP: 4 STAGE SYSTEM MAX

## CHAMPIONSHIP OFF ROAD PRO LITE DODGE ENGINE SPEC SHEET

ENGINE: #ASA75360 MOPAR

BLOCK: 5.9 MAGNUM 360M 1993-2003

INTAKE MANIFOLD: #360-14-3M-4150 INDY, AS-IS, NO ALTERATIONS. NO PORTING OR POLISHING ALLOWED

CYLINDER HEADS: P5153847/61775 MOPAR/EDELBROCK, NO PORTING OR POLISHING, NO REMOVAL OF ALUMINUM OTHER THAN ON DECK SURFACE

VALVE JOB: 3 ANGLE ONLY, NO GRINDING/BLENDING OR BOWL MODIFICATION

VALVES: SOLID STEEL 11/32" DIA. STEM, 2.02" INTAKE/ 1.60" EXHAUST, EDELBROCK # 39-1210/39-1213

VALVE SPRINGS: EDELBROCK #5767 OR EQUIVALENT

CAM SHAFT: COMP CAMS #: CRS 3128-3129 HR 106

DURATION 230-234 @ .050"

LOBE LIFT- INTAKE .304" EXHAUST .311"

INT. C/L: 106\*

LIFTERS: HYD ROLLER, BORE .903" ENGINE PRO #M-2167, MOPAR #P4876054

ROCKER ARMS: ALUMINUM 1.5 RATIO W/ 7/16" STUDS ALLOWED

CRANK: SCAT # 4-360-3580-6123, EAGLE # 436035806123, MAX STROKE 3.580", MIN 55 – MAX 59 LBS. +/- .5 LB., NO LIGHTENING OR KNIFE-EDGING.

CONN RODS: SCAT CR6123-2124 OR EQUIVALENT

PISTONS: MAHLE SBM670030FO5, JE SRP 142069, OR EQUIVALENT

MIN. WEIGHT W/O PIN- 469g

RINGS: .043", .043", 3MM MINIMUM

BORE SIZE: 4.0625" MAX

HARMONIC BALANCER: ANY MANUFACTURE ANY TYPE.

MAX COMPRESSION: 10.75 TO 1

DRY SUMP: 4 STAGE SYSTEM MA

## CHAMPIONSHIP OFF ROAD PRO LITE GM 604 ENGINE SPEC SHEET

ENGINE: GM PERFORMANCE PARTS 19318604 or 88958604

BLOCK: GM 10105123 (CASTING #10243880)

INTAKE MANIFOLD: GM 12496822 (NO PORTING OR POLISHING)

CYLINDER HEADS: GM 12464298 (CASTING # 12367712), or GM 19300955, NO PORTING OR POLISHING, NO REMOVAL OF ALUMINUM OTHER THAN ON DECK SURFACE

VALVE JOB: 3 ANGLE ONLY, NO GRINDING/BLENDING OR BOWL MODIFICATION

VALVES: GM # 12555331 - 2.0" INTAKE, GM # 12551313 1.55" EXHAUST

VALVE SPRINGS: GM #12551483 OR ISKY #6105 OR EQUIVALENT

CAM SHAFT: GM #10185071 IN OEM SPEC OR ISKY # 211272/282 WITH SPEC BELOW

DURATION @ .050": 225\*- INT/234\*-EX

LOBE LIFT: .337" INT/.353" EX

INT. C/L: 112\*

LIFTERS: GM # 17120735 HYD ROLLER

ROCKER ARMS: GM #19210724 OR EQUIVALENT, MAX RATIO 1.5:1 WHEN USED WITH ISKY CAM PART NUMBER, MAX ROCKER RATIO 1.6:1 WHEN USING GM# 10185071 CAMSHAFT. ROCKER ARM STUDS MAY UPGRADE TO 7/16".

CRANKSHAFT: GM # 12556307 OR SCAT/EAGLE # 435034805700, STROKE 3.48 MAX, MINIMUM 50 LBS +/- .5 LB., NO LIGHTENING OR KNIFE-EDGING.

CONNECTING RODS: SCAT# 3-ICR5700 OR GM # 10108688 OR EQUIVALENT

PISTONS: GM #10159436 OR JE # 324866 OR EQUIVALENT.

RINGS: .043", .043", 3MM MINIMUM

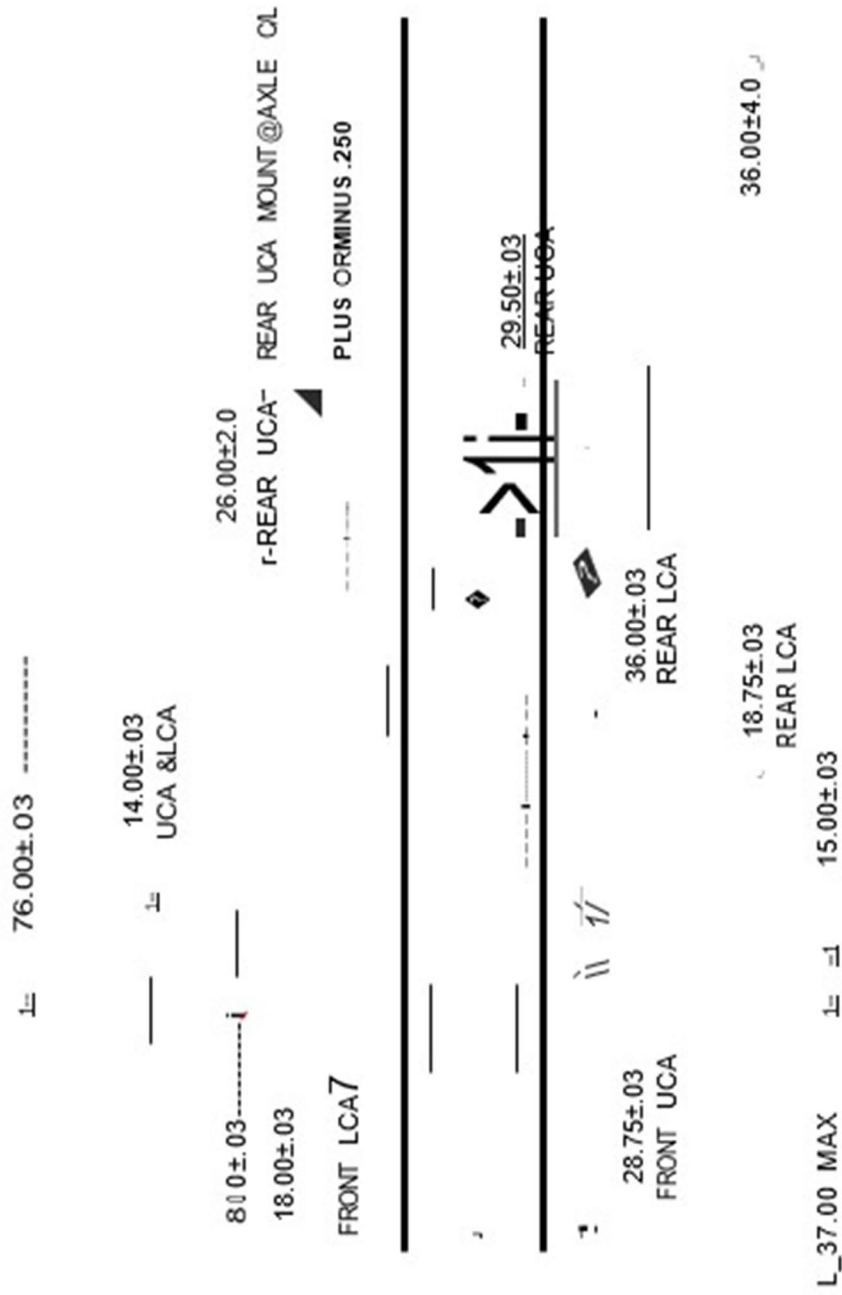
BORE SIZE MAX: 4.0375

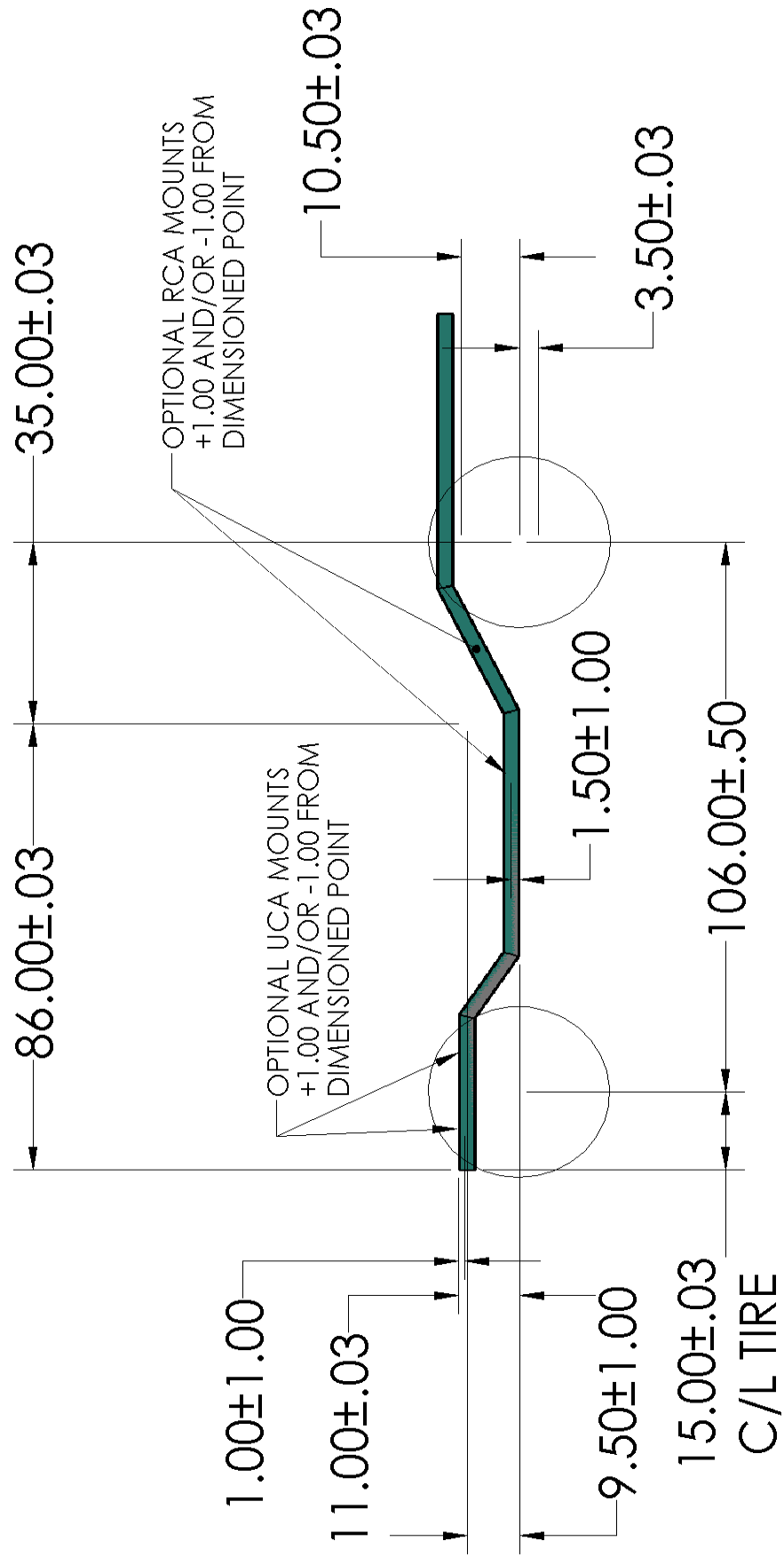
HARMONIC BALANCER: ANY MANUFACTURE ANY TYPE

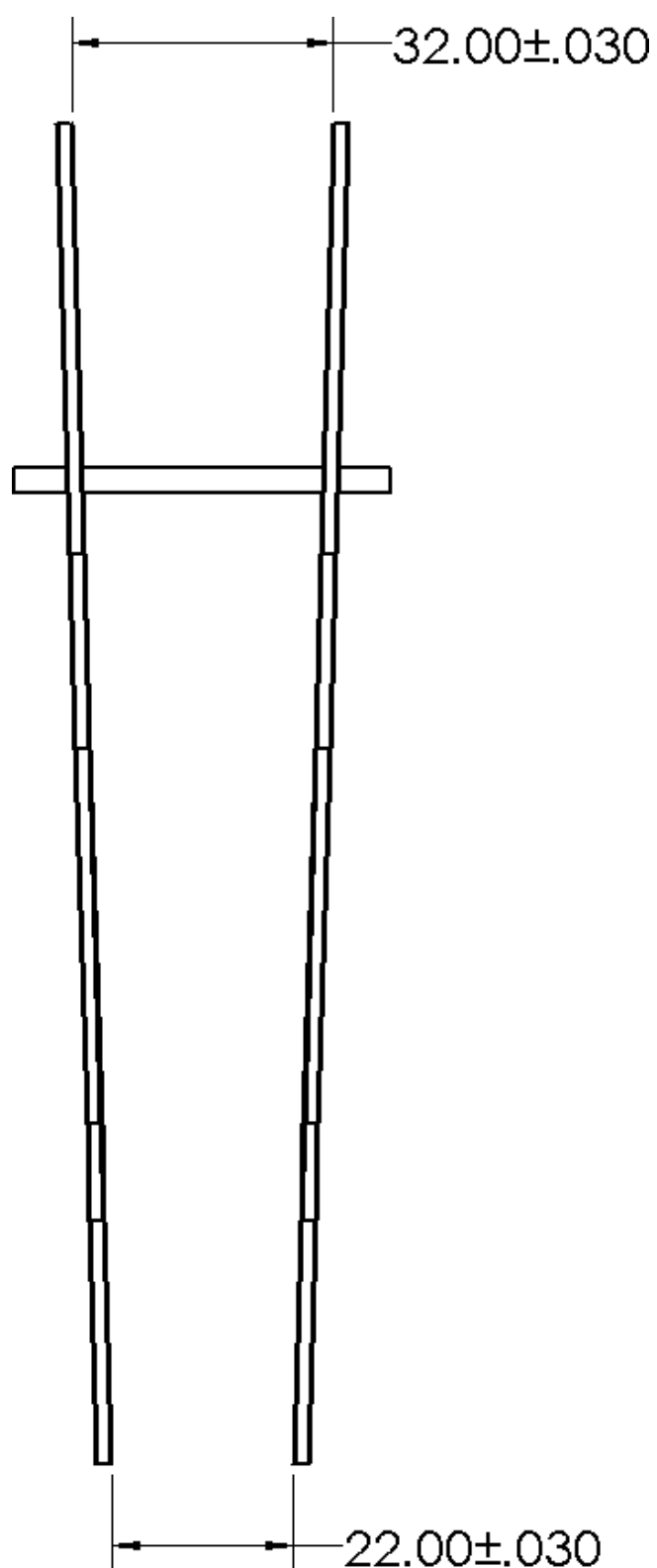
COMP RATIO MAX: 10.75 TO 1

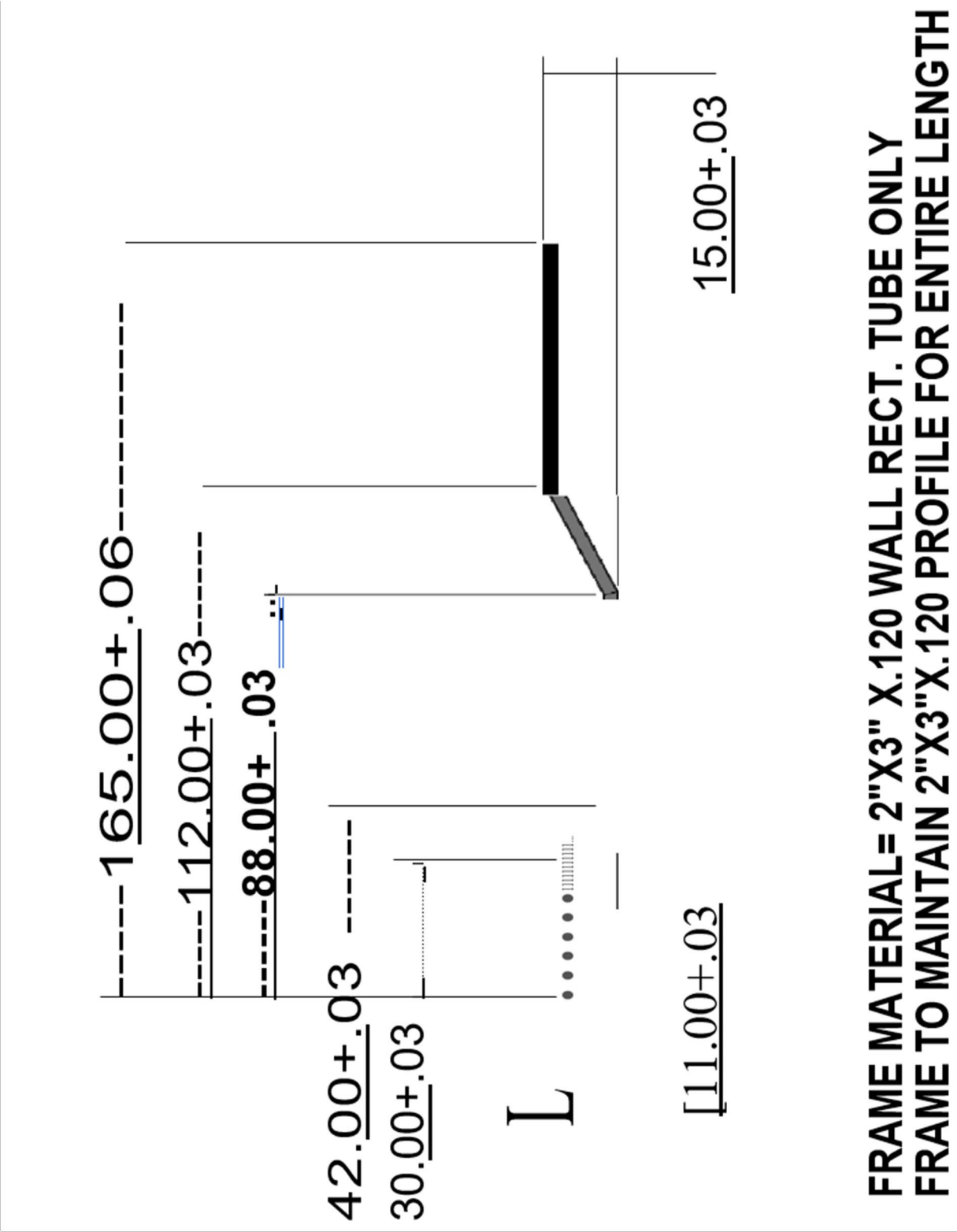
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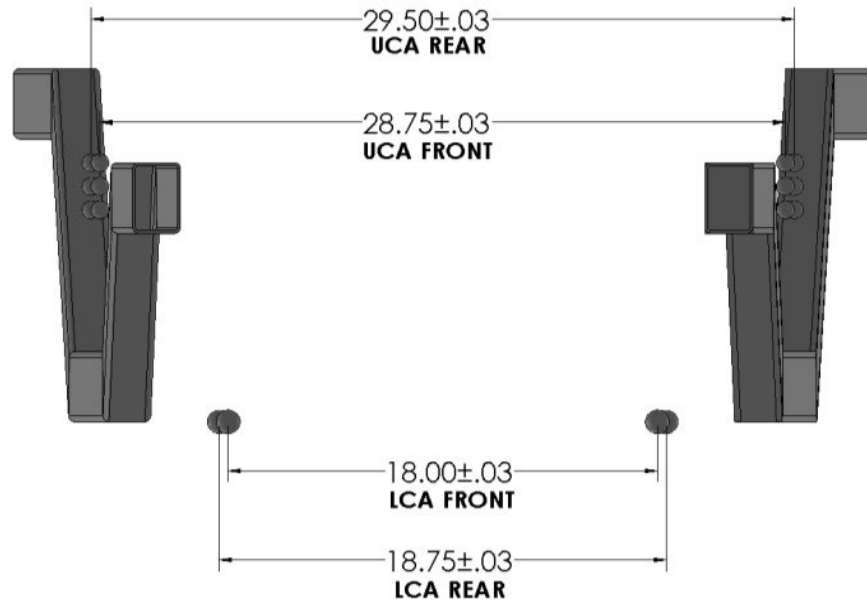
# ALL DIMENSIONS SYMETRICAL TO CHASSIS C/L









**FRONT CONTROL ARMS**

## **CHAMP OFF-ROAD PRO2 TRUCK RULES ADDENDUM TO THE GENERAL**

### **RULES**

#### **PREFACE**

"The rules and/or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all CHAMP OFF-ROAD ("CHAMP OFF-ROAD") events, and, by participation in these events, all CHAMP OFF-ROAD members are deemed to have acknowledged, accepted, and complied with these rules. No express or implied warranty of safety shall result from publications of, or compliance with these rules and/or regulations. The rules are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to participants, spectators, or others."

**CHAMP OFF-ROAD rules are the sole property of CHAMP OFF-ROAD. Use of these rules by any other organization or individual is forbidden unless prior written consent is given by the CHAMP OFF-ROAD.**

**CHAMP OFF-ROAD, its parent, affiliates, members, officers, directors, or staff, assumes no responsibility, legal or otherwise, for failure or malfunction of any products of manufacturers listed in this rulebook. CHAMP OFF-ROAD is NOT liable for actions or decisions made by individuals, promoters, or organizations, etc. using CHAMP OFF-ROAD rules.**

Specifications and/or suggested standards contained in this rule book are intended for use as a guide with respect to safety and for no other purpose either expressed or implied. The use of the specifications and/or suggested standards contained herein by any association, organization, manufacturer or individual is entirely voluntary and **CHAMP OFF-ROAD** will NOT accept any responsibility for consequences resulting from the application of said specifications and/or suggested standards.

## **CHAMP OFF-ROAD PRO2 TRUCK RULES ADDENDUM TO THE GENERAL**

### **RULES**

*The following rules apply to trucks in the Pro 2 division.*

**PRO2:** Truck built or manufactured as a full size 2-wheel drive type utility vehicle using the spec 410 engine.

- All pro trucks must be a standard manufacturer production model available to the general public in the USA. Vehicle style must have a manufacturer production of at least 5,000.
- All makes and models must be approved by CHAMP OFF-ROAD.

### **PTR-1 MARKING AND IDENTIFICATION**

- All vehicle numbering is subject to approval and is assigned by CHAMP OFF-ROAD.
- Single digit numbers can only be used in truck classes. Division ID must be indicated in lower right-hand corner of number area and upper left-hand corner of windshield opening using 1 1/2-inch minimum numbers and letters.
- CHAMP OFF-ROAD officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- 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.
- Advertising on race vehicles must be in good taste.
- Foil or reflective numbers are not permitted.
- All CHAMP OFF-ROAD vehicles are required to have CHAMP OFF-ROAD stickers on each side of the front of the door area, 4 inches down from the window opening.
- CHAMP OFF-ROAD may require the use of specific sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### **PTR-2 NUMBERS**

- Numbers are 1-99 for each truck class.
- All numbers must be block style only.
- Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- Fonts must be chosen from one the below approved styles only:
  - Impact
  - Helvetica Black
  - Mechanical Bold
- Numbers will be located in the following positions:

- (1) number plate on each side, front edge of number plate to be 6 inches from back of cab. Bottom edge to be 4 inches above top of bed side. Number plate must be below roof line. (must also include division identification in this area)
  - Roof of vehicle, as viewed from passenger side
  - (1) number plate on the back of vehicle facing rear
  - Driver's side upper left-hand corner of windshield area, 1 ½ inch letter height minimum (must also include division identification in this area)
- *Pro 2:*
    - 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.
    - Roof numbers must be a minimum height of 24 inches.
    - Rear facing numbers must be on a white number plate measuring 10 inches by 12 inches. Numbers must be solid black with a minimum height of 8 inches.
    - Windshield number and division must be white on a black surface with a minimum height of 4 inches.

### **PTR-3 CHASSIS/ROLL CAGE**

- All trucks must be left side steer only. Steering wheel, seat, and pedals must be in approximate stock location.
- All tubing, welds, gussets, and roll cage construction must be approved by CHAMP OFF-ROAD.
- Material for roll cage construction must be 4130 chromoly or ASTM 1018/1026 CDS/DOM round tubing (see SR-9).
- Minimum tubing diameter and thickness for vehicles weighing:
  - -Up to 3000 pounds – 1 ½ inch diameter by .120
  - -3001 to 5000 pounds – **1 ¾ inch** diameter by .120
  - -Over 5000 pounds – 2-inch diameter by .120
- All tubes must be welded 360-degrees around the circumference of the tube.
- Gussets are required on all intersections in driving compartments within 3 inches of intersection. See diagram on FIG 5.
- All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- Tube gussets and wrap gussets must be a minimum of 1.0 diameter x .065 thick.

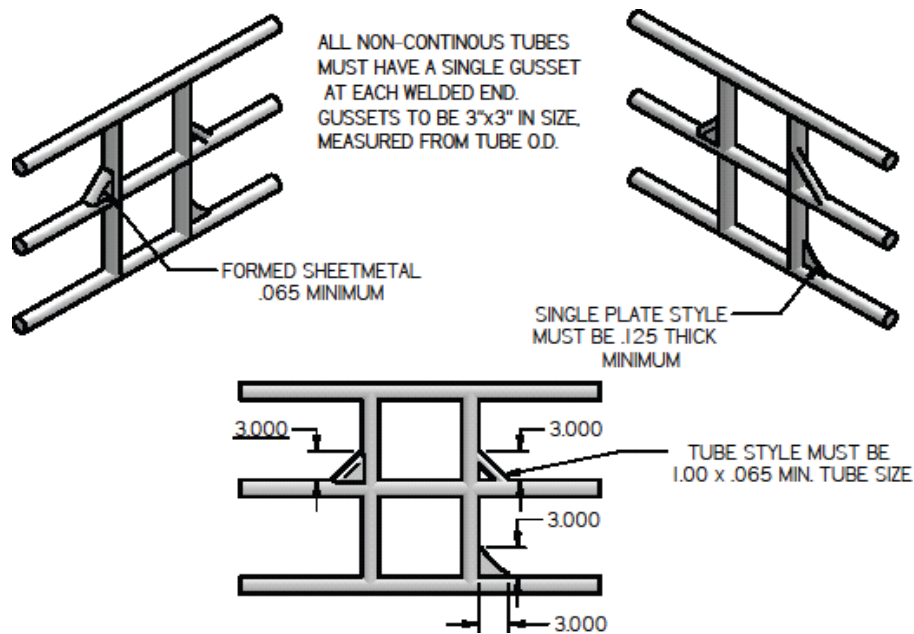


Figure 9 GUSSETS

- All trucks must have 3 horizontal door bars per side. Effective immediately all newly built trucks must incorporate the driver's side extended impact zone bars. See diagram. The drivers seating location and head area in relation to the left side window opening and roof area tubing locations and construction will be under review on all trucks to maximize the driver's safety and head protection.



Figure 10 DOOR BARS

- 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.
- There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.
- Diagonals or similar bracing is mandatory for all truck roof openings as well as front and rear roll barhoops.
- Driver's side door bars must be covered with a minimum of .125-inch steel plate bolted on, using a minimum of 3/8" bolts on 6" centers. See diagram on FIG 7.
- Door plating must completely cover from bottom of main rail to top of door bar and extend a minimum of 4 inches in front of pedals to a minimum of 4 inches behind the seat.
- Under driver Floor Plate: .125" thick steel or .250" 6061-T6 aluminum plate bolted every six (6) inches with 3/8 bolts. Plate must cover entire floor opening from front fire wall to back firewall side tube to side tube of driver's compartment. Plate must extend to centerline of all floor tubes. Mounting tabs must be made of .090 thick steel.
- Seat back plate: .125" thick steel or .250" 6061-T6 aluminum plate 12 inches wide must be centered on seat back. Plate must start at centerline of shoulder harness tube and extend to drivers compartment floor. Plate must be located inside the vehicle, between the seat and the rear firewall. Plate maybe me welded in (stitch welded one inch every six inches) or bolted in place. Vehicles using metal tube frame seats may attach plate to seat. Plate must be spaced away from seat 1.5 inches if attached to seat.

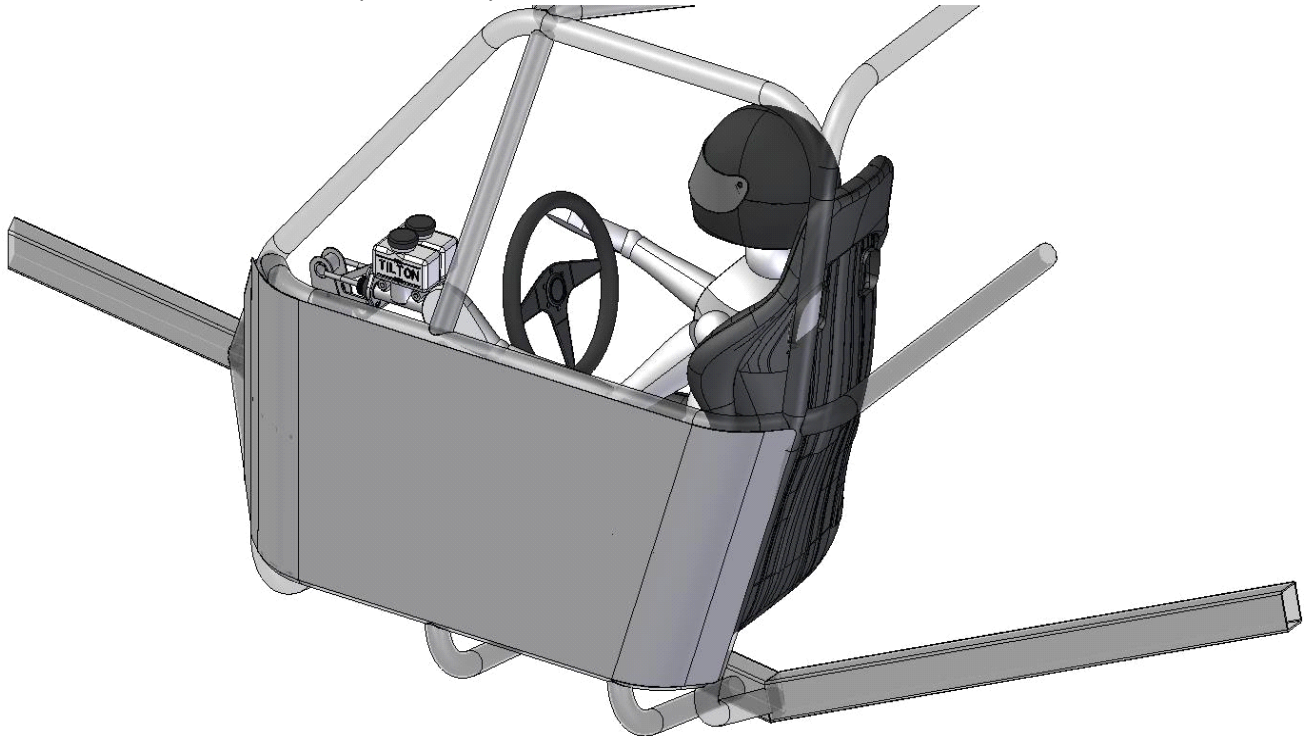
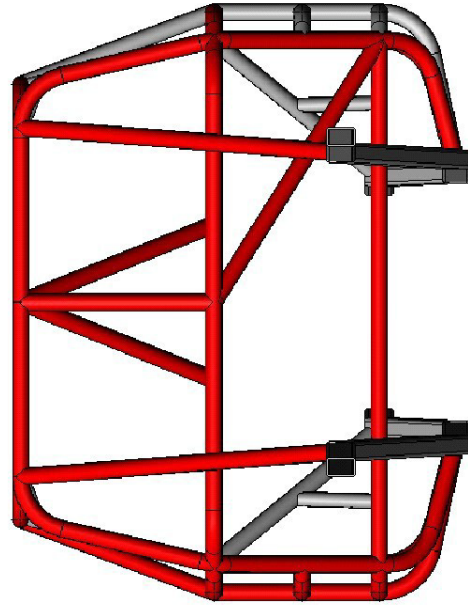
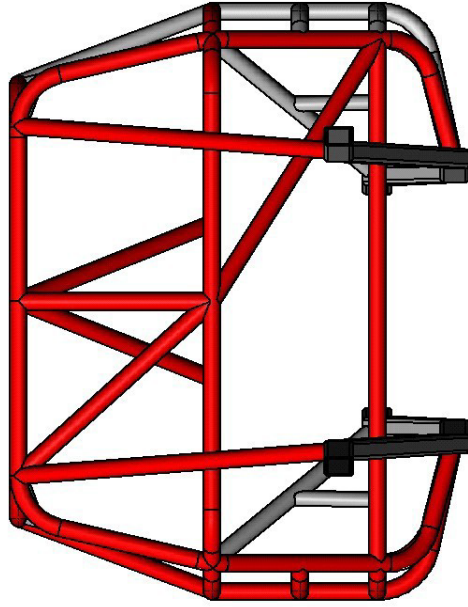
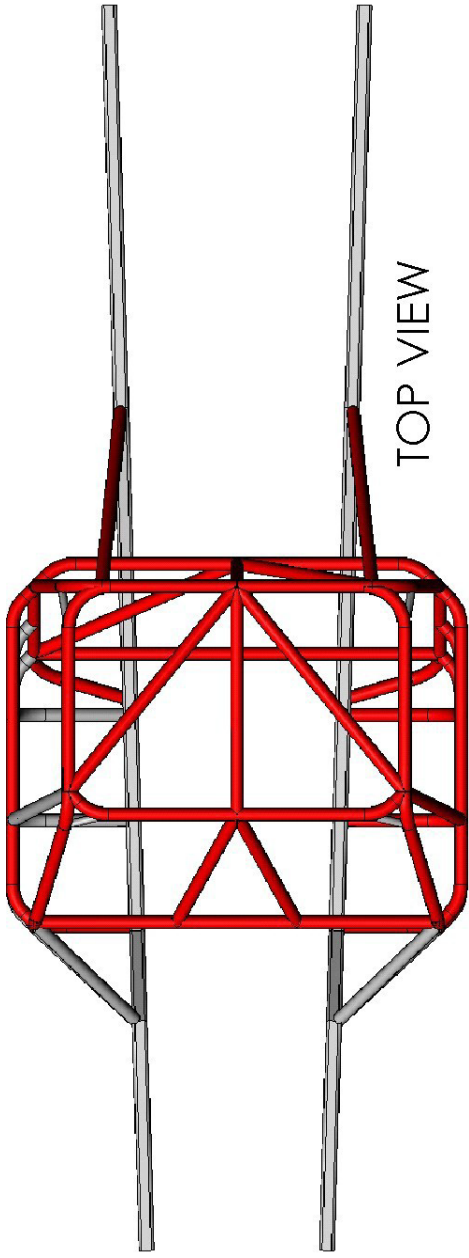
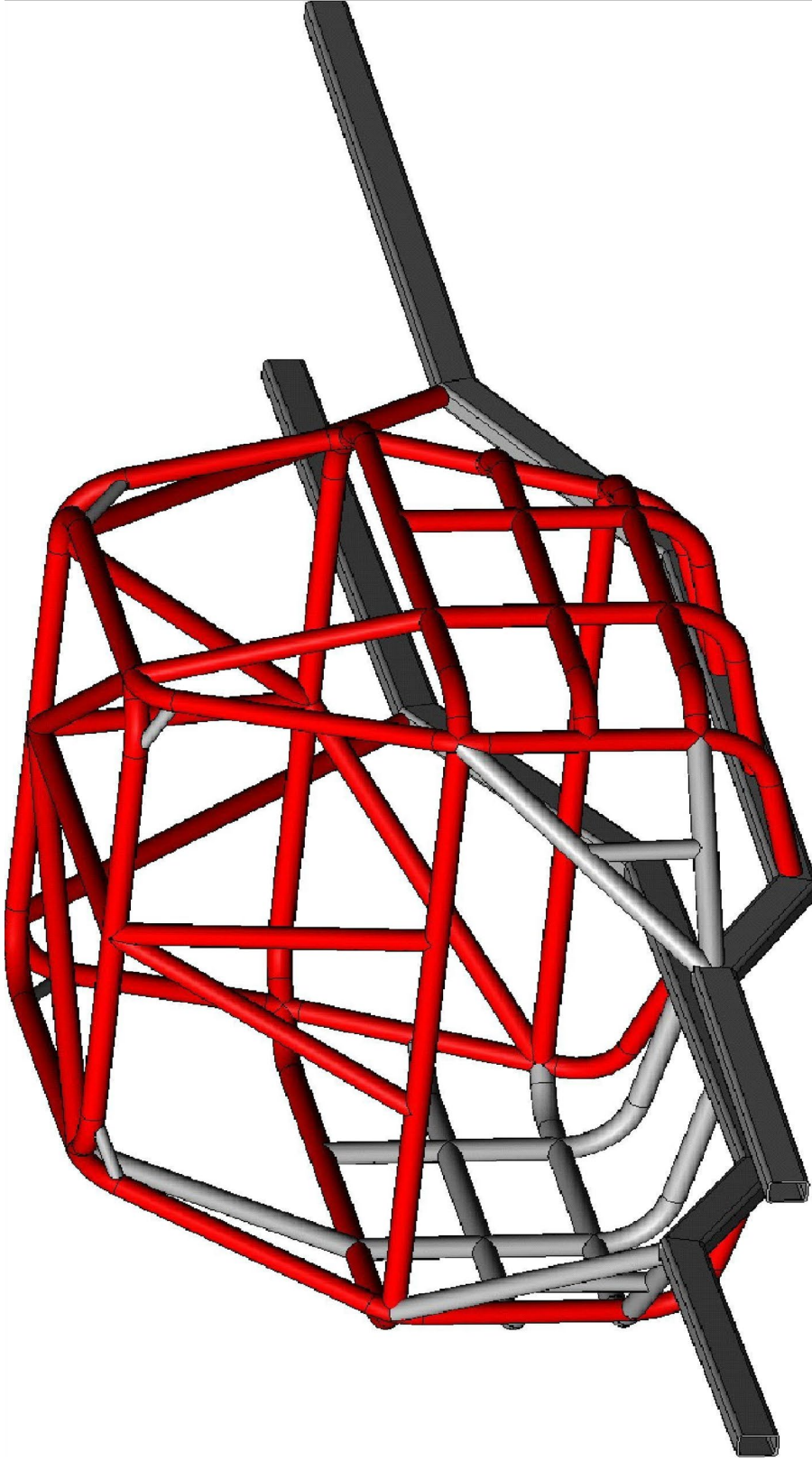


Figure 11 DRIVER DOOR BAR COVERING

- Chassis must be constructed of 3 inch by 2-inch rectangular tubing only, with a minimum wall thickness of  $\frac{1}{8}$  inch and must be built in accordance to the CHAMP OFF-ROAD standardized prints.
- Removal of frame material is permitted only for steering rack clearance. Removal of this material must be approved by CHAMP OFF-ROAD.
- Top roll cage minimum width shall be 43 inches from outside of bar to outside of bar.
- Elbow bar shall be a 60-inch minimum from outside of bar to outside of bar.
- All trucks must have a 3x4 inch opening at the bottom of door on both sides of vehicle. Must be horizontal and facilitate tow hook for safety crew.





ROLL CAGE CONSTRUCTION:  
ALL TUBES IN RED MUST BE LEGAL SIZE AS DEFINED MY VEHICLE WEIGHT



#### **PTR-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 engine components.

#### **PTR-5 MEASUREMENTS**

- Trucks may be measured as they enter and or leave the race track and must comply with measurements at all times. Common sense will be used for any trucks coming off the track with heavy obvious damage at the discretion of the Technical Director.
- All measurements will be performed with CHAMP OFF-ROAD technical instruments or gauges.
- Wheelbase will be measured on one side from center of the front wheel to the center of the rear wheel on the same side. Maximum allowable tolerance cannot exceed ½ inch plus or minus on the other side.
- Front wheel travel is measured on a vertical plane from the center point on the end of the spindle. Rear wheel travel is measured on a vertical plane from the center of the rear axle.
- All wheel travel measurements will be from stop to stop with spring removed.
- Track width measurement will be taken at the widest outer surface of the tire. Gauge must pass freely all the way to the ground.
- CHAMP OFF-ROAD officials determine all measurements and center points.
- Maximum track width is 93 inches as measured outside of tire to outside of tire at ride height.
- Wheelbase is 117 inches.

#### **PTR-6 RIDE HEIGHT**

- Truck must race at a minimum 10-inch ride height. This will be measured at the lowest point from front suspension mounting point to rear suspension mounting point. This includes belly pan bolt heads and any other items that may be under the chassis or belly pan.
- Trucks may be measured for proper ride height before and after competition.

#### **PTR-7 BODY**

- All trucks must have complete bodies, cabs, hoods, doors, fenders, grills, and roofs in top quality condition, in standard location. All body lines must meet CHAMP OFF-ROAD approval.
- Complete bodies must be attached at start of competition, practice, or any on track activities. Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed. A rounded loop body mounting bracket construction is mandatory.
- All body and fender shapes and configurations must be approved by CHAMP OFF-ROAD.
- All body components must be installed in their standard location, plus or minus 1 inch, as referenced by a production model truck.
- Additions to the body or the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.

- The addition of front air dams under grill is restricted to be no taller than 9" from the bottom of the grill. Air dam must also be a minimum of 12" from the ground at ride height.
- The interior of the race vehicle must be completely enclosed by metal with a minimum thickness of .040 from front to rear. This includes both front and rear fire walls.
- Vehicles must be equipped with a complete set of CHAMP OFF-ROAD approved bumpers.
- Roof line, rocker panels, and top of bed side must be parallel to horizontal frame members.
- Body hangers MUST be constructed from aluminum flat materials with a minimum thickness of .090". Sheet metal hangers must extend from frame to bed side. All hangers must have a minimum of 4 bolts attaching the aluminum hanger to the main chassis. Bolts must be evenly spaced. The inner attachment points of the body hanger must have a minimum span of 12 inches. Bolts must be a minimum of ¼" diameter. All parts must not have any sharp corners or dangerous edges. All hangers must be rounded. **Minimum one inch radius on all corners.** All parts must be approved by the Tech Director.
- Bed sides must be full length including the taillight wrap around.
- Bed sides must have a minimum of four ¼ inch minimum bolts or Dzus buttons evenly spaced at front of bedside and four ¼ inch minimum bolts or Dzus buttons evenly spaced at rear of bedside. Bolts or Dzus buttons must have 2 inch washers and be aligned in a vertical fashion. Forward bed side hangers must be independent of cab. See diagram on FIG 10.
- Door panels must retain all factory-molded contours and accent lines and be fastened with Dzus buttons or hex head bolts only. Cab and bedside mounting must be independent of each other.
- Driver's compartment for CHAMP OFF-ROAD must be a minimum of 1/8 inch for all classes. Floor must extend from 4 inches in front of pedals to 4 inches behind seat.
- Mud flaps are required and must extend from 6 inches above center line of rear axle to 3 inches from ground at ride height. See diagram on FIG 11.
  - Flaps must be 14 inches wide and made from hard plastic polymer or equivalent with a minimum thickness of ¼ inch.
  - No mounting with zip ties or chains.
  - Must be captured between two ½ inch by 1-inch metal plates and mounted to resist folding back.
  - Each flap must be installed with a minimum of five ¼ inch bolts.
  - Must be centered on tire.

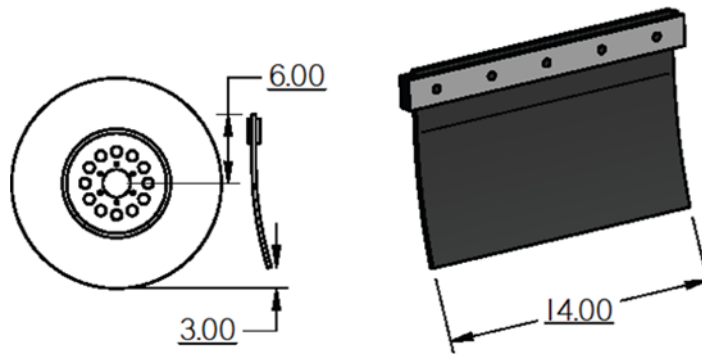


Figure 11 MUD FLAP

- Roof must be properly attached to the roll cage of the truck and be fastened with Dzus buttons or 5/16-inch hex head bolts only. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.
- Aluminum or steel sheeting (minimum thickness of ¼ inch aluminum or 1/8-inch steel) must completely cover the top left of the roll cage above driver's head from the front to the rear of the roll bar tube. Right hand side must be sheeted with minimum .060 thick aluminum securely fastened (i.e. bolts or Dzus fasteners)
  - Sheeting must be firmly attached to the cage and extend ½ inch past the center line of tubes in all four directions.
  - Sheeting must be installed with a minimum of 6 evenly spaced 5/16-inch bolts, not protruding toward the driver. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle when bodywork is removed. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts. No use of Riv-nuts or press in Captive nuts permitted unless they are welded in place. Bolts should be lubricated for easy removal. Use of Lock-tite should be avoided.
  - Mounting tabs must be at least .095 thick.
- The hood must be locked down with 4 hood pins or 4 bolts with 2-inch washers evenly spaced across the front of the hood. The rear of the hood should be fastened securely to retain body integrity with bolts, hood pins, etc. Hoods and front fenders cannot have any holes, flaps, and/or any air releases. Must be approved by CHAMP OFF-ROAD official.
- The maximum body width is 80 inches as measured between the A-pillars.
- Fenders may be flared to the outside of the tire.

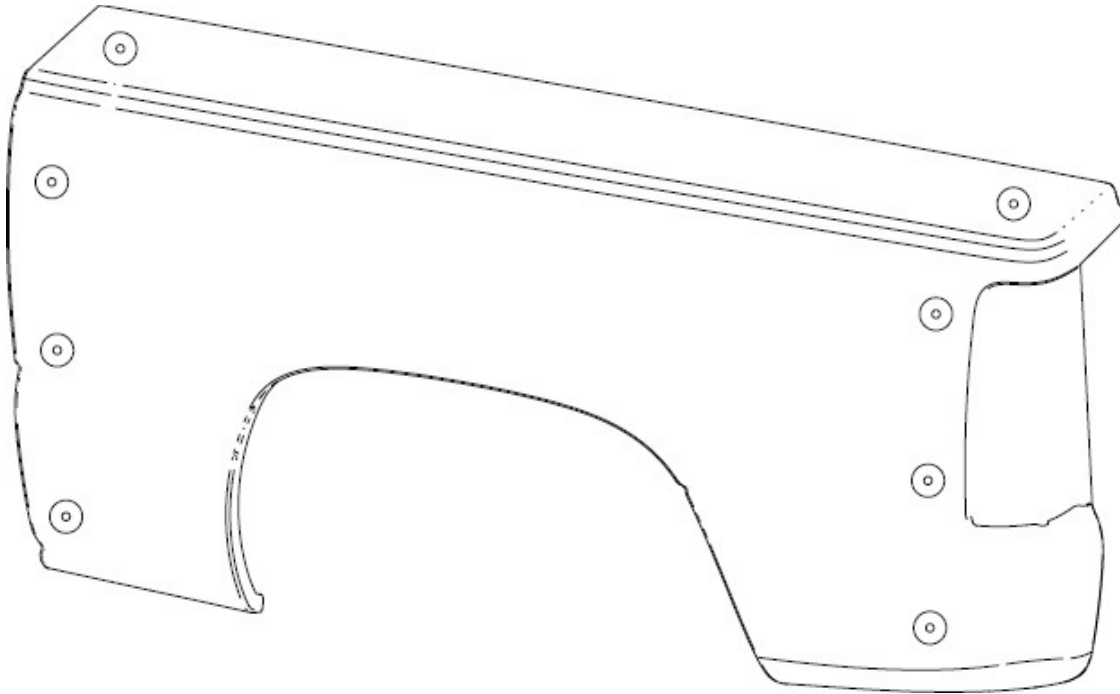


Figure 10 TRUCK BEDSIDE PANEL

#### PTR-8 BUMPERS

- Race vehicles must have front and rear bumpers. CHAMP OFF-ROAD officials must approve all bumpers.
- Front bumper **back side** must be 1.5 (1-1/2) inch in front of and cannot extend more than 12 inches beyond **body**. Bumper can be no wider than the inner sidewall of the front tire when straight.
- Rear bumper must have a minimum of 6 inches between bumper and fuel cell and may not extend more than 1 inch beyond the outside front to rear tire line.
- Bumpers must be constructed of tubing with a minimum of 1.5-inch diameter by .095.
- Any bumper brackets must be a minimum of .095.
- Rear bumper must be 1 inch behind bed side as measured in a straight line between the rear of stock production length bedsides.
- Nerf bars may not extend more than 2 inches beyond the outside front to rear tire line.
- Nerf bars and bumpers must be rounded.
- All rookie drivers must have the rear bumper painted or taped yellow.
- Minimum front and rear bumper width is 36 inches.

#### PTR-9 SUSPENSION

- All four corners must be coil over suspension.
- No suspension or sway bar adjustment of any kind is allowed when vehicle is moving. This includes but is not limited to hydraulic, electric, mechanical, and manual adjustment.
- Front wheel travel limit is 18 inches maximum.
- Rear wheel travel limit is 20 inches maximum.

- Four bar rear suspension only.
- Rear axle housing may not rotate independently of pivot points

#### **PTR-10 STEERING COMPONENTS**

- CHAMP OFF-ROAD officials must approve universal joints in steering shaft.
- Hydraulic power steering is permitted.
- Steering wheel quick release metal coupling is mandatory and must be approved by CHAMP OFF-ROAD officials.
- All race vehicles are required to have a steering wheel pad.

#### **PTR-11 SHOCKS**

- CHAMP OFF-ROAD officials must approve all shocks.
- All trucks must have at least one working shock on each wheel and a maximum of 2 shocks per corner.
- Shocks may have external bypass tubes and reservoir cans.
- External bypass is allowed on 1 shock per corner.
- Shocks cannot be adjusted while truck is in motion.
- Heating or cooling liquids or chemicals in shock is not permitted.
- Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.
- No linkage mounted shocks.
- Determination of air shock usage will be done in the following manner: Truck will be presented to CHAMP OFF-ROAD officials on level ground at existing ride height. Truck height will be measured from a given point on the chassis and all canisters will be purged of air, nitrogen, or other charged support. If truck droops more than 1 ½ inches, the truck will be illegal.
- Bump stops will be allowed on the front and rear.
- Bump stops will only be legal if they absorb a maximum of the last 6 inches of upward compression.
- 1 spring stack is allowed per corner with a maximum of 3 springs on 1 shock.

#### **PTR-12 BRAKES & BRAKE COOLING**

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

#### **PTR-13 WEIGHT**

- Driver will be included in race vehicle's minimum weight seated in the driving position with drivers back contacting back of seat.
- Vehicles can be courtesy weighed prior to competition.

- CHAMP OFF-ROAD officials must approve all weight material.
- Added weight must be in block form.
- Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- Added weight must be securely bolted in place on the race vehicle on a primary chassis component / tube(s).
- Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- All block ballast must be painted white and identified with vehicle number.
- Weight can be sealed at the discretion of CHAMP OFF-ROAD officials.
- No weight shifting devices of any kind are allowed. This includes but is not limited to hydraulic or electronic devices.
- All vehicles will weigh in before and/or after competition at the discretion of CHAMP OFF-ROAD officials. Failure to do so will result in disqualification.
- All vehicles must meet minimum weight and front percentage both pre and post-race.
- All weight lost on track will result in a \$5.00 per pound fine.
- **Pro 2:**
  - Trucks must weigh a minimum of 4100 pounds.
  - Minimum front axle weight is 45% of total truck weight.
  - Truck weight is set according to the following formula:
    - Must weigh 10.25 pounds per cubic inch.

#### **PTR-14 ENGINE BLOCK**

- Cubic inch of race vehicle motor must be declared at time of inspection.
- Engines are subject to inspection by CHAMP OFF-ROAD officials at any time.
- CHAMP OFF-ROAD officials' method of measuring the weight to displacement ratio is the only valid method of cubic inch P & G testing.
- At CHAMP OFF-ROAD officials' discretion, engines will be prepared for mechanical cubic inch certification and measurement.
- **Pro 2: 410**
  - Engine block must have a 410 cubic inch maximum.
  - Engine block must be of OEM design and made from cast iron.
  - Block must be available to the general public at a price competitive with other manufacturers.
  - Maximum of 8 cylinders and 2 valves per cylinder
  - Only ferrous rods are permitted.
  - The maximum engine setback is 42 inches from the front spindle center line to rear of bell housing mount flange on rear of the block.
  - The center line of the crank shaft cannot be less than 8 inches above the lowest part of the frame rail as measured from the front of the engine.

- **Engine builder must seal head to block, and present to tech a statement declaring bore and stroke. CHAMP OFF-ROAD Tech Director will provide the format for statement declaration sheets to be used**

#### **PTR-15 ENGINE HEADS**

- **Pro 2: 410**
- Only CHAMP OFF-ROAD approved spec Brodix heads are allowed. No removing, relocating, grinding, polishing or defacing of any letter or number cast into the cylinder head ports is allowed. Heads must bolt to block they were made for as delivered. No machining to head for mounting purposes.
- Only the following part numbers are approved for use.
  - Chevrolet – SPCH WISSOTA
  - Ford – SPFO WISSOTA
  - Mopar – SPMO WISSOTA
- Valve guides must remain in original angle and spacing as manufactured. Valve guide may not be tapered, thinned or shortened in any way.
- Valves may not be of any exotic materials such as titanium for example.
- No welding or adding material is allowed.
- Combustion chamber may be ground for clearance and polished.
- Intake bowl may be blended and polished from the valve seats to the edge of the letter “C” in the word “SPEC” on the roof and floor of the intake port. The side of the intake may be blended and polished from the valve seat to the same point as the roof and floor. No grinding or polishing along the side walls where the spec logo is cast.
- Exhaust seats may be blended into the exhaust bowl and port may be polished as long as the word “SPEC” in the roof of the exhaust port is not touched and the exhaust port exit at the header flange remains in the original as cast location, size and shape.
- Cylinder heads may be machined for push rod clearance.
- No grinding or polishing of any kind, other than stated above, is allowed.

#### **PTR-16 ENGINE OILING SYSTEM**

**A.** Any oiling system may be used.

#### **PTR-17 IGNITION SYSTEMS**

- All ignition systems must be approved by CHAMP OFF-ROAD.
- **Pro 2 410**

- MSD “6-series” (6AL,6420,6425, 6430 {ALN}) ignition boxes are required with a Max 7500 RPM chip.
- Dual boxes with an A & B switch are permitted.
- The MSD ignition module cannot be located within the reach of the driver.
- Wiring for the MSD box must be separate from other vehicle wiring and have no extra connectors or termination.
- May utilize CHAMP OFF-ROAD Motec fuel injection as a complete system as an alternative to standard ignition and carburetor with a Max 7500 RPM.

#### **PTR-18 ELECTRICAL ACCESSORIES**

- At the request of television, certain vehicles may compete with telemetry systems, as so installed by the series production television network requesting such information.
- All carbureted trucks:
  - Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:
    - Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), waterpressure, power steering pump pressure, power steering oil temperature.
    - Transmission Related items – transmission fluid / oil temp, Transmission main pump PSI. Sensors may not be directly connected to the transmission and must use a minimum of 12-inch soft line type hose to eliminate any direct connection to the transmission of any wiring. Electronic gear indicators for manual transmissions only in Pro 4 may be connected to the digital dash.
    - Shift spark interrupters may be wired to shifter and / or transmission shift drum when using manual transmission.
    - Other Drive Train Related Items – Under drive case oil temperature, Under drive case oil pressure, gear oil temperature, brake pressure sensors. Sensors may not be directly connected to the under drive case or gear case and must use a minimum of 12-inch soft line type hose to eliminate any direct connection to the under drive case or gear case of any wiring.
    - No other sensors, measurement, GPS, track mapping, lap timing device or recording device of any kind is permitted at any time during the entire CHAMP OFF-ROAD event weekend.

- All CHAMP OFF-ROAD **PRO 2** MoTec Fuel Injected trucks:
  - Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:
    - Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), water pressure, power steering pump pressure, power steering oil temperature
    - Transmission Related items – transmission fluid / oil temp, Transmission main pump PSI. Sensors, Electronic gear indicators for manual transmissions may connect to main dash.
    - Other Drive Train Related Items – Under drive case oil temperature, Under drive case oil pressure, gear oil temperature, brake pressure sensors.
    - Other sensors are permitted, accelerometers, GPS, lap timing device or recording device of any kind is permitted (except those listed as restricted for traction control below in letter F. Any sensors listed in letter F will not be allowed.).
- Any configuration of data measurement or recording must be completely open and available for CHAMP OFF-ROAD inspection at any time during a CHAMP OFF-ROAD event weekend. All stored Data must be cleared before the start of competition; this will include any practice or qualifying data. If data is stored on a removable chip (i.e. RacePak style) the chip must be installed and sealed by CHAMP OFF-ROAD prior to entering the track. A “lack” of data or no data may result in a penalty including disqualification.
- The following Digital dash units are permitted
  - Motec – any model
  - RacePak – any model
  - AIM – any model
  - Life-any model
  - All other Digital dashes subject to CHAMP OFF-ROAD approval.
- No traction control devices allowed.
- No wireless devices in or on the vehicle are permitted.
- No data transfer is allowed to or from vehicle when in motion.
- CHAMP OFF-ROAD OEM Platform Engine specific
  - Only CHAMP OFF-ROAD mandated sensors may be used as issued.
  - No modifications to any wire loom or sensors is permitted for any reason.

## **PTR-19 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS**

- All ignition systems must be approved by CHAMP OFF-ROAD.

- No computerized systems are permitted unless CHAMP OFF-ROAD approved.
- Any make or brand of spark plug may be used.
- All vehicles must have a working alternator/generator system.
- All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- All electrical switches must be located on the dash panel.
- 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.
- Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of, and must be accessible from the outside of the race vehicle. Switch centerline must be 8 inches inside frame, 10 inches forward of frame rear. Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide.

#### **PTR-20 ENGINE COOLING SYSTEMS**

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

#### **PTR-21 ENGINE EXHAUST SYSTEMS**

- Exhaust mufflers are required on all exhaust systems.
- Muffler may be required to meet a maximum decibel at some tracks.
  - A penalty of 1 percent per DB over the maximum allowed level front weight bias will be added for first offense.
    - Consecutive events of non-compliance will result in weight penalty doubling with each event.
    - Any competitor that remains out of compliance after 4 consecutive events will not be permitted to compete or may be disqualified.
    - DB readings may not grow more than 2 DB from the first readings of any event leading into the last race of the weekend.
- Exhaust pipes must be attached to headers or manifolds in a secure manner.
- Exhaust pipes must extend past driver compartment to the outer edge of the truck and to the rear of the driver.
- All exhaust must discharge downward or outward to either side of vehicle.
- Exhaust heat shields are permitted.
- Exhaust pipes that enter the cab of the truck must have a protective heat shield.

#### **PTR-22 CARBURETOR**

- No turbo, nitrous, or super chargers permitted.
- All carbureted vehicles must use a CHAMP OFF-ROAD approved float bowl vent catch tank system, roll over vent valve, or tube vent line exiting at rear of vehicle behind rear axle to limit fuel leakage or escape when the vehicle is upside down.
- 1 four-barrel Holly 4150 HP carburetor permitted.
- Intake manifold must be available through regular retail sources and available to the general public.
- Or CHAMP OFF-ROAD regulated Fuel Injection system may be used as listed in PTR-25

#### **PTR-24 AIR AND INTAKE CLEANERS**

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.

#### **PTR-25 FUEL INJECTION**

##### **ECU**

- Must use MTeC/CHAMP OFFROAD M130 ECU only. ECU must be registered with CHAMP OFFROAD Technical department before installed into vehicle. CHAMP OFFROAD may change the ECU programming at any time.
- An RJ45/8P8C Ethernet port must be located within easy reach of outside of vehicle to allow connection for technical inspection of ECU.
- Must use a CHAMP OFFROAD/MoTeC wiring loom. Loom may not be tampered with or repaired without permission of a CHAMP OFFROAD tech official. If any equivalent sensor is used and requires a pig tail adapter it must be inspected and approved by CHAMP OFFROAD Tech Director prior to use.
- Only the following sensors or their equivalent will be allowed to connect to ECU.

#### **Engine Management:**

| <b>Sensor Type</b>                | <b>Manufacturer</b> | <b>Part Number</b>                             |
|-----------------------------------|---------------------|------------------------------------------------|
| Lambda                            | MoTeC               | M 0258 001                                     |
| Position – Crankshaft (Mag)       | MoTeC               | M 6-APX-003 DTM                                |
| Position – Camshaft (Hall Effect) | MoTeC               | M MHALL 437-DTM –<br>OR - M DHALL 437 -<br>DTM |

|                           |       |                                   |
|---------------------------|-------|-----------------------------------|
| Position – Throttle       | MoTeC | M 518-2846-100K                   |
| Pressure – Barometric     | MoTeC | M 16-6835                         |
| Pressure – Engine Coolant | MoTeC | M APT-G2-DTM-150G                 |
| Pressure – Engine Oil     | MoTeC | M APT-G2-DTM-150G                 |
| Pressure – Fuel           | MoTeC | M APT-G2-DTM-150G                 |
| Pressure – Manifold       | MoTeC | M 16-9886                         |
| Temperature – Engine      | MoTeC | M 25-2197D                        |
| Temperature – Engine Oil  | MoTeC | M 25-2197D                        |
| Temperature – Fuel        | MoTeC | M 25-2197D                        |
| Temperature – Inlet Air   | MoTeC | 0 280 039 – <i>OR</i> – M 25-7225 |

#### ECU Outputs:

Lambda Sensor 1

Heater Lambda

Sensor 2 Heater

Engine radiator fan-1

Engine radiator fan-2

Engine oil cooler fan

-1

Fuel Pump (A-B switch on

dash) Tach output.

**\*\*\* CHAMP OFF-ROAD at any time may add or remove sensors and/or outputs.**

#### INJECTORS

- Injectors are restricted to M ID 1050.
- Only one (1) injector per cylinder is allowed. Injectors must be located in the intake manifold.
- Injectors must be perpendicular to throttle body mounting face (plus or minus five (5) degrees.
- Injectors must be located on top of the manifold within five (5) inches from edge of manifold that mounts to the head.
  - Injectors must be mounted in a straight line, parallel to intake port centerlines.

#### FUEL RAILS

- Fuel rails must be constructed of stainless steel or aluminum.

- The fuel rail layout may be a one-piece, continuous U-shaped fuel rail or two individual fuel rails. Fuel rail bore must be cylindrical or "D" in shape and internal diameter and shape must be maintained for its entire length.
  - Each fuel rail must be securely mounted to the intake manifold using a minimum of one positive fastener per end.
- Only "fuel in" and "fuel out" lines, injectors, fuel temperature sensor, and fuel pressure sensor may be attached to fuel rail. No pressure damping device of any type allowed.

#### **INTAKE MANIFOLD**

- Must use production cast aluminum intake manifold and be approved by CHAMP OFF-ROAD prior to installation.
- No sheet metal, fabricated, plastic intake manifolds are allowed.

#### **THROTTLE BODY**

- Throttle bodies are limited to the following;
  - Braswell 1590, with a maximum venturi bore of 1.595 inches.

#### **THROTTLE BODY MUST REMAIN AS DELIVERED BY THE MANUFACTURER.**

- Throttle body must have four (4) venturi's. The throttle body venturi is defined as the constricted throat in the main body air passage.
- The throttle body venturi's constricted throat must have a maximum diameter of 1.595 (+0.000) inches.
- A riser no taller than two (2) inches may be used between throttle body and intake manifold.
- Restrictor plates may be added to a carburetor or throttle body at any time CHAMP OFF-ROAD deems it necessary.

#### **Throttle Body Plates (Butterfly Plate assembly)**

- Must have four (4) round butterflies.
- Maximum butterfly bore diameter 1.790 (plus .000) inches.
- Butterfly linkage may be progressive or 1:1.

#### **Ignition Coils**

Must use one (1) coil per cylinder. Coils must be M Delco 180

## **Contact and Order Information:**

Nick Baggett  
Applications  
Engineer  
MoTeC Systems  
East 169-5  
Gasoline Alley  
Mooresville, NC 28117

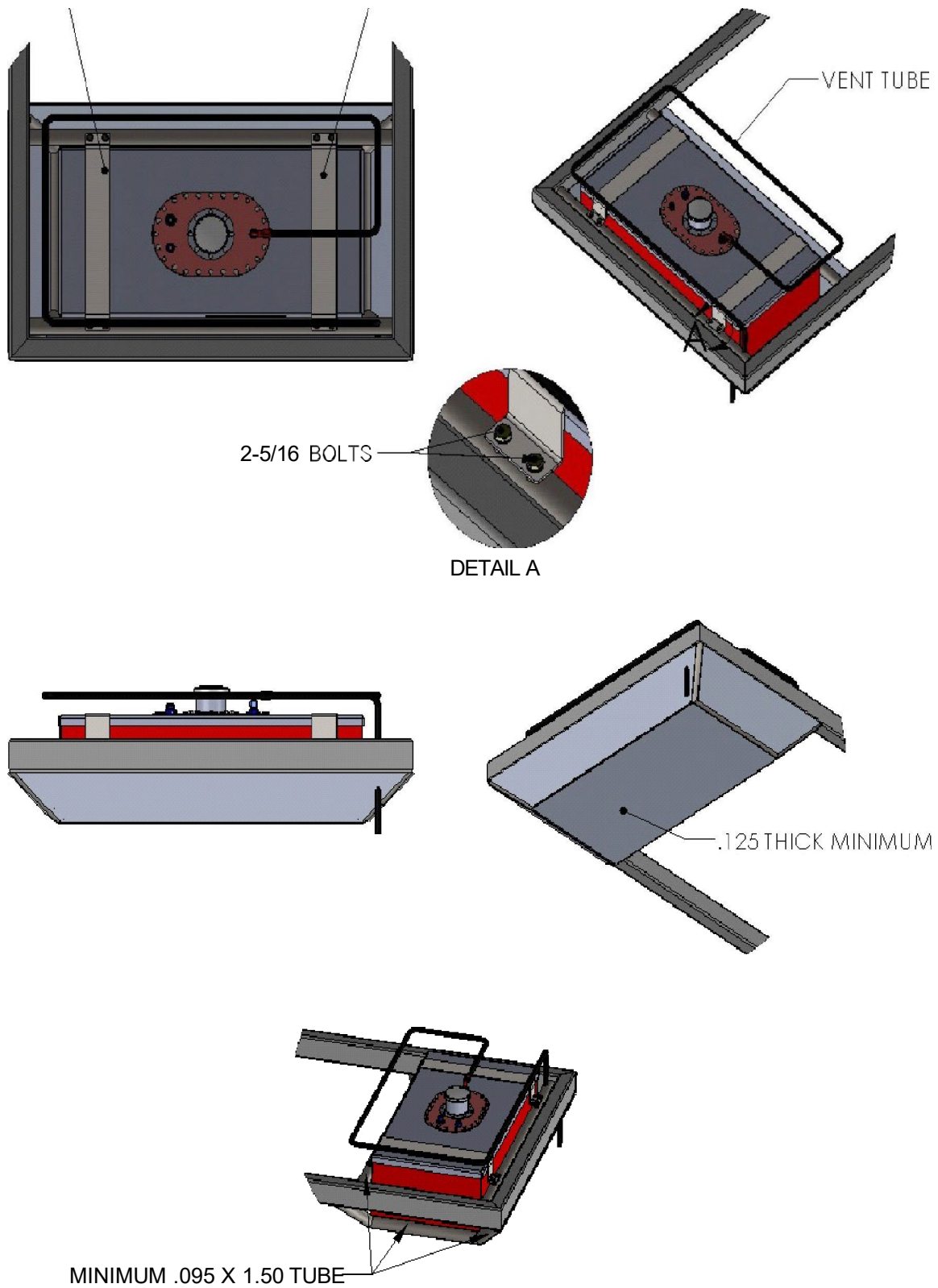
T: 704-799-3800  
F: 704-799-3874  
C: 630-391-3868

### **PTR-26 FUEL CELL**

- All fuel cells must be CHAMP OFF-ROAD approved.
- CHAMP OFF-ROAD will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- 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.
- Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.
- 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 either AC Delco part number 25036938, Niehoff part number OP23481, Wells part number PS119 or PS122, Napa part number OP6624 or OP6616, Standard ignition Blue Streak part number PS126 or Niehoff Borg Warner part number OP23311. The sending unit receives power from the ground.
- Digital dash or electrical device such as Performance Engineering's Fuel Pump Safety Switch 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.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- 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.
- Fuel cells must be dated by manufacturer. Fuel cells will become obsolete five (5) years after date of manufacture and must be replaced.
- All fuel cell fillers and vents must have check valves installed.
- Fuel pressure regulator vent line must do one of the following:
  - Connect to intake manifold vacuum.
  - Connect to air cleaner so that any fuel enters engine.
  - Connect to fuel cell.

- Have vent hose routed past the rear axle.
- 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.
- Fuel cell cannot be vented into the driver's compartment of any truck.
- The fuel cell must be located behind the cab. The fuel cell must have a ½ inch skid plate minimum covering the complete bottom, sides and rear of the cell. All mountings must be CHAMP OFF-ROAD approved. Fuel cells cannot be mounted to skid plate. Cell must be mounted to chassis. See diagram on FIG 9.
- Fuel cell must have a minimum of two 2 ½ inch steel straps, evenly spaced on top of the cell with a minimum of two 5/16 inch bolts or one 3/8 inch bolt on each end of strap. Fuel cell must also have two 2 ½ inch steel straps or 1 ½ inch tubing underneath cell. Alternative mounting methods may be approved at the discretion of the CHAMP OFF-ROAD Technical Director. See diagram. See FIG - 9
- All fuel cells must be housed in a metal can, .060 thick aluminum minimum. Slip over lid must be .090 thick aluminum minimum with 1.0 inch return.
- Fuel Cell must be behind rear axle

**FIG - 9 ALL FUEL CELL LINES AND VENTS MUST COME OUT OF THE TOP OF THE FUEL CELL.**  
.095 X 2.50 STEEL STRAPS



## PTR-27 FUEL

- All cars shall use fuel, as defined in the following graph, unless a specific exemption is made in the provisions for a specific category/class.
- 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 CHAMP OFF-ROAD Fuel Check Meter. The 0 (zero) calibration of the CHAMP OFF-ROAD Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at CHAMP OFF-ROAD events by the determination of the dielectric constant using the CHAMP OFF-ROAD Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, CHAMP OFF-ROAD shall take appropriate action. Penalties for use of non-compliant fuel can include fine, and/or reduction of points, and/or suspension.

- Cooling: The cooling of fuel is not permitted during competition.

Fuel Samples: CHAMP OFF-ROAD 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 CHAMP OFF-ROAD and/or any outside laboratories at CHAMP OFF-ROAD discretion.

If the services of an outside laboratory were 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.

- 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.

| Fuel Standards                                                                               |                                      |                                                |
|----------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------|
| Classes                                                                                      | Type                                 | DC Max                                         |
| All Classes Except Karts                                                                     | Gasoline without added oil           | 3                                              |
| Karts                                                                                        | VP MS98L                             | 1.5                                            |
| The user of any substance in the following table in excess of the stated limit is prohibited |                                      |                                                |
| either in fuel or otherwise introduced into the engine                                       |                                      |                                                |
| Chemical Compounds Prohibited or Restricted in CHAMP OFF-ROAD Race Fuels                     |                                      |                                                |
| Compounds                                                                                    | Examples                             | Maximum Weight or Percentage by Weight Allowed |
| Total Aldehydes                                                                              | Acetaldehyde, Acrolein, Formaldehyde | 1.00%                                          |

|                          |                                                                                                                                                                                        |       |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Benzene                  |                                                                                                                                                                                        | 5.60% |
| 3,3-dienthyl-1 butene    |                                                                                                                                                                                        | 0.05% |
| Total ethers             | 1,4 Dioxane, ETBE, Furan, MTBE, Tetrahydrofuran                                                                                                                                        | 0.00% |
| Toal Dienes (Diolefins)  | 1,d Butadiene, Isoprene                                                                                                                                                                | 1.00% |
| Ethanol                  |                                                                                                                                                                                        | 0.00% |
| Total Epoxides           | Ethelene oxide, Propylene oxide                                                                                                                                                        | 0.00% |
| Notal Nitrogen Compounds | Nitromethane, Nitroethane. Nitro-propane, and all aromatic nitrogen compounds such as Nitrobenzene, Ammonia, Amines, and their salts, Aniline, Hydrazine, Pyridine, Pyrrole, Benzidine | 0.00% |

- Specified Fuel: CHAMP OFF-ROAD reserves the right to have all cars use the same blend of fuel in a given event or series class. When this right is exercised, it will be stated in the CHAMP OFF-ROAD rule book and/or in other CHAMP OFF-ROAD bulletins. In all such cases, fuel used for practice, qualifying and the race itself must be the specified fuel blend as produced by the manufacturer of the fuel. At an event where a specified fuel has been named, CHAMP OFF-ROAD will use a sample of the actual fuel provided at the event by the specified fuel supplier to determine whether the fuel used by a competitor conforms to the specifications of the specified fuel blend. The addition of chemicals additives or fuels to the specified fuel is strictly forbidden.
- If CHAMP OFF-ROAD officials suspects maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.
- Pro Lite trucks are restricted to Non-Oxygenated gasoline. Gasoline cannot be blended, mixed, or modified in any way.

#### **PTR-28 OIL COOLERS**

- All oil coolers and their installation must be approved by CHAMP OFF-ROAD.
- Engine and transmission oil to air or oil to water heat exchangers are permitted.
- Cooling fans are permitted. No coolers are allowed in the driver compartment.

#### **PTR-30 TRANSMISSION**

- Transmissions must be standard production, catalogued, and available through regular dealer channels.
- All forward and reverse gears must be in working order.
- Components must be installed in stock order: engine to transmission to differential via a drive shaft. Engine must be located in front of truck.

- All transmissions must be approved by CHAMP OFF-ROAD officials.
- Motor crankshaft must be connected to transmission input shaft via a conventional vane type torque converter.
- Automatic transmissions must operate through a conventional torque converter.
- Manual shifting of all transmissions is mandatory, unless other method is needed to accommodate handicap condition of driver. CHAMP OFF-ROAD officials must approve all non-manual shifting procedures.
- Use of any Turbo 400 based automatic transmission must use SFI 4.1 approved case and SFI 30.1 approved bell housing. Will allow stock case with shatter-shield but must be pre-approved from CHAMP OFF-ROAD tech official prior to entering racetrack.
- No paddle shifters, solenoids, wires to transmission, bell housing, shifter, or linkage. No interfaces between ECU and transmission will be allowed.
- Temperature gauge will be mechanical on transmission.
- No electrical gauges allowed on transmission.
- Under drive is permitted and is not considered part of the transmission. Must only use single speed non-shiftable.
- Pro 2 must use a production based automatic transmission with three (3) forward gears. Transmission must have been production-built unit with a minimum production of 5000 units. Transmission must be planetary gear type. No manual transmissions allowed of any kind.

#### **PTR-31 DRIVE PARTS**

- Engine to transmission adapter plate can be a maximum of 1 ½ inch thick.
- A combination of multiple adapter plates can be used if it does not exceed 1 ½ inch thickness.

#### **PTR-32 PROTECTIVE SHIELDS**

- Location of all shields must be approved by CHAMP OFF-ROAD.
- Transmission must be covered completely by a protective shield placed to protect the driver from exploding parts from beginning of transmission case/bell housing to 4 inches before a bolt on tail housing. All shields must be approved by CHAMP OFF-ROAD.
- Shields must be constructed of a metal covering with a thickness of ¼ inch aluminum or 1/8 inch steel or be SFI approved.
- If you have an SFI 4.1 approved transmission case and SFI 30.1 approved bell housing no shield will be required.

#### **PTR-33 DIP STICKS**

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

#### **PTR-34 DRIVE SHAFT**

- One 360-degree solid steel bracket, no less than 2 inches wide and ¼inch thick or 1 inch tubing with a minimum thickness of .095 inches must be placed around each drive shaft. Must be located within 4 to 6 inches aft of the centerline of front u-joint.
- Drive shaft must be painted white and have vehicle number on it.

#### **PTR-35 REAR AXLE/DIFFERENTIAL**

- Quick change rear ends are not allowed.
- Only steel axles are permitted.
- Independent rear suspension is not allowed.
- Must be in stock location as approved by CHAMP OFF-ROAD officials.
- Rear differential must be spool type only and approved by CHAMP OFF-ROAD officials.
- Rear differential must have a minimum of 1 ½ inch inspection bung or plate placed in such a manner that CHAMP OFF-ROAD officials can see and identify the spool. If inspection area does not exist, crew chief will remove differential for CHAMP OFF-ROAD technical inspection.
- No electric connections to differential allowed.

#### **PTR-36 TIRES**

- Tires must be DOT only: Refer to General Rule for Specifics

#### **PTR-37 WHEELS**

- All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- Lug nut must be open ended, and of proper size.
- Studs must extend a minimum of 2 full threads past the end of the lugnut.
- Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
- All bead locks must have recessed bolts only that do not protrude past the face of the ring.
- Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not be permitted.
- No race wheel may exceed a 9" width.
- Minimum backspacing for all wheels will be 3.75".

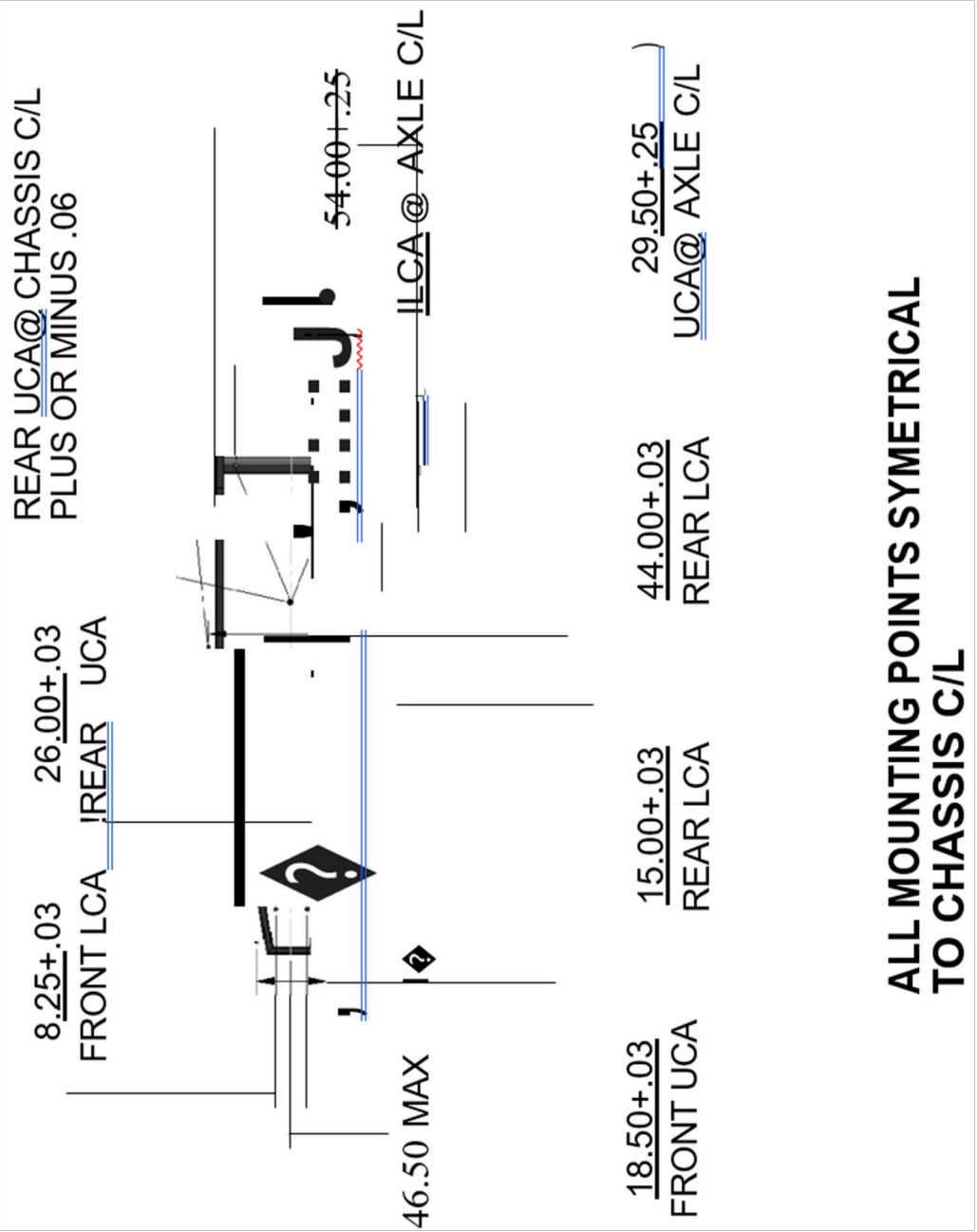
#### **PTR-38 RADIOS**

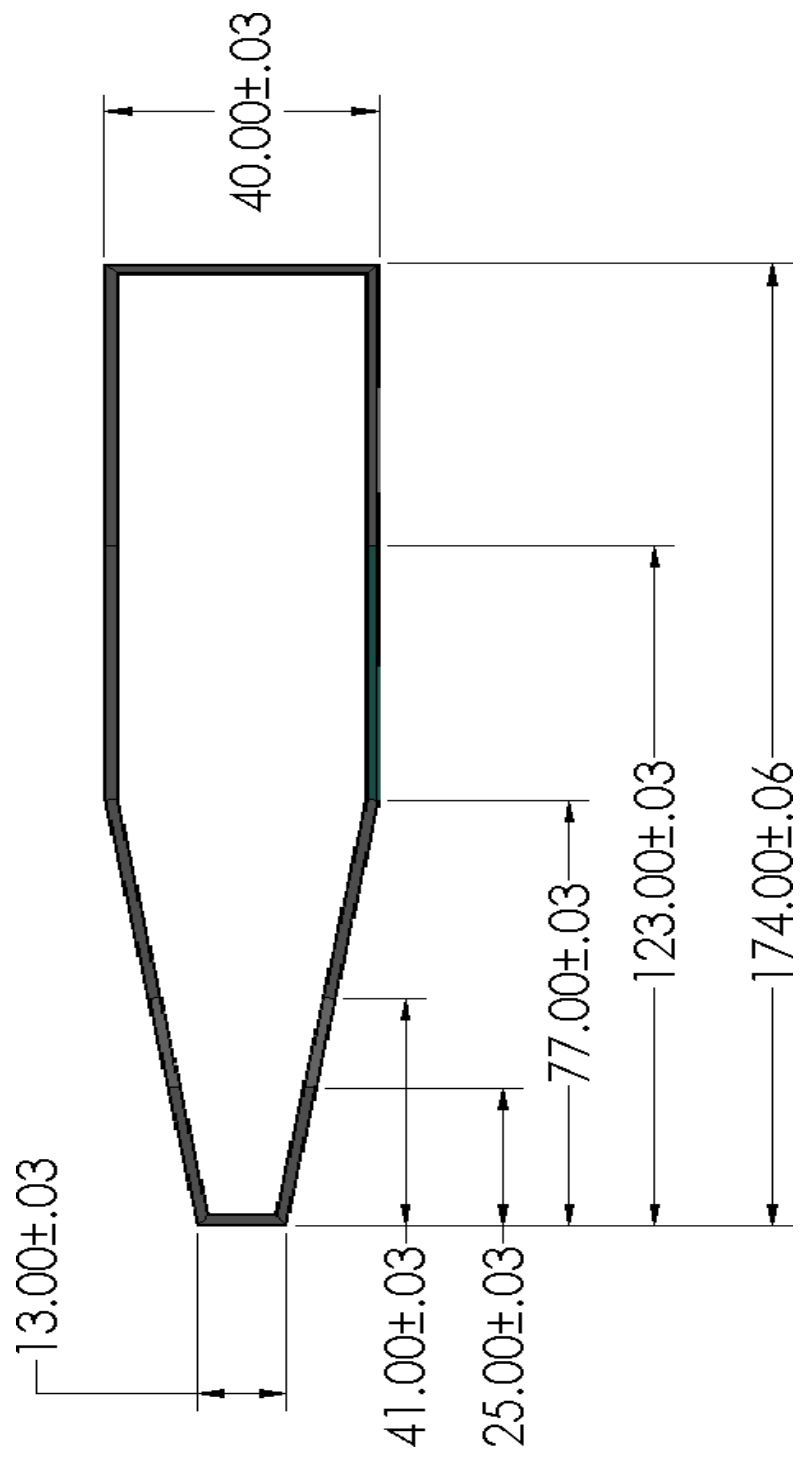
- Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- Radio communication between drivers is not permitted.

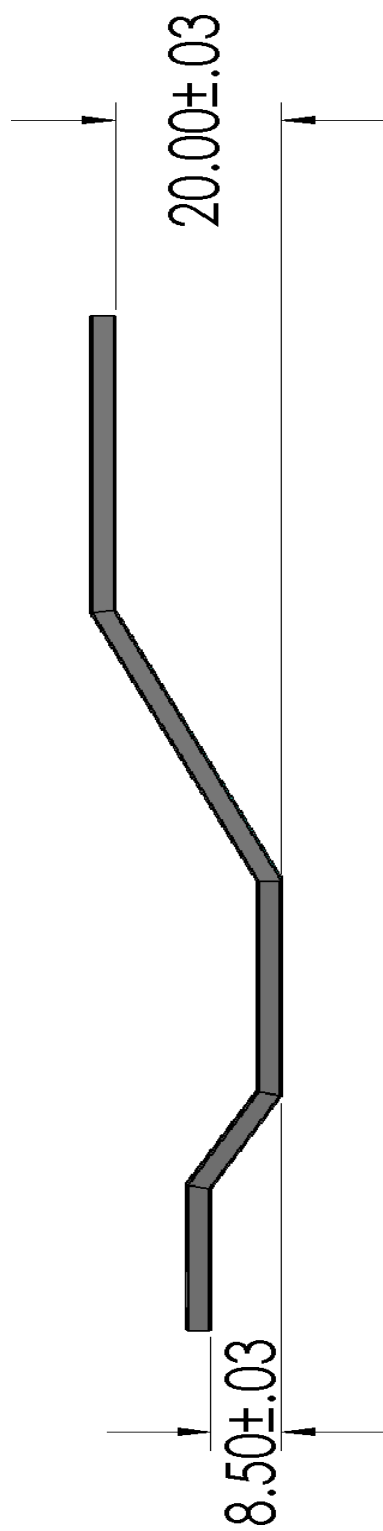
- All radio frequencies must be approved and reported to CHAMP OFF-ROAD prior to their use.
- All race vehicle radio communication systems must be approved by CHAMP OFF-ROAD.
- See Section 5 of CHAMP OFF-ROAD General Rules for spotter requirements.
- Spotters are required for all race teams.
- Any 2-way radios used at a CHAMP OFF-ROAD event may not exceed 6 watts output.
- Each competitor race vehicle must use at all times while on the track an override race receiver to listen to race control that overrides any communication from the spotter when race control is transmitting to the vehicles. The receiver device must be approved by CHAMP OFF-ROAD and meet CHAMP OFF-ROAD standards at all times. Competitors will not be allowed on the track at any time without the race receiver installed and functional.

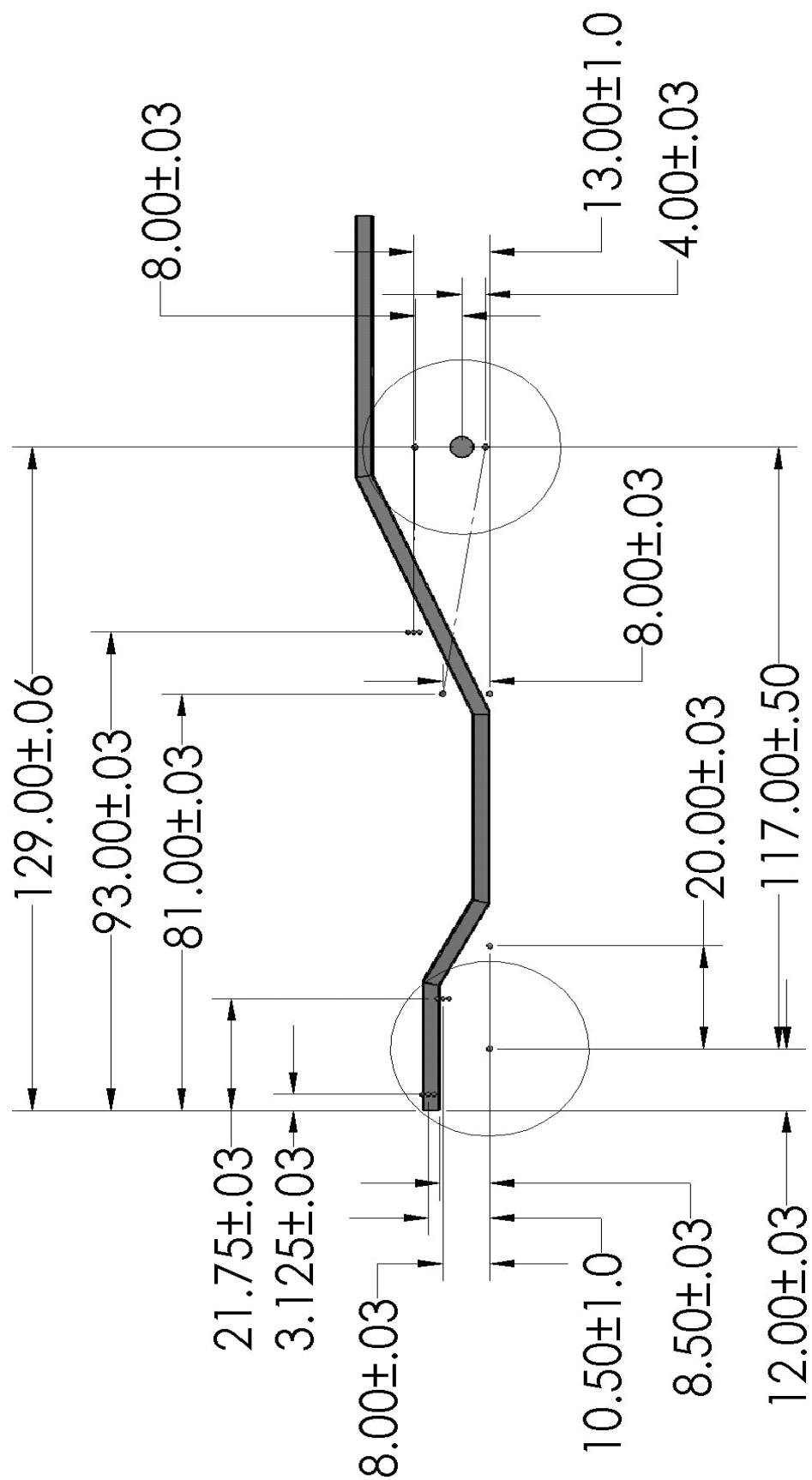
#### **PTR-39 TRANSPONDERS/TIMING**

- Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by CHAMP OFF-ROAD.
- All teams are required to purchase remote timing transponders. Transponders can only be purchased through CHAMP OFF-ROAD, and numbers must be recorded with CHAMP OFF-ROAD officials.
- 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.
- Transponders must be placed from front face of the front bumper to transponder center line 115 inches back on the driver's side of the truck.









## **CHAMP OFF-ROAD PRO4 TRUCK RULES ADDENDUM TO THE GENERAL**

### **RULES**

#### **PREFACE**

"The rules and/or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all CHAMP OFF-ROAD ("CHAMP OFF-ROAD") events, and, by participation in these events, all CHAMP OFF-ROAD members are deemed to have acknowledged, accepted, and complied with these rules. No express or implied warranty of safety shall result from publications of, or compliance with these rules and/or regulations. The rules are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to participants, spectators, or others."

**CHAMP OFF-ROAD rules are the sole property of CHAMP OFF-ROAD. Use of these rules by any other organization or individual is forbidden unless prior written consent is given by the CHAMP OFF-ROAD.**

**CHAMP OFF-ROAD, its parent, affiliates, members, officers, directors, or staff, assumes no responsibility, legal or otherwise, for failure or malfunction of any products of manufacturers listed in this rulebook. CHAMP OFF-ROAD is NOT liable for actions or decisions made by individuals, promoters, or organizations, etc. using CHAMP OFF-ROAD rules.**

Specifications and/or suggested standards contained in this rule book are intended for use as a guide with respect to safety and for no other purpose either expressed or implied. The use of the specifications and/or suggested standards contained herein by any association, organization, manufacturer, or individual is entirely voluntary and **CHAMP OFF-ROAD** will NOT accept any responsibility for consequences resulting from the application of said specifications and/or suggested standards.

## CHAMP OFF-ROAD PRO4 TRUCK RULES ADDENDUM TO THE GENERAL

### RULES

*The following rules apply to trucks in the Pro 4 division.*

**PRO4:** Truck built or manufactured as a full size 4-wheel drive type utility vehicle, capable of being driven through front wheels.

- All pro trucks must be a standard manufacturer production model available to the general public in the USA. Vehicle style must have a manufacturer production of at least 5,000.
- All makes and models must be approved by CHAMP OFF-ROAD.

### PTR-1 MARKING AND IDENTIFICATION

- All vehicle numbering is subject to approval and is assigned by CHAMP OFF-ROAD.
- Single digit numbers can only be used in truck classes. Division ID must be indicated in lower right-hand corner of number area and upper left-hand corner of windshield opening using 1 1/2-inch minimum numbers and letters.
- CHAMP OFF-ROAD officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- 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.
- Advertising on race vehicles must be in good taste.
- Foil or reflective numbers are not permitted.
- All CHAMP OFF-ROAD vehicles are required to have CHAMP OFF-ROAD stickers on each side of the front of the door area, 4 inches down from the window opening.
- CHAMP OFF-ROAD may require the use of specific sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.

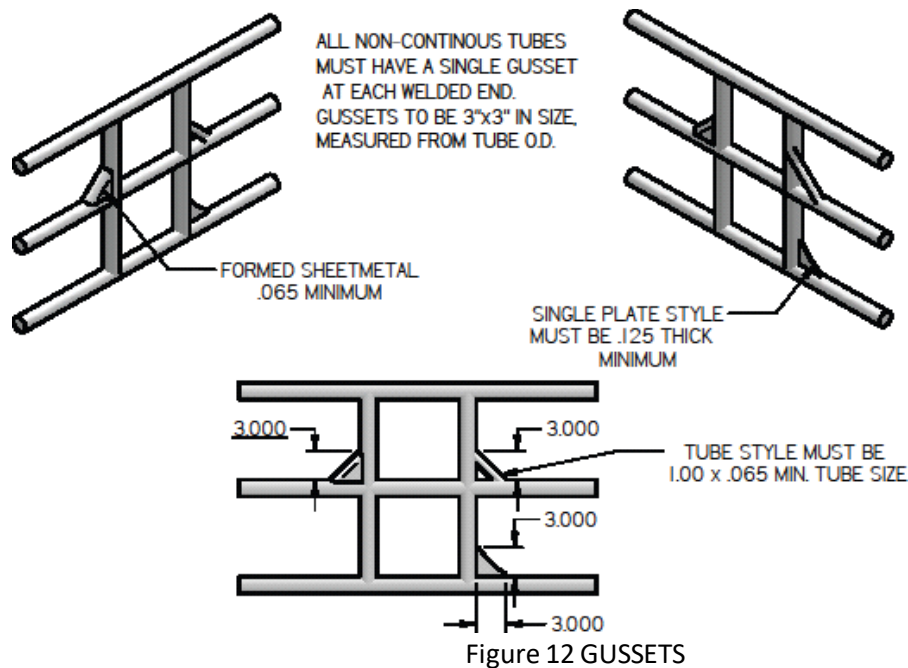
### PTR-2 NUMBERS

- Numbers are 1-99 for each truck class.
- All numbers must be block style only.
- Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- Fonts must be chosen from one the below approved styles only:
  - Impact
  - Helvetica Black
  - Mechanical Bold
- Numbers will be located in the following positions:

- (1) number plate on each side, front edge of number plate to be 6 inches from back of cab. Bottom edge to be 4 inches above top of bed side. Number plate must be below roof line. (must also include division identification in this area)
- Roof of vehicle, as viewed from passenger side
- (1) number plate on the back of vehicle facing rear
- Driver's side upper left-hand corner of windshield area (must also include division identification in this area)
- The side number plate must be black with a minimum size of 17 by 20 inches.  
Numbers must be solid white with a minimum height of 15 inches.
- Roof numbers must be a minimum height of 24 inches.
- Rear facing numbers must be on a white number plate measuring 10 inches by 12 inches.  
Numbers must be solid black with a minimum height of 8 inches.
- The windshield number and division must be solid black on a white surface with a minimum height of 4 inches.

### **PTR-3 CHASSIS/ROLL CAGE**

- All trucks must be left side steer only. Steering wheel, seat, and pedals must be in approximate stock location.
- All tubing, welds, gussets, and roll cage construction must be approved by CHAMP OFF-ROAD.
- Material for roll cage construction must be 4130 chromoly or ASTM 1018/1026 CDS/DOM round tubing (see SR-9).
- Minimum tubing diameter and thickness for vehicles weighing:
  - -Up to 3000 pounds – 1 ½ inch diameter by .120
  - -3001 to 5000 pounds – **1 ¾ inch** diameter by .120
  - -Over 5000 pounds – 2-inch diameter by .120
- All tubes must be welded 360-degrees around the circumference of the tube.
- Gussets are required on all intersections in driving compartments within 3 inches of intersection.  
See diagram on FIG 12.
- All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- Tube gussets and wrap gussets must be a minimum of 1.0 diameter x .065 thick.



- All trucks must have 3 horizontal door bars per side. Effective immediately all newly built trucks must incorporate the driver's side extended impact zone bars. See diagram. The drivers seating location and head area in relation to the left side window opening and roof area tubing locations and construction will be under review on all trucks to maximize the driver's safety and head protection. See diagram on FIG 13.
- 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.



Figure 13 DOOR BARS

- There must be a minimum of 2 inches of clearance between the driver's helmet and the cage.
- Diagonals or similar bracing is mandatory for all truck roof openings as well as front and rear roll barhoops.
- Driver's side door bars must be covered with a minimum of .125-inch steel plate bolted on, using a minimum of 3/8" bolts on 6" centers.
- Door plating must completely cover from bottom of main rail to top of door bar and extend a minimum of 4 inches in front of pedals to a minimum of 4 inches behind the seat.
- Under driver Floor Plate: .125" thick steel or .250" 6061-T6 aluminum plate bolted every six (6) inches with 3/8 bolts. Plate must cover entire floor opening from front fire wall to back firewall side tube to side tube of driver's compartment. Plate must extend to centerline of all floor tubes. Mounting tabs must be made of .090 thick steel.
- Seat back plate: .125" thick steel or .250" 6061-T6 aluminum plate 12 inches wide must be centered on seat back. Plate must start at centerline of shoulder harness tube and extend to drivers compartment floor. Plate must be located inside the vehicle, between the seat and the rear firewall. Plate maybe me welded in (stitch welded one inch every six inches) or bolted in place. Vehicles using metal tube frame seats may attach plate to seat. Plate must be spaced away from seat 1.5 inches if attached to seat.

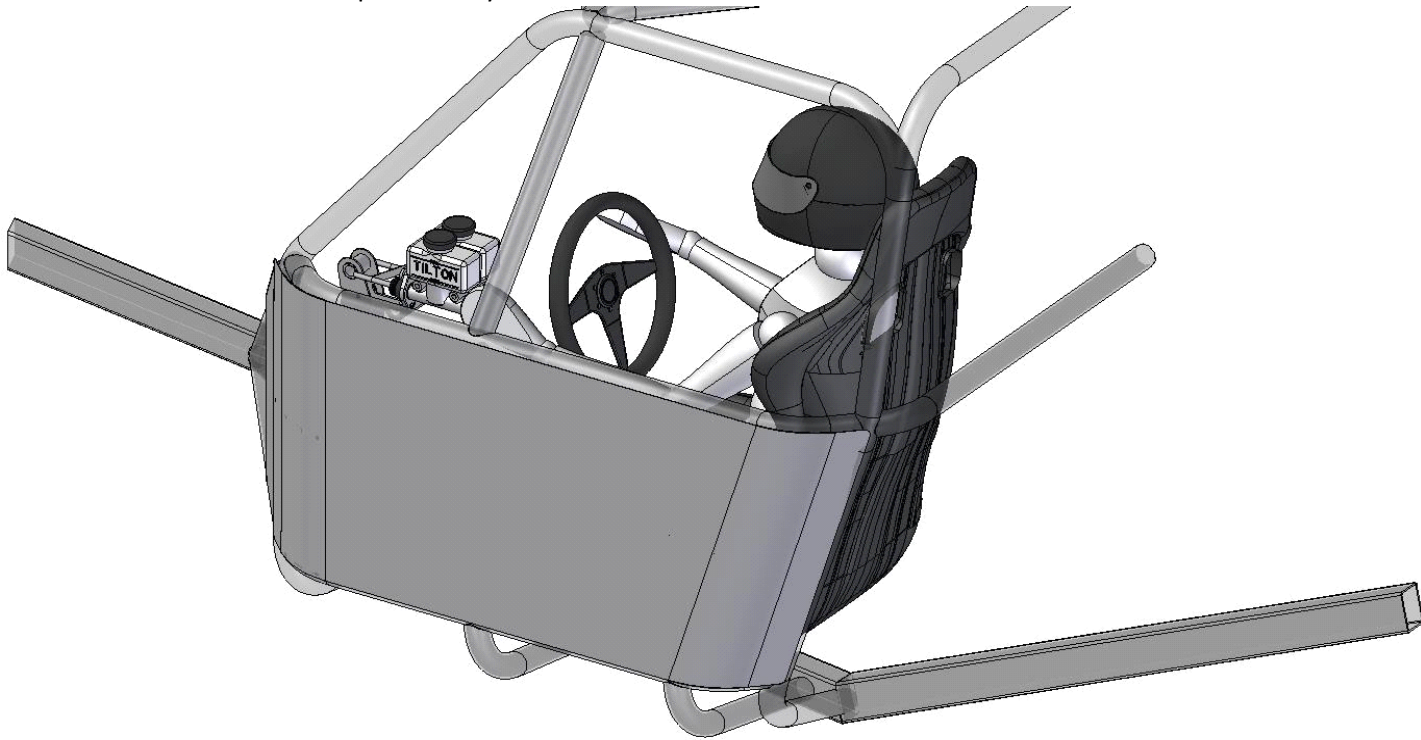
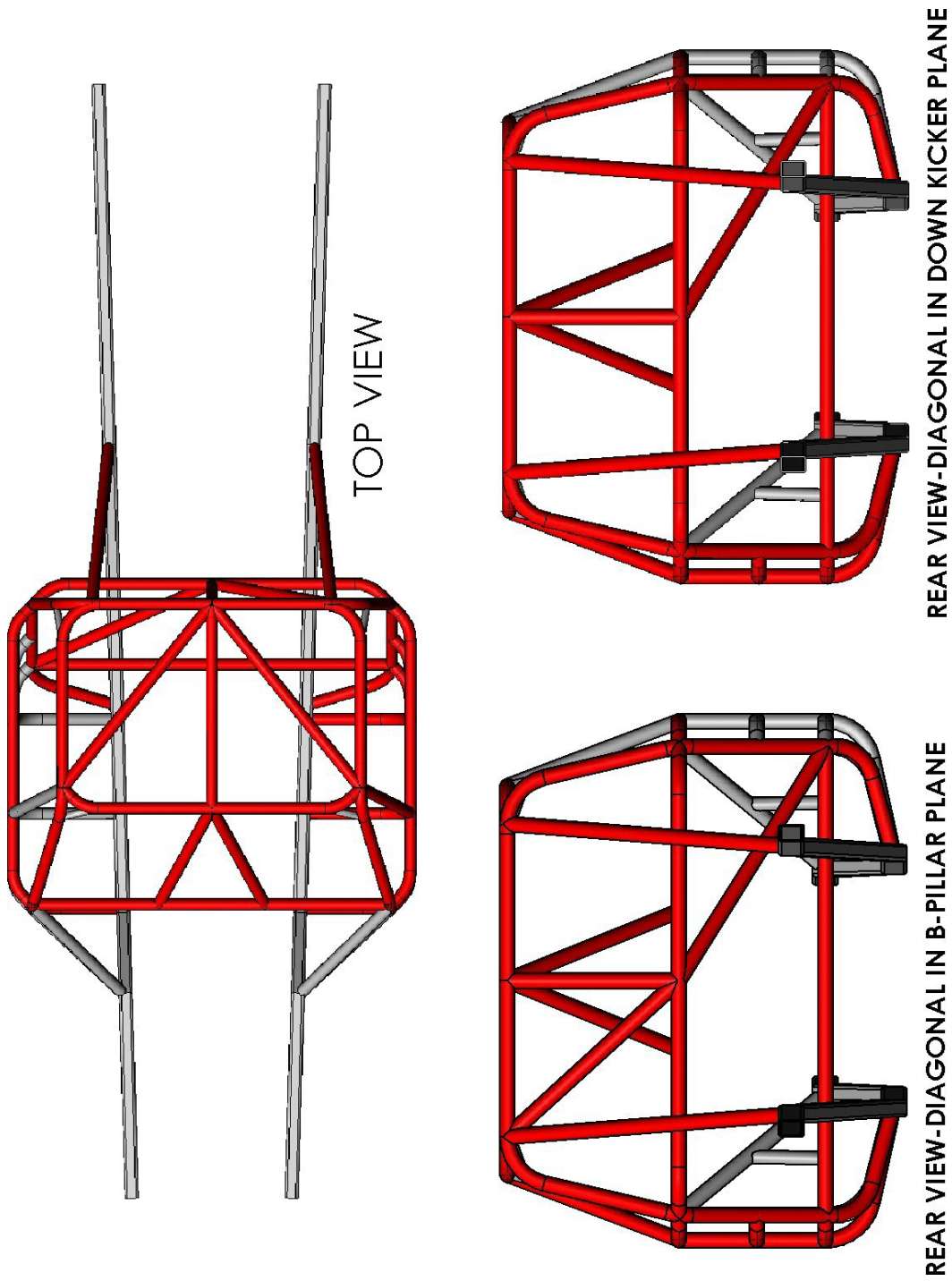


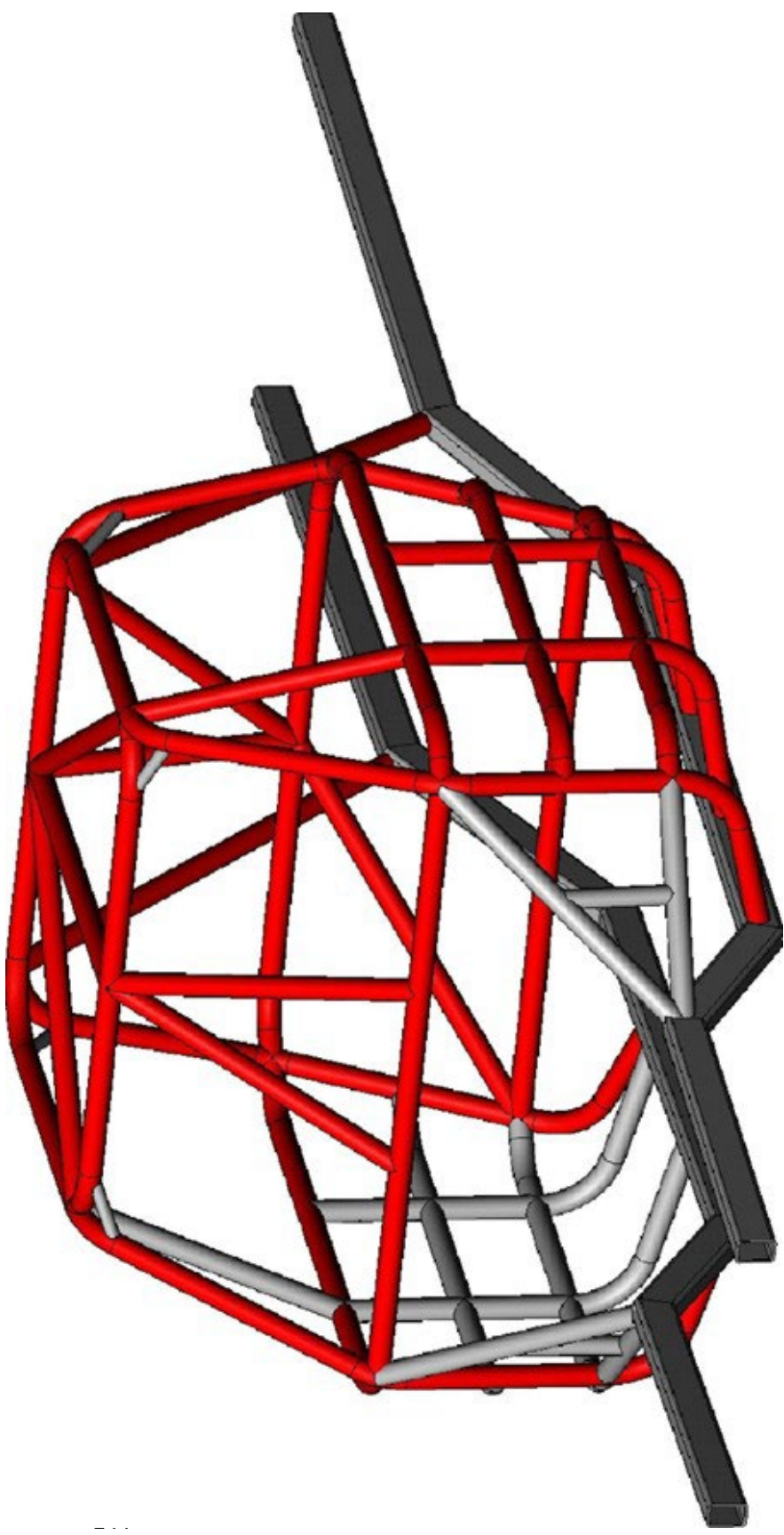
Figure 14 DRIVER DOOR BAR COVERING

- Top roll cage minimum width shall be 43 inches from outside of bar to outside of bar.
- Elbow bar shall be a 60-inch minimum from outside of bar to outside of bar.

- All trucks must have a 3X4 inch opening at bottom of door, on both sides of vehicle. Must be horizontal and facilitate tow hook for safety crew.







ROLL CAGE CONSTRUCTION:  
ALL TUBES IN RED MUST BE LEGAL SIZE AS DEFINED MY VEHICLE WEIGHT

#### **PTR-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 engine components.

#### **PTR-5 MEASUREMENTS**

- Trucks may be measured as they enter and or leave the racetrack and must comply with measurements at all times. Common sense will be used for any trucks coming off the track with heavy obvious damage at the discretion of the Technical Director.
- All measurements will be performed with CHAMP OFF-ROAD technical instruments or gauges.
- Wheelbase will be measured on one side from center of the front wheel to the center of the rear wheel on the same side. Maximum allowable tolerance cannot exceed ½ inch plus or minus on the other side.
- Front wheel travel is measured on a vertical plane from the center point on the end of the spindle. Rear wheel travel is measured on a vertical plane from the center of the rear axle.
- All wheel travel measurements will be from stop to stop with spring removed.
- Track width measurement will be taken at the widest outer surface of the tire. Gauge must pass freely all the way to the ground.
- CHAMP OFF-ROAD officials determine all measurements and center points.
- Maximum track width is 93 inches as measured outside of tire to outside of tire at ride height.
- Minimum wheelbase is 113 inches and maximum wheelbase is 122 inches.

#### **PTR-6 RIDE HEIGHT**

- Truck must race at a minimum 10-inch ride height. This will be measured at the lowest point from front suspension mounting point to rear suspension mounting point. This includes belly pan bolt heads and any other items that may be under the chassis or belly pan.
- Trucks may be measured for proper ride height before and after competition.

#### **PTR-7 BODY**

- All trucks must have complete bodies, cabs, hoods, doors, fenders, grills, and roofs in top quality condition, in standard location. All body lines must meet CHAMP OFF-ROAD approval.
- Complete bodies must be attached at the start of competition, practice, or any on track activities. Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed. A rounded loop body mounting bracket construction is mandatory.
- All body and fender shapes and configurations must be approved by CHAMP OFF-ROAD.
- All body components must be installed in their standard location, plus or minus 1 inch, as referenced by a production model truck.

- Additions to the body or the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.
- The addition of front air dams under grill is restricted to no taller than 9" from the bottom of the grill. Air dam must also be a minimum of 12" from the ground at ride height.
- The interior of the race vehicle must be completely enclosed by metal with a minimum thickness of .040 from front to rear. This includes both front and rear firewalls.
- Vehicles must be equipped with a complete set of CHAMP OFF-ROAD approved bumpers.
- Roof line, rocker panels, and top of bed side must be parallel to horizontal frame members.
- Body hangers MUST be constructed from aluminum flat materials with a minimum thickness of .090". Sheet metal hangers must extend from frame to bed side. All hangers must have a minimum of 4 bolts attaching the aluminum hanger to the main chassis. Bolts must be evenly spaced. The inner attachment points of the body hanger must have a minimum span of 12 inches. Bolts must be a minimum of ¼" diameter. All parts must not have any sharp corners or dangerous edges. All hangers must be rounded. Minimum one inch radius on all corners. All parts must be approved by the Tech Director.
- Bed sides must be full length including the taillight wraparound.
- Bed sides must have a minimum of four ¼inch minimum bolts or Dzus buttons evenly spaced at front of bedside and four ¼ inch minimum bolts or Dzus buttons evenly spaced at rear of bedside. Bolts or Dzus buttons must have 2 inch washers and be aligned in a vertical fashion. Forward bed side hangers must be independent of cab. See diagram on FIG 10.

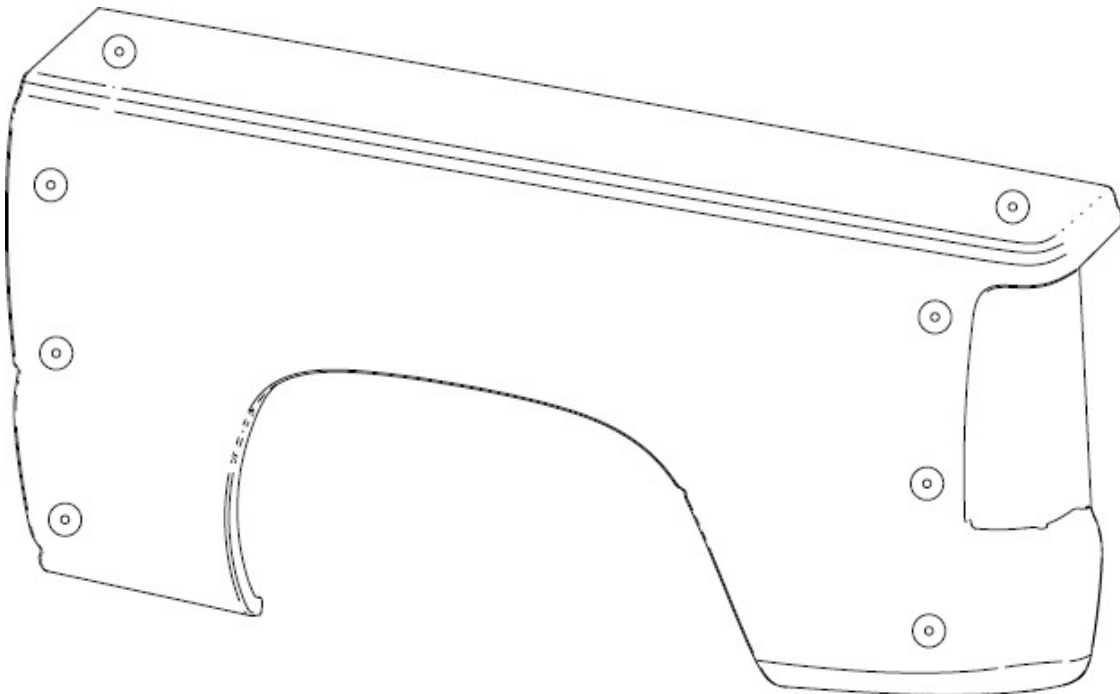
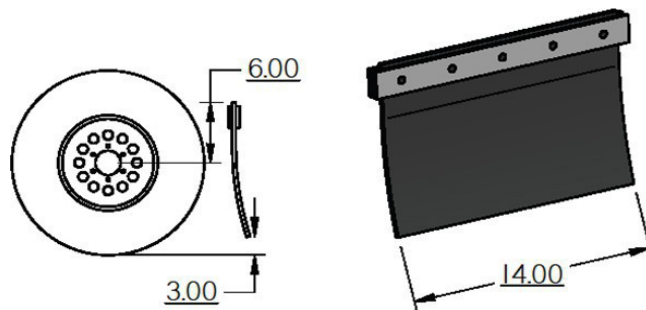


Figure 10 TRUCK BEDSIDE PANEL

- Door panels must retain all factory-molded contours and accent lines and be fastened with Dzus buttons or hex head bolts only. Cab and bed side mounting must be independent of each other.
- Driver's compartment roof must be a minimum of 1/8 inch for all classes. Floor must extend from 4 inches in front of pedals to 4 inches behind seat.
- Mud flaps are required and must extend from 6 inches above center line of rear axle to 3 inches from ground at ride height. See diagram on FIG 11.
  - Flaps must be 14 inches wide and made from hard plastic polymer or equivalent with a minimum thickness of ¼ inch.
  - No mounting with zip ties or chains.
  - Must be captured between two ½ inch by 1-inch metal plates and mounted to resist folding back.
  - Each flap must be installed with a minimum of five ¼ inch bolts.
  - Must be centered on tire.
- Roof must be properly attached to the roll cage of the truck and be fastened with Dzus buttons or 5/16-inch hex head bolts only. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.
- Aluminum or steel sheeting (minimum thickness of ¼ inch aluminum or 1/8-inch steel) must completely cover the top left of the roll cage above driver's head from the front to the rear of the roll bar tube. Right hand side must be sheeted with minimum .060 thick aluminum securely fastened (i.e. bolts or Dzus fasteners)
  - Sheeting must be firmly attached to the cage and extend ½ inch past the center line of tubes in all four directions.
  - Sheeting must be installed with a minimum of 6 evenly spaced 5/16-inch bolts, not protruding toward the driver. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle when bodywork is removed. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts. No use of Riv-nuts or press in Captive nuts permitted unless they are welded in place. Bolts should be lubricated for easy removal. Use of Lock-tite should be avoided.
  - Mounting tabs must be at least .095 thick.
- The hood must be locked down with 4 hood pins or 4 bolts with 2-inch washers evenly spaced across the front of the hood. The rear of the hood should be fastened securely to retain body integrity with bolts, hood pins, etc. Hoods and front fenders cannot have any holes, flaps, and/or any air releases. Must be approved by CHAMP OFF-ROAD official.
- The maximum body width is 80 inches as measured between the A-pillars.
- Fenders may be flared to the outside of the tire.



**Figure 11 MUD FLAPPTR-8 BUMPERS**

- Race vehicles must have front and rear bumpers. CHAMP OFF-ROAD officials must approve all bumpers.
- Front bumper **back side** must be **1.5 (1-1/2)** inch in front of and cannot extend more than 12 inches beyond **body**. Bumper can be no wider than the inner sidewall of the front tire when straight.
- Rear bumper must have a minimum of 6 inches between bumper and fuel cell and may not extend more than 1 inch beyond the outside front to rear tire line.
- Bumpers must be constructed of tubing with a minimum of 1.5-inch diameter by .095.
- Any bumper brackets must be a minimum of .095.
- Rear bumper must be 1 inch behind bed side as measured in a straight line between the rear of stock production length bedsides.
- Nerf bars may not extend more than 2 inches beyond the outside front to rear tire line.
- Nerf bars and bumpers must be rounded.
- All rookie drivers must have the rear bumper painted or taped yellow.
- Minimum front and rear bumper width is 36 inches.

#### **PTR-9 SUSPENSION**

- All four corners must be coil over suspension.
- No suspension or sway bar adjustment of any kind is allowed when vehicle is moving. This includes but is not limited to hydraulic, electric, mechanical, and manual adjustment.
- Front wheel travel limit is 18 inches maximum.

- Rear wheel travel limit is 20 inches maximum.

#### **PTR-10 STEERING COMPONENTS**

- CHAMP OFF-ROAD officials must approve universal joints in steering shaft.
- Hydraulic power steering is permitted.
- Steering wheel quick release metal coupling is mandatory and must be approved by CHAMP OFF-ROAD officials.
- All race vehicles are required to have a steering wheel pad.

#### **PTR-11 SHOCKS**

- CHAMP OFF-ROAD officials must approve all shocks.
- All trucks must have at least one working shock on each wheel and a maximum of 2 shocks per corner.
- Shocks may have external bypass tubes and reservoir cans.
- External bypass is allowed on 1 shock per corner.
- Shocks cannot be adjusted while truck is in motion.
- Heating or cooling liquids or chemicals in shock is not permitted.
- Shocks cannot be linked together in any way. This includes but is not limited to hydraulic, electric, manual, or mechanical links.
- No linkage mounted shocks.
- Determination of air shock usage will be done in the following manner: Truck will be presented to CHAMP OFF-ROAD officials on level ground at existing ride height. Truck height will be measured from a given point on the chassis and all canisters will be purged of air, nitrogen, or other charged support. If truck droops more than 1 ½ inches, the truck will be illegal.
- Bump stops will be allowed on the front and rear.
- 1 spring stack is allowed per corner with a maximum of 3 springs on 1 shock.

#### **PTR-12 BRAKES & BRAKE COOLING**

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

#### **PTR-13 WEIGHT**

- Driver will be included in race vehicle's minimum weight seated in the driving position with drivers back contacting back of seat.
- Vehicles can be courtesy weighed prior to competition.
- CHAMP OFF-ROAD officials must approve all weight material.

- Added weight must be in block form.
- Blocks must weigh no less than 5 pounds each and cannot be made of liquid of any type, pellets, or other granulated weight.
- Added weight must be securely bolted in place on the race vehicle on a primary chassis component / tube(s).
- Dislodged weight cannot be returned to the vehicle for weighing at the end of the race.
- All block ballast must be painted white and identified with vehicle number.
- Weight can be sealed at the discretion of CHAMP OFF-ROAD officials.
- No weight shifting devices of any kind are allowed. This includes but is not limited to hydraulic or electronic devices.
- All vehicles will weigh in before and/or after competition at the discretion of CHAMP OFF-ROAD officials. Failure to do so will result in disqualification.
- All vehicles must meet minimum weight and front percentage both pre and post-race.
- All weight lost on track will result in a \$5.00 per pound fine.
- Trucks must weigh a minimum of 4000 pounds.
- Minimum front axle weight is 48% of total truck weight.
- Truck weight is set according to the following formula:
  - 2 valves per cylinder must weigh 10 pounds per cubic inch.
  - 3 or more valves per cylinder must weigh 11.5 pounds per cubic inch.
  - Trucks with production based automatic transmissions must be 9.625 pounds per cubic inch.

#### **PTR-14 ENGINE BLOCK**

- Cubic inch of race vehicle motor must be declared at time of inspection.
- Engines are subject to inspection by CHAMP OFF-ROAD officials at any time.
- CHAMP OFF-ROAD officials' method of measuring the weight to displacement ratio is the only valid method of cubic inch P & G testing.
- At CHAMP OFF-ROAD officials' discretion, engines will be prepared for mechanical cubic inch certification and measurement.
- Engine block must be of OEM design and made from steel or aluminum.
- Block must be available to the general public.
- No more than 8 cylinders are allowed.
- Engine builder must seal head to block, and present to tech a statement declaring bore and stroke. CHAMP OFF-ROAD Tech Director will provide the format for statement declaration sheets to be used

#### **PTR-15 ENGINE HEADS**

- A. Any engine head may be used

#### **PTR-16 ENGINE OILING SYSTEM**

- A. Any oiling system may be used.

## PTR-17 IGNITION SYSTEMS

- A. All ignition systems must be approved by CHAMP OFF-ROAD.

## PTR-18 ELECTRICAL ACCESSORIES

- At the request of television, certain vehicles may compete with telemetry systems, as so installed by the series production television network requesting such information.
- All carbureted trucks:
  - Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:
    - Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), water pressure, power steering pump pressure, power steering oil temperature
    - Transmission Related items – transmission fluid / oil temp, Transmission main pump PSI. Sensors may not be directly connected to the transmission and must use a minimum of 12-inch soft line type hose to eliminate any direct connection to the transmission of any wiring. Electronic gear indicators for manual transmissions only in Pro 4 may be connected to the digital dash.
    - Shift spark interrupters may be wired to shifter and / or transmission shift drum when using manual transmission
    - Other Drive Train Related Items – Transfer case oil temperature, Transfer case oil pressure, gear oil temperature, brake pressure sensors. Sensors may not be directly connected to the transfer case or gear case and must use a minimum of 12-inch soft line type hose to eliminate any direct connection to the transfer case or gear case of any wiring.
    - No other sensors, measurement, GPS, track mapping, lap timing device or recording device of any kind is permitted at any time during the entire CHAMP OFF-ROAD event weekend.
- All CHAMP OFF-ROAD **PRO 4** MoTec Fuel Injected trucks:

- Vehicle digital dashes, data recording devices and/or any other form of measurement, sensors or recording of any kind or nature is permitted only for the following:
  - Engine Related items - engine RPM, water temperature, engine oil temperature, engine oil pressure, fuel pressure, voltage, lambda O2 (Oxygen Sensors), exhaust gas temperature, intake manifold vacuum/pressure (the same sensor may be used in intake or crank case), water pressure, power steering pump pressure, power steering oil temperature
  - Transmission Related items – transmission fluid / oil temp, Transmission main pump PSI. Sensors, Electronic gear indicators for manual transmissions may connect to main dash.
  - Shift spark interrupters may be wired to shifter and / or transmission shift drum when using manual transmission
  - Other Drive Train Related Items – Transfer case oil temperature, Transfer case oil pressure, gear oil temperature, brake pressure sensors.
  - other sensors are permitted, accelerometers, GPS, lap timing device or recording device of any kind is permitted (except those listed as restricted for traction control below in letter F. Any sensors listed in letter F will not be allowed.).
- Any configuration of data measurement or recording must be completely open and available for CHAMP OFF-ROAD inspection at any time during a CHAMP OFF-ROAD event weekend. All stored Data must be cleared before the start of competition; this will include any practice or qualifying data. If data is stored on a removable chip (i.e. RacePack style) the chip must be installed and sealed by CHAMP OFF-ROAD prior to entering the track. A “lack” of data or no data may result in a penalty including disqualification.
- The following Digital dash units are permitted
  - Motec – any model
  - RacePack – any model
  - AIM – any model
  - Life-any model
  - All other Digital dashes subject to CHAMP OFF-ROAD approval.
- No traction control devices allowed.
- No wireless devices in or on the vehicle are permitted.
- No data transfer is allowed to or from vehicle when in motion.
- CHAMP OFF-ROAD OEM Platform Engine specific
  - Only CHAMP OFF-ROAD mandated sensors may be used as issued.
  - No modifications to any wire loom or sensors is permitted for any reason.

#### **PTR-19 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS**

- All ignition systems must be approved by CHAMP OFF-ROAD.
- No computerized systems are permitted unless CHAMP OFF-ROAD approved.
- Any make or brand of spark plug may be used.

- All vehicles must have a working alternator/generator system.
- All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- All electrical switches must be located on the dash panel.
- 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.
- Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of, and must be accessible from the outside of the race vehicle. Switch centerline must be 8 inches inside frame, 10 inches forward of frame rear. Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide.
- No electrical connections to front and rear differential allowed.

#### **PTR-20 ENGINE COOLING SYSTEMS**

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

#### **PTR-21 ENGINE EXHAUST SYSTEMS**

- Exhaust mufflers are required on all exhaust systems.
- Muffler may be required to meet a maximum decibel at some tracks.
  - A penalty of 1 percent per DB over the maximum allowed level front weight bias will be added for first offense.
    - Consecutive events of non-compliance will result in weight penalty doubling with each event.
    - Any competitor that remains out of compliance after 4 consecutive events will not be permitted to compete or may be disqualified
    - DB readings may not grow more than 2 DB from the first readings of any event leading into the last race of the weekend
- Exhaust pipes must be attached to headers or manifolds in a secure manner.
- Exhaust pipes must extend past driver compartment to the outer edge of the truck and to the rear of the driver.
- All exhaust must discharge downward or outward to either side of vehicle.
- Exhaust heat shields are permitted.
- Exhaust pipes that enter the cab of the truck must have a protective heat shield.

#### **PTR-22 CARBURETOR**

- No turbo, nitrous, or superchargers permitted.

- All carbureted vehicles must use a CHAMP OFF-ROAD approved float bowl vent catch tank system, roll over vent valve, or tube vent line exiting at rear of vehicle behind rear axle to limit fuel leakage or escape when the vehicle is upside down.
- 1 four-barrel carburetor permitted.
- Or CHAMP OFF-ROAD regulated Fuel Injection system may be used as listed in PTR-25

#### **PTR-23 CARBURETOR RESTRICTOR PLATES**

- No devices between the carburetor and the intake manifold designed to increase or redirect airflow will be allowed.
- Trucks must use open plenum or straight bore design spacer with standard design gaskets only.
- Restrictor plates may be added to a carburetor or throttle body at any time CHAMP OFF-ROAD deems it necessary.

#### **PTR-24 AIR AND INTAKE CLEANERS**

- 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.

#### **PTR-25 FUEL INJECTION**

##### **ECU**

- Must use MoTeC/ CHAMP OFF-ROAD M130 ECU only. ECU must be registered with CHAMP OFF-ROAD Technical department before installed into vehicle. CHAMP OFF-ROAD may change the ECU programming at any time.
- An RJ45/8P8C Ethernet port must be located within easy reach of outside of vehicle to allow connection for technical inspection of ECU.
- Must use a CHAMP OFF-ROAD/MoTeC wiring loom. Loom may not be tampered with or repaired without permission of a CHAMP OFF-ROAD tech official. If any equivalent sensor is used and requires a pig tail adapter it must be inspected and approved by CHAMP OFF-ROAD Tech Director prior to use.
- Only the following sensors or their equivalent will be allowed to connect to ECU:

##### **Engine Management:**

| <b>Sensor Type</b>          | <b>Manufacturer</b> | <b>Part Number</b> |
|-----------------------------|---------------------|--------------------|
| Lambda                      | MoTeC               | M 0258 001         |
| Position – Crankshaft (Mag) | MoTeC               | M 6-APX-003 DTM    |

|                                   |       |                                                |
|-----------------------------------|-------|------------------------------------------------|
| Position – Camshaft (Hall Effect) | MoTeC | M MHALL 437-DTM –<br>OR - M DHALL 437 -<br>DTM |
| Position – Throttle               | MoTeC | M 518-2846-100K                                |
| Pressure – Barometric             | MoTeC | M 16-6835                                      |
| Pressure – Engine Coolant         | MoTeC | M APT-G2-DTM-150G                              |
| Pressure – Engine Oil             | MoTeC | M APT-G2-DTM-150G                              |
| Pressure – Fuel                   | MoTeC | M APT-G2-DTM-150G                              |
| Pressure – Manifold               | MoTeC | M 16-9886                                      |
| Temperature – Engine              | MoTeC | M 25-2197D                                     |
| Temperature – Engine Oil          | MoTeC | M 25-2197D                                     |
| Temperature – Fuel                | MoTeC | M 25-2197D                                     |
| Temperature – Inlet Air           | MoTeC | 0 280 039 – OR – M 25-7225                     |

#### **ECU Outputs:**

Lambda Sensor 1

Heater Lambda

Sensor 2 Heater

Engine radiator fan-1

Engine radiator fan-2

Engine oil cooler fan-

1

Fuel Pump (A-B switch on

dash) Tach output

**\*\*\* CHAMP OFF-ROAD at any time may add or remove sensors and/or outputs.**

#### **INJECTORS**

- Injectors are restricted to M ID 1050.
- Only one (1) injector per cylinder is allowed. Injectors must be located in the intake manifold.
- Injectors must be perpendicular to throttle body mounting face (plus or minus five (5) degrees. Injectors are restricted to M ID 1050.

- Injectors must be located on top of the manifold within five (5) inches from edge of manifold that mounts to the head.
- Injectors must be mounted in a straight line, parallel to intake port centerlines.

### **FUEL RAILS**

- Fuel rails must be constructed of stainless steel or aluminum.
- The fuel rail layout may be a one-piece, continuous U-shaped fuel rail or two individual fuel rails. Fuel rail bore must be cylindrical or "D" in shape and internal diameter and shape must be maintained for its entire length.
  - Each fuel rail must be securely mounted to the intake manifold using a minimum of one positive fastener per end.
- Only "fuel in" and "fuel out" lines, injectors, fuel temperature sensor, and fuel pressure sensor may be attached to fuel rail. No pressure damping device of any type allowed.

### **INTAKE MANIFOLD**

- Must use production cast aluminum intake manifold and be approved by CHAMP OFF-ROAD prior to installation. If a production cast aluminum manifold is not available for a engine application, a billet manifold may be used with prior permission from the Technical Director.
- No sheet metal, fabricated, plastic intake manifolds are allowed.

### **THROTTLE BODY**

- Throttle bodies are limited to the following;
  - Braswell 1590, with a maximum venturi bore of 1.595 inches.

### **THROTTLE BODY MUST REMAIN AS DELIVERED BY THE MANUFACTURER.**

- Throttle body must have four (4) venturi's. The throttle body venturi is defined as the constricted throat in the main body air passage.
  - The throttle body venturi's constricted throat must have a maximum diameter of 1.595 (+0.000) inches.
  - A riser no taller than two (2) inches may be used between throttle body and intake manifold.
  - Restrictor plates may be added to a carburetor or throttle body at any time CHAMP OFF-ROAD deems it necessary.

### **Throttle Body Plates (Butterfly Plate assembly)**

- Must have four (4) round butterflies.
- Maximum butterfly bore diameter 1.790 (plus .000) inches.
- Butterfly linkage may be progressive or 1:1.

### **Ignition Coils**

Must use one (1) coil per cylinder. Coils must be M Delco 180

### **Contact and Order Information:**

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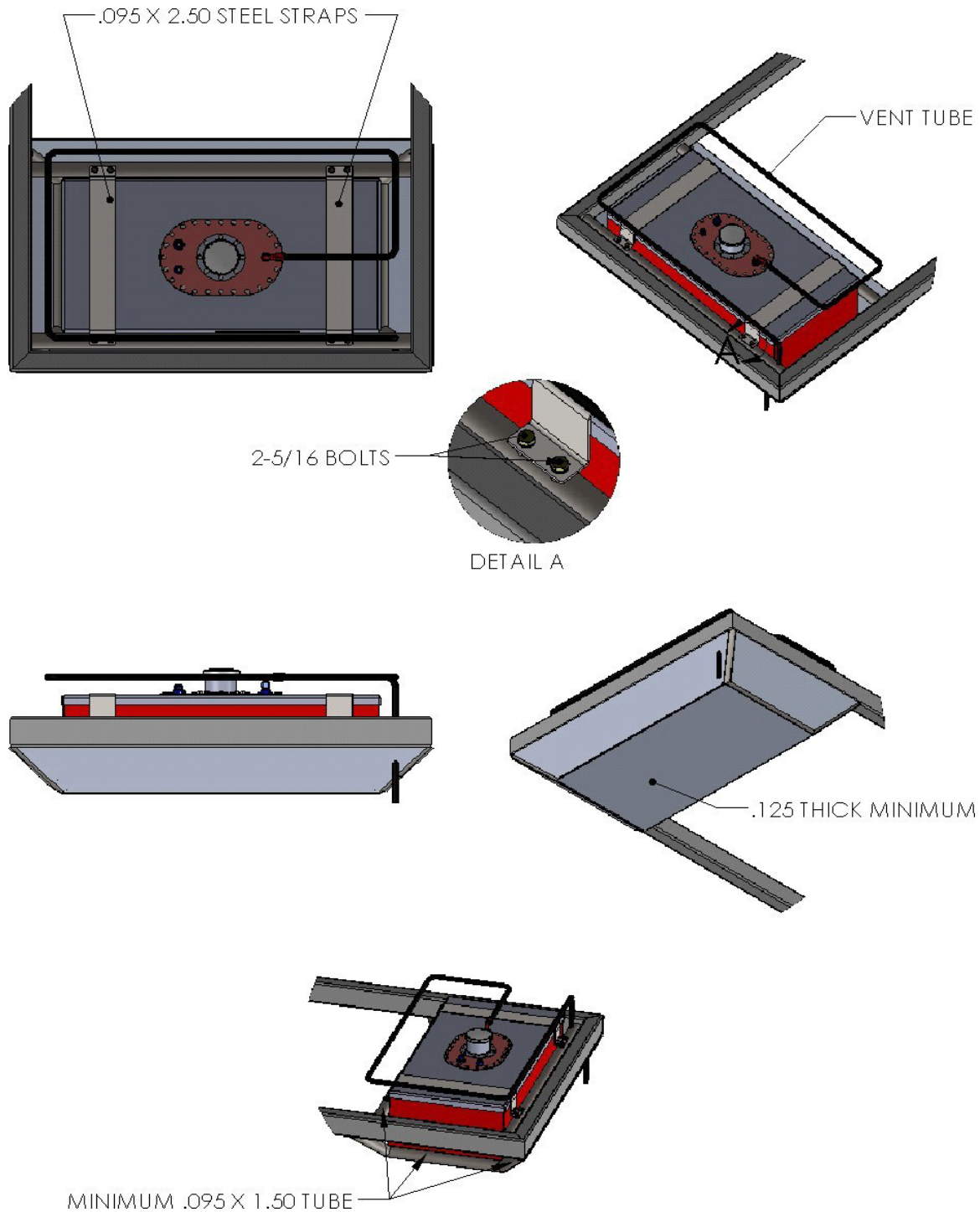
C: 630-391-3868

### **PTR-26 FUEL CELL**

- All fuel cells must be CHAMP OFF-ROAD approved.
- CHAMP OFF-ROAD will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- 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.
- Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.
- 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 either AC Delco part number 25036938, Niehoff part number OP23481, Wells part number PS119 or PS122, Napa part number OP6624 or OP6616, Standard ignition Blue Streak part number PS126 or Niehoff Borg Warner part number OP23311. The sending unit receives power from the ground.
- Digital dash or electrical device such as Performance Engineering's Fuel Pump Safety Switch 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.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
  - 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.
  - Fuel cells must be dated by the manufacturer. Fuel cells will become obsolete five (5) years after date of manufacture and must be replaced.
  - All fuel cell fillers and vents must have check valves installed.
  - Fuel pressure regulator vent line must do one of the following:
    - Connect to intake manifold vacuum.
    - Connect to air cleaner so that any fuel enters engine.
    - Connect to fuel cell.
    - Have vent hose routed past the rear axle.
  - 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.
  - Fuel cell cannot be vented into the driver's compartment of any truck.
  - The fuel cell must be located behind the cab. The fuel cell must have a ½ inch skid plate minimum covering the complete bottom, sides and rear of the cell. All mountings must be CHAMP OFF-ROAD approved. Fuel cells cannot be mounted to skid plate. Cell must be mounted to chassis. See diagram on FIG 9.
  - Fuel cell must have a minimum of two 2 ½ inch steel straps, evenly spaced on top of the cell with a minimum of two 5/16 inch bolts or one 3/8 inch bolt on each end of strap. Fuel cell must also have two 2 ½ inch steel straps or 1 ½ inch tubing underneath cell. Alternative mounting methods may be approved at the discretion of the CHAMP OFF-ROAD Technical Director. See diagram. See FIG - 9.
  - All fuel cells must be housed in a metal can, .060 thick aluminum minimum. Slip over lid must be .090 thick aluminum minimum with 1.0 inch return.
  - Fuel Cell must be behind rear axle

**FIG-9 ALL FUEL CELL LINES AND VENTS MUST COME OUT OF THE TOP OF  
THE FUEL CELL.  
PTR-27 FUEL**



- All cars shall use fuel, as defined in the following graph, unless a specific exemption is made in the provisions for a specific category/class.
- 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 CHAMP OFF-ROAD Fuel Check Meter. The 0 (zero) calibration of the CHAMP OFF-ROAD Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at CHAMP OFF-ROAD events by the determination of the dielectric constant using the CHAMP OFF-ROAD Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, CHAMP OFF-ROAD shall take appropriate action. Penalties for use of non-compliant fuel can include fine, and/or reduction of points, and/or suspension.

- Cooling: The cooling of fuel is not permitted during competition.

Fuel Samples: CHAMP OFF-ROAD 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 CHAMP OFF-ROAD and/or any outside laboratories at CHAMP OFF-ROAD discretion.

| Fuel Standards                                                                               |                                                                                                     |                                                |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------|
| Classes                                                                                      | Type                                                                                                | DC Max                                         |
| All Classes Except Karts                                                                     | Gasoline without added oil                                                                          | 3                                              |
| Karts                                                                                        | VP MS98L                                                                                            | 1.5                                            |
| The user of any substance in the following table in excess of the stated limit is prohibited |                                                                                                     |                                                |
| either in fuel or otherwise introduced into the engine                                       |                                                                                                     |                                                |
| Chemical Compounds Prohibited or Restricted in CHAMP OFF-ROAD Race Fuels                     |                                                                                                     |                                                |
| Compounds                                                                                    | Examples                                                                                            | Maximum Weight or Percentage by Weight Allowed |
| Total Aldehydes                                                                              | Acetaldehyde, Acrolein, Formaldehyde                                                                | 1.00%                                          |
| Benzene                                                                                      |                                                                                                     | 5.60%                                          |
| 3,3-dienthyl-1 butene                                                                        |                                                                                                     | 0.05%                                          |
| Total ethers                                                                                 | 1,4 Dioxane, ETBE, Furan, MTBE, Tetrahydrofuran                                                     | 0.00%                                          |
| Total Dienes (Diolfins)                                                                      | 1,d Butadiene, Isoprene                                                                             | 1.00%                                          |
| Ethanol                                                                                      |                                                                                                     | 0.00%                                          |
| Total Epoxides                                                                               | Ethelene oxide, Propylene oxide                                                                     | 0.00%                                          |
| Notal Nitrogen Compounds                                                                     | Nitromethane, Nitroethane. Nitro-propane, and all aromatic nitrogen compounds such as Nitrobenzene, | 0.00%                                          |

|  |                                                                                    |  |
|--|------------------------------------------------------------------------------------|--|
|  | Ammonia, Amines, and their salts, Aniline, Hydrazine, Pyridine, Pyrrole, Benzidine |  |
|--|------------------------------------------------------------------------------------|--|

If the services of an outside laboratory were 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.

- **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.
- **Specified Fuel:** CHAMP OFF-ROAD reserves the right to have all cars use the same blend of fuel in a given event or series class. When this right is exercised, it will be stated in the CHAMP OFF-ROAD rule book and/or in other CHAMP OFF-ROAD bulletins. In all such cases, fuel used for practice, qualifying and the race itself must be the specified fuel blend as produced by the manufacturer of the fuel. At an event where a specified fuel has been named, CHAMP OFF-ROAD will use a sample of the actual fuel provided at the event by the specified fuel supplier to determine whether the fuel used by a competitor conforms to the specifications of the specified fuel blend. The addition of chemicals additives or fuels to the specified fuel is strictly forbidden.
- If CHAMP OFF-ROAD officials suspects maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.

#### **PTR-28 OIL COOLERS**

- All oil coolers and their installation must be approved by CHAMP OFF-ROAD.
- Engine and transmission oil to air or oil to water heat exchangers are permitted.
- Cooling fans are permitted. No coolers are allowed in the driver compartment.

#### **PTR-29 CLUTCH**

- Any number of disks may be used.
- Centrifugal or manual clutch activation allowed.

#### **PTR-30 TRANSMISSION**

- Transmissions must be standard production, catalogued, and available through regular dealer channels.

- All forward and reverse gears must be in working order.
- Components must be installed in stock order: engine to transmission to differential via a drive shaft. Engine must be located in front of truck.
- All transmissions must be approved by CHAMP OFF-ROAD officials.
- Motor crankshaft must be connected to transmission input shaft via a conventional clutch assembly or vane type torque converter.
- Automatic transmissions must operate through a conventional torque converter.
- Manual shifting of all transmissions is mandatory, unless other method is needed to accommodate handicap condition of driver. CHAMP OFF-ROAD officials must approve all non-manual shifting procedures.
- Use of any Turbo 400 based automatic transmission must use SFI 4.1 approved case and SFI 30.1 approved bell housing. Will allow stock case with shatter-shield but must be pre-approved from CHAMP OFF-ROAD tech official prior to entering racetrack.
- Auxiliary under drive or over drive units or transfer case may be shifted electronically, but only by manually operated switch.
- Sequential shift transmissions are allowed.
- Paddle shifters, and solenoids, and air cylinders are allowed. Shifting can only be done by driver input. No interfaces between ECU and transmission will be allowed with the exception of the shift interrupt circuit.
- Shift spark interrupter will be allowed. Can be wired to shifter and transmission shift drum.
- Temperature gauge will be mechanical on transmission.
- No electrical gauges allowed on transmission.

#### **PTR-31 DRIVE PARTS**

- Engine to transmission adapter plate can be a maximum of 1 ½ inch thick.
- A combination of multiple adapter plates can be used if it does not exceed 1 ½ inch thickness.

#### **PTR-32 PROTECTIVE SHIELDS**

- Location of all shields must be approved by CHAMP OFF-ROAD.
- Transmission must be covered completely by a protective shield placed to protect the driver from exploding parts from beginning of transmission case/bell housing to 4 inches before a bolt on tail housing. All shields must be approved by CHAMP OFF-ROAD.
- Shields must be constructed of a metal covering with a thickness of ¼ inch aluminum or 1/8 inch steel or be SFI approved.
- If you have an SFI 4.1 approved transmission case and SFI 30.1 approved bell housing no shield will be required.

#### **PTR-33 DIP STICKS**

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

#### **PTR-34 DRIVE SHAFT**

- One 360-degree solid steel bracket, no less than 2 inches wide and ¼inch thick or 1 inch tubing with a minimum thickness of .095 inches must be placed around each drive shaft. Must be located within 4 to 6 inches aft of the centerline of front u-joint.
- Drive shaft must be painted white and have vehicle number on it.

#### **PTR-35 REAR AXLE/DIFFERENTIAL**

- Quick change rear ends are not allowed.
- Only steel axles are permitted.
- Independent rear suspension is not allowed.
- Must be in stock location as approved by CHAMP OFF-ROAD officials.
- Rear differential must be spool type only and approved by CHAMP OFF-ROAD officials.
- Rear differential must have a minimum of 1 ½ inch inspection bung or plate placed in such a manner that CHAMP OFF-ROAD officials can see and identify the spool. If inspection area does not exist, crew chief will remove differential for CHAMP OFF-ROAD technical inspection.
- No electrical connections to front and rear differential allowed.

#### **PTR-36 TIRES**

1. Tires must be DOT only: Refer to General Rules for Specifics.

#### **PTR-37 WHEELS**

- All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- Lug nut must be open ended, and of proper size.
- Studs must extend a minimum of 2 full threads past the end of the lugnut.
- Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
- All bead locks must have recessed bolts only that do not protrude past the face of the ring.
- Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not be permitted.
- No race wheel may exceed a 9" width.
- Minimum backspacing for all wheels will be 3.75".

#### **PTR-38 RADIOS**

- Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- Radio communication between drivers is not permitted.
- All radio frequencies must be approved and reported to CHAMP OFF-ROAD prior to their use.
- All race vehicle radio communication systems must be approved by CHAMP OFF-ROAD.
- See Section 5 of CHAMP OFF-ROAD General Rules for spotter requirements.
- Spotters are required for all race teams.
- Any 2-way radios used at a CHAMP OFF-ROAD event may not exceed 6 watts output.
- Each competitor race vehicle must use at all times while on the track an override race receiver to listen to race control that overrides any communication from the spotter when race control is transmitting to the vehicles. The receiver device must be approved by CHAMP OFF-ROAD and meet CHAMP OFF-ROAD standards at all times. Competitors will not be allowed on the track at any time without the race receiver installed and functional.

#### **PTR-39 TRANSPONDERS/TIMING**

- Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by CHAMP OFF-ROAD.
- All teams are required to purchase remote timing transponders. Transponders can only be purchased through CHAMP OFF-ROAD and numbers must be recorded with CHAMP OFF-ROAD officials.
- 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.
- Transponders must be placed from front face of the front bumper to transponder center line 115 inches back on the driver's side of the truck.

## **CHAMP OFF-ROAD PRO BUGGY RULES ADDENDUM TO THE GENERAL RULES**

*The following rules apply to vehicles in the Pro Buggy division.*

### **Pro Buggy**

- A four-wheeled vehicle, utilizing many different engine combinations, with unlimited suspension and chassis designs.
- Engines are limited to maximum displacement of 1650cc to 2400cc, depending on design and manufacturer.
- Technical specifications for this class supersede CCR.
- Rear wheel drive allowed only.

### **PTR-1 MARKING AND IDENTIFICATION**

- All vehicle numbering is subject to approval and is assigned by CHAMP OFF-ROAD.
- Division ID must be indicated in lower right-hand corner of number area and upper left-hand corner of windshield opening using 1 1/2-inch minimum numbers and letters.
- CHAMP OFF-ROAD officials may require a competitor to use a different number to avoid confusion or duplication at an event.
- 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.
- Advertising on race vehicles must be in good taste.
- Foil or reflective numbers are not permitted.
- All CHAMP OFF-ROAD vehicles are required to have CHAMP OFF-ROAD stickers on each side of the front of the door area, 4 inches down from the window opening.
- CHAMP OFF-ROAD may require the use of specific sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.

### **PTR-2 NUMBERS**

- Numbers are 1-99.
- Vehicle numbers must be placed on the upper left-hand corner of the windshield area. Number must be a minimum of 3" in height and easily visible by track crew, announcing tower, timing staff.
- All vehicle numbers must be solid black on a white background and must allow prompt identification by Series Officials at all times.
- Numbers must have 1" of space between them.
- All numbers must have a minimum height of 8" and be a minimum of 1-1/2" wide.
- Minimum number plate size is 10" high by 14" long

- One number must be on the rear of the vehicle facing rearward.
- One number must be on each side high and close to the back of the roof.
- All numbers must be mounted in such a way to stay clean and unobstructed.
- All numbers must be block style only.
- Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
- Fonts must be chosen from one the below approved styles only:
  - Impact
  - Helvetica Black
  - Mechanical Bold

### **PTR-3 CHASSIS/ROLL CAGE**

- All tubing, welds, gussets, and roll cage construction must be approved by CHAMP OFF-ROAD.
- Material for roll cage construction must be 4130 chromoly or ASTM 1018/1026 CDS/DOM round tubing (see SR-9).
- Minimum tubing diameter and thickness for vehicles weighing:
  - Minimum 1 ½ inch diameter by .095
- All tubes must be welded 360-degrees around the circumference of the tube.
- Gussets are required on all intersections in driving compartments within 3 inches of intersection. See diagram on FIG 5.
- All plate gussets must be of the same material and thickness as the roll cage, measuring 3 inches by 3 inches.
- Tube gussets and wrap gussets must be a minimum of 1.0 diameter x .065 thick.

### **PRO BUGGY EXOTIC MATERIALS**

- A. No titanium or any other exotic materials or fasteners may be used anywhere in the vehicle with the exception of the engine components.

### **PTR-5 MEASUREMENTS**

- Vehicles may be measured as they enter and or leave the race track and must comply with measurements at all times. Common sense will be used for any trucks coming off the track with heavy obvious damage at the discretion of the Technical Director.
- All measurements will be performed with CHAMP OFF-ROAD technical instruments or gauges.
- Minimum wheelbase: 95".
- Maximum track width: 93".
- Wheelbase will be measured on one side from center of the front wheel to the center of the rear wheel on the same side. Maximum allowable tolerance cannot exceed ½ inch plus or minus on the other side.
- All wheel travel measurements will be from stop to stop with spring removed.
- Track width measurement will be taken at the widest outer surface of the tire. Gauge must pass freely all the way to the ground.

#### **PTR-6 RIDE HEIGHT**

- Vehicle must race at a minimum 10-inch ride height. This will be measured at the lowest point from front suspension mounting point to rear suspension mounting point. This includes belly pan bolt heads and any other items that may be under the chassis or belly pan.
- Vehicles may be measured for proper ride height before and after competition.

#### **PTR-7 BODY**

- All vehicles must have complete bodies and roofs in top quality condition, in standard location. All body lines must meet CHAMP OFF-ROAD approval.
- Complete bodies must be attached at start of competition, practice, or any on track activities. Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed. A rounded loop body mounting bracket construction is mandatory.
- All body configurations must be approved by CHAMP OFF-ROAD.
- Additions to the body or the race vehicle, such as fins, scoops, wings, and other extruding additions will not be permitted.
- Vehicles must be equipped with a complete set of CHAMP OFF-ROAD approved bumpers.
- Roof must be properly attached to the roll cage of the vehicle and be fastened with Dzus buttons or 5/16-inch hex head bolts only. Roof must be a minimum of 0.075" Aluminum or 16 gauge (0.063") steel sheeting is required.
- Roof opening must have a heavy-duty hinge with a positive latching system.
- Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.

#### **PTR-8 BUMPERS**

- Race vehicles must have front and rear bumpers. CHAMP OFF-ROAD officials must approve all bumpers.
- Bumpers must be constructed of tubing with a minimum of 1.250-inch diameter by .095.
- Any bumper brackets must be a minimum of .095.
- Nerf bars may not extend more than 2 inches beyond the outside front to rear tire line.
- Nerf bars and bumpers must be rounded.
- All rookie drivers must have the rear bumper painted or taped yellow.

#### **PTR-9 SUSPENSION**

- No suspension or sway bar adjustment of any kind is allowed when vehicle is moving. This includes but is not limited to hydraulic, electric, mechanical, and manual adjustment.

#### **PTR-10 STEERING COMPONENTS**

- CHAMP OFF-ROAD officials must approve universal joints in steering shaft.
- Hydraulic power steering is permitted.
- Steering wheel quick release metal coupling is mandatory and must be approved by CHAMP OFF-ROAD officials.
- All race vehicles are required to have a steering wheel pad.

#### **PTR-11 SHOCKS**

- CHAMP OFF-ROAD officials must approve all shocks.
- All vehicles must have at least one working shock on each wheel and a maximum of 2 shocks per corner.

#### **PTR-12 BRAKES & BRAKE COOLING**

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

#### **PTR-13 WEIGHT**

- **Minimum water-cooled weight with driver: 1,900 lbs.**
- **Minimum air-cooled weight with driver: 1,580 lbs.**

#### **PTR-14 ENGINE BLOCK**

##### **NON-ECOTEC ENGINE**

- Any automotive engine with a production of 5,000 or more, and available to the public in the US domestic market is allowed.
- A maximum of 4 cylinders and a maximum of 4 valves per cylinder are allowed.
- Air-cooled engines have a 2000cc maximum displacement.
- Water-cooled engines with 2 valves per cylinder have a 1715cc maximum displacement.
- Water-cooled engines with 3 or more valves per cylinder have a 1650cc maximum displacement.
- Rotary engines are not allowed.
- Fuel injection is not allowed.
- Variable timing or cam lift is not allowed.

##### **STOCK ECOTEC ENGINE**

- Permitted engine: GM ECOTEC 2.4 liter V.V.T. LE5 coded engine. No other variant shall be permitted.
- Engine must retain all stock components, configurations and specifications as manufactured. “As manufactured” and “stock configurations and specifications” refer to as manufactured components from GM, stamped with the GM logo or associated factory part number. Alterations to any component in any manor (physical, chemical, or other) shall not be permitted unless detailed below:
  - Aftermarket fasteners shall be permitted.
  - Equivalent brand components to stock GM components may be substituted for the following components:
    - Bearings, seals, spark plugs, oil filter, timing chain, and associated components.
  - Maximum overbore is 0.020”.
  - Aftermarket pistons are permitted.
  - Pistons must retain OEM sizing and dimensions (except overbore). This includes ringland and wrist pin height, as well as piston dome dimensions.
  - Maximum compression ratio is 10.75:1.
  - Modifications to the water pump and thermostat housings, for the sole purpose of coolant line plumbing, are permitted.
  - Modifications to the stock engine block to allow for external oil filters/coolers are permitted.
- All internal components must be in place and be operational at all times (i.e. stock balancer shafts and drive).
- Engine Oiling System:
  - The use of an Acu-sump style remote oil reservoir system is allowed.
  - Oil pan is unrestricted.
- Ignition/Fuel Injection System:
  - GM #17202005 manual cable driven throttle body is permitted. An adapter plate no thicker than 1/2” is allowed for mounting. Plate must be same as existing bore size.
  - GM LE5 factory drive by wire throttle body is permitted.
  - Any Brand ECU may be used, as long as it functions only with the stock GM trigger and pickup.
- Engine functions data logging in the ECU is permitted for the following sensors only:
  - Engine RPM, Water Temperature, Engine oil temperature, Engine Oil Pressure, Fuel Pressure, Voltage, Lambda O2 (Oxygen Sensors), Exhaust gas Temperature, Intake Manifold Vacuum/Pressure (the same sensor may be used in intake or crank case), Water Pressure, Power Steering Pump Pressure, Power Steering Oil Temperature.

#### **PTR-15 ENGINE HEADS**

#### **PTR-16 ENGINE OILING SYSTEM**

#### **PTR-17 IGNITION SYSTEMS**

- All ignition systems must be approved by CHAMP OFF-ROAD.

## **PTR-18 ELECTRICAL ACCESSORIES**

- At the request of television, certain vehicles may compete with telemetry systems, as so installed by the series production television network requesting such information.

## **PTR-19 ENGINE & RACE VEHICLE ELECTRICAL SYSTEMS**

- All ignition systems must be approved by CHAMP OFF-ROAD.
- No computerized systems are permitted unless CHAMP OFF-ROAD approved.
- Any make or brand of spark plug may be used.
- All vehicles must have a working alternator/generator system.
- All vehicles must have a self-starter in working condition and must be capable of starting on their own power.
- All electrical switches must be located on the dash panel.
- 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.
- Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of, and must be accessible from the outside of the race vehicle. Switch centerline must be 8 inches inside frame, 10 inches forward of frame rear. Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide.

## **PTR-20 ENGINE COOLING SYSTEMS**

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

## **PTR-21 ENGINE EXHAUST SYSTEMS**

- Exhaust mufflers are required on all exhaust systems.
- Muffler may be required to meet a maximum decibel at some tracks.
  - A penalty of 1 percent per DB over the maximum allowed level front weight bias will be added for first offense.
    - Consecutive events of non-compliance will result in weight penalty doubling with each event.
    - Any competitor that remains out of compliance after 4 consecutive events will not be permitted to compete or may be disqualified.
    - DB readings may not grow more than 2 DB from the first readings of any event leading into the last race of the weekend.
- Exhaust pipes must be attached to headers or manifolds in a secure manner.
- Exhaust heat shields are permitted.

## **PTR-22 CARBURETOR**

- One carburetor is allowed for water-cooled engines.
- Two carburetors are allowed for air-cooled engines.
- Maximum of two venturis per carburetor.
- Two valve engines: 42 mm maximum venturi.
- Four valve engines, 1600cc and smaller: 29 mm maximum venturi.
- Four valve engines, 1601cc to 1650cc: 28 mm maximum venturi.

## **PTR-24 AIR AND INTAKE CLEANERS**

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.

## **PTR-26 FUEL CELL**

- All fuel cells must be CHAMP OFF-ROAD approved.
- CHAMP OFF-ROAD will reject any previously approved fuel cell, which appears to be defective, damaged, or not in proper condition.
- 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.
- Icing, Freon type chemicals, or refrigerants may not be used in or near the fuel system.
- 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 either AC Delco part number 25036938, Niehoff part number OP23481, Wells part number PS119 or PS122, Napa part number OP6624 or OP6616, Standard ignition Blue Streak part number PS126 or Niehoff Borg Warner part number OP23311. The sending unit receives power from the ground.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- Fuel cells must be dated by the manufacturer. Fuel cells will become obsolete five (5) years after date of manufacture and must be replaced.
- Date of manufacture must be easily seen by tech inspector.
- All fuel cell fillers and vents must have check valves installed.
- Fuel pressure regulator vent line must do one of the following:
  - Connect to intake manifold vacuum.
  - Connect to air cleaner so that any fuel enters engine.
  - Connect to fuel cell.
  - Have vent hose routed past the rear axle.
- 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.

- Fuel cell vent lines must be routed in a way to prevent fuel from escaping in the event of a roll over.
- Fuel cells cannot be vented into the driver's compartment of any vehicle.
- Fuel cells must be housed in a metal can .060 thick aluminum minimum. The bottom must be completely covered with .125 thick aluminum minimum. Cell must be mounted to chassis with steel fasteners. Mounting methods will be approved at the discretion of CHAMP OFF-ROAD technical director.

## **PTR-27 FUEL**

- All cars shall use fuel, as defined in the following graph, unless a specific exemption is made in the provisions for a specific category/class.
- 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 CHAMP OFF-ROAD Fuel Check Meter. The 0 (zero) calibration of the CHAMP OFF-ROAD Fuel Check Meter is set against reagent or laboratory grade cyclohexane. Gasoline may be tested and certified at CHAMP OFF-ROAD events by the determination of the dielectric constant using the CHAMP OFF-ROAD Fuel Check meter and through the application of various chemical analyses. If a competitor's fuel is not compliant with the fuel standards below, CHAMP OFF-ROAD shall take appropriate action. Penalties for use of non-compliant fuel can include fine, and/or reduction of points, and/or suspension.

- Cooling: The cooling of fuel is not permitted during competition.

Fuel Samples: CHAMP OFF-ROAD 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 CHAMP OFF-ROAD and/or any outside laboratories at CHAMP OFF-ROAD discretion.

If the services of an outside laboratory were 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.

- 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.

| <b>Fuel Standards</b>                                                                        |                            |        |
|----------------------------------------------------------------------------------------------|----------------------------|--------|
| Classes                                                                                      | Type                       | DC Max |
| All Classes Except Karts                                                                     | Gasoline without added oil | 3      |
| Karts                                                                                        | VP MS98L                   | 1.5    |
| The user of any substance in the following table in excess of the stated limit is prohibited |                            |        |
| either in fuel or otherwise introduced into the engine                                       |                            |        |

| <b>Chemical Compounds Prohibited or Restricted in CHAMP OFF-ROAD Race Fuels</b> |                                                                                                                                                                                        |                                                |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Compounds                                                                       | Examples                                                                                                                                                                               | Maximum Weight or Percentage by Weight Allowed |
| Total Aldehydes                                                                 | Acetaldehyde, Acrolein, Formaldehyde                                                                                                                                                   | 1.00%                                          |
| Benzene                                                                         |                                                                                                                                                                                        | 5.60%                                          |
| 3,3-dienthyl-1 butene                                                           |                                                                                                                                                                                        | 0.05%                                          |
| Total ethers                                                                    | 1,4 Dioxane, ETBE, Furan, MTBE, Tetrahydrofuran                                                                                                                                        | 0.00%                                          |
| Toal Dienes (Diolefin)                                                          | 1,d Butadiene, Isoprene                                                                                                                                                                | 1.00%                                          |
| Ethanol                                                                         |                                                                                                                                                                                        | 0.00%                                          |
| Total Epoxides                                                                  | Ethelene oxide, Propylene oxide                                                                                                                                                        | 0.00%                                          |
| Notal Nitrogen Compounds                                                        | Nitromethane, Nitroethane. Nitro-propane, and all aromatic nitrogen compounds such as Nitrobenzene, Ammonia, Amines, and their salts, Aniline, Hydrazine, Pyridine, Pyrrole, Benzidine | 0.00%                                          |

- Specified Fuel: CHAMP OFF-ROAD reserves the right to have all cars use the same blend of fuel in a given event or series class. When this right is exercised, it will be stated in the CHAMP OFF-ROAD rule book and/or in other CHAMP OFF-ROAD bulletins. In all such cases, fuel used for practice, qualifying and the race itself must be the specified fuel blend as produced by the manufacturer of the fuel. At an event where a specified fuel has been named, CHAMP OFF-ROAD will use a sample of the actual fuel provided at the event by the specified fuel supplier to determine whether the fuel used by a competitor conforms to the specifications of the specified fuel blend. The addition of chemicals additives or fuels to the specified fuel is strictly forbidden.
- If CHAMP OFF-ROAD officials suspects maskers in fuel, chemical testing will be conducted at possible expense to the competitor.
- Penalties for use of hazardous chemicals will be severe including fine, and/or reduction of points, and/or suspension.
- Pro Lite trucks are restricted to Non-Oxygenated gasoline. Gasoline cannot be blended, mixed, or modified in any way.

#### **PTR-28 OIL COOLERS**

- All oil coolers and their installation must be approved by CHAMP OFF-ROAD.
- Engine and transmission oil to air or oil to water heat exchangers are permitted.
- Cooling fans are permitted. No coolers are allowed in the driver compartment.

### **PTR-30 TRANSMISSION**

- Transmission must be standard production, catalogued, and available through regular dealer channels.
- All forward and reverse gears must be in working order.
- No sequential shift transmissions are allowed.
- Motor crankshaft must be connected to transmission input shaft via a conventional clutch assembly or vane type torque converter.

### **PTR-31 DRIVE PARTS**

### **PTR-32 PROTECTIVE SHIELDS**

### **PTR-33 DIP STICKS**

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

### **PTR-34 DRIVE SHAFT**

### **PTR-35 REAR AXLE/DIFFERENTIAL**

### **PTR-36 TIRES**

- Any DOT tire is permitted.

### **PTR-37 WHEELS**

- All wheels must be in good repair and free from cracks or defects that could cause wheel failure.
- Lug nut must be open ended, and of proper size.
- Studs must extend a minimum of 2 full threads past the end of the lugnut.
- Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
- All bead locks must have recessed bolts only that do not protrude past the face of the ring.
- Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not be permitted.

### **PTR-38 RADIOS**

- Radios must be of two-way voice communication type only. Each race team is responsible for meeting FCC requirements.
- Radio communication between drivers is not permitted.

- All radio frequencies must be approved and reported to CHAMP OFF-ROAD prior to their use.
- All race vehicle radio communication systems must be approved by CHAMP OFF-ROAD.
- See Section 5 of CHAMP OFF-ROAD General Rules for spotter requirements.
- Spotters are required for all race teams.
- Any 2-way radios used at a CHAMP OFF-ROAD event may not exceed 6 watts output.
- Each competitor race vehicle must use at all times while on the track an override race receiver to listen to race control that overrides any communication from the spotter when race control is transmitting to the vehicles. The receiver device must be approved by CHAMP OFF-ROAD and meet CHAMP OFF-ROAD standards at all times. Competitors will not be allowed on the track at any time without the race receiver installed and functional.

#### **PTR-39 TRANSPONDERS/TIMING**

- Remote score timing devices will not be permitted by teams, owners, or anyone associated with an entry, unless approved by CHAMP OFF-ROAD.
- All teams are required to purchase remote timing transponders. Transponders can only be purchased through CHAMP OFF-ROAD, and numbers must be recorded with CHAMP OFF-ROAD officials.
- 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.
- Transponders must be placed from front face of the front bumper to transponder center line 115 inches back on the driver's side of the truck.

# GENERAL SXS RULES

These GENERAL RULES are an addendum to the series general rules and safety rules. These apply to all SxS's in competition unless so noted. All participants, racers and crew members are required to be fully aware of these regulations and must abide by them.

Participants are solely responsible for the condition of their SXSs and their competence to operate them.

Where the rules permit or require components or equipment to be installed, replaced, altered, modified, or fabricated, it is the sole responsibility of the driver to select components, materials and/or fabricate the same so that the components will perform safely in competition.

**IF NOT STATED IN THIS RULE SECTION OR CLASS DEFINITION CHART, THE CHANGE IN QUESTION IS ILLEGAL. COR technical staff have final say in the validity and legality of any component.**

## DRIVER AND SXS

1. A driver and their SxS (chassis and engine) shall be considered a unit and once the class has begun, neither will be substituted. If a driver qualified on a SxS, both must be in the same final event of the class and/or event.
2. Engine parts may be replaced during the event, except for the crankcase and crankshaft, which may not be replaced. If an engine must be replaced the driver must notify Champ Off-Road technical officials or instant disqualification will occur.
3. Any engine substitution during competition will result in a last place starting position.
4. Back-up drivers must be from the same class that the original driver is competing in.
5. Cam lock style harnesses are not allowed.

## SXS IDENTIFICATION

1. There will be an automatic suspension for drivers who race under another driver's number unless previously approved by Champ Off-Road
2. Numbers are 1-99 for each SxS class.
  - All numbers must be block style only.
  - Numbers must be side by side. No outlines, stacking or shadows allowed. Italic slant of 25 degrees or less is allowed.
  - Fonts must be chosen from one the below approved styles only:
    - Impact
    - Helvetica Black
    - Mechanical Bold
  - Numbers will be located in the following positions:
    - (1) number plate on each side, front edge of number plate to be 6 inches from back of cab. Bottom edge to be 4 inches above top of bed side. Number plate must be below roof line (must also include division identification in this area).
    - Roof of vehicle, as viewed from passenger side
    - (1) number plate on the back of vehicle facing rear
    - **NO LETTERS in your race number.**

Driver's side upper left-hand corner of windshield area (must also include division identification in this area)

### **PRE-RACE SAFETY INSPECTION**

1. ANY ENTRY IS SUBJECT TO INSPECTION AT ANY TIME UPON REQUEST BY THE RACE DIRECTOR OR TECHNICAL DIRECTOR.
2. Pre-race safety inspections are mandatory at all races. Passing a pre-race safety inspection is no guarantee that a SxS complies with all rules for the event.
3. Only SxS having passed pre-race inspection will be allowed on the racetrack.
4. All aspects of modification are contingent on safety inspection by the Technical Director. The Technical Director may remove any SxS from competition that does not meet safety requirements.
5. Damaged or broken safety equipment not detected during a race is not grounds for disqualification after completion of that race unless black-flagged during the race in question.

### **MANDATORY TEARDOWN**

1. Regardless of SxS equipment passing prior inspections, compliance with the rules must be made at the post-race inspection.
2. Once a SxS has completed registration to race it may be inspected at any time.
3. Tech Director will select the SxS for mandatory teardown and inspection. Drivers will take their SxS directly to Tech after completing the race. The Tech Director may indicate the area or trailer he wishes the SxS to be disassembled in. The SxS must remain in Tech until released by the Tech Director or a designated member of the Tech staff.
4. Driver and/or driver's mechanic will perform teardown to point required by the Technical Director.
5. Any driver not directly reporting to Tech or refusing teardown will be disqualified.
6. Inspected SXS will not be reassembled by the inspection group.
7. Driver and/or driver's mechanic will be the only people allowed in the inspection area.
8. The sanctioning organization assumes no responsibility for impounded SxS.
9. Weights and measurements maybe taken at any time – Pre or post race.

### **SEALS**

1. Drivers will allow the installation of a seal or seals on the engine and/or body of their racing SxS. To change the seal, mutilate it or try to break it, or re-use it, during the weekend or event where it is installed without the consent of the tech Director, could result in the responsible driver being called before the disciplinary committee for strict discipline. Accidental breakage of the seal must be reported to the tech Director immediately.
2. A seal does not constitute a legal engine, if the seal is removed by a technical official, and the engine is found to be illegal, Disqualification will occur for all rounds raced from the time the engine was sealed until the time of removal.
3. A seal may only be removed by technical staff, if removed by someone other than the technical staff, disqualification will result from the time the seal was installed until the seal was removed.

### **CLASS ELIGIBILITY & SXS ID**

1. Unless otherwise specified in specific CHAMP OFF-ROAD rules, a SxS used in more than one class or division must comply with all rules and safety guidelines for each class or division in which it competes.
2. In stock and stock-based classes, the chassis and engine must have been originally OEM assembled and serial numbered indicating that the SXS is a stock qualified unit from the production run of a stock qualified model.
3. All SxS's in Modified classes must have serial numbers permanently affixed to the engine and the frame. Duplication of serial numbers is not allowed.
4. If the chassis, engine, or other serial numbered part is replaced, the serial number must be removed from the replaced part and affixed to the new part.

### **COMMERICALLY AVAILABLE**

1. The term commercially available is defined as follows.
  - A. Readily available by the next round of competition from a commercial source. If the source cannot produce a component by the next round, the component will be deemed illegal and will be banned from use in competition until it is readily available.
  - B. Is moderately priced for the part in question. No top tier pricing setting it outside of market.
  - C. Is approved by Champ Off-Road technical officials
  - D. Is available for purchase from vendors with the US – vendors must have enough stock to supply the entire field plus an additional 25% stock.
  - E. "Readily available" is defined as enough stock to supply the entire field plus an additional 25% of entries

### **IF ANY OF THESE TERMS ARE NOT MET THE PARTS OR COMPONENTS WILL BE DEEMED ILLEGAL FOR COMPETITION REGARDLESS OF CLASS.**

### **ENGINE**

1. CHAMPIONSHIP OFF-ROAD will determine the legality of all aftermarket engine components allowed by the rules for select classes.
2. In stock and stock-based classes, the engine must have originated from a stock qualified, OEM produced SXS.
3. Engine displacement not to exceed 1000c.c. in all classes unless otherwise noted.
4. All classes must have functional muffler system.
5. . All classes – **Any modification to the OEM engine configuration – boring, replating, blueprinting cryotreating, etc. IS ILLEGAL unless otherwise noted, no stock based class will have an engine modified from its OEM engine configuration as produced by the OEM. Engines found to be manipulated in any way will be grounds from disqualification for each round the engine was ran.**
6. OEM throttle body must be used for its correct make and model for its year.
7. YXZ and Arctic Cat XX may update to the 2019 connecting rods.
8. All Polaris RZR may update cam buckets with OEM xp900 cam buckets, lash shims, and retainers.

9. PRE 2024 Polaris RZR models may update to Carillo rod pn#12949 marked with LP10000POL-R1B and JE pistons PN#363686 marked with LP1000POL-P1 or BC connecting ride PN# BC6903 LW PRO-H and CP piston PN#M9055 if the car is post 2023 these components are illegal and will result in an immediate disqualification.

10. Electric water pumps are only legal if a dry sump is used.

11. All vehicles must replace OEM fuel rail with aftermarket replacement as long as it serves no other purpose than to supply the fuel injectors with fuel provided.

12. All vehicles may use an aftermarket manual timing chain tensioner in place of the OEM tensioner

13. All brands may replace the head/cylinder bolts with direct replacement aftermarket stud kits or bolts provided that no modifications are needed to make the upgrade.

14. Yamaha 998 engines may use Polaris shimless valve buckets.

15. Valve jobs are legal provided no material above the seat is removed.

## **DRIVE/ BRAKES**

1. Brakes shall always be operative. Brake loss on the racecourse is grounds for disqualification.

2. The master cylinder, caliper and disk assembly must be commercially available.

3. In classes where modification is legal, anytime the brake assembly has been modified or relocated, it must be utilizing the OEM style fasteners in the OEM location

4. CVT covers maybe trimmed 4 inches from rear most part of belt housing for heat mitigation purposes provided the cover is still properly secured and approved by Champ Off-Road staff.

5. Every vehicle must use the OEM transmission and clutch design

6. No gear sets other than OEM gear sets maybe used.

7. Gear sets used from Same models (RZR, YXZ) must be used in their entirety and COR must approve any gear change. Any gear changes without COR approval will result in an instant disqualification.

8. Treating of any type – Cryo, micro polishing etc. Is not legal.

9. Stock Front and rear differentials must be from the model of vehicle used. Polaris models may replace the sprag and armature plate in the front differential with preapproval.

10. All vehicles must have functional high low and reverse gear at all times.

11. Aftermarket CV axles maybe used.

12. Yamaha may update clutch basket/pressure plate/clutch springs

13. Wheel spacers are illegal. A .250" plate between the wheel and hub to accommodate non hub centric wheels is allowed but must use existing wheel studs.
14. No ceramic or polished wheel bearings allowed.

15. Turning or cutting brakes are not permitted
16. Aftermarket brake components are allowed provided they are commercially available and bolt on.
17. Brake bias adjusters are illegal.

## **SUSPENSION**

1. Unless otherwise noted all suspension components must be OEM
2. Gussets will be allowed on all suspension components: a-arms, trailing arms, swing arms, etc.
3. Shock mounts must remain OEM in OEM position. Any removal of OEM shock mounts must be preapproved
4. Only steel suspension springs allowed unless otherwise specified.
5. Gussets may be added to OEM suspension mounts.

## **TIRES AND TRACTION**

1. All tires must be commercially available at the time of competition with a US part number. If a tire is no longer readily available, the tire will be illegal until readily available
2. Approved tires will be DOT approved or UTV spec with at least 3/16" of molded tread depth, tires are subject to approval at any time by CHAMP OFF-ROAD technical staff.
3. Minimum duro will be 56 using Champ Off-Road gauges using calibration blocks for said gauges. Championship Off-Road gauges are the final say in any inspection.
4. Absolutely no modifying the duro of a tire by chemical means
5. Identification numbers affixed or molded into tires by the molder of the tire must remain completely visible and unmodified.
6. Tire grooving, is legal in all classes unless otherwise noted in class definition chart.
7. Tire siping is illegal unless the tire has it in its original OEM configuration
8. If a DOT approved snow tire is used minimum PSI will be 20 measured at any time during competition.
9. Wheel studs may be no closer than ½ inch from the outer most face of the bead lock ring opening. Stud ends must be rounded.
  - All bead locks must have recessed bolts only that do not protrude past the face of the ring.
  - Foam mud plugs are the only wheel cover allowed. Snap on, clip-on, or bolt on covers will not

be permitted

10. Tire duro will be tested by the samples provided by the Tire OEM. They will be tested to 56 duro on the shore A scale, at 70 degrees on receipt of tires from the manufacturer, those tires will be tested at atmosphere by champ offroad gauges at said event – if a tire is measured pre-race under duro from the test set of tires the competitor will not be allowed to race on said tires. No modifying of tires by icing or other means pre-race will be allowed.

## **FRAME AND BODY**

1. All body components must be securely fastened to the frame; zip ties are not an acceptable fastening technique.
2. The body must maintain OEM shape and form – if aluminum is used, the plastic outer panel must be affixed to the aluminum skin in all stock classes.
3. The rear firewall may not be manipulated in any way – if aluminum is used the OEM height of the plastic firewall must be maintained with no holes in it.
4. Unless otherwise stated, plastic interior panels maybe removed and substituted with .063" aluminum provided the driveline is completely covered from the driver.
5. Seats maybe replaced with SFI approved containment seats or rally style seats. Seats must have SFI tags affixed.
6. Radiators maybe moved into the interior area of the SxS, however must be 100% shielded from the driver
7. All SxS will have the number as well as the class clearly labeled on the front, the top, the rear, and both sides of the SxS.
8. All SxS's will have a rock screen that is securely fastened that covers 50% of the front window opening and shields the driver from any on track debris. Rock screens will not be fastened using zip ties. Rock screen opening must be no larger than 1.5" x 1.5"
9. All SxS's will utilize an aftermarket roll cage, bolt on cages are acceptable however must be welded in the connection points.
10. All SxS's will have retrieval points front and rear in **RED** or **High Visibility Yellow** for towing points for the track staff.

## **IGNITION & ELECTRICAL**

1. All SxS's must use OEM wire harness and fuse panel
2. No aftermarket ECU will be allowed.
3. All OEM gauge cluster must remain in driver dash area and be functional, they may be relocated but must be on the dash panel area of the SXS.
4. OEM key switch maybe used for emergency shut off however must be red in color and to the left of the steering wheel as the driver occupies the seat.
5. AIM/MOTEC Dashes are legal in all classes provided all OEM Plug protocols are unmodified.

6. No Wet Cell batteries allowed.
7. No external electrical controllers are allowed.
8. Data logging is mandatory in all classes (including 170 and 570 classes) utilizing AIM or Motec data loggers. A failed data log is grounds for disqualification.
9. Toggle switches maybe used for accessories
10. Switch panels are not legal
11. PDM 's are not legal.
12. A safety electrical master switch is required.
  - Master switch must be labeled as such, have a red circle around it, be located on the left-hand side rear of and must be accessible from the outside of the race vehicle.
  - Switch centerline must be 3 inches inside frame, and no more than 10 inches forward of frame rear.
  - Switch must turn counterclockwise for off. Red circle must be at least 1 inch wide. Master on/off switch must wired to the battery in a manner that will cut off all electrical power and the engine
13. OEM charging systems only, stators or OEM alternator systems may be modified to accommodate on car electronics however all charging systems must be used in their original intent. No hybrid drive systems are allowed.

## **STEERING**

1. All steering components must be in good condition and in proper working order. Tie rod ends must be secured with cotter pin or safety wire in each rod end.
2. OEM power steering is permitted
3. Steering quickeners are legal.
4. Steering wheel quick release are allowed with prior approval.
5. Aftermarket Direct replacement rack and pinion allowed provided it utilizes OEM mounts and accepts all steering components.

## **FUEL REGULATIONS**

NOTICE: It is advisable for all competitors to have their fuel tested at the event, before competing.

1. A contestant appealing a fuel disqualification must bear the expense of the fuel analysis and handling.

2. VP UTV96 is the only allowed fuel in all SXS classes. This includes Sportsman, PRO AM, PRO AM Turbo, Pro Stock and Pro SxS classes.
3. Pump Fuel will be used for the 170 and 570 classes.

4. Fuel is to remain as provided by VP – no additives, cutting agents or otherwise.

## **FUEL TESTS**

WARNING: Gasoline, lubricants, additives, and fuel test reagents are all potentially hazardous materials. Anyone handling them should be aware of the hazards and act accordingly. Race Rules Committees and CHAMPIONSHIP OFFROAD establish these guidelines and recommended test procedures, but do not assume liability for injury or death caused by the handling of these materials.

Any or all these tests may be employed. Test results may be confirmed from time to time using an infrared spectrometer.

**IF ANY OF THESE FIELD TEST ARE FAILED BY A PARTICIPANT THEY WILL BE DQ'ED FROM ALL CLASSES THAT THEY PARTICIPATED IN FOR THAT DAY.**

1. ELECTRICAL CONDUCTIVITY (DI ELECTRIC CONTENT)
2. CERIC NITRATE REAGENT TESTING
3. REAGENT D TEST FOR DIOXANE
4. WATER SOLUBILITY TESTING
5. ANY OTHER TEST APPROVED BY CHAMP OFFROAD

## **ROLL CAGE AND CHASSIS**

1. All vehicles must utilize the stock chassis and maintain stock appearance. The stock chassis is defined as the main lower rails running along the inner sides of the SxS 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 or repairs must be pro-approved by COR officials in writing.
2. No carbon fiber or titanium materials allowed in chassis or body construction. Carbon fiber and titanium allowed in engine configuration only if produced OEM or in the exhaust mufflers.
3. Unnecessary tabs and brackets on OEM chassis may be removed if pro approved in writing by COR officials.
4. Series approved aftermarket roll cage required.
5. No Titanium bolts or nuts allowed.
6. Must be a minimum of three inches clearance between driver's head and cage.  
All single tube intersections must be reinforced with gussets.  
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
7. All terminal cage ends must be capped with like materials to prevent sharp pinch points.
8. Roll cage material must be 4130 Chromoly or DOM

9. All nerf bars front, and rear bumpers must but properly hooped to prevent two vehicles to lock together.
10. All cars must have nerf bars.
11. Firewall must be shoulder height with no openings to the driver compartment. Aluminum firewall is encouraged.
12. Roof must be covered with sheet metal or .063 minimum aluminum
13. Radiators are encouraged to relocate the radiator and intercooler into the driver compartment provided they are completely covered and shielded to the driver with .063 aluminum.
14. Door area must be covered with .063 aluminum on the driver's side.
15. Door area must be covered by .063 aluminum on the outermost part on each side of the car.
16. Doors must have X, A or V designs to be braced on driver's side.
17. Drivers seat must be mounted within two inches of stock location and rigidly mounted in.
- 18 Race seat is required must meet SFI requirements of 39.2 standard, suspension seats are not legal.
19. Fuel tank area is to be completely covered with .063" aluminum or steel
20. 5-point motorsports harness is required must be SFI 16.1 or 16.5 rating with the manufactures date tag not expired.
21. Driver side window net is required and is mandatory to be SFI approved and within manufactures date range. Must be latch style mounted in the top left corner as per the drawing supplied with a Velcro retention strap for the fabric tap, the driver's side front triangle area must be covered in either a current SFI net or a steel 1.5x1.5 maximum opening steel mesh.

22. Driver's side door bars on exterior must be covered with a minimum of .062-inch aluminum plate bolted on, using a minimum of 3/8" bolts on 6" centers. Polaris RS1's must cover both sides.

- Door plating must completely cover from bottom of main rail to top of door bar and extend to the front and rear most bar of the door opening

23. .062 thick aluminum Roof must be properly attached to the roll cage of the SxS and be fastened with 5/16-inch hex head bolts only. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts.

**• A .125 thick steel or .250 thick aluminum floor plate is required under the driver's foot area in the drivers compartment and will extend from the forward most tube of the compartment to the rear most tube of the compartment covering the entire driver area of the car with no holes other than for seat mounting. 170/200 and 570s are exempt from this rule**

- An additional Aluminum or steel sheeting minimum thickness .062" must completely cover the top left of the roll cage above driver's head from the front to the rear of the roll bar tube and must be securely fastened using bolts. Bolts may not be shared with the roof panel. 170/200 and 570 are exempt from this rule.

- All Sheeting must be firmly attached to the cage and extend ½ inch past the center line of tubes in all four directions.

- Sheeting must be installed with a minimum of 6 evenly spaced 5/16-inch bolts, not protruding toward the driver. Bolts must be hex head only for use with a 6 point, ½ inch socket or wrench, with clear access

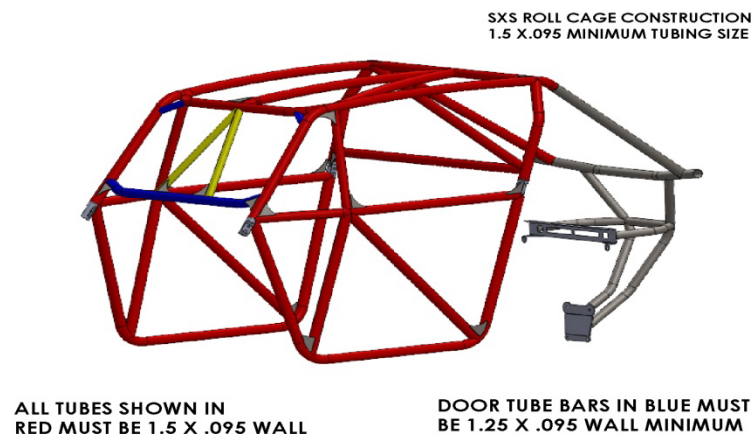
for removal from the top of vehicle. All nuts must be fixed in place underneath to the roll cage mounting tabs either by welding, use of captive nut plates or clip-on threaded nuts. The use of Riv-nuts or press in Captive nuts is not permitted unless they are welded in place. Bolts should be lubricated for easy removal. Use of Lock-tite should be avoided. 170/200 and 570s are exempt from this rule

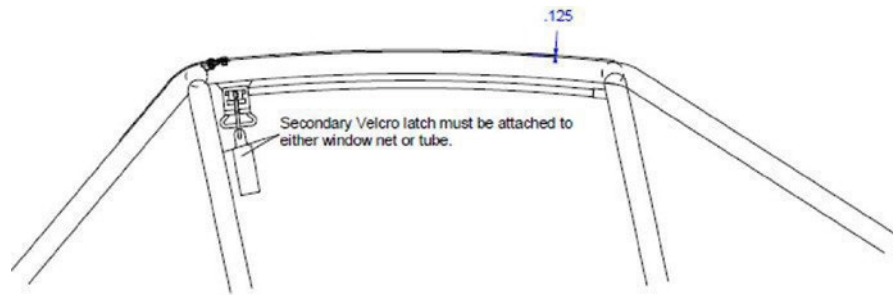
- Mounting tabs must be at least .095 thick.

### **MEASUREMENTS AND WEIGHTS**

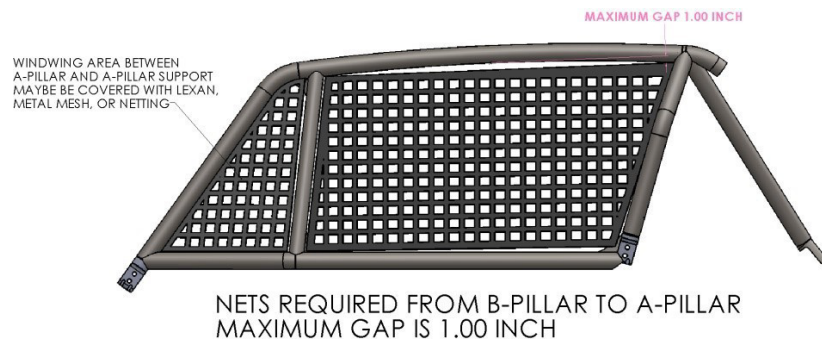
1. All measurements will be performed with COR technical instruments and gauges
2. All measurements and weights with COR gauges will be the final decision over any outside gauges.
3. All added ballast must be properly secured
4. All ballast must be painted white and clearly have the competitor's number on said ballast
5. If ballast is lost on the track, it will be fined at \$5/LB

**FIG 1 – ROLL CAGE for Sportsman, PRO AM, PRO AM Turbo, Pro Stock, & Pro SxS Classes**





**FIG 2 – Upper Net Mount**





# 2026 AMSOIL CHAMPIONSHIP OFFROAD SXS CLASS CLARIFICATION CHART

| ITEMS IN QUESTION                                                              | 170/200 | 570 | Youth 1000 | SPORTSMAN | PRO AM | PRO STOCK | PRO |
|--------------------------------------------------------------------------------|---------|-----|------------|-----------|--------|-----------|-----|
| <b>BODY AND DRIVER COCKPIT</b>                                                 |         |     |            |           |        |           |     |
| GAUGE CLUSTER                                                                  | NA      |     |            |           |        |           |     |
| AFTERMARKET STEERING WHEEL                                                     |         |     |            |           |        |           |     |
| OEM INTERIOR PANELS REMOVED AND REPLACED WITH ALUMINUM                         |         |     |            |           |        |           |     |
| OEM SEAT MOUNTS                                                                |         |     |            |           |        |           |     |
| RADIATOR RELOCATION                                                            | NA      |     |            |           |        |           |     |
| APPROVED FUEL CELL                                                             |         |     |            |           |        |           |     |
| OEM OUTER DOOR PANELS REMOVED                                                  |         |     |            |           |        |           |     |
| OEM SHIFTER                                                                    |         |     |            |           |        |           |     |
| <b>BRAKES/DRIVE</b>                                                            |         |     |            |           |        |           |     |
| OEM MASTER CYLINDER                                                            |         |     |            |           |        |           |     |
| OEM BRAKE ROTOR                                                                |         |     |            |           |        |           |     |
| OEM BRAKE LINES                                                                |         |     |            |           |        |           |     |
| OEM BRAKE CALIPER                                                              |         |     |            |           |        |           |     |
| OEM HUBS                                                                       |         |     |            |           |        |           |     |
| OEM AXLES                                                                      |         |     |            |           |        |           |     |
| OEM STEERING BOX                                                               |         |     |            |           |        |           |     |
| AFTERMARKET STEERING QUICKENER                                                 |         |     |            |           |        |           |     |
| OEM ENGINE MOUNTS                                                              |         |     |            |           |        |           |     |
| OEM WHEELS                                                                     |         |     |            |           |        |           |     |
| OEM TIRES                                                                      |         |     |            |           |        |           |     |
| OEM TIRE SIZE                                                                  |         |     |            |           |        |           |     |
| TIRE GROOVING                                                                  |         |     |            |           |        |           |     |
| POST DATED /PRE DATED OEM GEAR RATIO                                           |         |     |            |           |        |           |     |
| OEM DRIVE CLUTCHES                                                             |         |     |            |           |        |           |     |
| YAMAHA AFTERMARKET PRESSURE PLATE                                              | NA      | NA  |            |           |        |           |     |
| SECONDARY HELIX/ SPRING CHANGE                                                 |         |     |            |           |        |           |     |
| PRIMARY WEIGHTS/SPRING CHANGE                                                  |         |     |            |           |        |           |     |
| <b>ENGINE</b>                                                                  |         |     |            |           |        |           |     |
| VALVE JOB ALLOWED                                                              |         |     |            |           |        |           |     |
| OEM CAM                                                                        |         |     |            |           |        |           |     |
| OEM PISTONS                                                                    |         |     |            |           |        |           |     |
| OEM CRANKSHAFT                                                                 |         |     |            |           |        |           |     |
| OEM CYLINDER HEAD                                                              |         |     |            |           |        |           |     |
| OEM CRANKCASES                                                                 |         |     |            |           |        |           |     |
| OEM AIR FILTER                                                                 |         |     |            |           |        |           |     |
| OEM AIR BOX                                                                    |         |     |            |           |        |           |     |
| OEM ECU FLASH                                                                  |         |     |            |           |        |           |     |
| OEM ECU                                                                        |         |     |            |           |        |           |     |
| OEM EXHAUST HEADER                                                             |         |     |            |           |        |           |     |
| OEM MUFFLER                                                                    |         |     |            |           |        |           |     |
| OEM CYLINDER                                                                   |         |     |            |           |        |           |     |
| OEM CYLINDER REPLATING                                                         |         |     |            |           |        |           |     |
| OEM INTERNAL ENGINE MODIFICATION (INCLUDING BLUE PRINTING AND CRANK BALANCING) |         |     |            |           |        |           |     |
| SIMOG BLOCK OFF PLATES                                                         |         |     |            |           |        |           |     |
| SPARK ARRESTOR REMOVAL                                                         |         |     |            |           |        |           |     |
| OEM WIRE HARNESS                                                               |         |     |            |           |        |           |     |
| OEM FUSE PANEL                                                                 |         |     |            |           |        |           |     |
| INTAKE SPACERS FOR OEM AIR BOX                                                 |         |     |            |           |        |           |     |
| OIL COOLERS                                                                    |         |     |            |           |        |           |     |
| CHART CONTINUES ON NEXT PAGE                                                   |         |     |            |           |        |           |     |

| SXS CLASS CLARIFICATION CHART (CONTINUED) |         |     |            |           |        |           |     |
|-------------------------------------------|---------|-----|------------|-----------|--------|-----------|-----|
| FRAME                                     | 170/200 | 570 | Youth 1000 | SPORTSMAN | PRO AM | PRO STOCK | PRO |
| FRONT CLIP REPLACEMENT                    |         |     |            |           |        |           |     |
| MAIN FRAME HORNS OEM                      |         |     |            |           |        |           |     |
| GUSSETS/BRACING ALLOWED                   |         |     |            |           |        |           |     |
| SUSPENSION                                |         |     |            |           |        |           |     |
| OEM SHOCK MOUNTS                          |         |     |            |           |        |           |     |
| OEM SUSPENSION TRAILING ARMS              |         |     |            |           |        |           |     |
| OEM FRONT SUSPENSION ARMS                 |         |     |            |           |        |           |     |
| GUSSETS TO OEM SUSPENISON COMPONENTS      |         |     |            |           |        |           |     |
| OEM SHOCKS                                |         |     |            |           |        |           |     |
| OEM SPRINGS                               |         |     |            |           |        |           |     |
| OEM SUSPENSION MOUNTING POINTS            |         |     |            |           |        |           |     |
| AFTER MARKET SWAY BARS                    |         |     |            |           |        |           |     |
| TIE RODS AND ENDS                         |         |     |            |           |        |           |     |

GUIDE:

|                             |                                                  |                                       |
|-----------------------------|--------------------------------------------------|---------------------------------------|
| MODIFICATION<br>NOT ALLOWED | MODIFICATION<br>ALLOWED SEE RULES<br>FOR DETAILS | REMOVAL OR<br>MODIFICATION<br>ALLOWED |
|-----------------------------|--------------------------------------------------|---------------------------------------|

## **Rzr 170/200 Class**

SXS 200: Stock Polaris RZR 170 or RZR 200 SxS: driven by children ages 6-12 (racers age will be determined on the day of the event). Vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time, and data collection before being deemed legal for competition. To be considered for approval for CHAMP OFF-ROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the first national event. All general rulebook rules apply to the RZR 200 class.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal. Refer to class chart for legal changes/modifications. Data logging using a GPS enabled data logger is required.

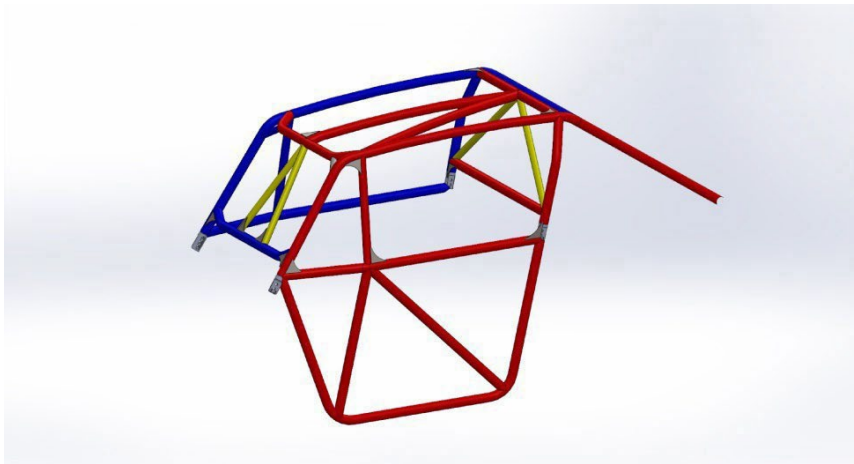
### **SXS-170/200 Rules:**

- Race numbers are required on both sides of vehicle and the rear of the vehicle; must be white background with black numbers and corresponding class name on every number plate. Minimum 6 inches tall, NO LETTERS in your Bib #.
- Aftermarket Swing arms are allowed on 170s
- Aftermarket control arms are allowed provided OEM suspension mounts and leverage points (shock mounts and ball joint location) are maintained, any aftermarket control arm used will maintain the OEM control arm configuration. For 170 only
- 200cc, 170cc engine or 150cc OEM engine must be used with no modifications.
- Aftermarket chain and sprockets are allowed but must use 12 tooth front and 32 tooth rear sprockets.
- Aftermarket primary clutch sheeves are allowed provided they use the OEM weights, pressure plate, and pressure plate sliders.
- Aftermarket or re-flashed ECU's not allowed.
- Fuel system must remain completely OEM - legal fuel cell is allowed.
- Must run Pump fuel
- All OEM stock clutch components must be used - Drive clutch roller part number - 0455010
- Aftermarket steering racks allowed.
- Aftermarket tie rods allowed.
- Exhaust only modifications allowed.
- Rear box area can be removed.
- Driver window net is mandatory. See fig 3 of roll cage section for clarification.
- No passengers allowed.
- Driver must wear helmet, eye protection and fire suit.
- Approved head and neck restraints are required.
- Aftermarket roll cage is mandatory and must meet all pro stock diagram – roll cage must be a minimum of 1.25 x .095 dom tubing.
- Rock screens are required and must cover 50% of the front window opening
- Window nets must cover entire driver window opening, on 150 ace both sides must be completely
- Tires must be ran at no more than max air pressure marked on the side wall of the tire

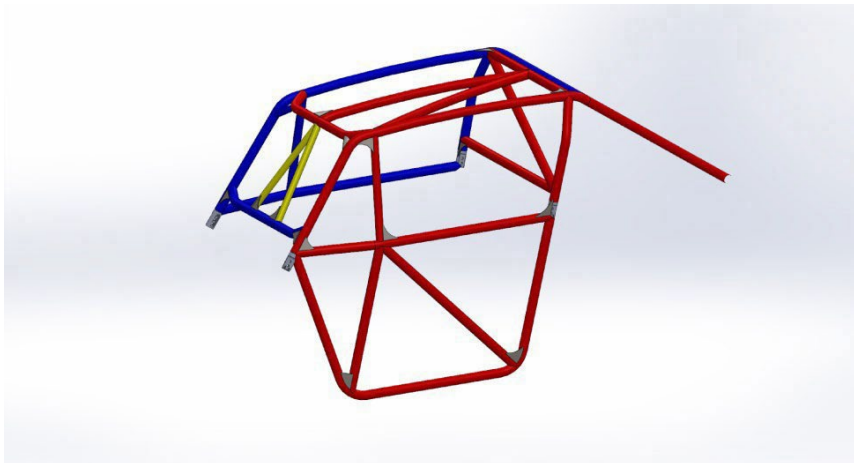
covered. Window net must have 1/2" round window net rod.

- Roof panel mandatory minimum thickness .060
- Minimum weight 700 LBS.
- Original or aftermarket SxS tires and wheels are allowed for 170/200 class. Tires and wheels must be readily available to all competitors. No limited production or specialty tires. Tires and wheels must be exact same size that comes from the manufacturer.
- 170 Aftermarket transmission mount is allowed MFG: SDI, PN: UDCTM170
- 170 Heavy duty pinion shaft and cover are allowed MFG: Cognito, PN: 360-90074
- Only OEM stock wheels, no aftermarket aluminum wheels allowed.

**FIG 4 - 200 ROLL CAGE**



**FIG 16 - SXS 200 DOUBLE DIAGONAL**



**Figure 156 SXS 200 SINGLE DIAGONAL**

1. Minimum roll cage tube diameter and wall thickness requirements

a. All red tubes must be minimum 1.250 x .095 (1-1/4 x .095).

b. All blue tubes must be minimum 1.250 x .083 (1-1/4 x .083).

- c. All yellow tubes must be minimum 1.0 x .083 (1x.083).
- d. All orange tubes must be minimum 1.0x .065 (1 x .063).
- e. All single tube intersections must be gusseted.
- f. Rock screens highly recommended.

## **SXS 570 Class:**

SXS 570: Stock Polaris RZR 570 SxS driven by children ages 12-16. Racer's age 9-11 may race with Champ Off Road approval. (Racer's age will be determined on the day of the event). Vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for CHAMP OFF-ROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the first national event. All general rulebook rules apply to the RZR 570 class.

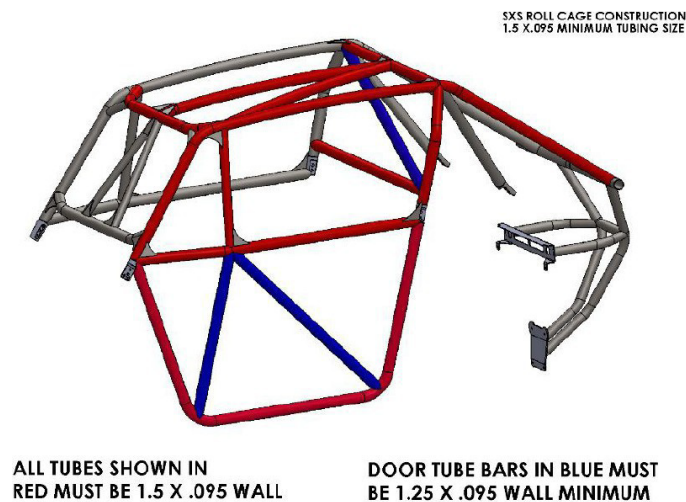
These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal. Refer to class chart for legal changes/modifications. Data logging using a GPS enabled data logger is required.

## **SXS-570 Rules:**

- Race numbers are required on both sides of vehicle and the rear of the vehicle; must be white background with black numbers and corresponding class name on every number plate. Minimum 6 inches tall, NO LETTERS in your Bib #.
- RZR 570 S models are not valid for competition
- Aftermarket Suspension is not allowed.
- 570cc engine must be used with no modifications.
- Aftermarket or re-flashed ECU's not allowed.
- Fuel system must remain completely OEM for its year/make/model - fuel cell is allowed.
- Must run Pump fuel
- OEM clutch must be used - Clutch Springs and weights maybe changed only.
- Completely OEM unmodified exhaust.
- Radiator can be moved to rear of vehicle.
- Rear box area can be removed.
- Driver window net is mandatory.
- No passengers allowed.
- Driver must wear approved helmet, eye protection and fire suit.
- Approved head and neck restraints are required.
- Aftermarket roll cage is mandatory. Pro stock cage design. minimum roll cage tubing is 1.5"x .095
- Cage can be bolted in place using stock mounting location.

- Aftermarket tie rods are allowed
- Rock screens must cover entire area in front of driver. Zip ties are not allowed to secure rock screen to the cage.
- Roof panel mandatory minimum thickness .060
- Original or aftermarket SxS tires only for 570 class. Tires must be readily available to all competitors. No limited production or specialty tires. Maximum Tire height - 26"
- Rim size and offset may be changed.
- 8-inch Minimum ground clearance.
- Maximum width - 54 inch.
- Minimum weight including driver - 1375 lbs.

**FIG 5 – 570 ROLL CAGE**



## YOUTH SXS:

The intent of the YOUTH SxS class is to serve as a beginning step to learn race procedures, and growing driver skill until moving into sportsman class competition. Racers are to be 12-18 years of age as of June 1<sup>st</sup> of the competition year. Youth SxS is a production based 1000cc naturally aspirated class, utilizing the rZR 1000 or RS1 platform that is a minimum one year old machine. **This is an entry level class and is not intended for purpose built race cars.** Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

## YOUTH SXS Rules:

- Race numbers are required on both sides of vehicle and the rear of the vehicle; must be white background with black numbers and corresponding class name on every number plate. Minimum 6 inches tall, NO LETTERS in your Bib #.
- Anyone racing the Youth SxS class will not be eligible to run 170/200 SxS or Sportsman classes
- Minimum weight 1700lbs with driver
- All cars must run Champ Off-Road supplied Polaris ECU tune, no other ECU tune is legal, ECU will be sealed, if seals are tampered with or altered in any way, it will result in a disqualification.
- OEM shocks must be used, they may be revalved, and resprung.
- OEM axles must be used
- OEM tie rods and ends must be used
- All OEM suspension arms, must be used.
- After market radius rods are legal
- Billet uprights are illegal
- Radiator maybe relocated to the box area
- Changing of fly weights, helix and springs is legal.
- 27 inch tire diameter maximum
- Grooving of tires is legal
- OEM exhaust with no modifications must be used.
- OEM intake must be used with no modifications including OEM air filter.
- OEM cargo box and plastic must be used in its entirety, no modifications may be done unless it is to accommodate the relocation of the radiator.
- OEM dash must be used, and gauge must remain in OEM location.
- Minimum ride height is 10"
- Fuel will be VP UTV96
- All other rules for full size SxS apply to this class including plating, and roll cage requirements.

The intent of the YOUTH SxS class is to serve as a beginning step to learn race procedures, and growing driver skill until moving into sportsman class competition. Racers are to be 12-18 years of age as of May 17<sup>th</sup> of the competition year. Youth SxS is a production based 1000cc naturally aspirated class, utilizing the r3r 1000 or rs1 platform that is a minimum one year old machine. **This is an entry level class and is not intended for purpose built race cars.** Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

## **SPORTSMAN SXS:**

The intent of the MORR Sportsman SxS class is to serve as a beginning step to learn race procedures, and growing driver skill until moving into PRO am class competition. If at any point in the season it is determined that a skill set has exceeded the classes intent COR reserves the right to advance competitors into the next level of competition. Sportsman SXS class is a production based 1000cc naturally aspirated class, vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for the CHAMP OFF-ROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the first national event. All general rulebook rules apply to the PRO AM class unless otherwise noted below or in the class definition chart. Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

### **Sportsman SxS 1000 Rules:**

- Will use solid black numbers on yellow background for all 5 number plate backgrounds with class noted in all 5 locations, NO LETTERS in your Bib #.
- Please refer to FIG-1 SxS cage diagram noted in general section for cage rules
- Door areas will use OEM plastics on top of .063 door skins
- Weights and measures:
  - a. Maximum width is 72.5" Front and rear
  - b. 10" ride height
  - c. RZR weight 1600 LBS with driver
  - d. Can-Am weight 1600lbs with driver
  - e. Yamaha weight 1775lbs with driver
  - f. Arctic Cat weight 1875lbs with driver
  - g. Honda weight 1725lbs with driver
  - h. Kawasaki weight 1725lbs with driver
  - i. Any new models not listed above will be required to begin competition at the same weight as the lightest existing model until sufficient data has been collected in order to determine a new minimum weight to maintain competition parity among the different makes and models.
- Must use OEM hubs for the make and model for the correct model year.
- Must use OEM air box in its entirety, filters maybe aftermarket but no filter maybe removed.
- May use commercially available aftermarket shocks

- Must retain OEM rev limit.
- OEM exhaust must be as produced by manufacturer, no gutting, metal removal, alteration of flow allowed.
- Drivers that place top 3 in Championship points twice must move up the following season

## **Pro Am SxS:**

The intent of the Champ Off-Road PRO AM SxS class is to serve as an intermediate step between sportsman competition and PRO class competition. If at any point in the season it is determined that a skill set has exceeded the class's intent Champ reserves the right to advance competitors into the next level of competition. PRO AM SxS class is a production based 1000cc naturally aspirated class, vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for the CHAMP OFF-ROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the first national event. All general rulebook rules apply to the PRO AM class unless otherwise noted below or in the class definition chart. Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

Eligibility for PRO AM class:

- A driver that finished 15<sup>th</sup> position or below in the previous year Champ Pro Stock championship will be eligible to run the PRO AM class.
- Drivers that place top 3 in Championship points twice must move up the following season
- Champ Off-Road has the right to bump you down or remove you from this class if necessary

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

## **PRO AM 1000 Rules:**

- Will use solid yellow numbers on black background in all 5 number plate backgrounds with class noted on all 5 locations, NO LETTERS in your Bib #.
- Please refer to FIG-1 SxS cage diagram noted in general section for cage rules
- Door areas will use OEM plastics on top of .063 door skins

- Weights and measures:
  - a. Maximum width is 72.5" Front and rear
  - b. 10" ride height
  - c. RZR weight 1600 LBS with driver
  - d. Can-Am weight 1600lbs with driver
  - e. Yamaha weight 1775lbs with driver
  - f. Arctic Cat weight 1775lbs with driver
  - g. Honda weight 1600lbs with driver
  - h. Kawasaki weight 1600lbs with driver
  - i. Any new models not listed above will be required to begin competition at the same weight as the lightest existing model until sufficient data has been collected in order to determine a new minimum weight to maintain competition parity among the different makes and models.
- Must use OEM hubs for the make and model for the correct model year.
- Must use OEM air box in its entirety, filters maybe aftermarket but no filter maybe removed.
- May use aftermarket exhaust
- Aftermarket ball joints are legal
- Gussets may be added to control arms and trailing arm

## Pro AM Turbo SxS:

The intent of the COR Pro AM Turbo SxS class is to serve as an intermediate step between Pro AM SxS competition and Pro SxS class competition. Pro AM Turbo SxS class is a production based 1000cc forced induction class. Vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000 units. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for the CHAMP OFFROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the national event it is competing in. All general rulebook rules apply to the Pro AM Turbo SxS class unless otherwise noted below or in the class definition chart. Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications. Drivers running Pro AM Turbo SxS are not eligible for sportsman SxS class.

## Pro AM Turbo SxS Rules:

- Pro AM Turbo SxS class will use solid white numbers on a blue background with the class listed on the number plate in all 5 locations, NO LETTERS in your Bib #.
- Please refer to FIG-1 SxS cage diagram noted in general section for cage rules.
- Door areas may have the OEM plastic removed
- Weights and measures:
  - a. Maximum width is 80" Front and rear
  - b. 8" ride height
  - c. Maverick R minimum weight 2450lbs with driver: the weight maybe adjusted after race data is collected
  - d. All other cars minimum weight 1850 measured at any point pre/post-race with driver.
- Fuel System must be Completely OEM with the exception of COR approved fuel cells/OEM tanks and the change from an OEM fuel line to an aftermarket fuel line.
- Gauge cluster may be removed.
- May use aftermarket exhaust – Titanium mufflers are legal.
- Aftermarket intake may be relocated using OEM protocols the intake ports, and throttle bodies may not be modified in any way. OEM Can bus ecu boost protocols must be maintained. Intake mounting to head must maintain OEM configurations, all intakes are subject to Champ Off-Road approval and any decisions disqualifying any intakes are final and not subject to appeal.
- All wiring harnesses, ECU, Electronical controls must be OEM.
- OEM ECU only
- No OEM internal performance engine accessories are legal.
- Yamaha models may update clutch basket and springs/pressure plate/friction plates
- CVT models may update weights, springs, helix, aftermarket cvt clutches are legal.
- OEM production-based turbo cars may use any commercially available intercooler
- Carbon fiber and Titanium are prohibited from anywhere on the SxS unless specifically otherwise stated.
- Billet spindles are legal provided they are commercially available.
- Billet uprights are legal

- Non-OEM dry sumps are legal
- Non live brake bias adjusters are legal
- Uprights may have more than one pivot point on top/bottom
- Aftermarket waste gate actuators are legal.
- Front and rear differentials must be from the model of vehicle used. Differential internals may be changed or modified with COR preapproval. Gear ratios must remain OEM Stock
- Commercially available long travel kits must be used if OEM as produced arms are not used.
- Center to center from primary clutch to secondary clutch centerlines may be modified provided the parts used for such modification is commercially available.

#### Yamaha Specific Rules:

Regulated at 60psi at the rail 64psi at the pump

Data recording is mandatory measuring fuel pressure at the rail, boost at the throttle body using the unused port capped by the OEM (will have a diagram for this) failure to have an active data logger will result in a DQ

Yamaha OEM Sidewinder Injector x3 Part Number: 8KJ-13761-00-00

GYTR Cast Exhaust Manifold 2022 Spec Part number: BAS-E4602-V0

GYTR Turbo 42MM 2022 Spec Part Number: BAS-E46F2-R0

DLP Supplied Aero-motive Fuel Pump and fuel PSI regulator kit Part Number: DLPFPK 201

DLP Supplied Solenoid for Boost Control. Brand: MAC Valves. Part Number 35AA-AAA-DDBA-1BA  
Or

Regulated to stock base fuel pressure (3.5 bar) with boost referenced at the regulator. **Fuel pressure may not exceed 65psi.** Boost will be logged through the datalogger via Can bus channel utilizing the factory map sensor. Failure to have an actual data logger will result in DQ

OEM Yamaha Sidewinder Piston Part Number 8KJ-11631-00-00

OEM Yamaha Sidewinder Rings Part Number 8KJ-11601-01-00

OEM Yamaha Sidewinder wrist pin Part Number 8KJ-11633-00-00

OEM Yamaha Sidewinder Connecting Rod Part Number 8KJ-11650-00-00

OEM Yamaha Sidewinder Head Gasket Part Number 8KJ-11181-00-00

DLP Supplied 580cc fuel injectors x3 - Part Number DLP-00170 DLP Supplied Exhaust Manifold with V-band mounting - Part Number DLP-00095 DLP supplied 44mm turbo and wastegate actuator - Part Number DLP-80001 DLP Supplied Aeromotive Fuel Pump and fuel PSI regulator Kit - Part Number DLP-00143 (DLPFPK) DLP Supplied Solenoid for Boost Control, Brand: MAC Valves - Part Number DLP-80002 (35AA-AAA-DDBA-1BA)

Deviation from these parts and their respective numbers will result in a DQ

## Pro Stock SxS:

The intent of the COR Pro Stock SxS class is to serve as an intermediate step between Pro Turbo competition and PRO light/2/4 class competition. Pro Stock SXS class is a production based 1000cc naturally aspirated class, Vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for the CHAMP OFF-ROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the national event at which it is competing in. All general rulebook rules apply to the Pro Stock class unless otherwise noted below or in the class definition chart. Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

Eligibility for Pro stock class:

- Must send in resume with prior experience. Champ Off-Road will determine if racer is eligible based on prior experience and if approved will be placed on a year-long probation. Champ Off-Road has the right to bump you down or remove you from this class if necessary.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

## Pro Stock SxS Rules:

- Non-OEM dry sumps are legal
- Non live brake bias adjusters are legal
- Pro stock SxS class will use solid black numbers on a white background for all 5 locations with the class listed on the number plate in all 5 locations, NO LETTERS in your Bib #.
- Please refer to FIG-1 SxS cage diagram noted in general section for cage rules
- Door areas will use OEM plastics on top of .063 door skins
- Weights and measures:
  - a. Maximum width is 72.5" Front and rear
  - b. 8" ride height

- c. RZR weight 1650 LBS with driver
  - d. Can-Am weight 1600lbs with driver
  - e. Yamaha weight 1700lbs with driver
  - f. Honda weight 1600lbs with driver
  - g. Kawasaki weight 1600lbs with driver
  - h. Any new models not listed above will be required to begin competition at the same weight as the lightest existing model until sufficient data has been collected in order to determine a new minimum weight to maintain competition parity among the different makes and models.
- Fuel System must be Completely OEM with the exception of COR approved fuel cells/OEM tanks and the change from an OEM fuel line to an aftermarket fuel line.
  - Gauge cluster may be removed.
  - May use aftermarket exhaust – Titanium mufflers are legal.
  - Aftermarket intake before the throttle body may be relocated using OEM protocols
  - All wiring harnesses, ECU, Electronical controls must be OEM.
  - No OEM internal performance engine accessories are legal.
  - Yamaha models may update clutch basket and springs/pressure plate/friction plates
  - CVT models may update weights, springs, helix but must use OEM cvt clutches in their produced state
  - Carbon fiber and Titanium are prohibited from anywhere on the SxS unless specifically otherwise stated.
  - Front and rear differentials must be from the model of vehicle used. Differential internals may be changed or modified with COR preapproval. Gear ratios must remain OEM Stock. **Drive systems must maintain original configuration; approval must be done every year. Part numbers for approval must be provided, failure to do so will result in a disqualification**
  - Aftermarket ball joints are legal provided they mount into OEM control arms without modification
  - Gussets may be added to control arms and trailing arms
  - Honda performance upgrades:
    1. Crower cam part# BC0923
    2. Crower springs part# BC0920S
  - ANY DEVIATION FROM LISTED PARTS WILL RESULT IN AN IMMEDIATE DISQUALIFICATION.



## Pro SxS:

The intent of the COR Pro SxS class is to serve as an intermediate step between SXS competition and PRO Truck class competition. Pro SXS class is a production based 1000cc forced induction class, Or a production Pro R Polaris 2000cc naturally aspirated class. Vehicles must be a standard manufacturer production model that is currently available to the general public in the USA. Vehicle style must have a manufacturer production volume of at least 1000 units. All new models/brands are subject to series pre-approval process which may include (but is not limited to) inspection, track time and data collection before being deemed legal for competition. To be considered for approval for the CHAMP OFFROAD during the 2025 season, all new models must be available and on dealership floors at least 30 days before the national event it is competing in. All

general rulebook rules apply to the Pro SxS class unless otherwise noted below or in the class definition chart. Data logging using a GPS enabled data logger is required. Refer to class chart for legal changes/modifications.

### Eligibility for Pro SxS class:

- Must send in resume with prior experience. Champ Off-Road will determine if racer is eligible based on prior experience and if approved will be placed on a year-long probation. Champ Off-Road has the right to bump you down or remove you from this class if necessary.

These Side by Side (SxS) classes are production based, and as such if this rule book does not specifically say that you can do something, then you must consider that the change or modification is illegal

## Pro SxS rules:

- Pro SxS class will use solid white numbers on a black background for all 5 locations with the class listed on the number plate in all 5 locations, NO LETTERS in your Bib #.
- Please refer to FIG-1 SxS cage diagram noted in general section for cage rules.
- Door areas may have the OEM plastic removed
- Weights and measures:
  - a. Maximum width is 80" Front and rear
  - b. 8" ride height

- c. Maverick R minimum weight 2000lbs with driver: the weight maybe adjusted after race data is collected
  - d. Pro R Minimum weight 2100lbs with driver
  - e. All other cars minimum weight 1850 measured at any point pre/post-race with driver.
- Fuel System must be Completely OEM with the exception of COR approved fuel cells/OEM tanks and the change from an OEM fuel line to an aftermarket fuel line.
  - Gauge cluster may be removed.
  - May use aftermarket exhaust – Titanium mufflers are legal.
  - Aftermarket intake may be relocated using OEM protocols the intake ports, and throttle bodies may not be modified in any way. OEM Can bus ecu boost protocols must be maintained. Intake mounting to head must maintain oem configurations, all intakes are subject to Champ offroad approval and any decisions disqualifying any intakes are final and not subject to appeal.
  - All wiring harnesses, ECU, Electronical controls must be OEM.
  - OEM ecu only
  - No OEM internal performance engine accessories are legal.
  - Yamaha models may update clutch basket and springs/pressure plate/friction plates
  - CVT models may update weights, springs, helix, aftermarket cvt clutches are legal.
  - OEM production-based turbo cars may use any commercially available intercooler
  - Carbon fiber and Titanium are prohibited from anywhere on the SxS unless specifically otherwise stated.
  - Billet spindles are legal provided they are commercially available.
  - Billet uprights are legal
  - Non-OEM dry sumps are legal
  - Non live brake bias adjusters are legal
  - Uprights may have more than one pivot point on top/bottom
  - Aftermarket waste gate actuators are legal.
  - Front and rear differentials must be from the model of vehicle used. Differential internals may be changed or modified with COR preapproval. Gear ratios must remain OEM Stock
  - Commercially available long travel kits must be used if oem as produced arms are not used.
  - Center to center from primary clutch to secondary clutch centerlines maybe modified provided the parts used for such modification is commercially available.

#### Yamaha specific rules:

Regulated at 60psi at the rail 64psi at the pump

Data recording is mandatory measuring fuel pressure at the rail, boost at the throttle body using the unused port capped by the OEM (will have a diagram for this) failure to have an active data logger will result in a DQ

Yamaha OEM Sidewinder Injector x3

Part Number: 8KJ-13761-00-00

GYTR Cast Exhaust Manifold 2022 Spec

Part number: BAS-E4602-V0

GYTR Turbo 42MM 2022 Spec

Part Number: BAS-E46F2-R0

DLP Supplied Aero-motive Fuel Pump and fuel PSI regulator kit

Part Number: DLPFPK

DLP Supplied Solenoid for Boost Control. Brand: MAC Valves. Part Number 35AA-AAA-DDBA-1BA

Or

Regulated to stock base fuel pressure (3.5 bar) with boost referenced at the regulator. **Fuel pressure may not exceed 65psi.** Boost will be logged through the datalogger via Can bus channel utilizing the factory map sensor. Failure to have an actual data logger will result in DQ

OEM Yamaha Sidewinder Piston Part Number 8KJ-11631-00-00

OEM Yamaha Sidewinder Rings Part Number 8KJ-11601-01-00

OEM Yamaha Sidewinder wrist pin Part Number 8KJ-11633-00-00

OEM Yamaha Sidewinder Connecting Rod Part Number 8KJ-11650-00-00

OEM Yamaha Sidewinder Head Gasket Part Number 8KJ-11181-00-00

DLP Supplied 580cc fuel injectors x3 - Part Number DLP-00170 DLP Supplied Exhaust Manifold with V-band mounting - Part Number DLP-00095 DLP supplied 44mm turbo and wastegate actuator - Part Number DLP-80001 DLP Supplied Aeromotive Fuel Pump and fuel PSI regulator Kit - Part Number DLP-00143 (DLPFPK) DLP Supplied Solenoid for Boost Control, Brand: MAC Valves - Part Number DLP-80002 (35AA-AAA-DDBA-1BA)

Deviation from these parts and their respective numbers will result in a DQ

## **MORR Combined Class Rules (CCR)**

- The Combined Class Rules will apply to all Sportsman race classes.
- Any modification of or addition to the CCR is prohibited, unless changed by the proper method of notification by the series officials.
- Any specific class rules in the following sections will amend or supersede this section.

### **APPROVED MAKES OF COMPETITION**

- The following truck manufacturers are considered eligible and approved for competition in Sportsman Series race events: Chevrolet, Toyota, Mazda, Jeep, Ford, Nissan, and Dodge.

### **ROLL BARS/ ROLL CAGE**

- Round steel seamless aircraft 4130 or D.O.M. tubing is compulsory for the basic roll cage construction, and must be Sportsman Series approved.
- Aluminum and/or other composite soft metals are not allowable. All roll cage construction must be welded.
- Minimum tubing diameter for all Buggy Classes is 1-1/2" diameter by 0.090" wall thickness. If anything other than this is used for the bottom frame rail you must have prior written permission from Sportsman Tech Director.
- The minimum tubing diameter and thickness for vehicles weighing up to 3,000 lbs. is 1-1/2" diameter by 0.120" wall thickness.
- The minimum tubing diameter and thickness for vehicles weighing up to 5,000 lbs. is 1-3/4" diameter by 0.120" wall thickness.
- The minimum tubing diameter and thickness for vehicles weighing over 5,000 lbs. is 2" diameter by 0.120" wall thickness.
- Gussets are required on all intersections in the driving compartment as well as the bars that attach to the rear of the main roll bar behind the driver. Gussets must be of the same material and thickness as the roll cage and be within 3" of intersection.
- Diagonals or similar bracing are mandatory for all vehicle roof openings as well as front and rear roll bar hoops.
- All vehicles must have three horizontal door bars per side.
- All truck classes must have a 0.250" thick aluminum or 0.125" thick steel plate securely mounted on the outside of the driver side door bars. This plate must cover from A-pillar to B-pillar, and from the window opening to bottom of chassis. The plate must be bolted on with a minimum of 8 bolts with a minimum of 5/16" diameter.
- Sportsman truck classes must have a 0.250" thick metal protective shield covering the back and bottom of the seat.
- A basic roll cage configuration is detailed in the Illustrations Section of these rules.
- A 0.250" thick aluminum or 0.125" thick steel plate must be bolted or welded to the roof directly above the drivers head, and must cover the entire side of the roll cage above the driver compartment. A minimum of 6 5/16" bolts must be used if bolted.
- All roll bar tubes and roll bars in close proximity to the driver's helmet must be padded with a securely attached high impact padding meeting SFI Specification 45.1.
- Window nets are required and must use a positive latch (seat belt type) system. Spring-loaded mounts are not allowed. Metal retainers must be used in all areas of the mounting. No zip-ties.

- Window net rods must be a minimum of 1/2" solid rod for truck and buggy classes and must be steel.
- Window net rods must be a minimum of 3/8" solid rod for kart classes and must be steel.
- All window net latches must have a seatbelt-style Velcro tag at the end of their release. This tag must Velcro to the chassis or window net to prevent accidental opening of the latch.

#### **DRIVER'S COMPARTMENT**

- Any vehicle where hot water lines run through the driver's compartment, must have them fully shielded and enclosed from the driver.
- Air intake must not be in direct view of the driver. Intake must be shielded from the driver.
- Truck classes are allowed a maximum of 1/2" gap around steering shaft. All other holes must be covered.

#### **TRACK WIDTH REQUIREMENTS**

- Vehicles cannot exceed a maximum track or overall width as stated in vehicle class technical specifications.
- Track width is defined as the maximum overall width measured at the widest point of the tires.
- All measurements will be performed with Sportsman Series instruments or gauges.

#### **WHEELBASE REQUIREMENTS**

- All vehicles must compete with wheel base limitations as stated in vehicle class technical specifications.
- Wheelbase is measured from the center of the front wheel to the center of the rear wheel. Left and right sides must be within  $\pm 1/2"$ .
- Wheelbase will be measured from a ride height of 10" with all four tires inflated to 20 PSI.
- All measurements will be performed with Sportsman Series instruments or gauges.

#### **METHOD OF MEASUREMENTS**

- Leaf springs: Measured from CL rear eye to CL front eye.
- Wheel Travel, Front: Measured on the center of the dust cover.
- Wheel Travel, Rear: Measured on a vertical plane from the center of the rear axle.
- All measurement will be from stop to stop.
- Sportsman Series Technical Director determines all measurements and center points.

#### **STEERING COMPONENTS**

- All vehicles must be left side steer only .
- Steering wheel, seat and pedals must be in approximate stock location.
- Sportsman mechanism meeting SFI Specification 42.1.
- Series Technical Director must approve any universal joints in steering shaft.
- It is mandatory that the steering wheel be removable by means of a quick release.
- Hydraulic power steering is permitted.

#### **BRAKES AND BRAKE COOLING**

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

#### **DUST LIGHT**

- A minimum of one rear dust light is required.
- The light must be an amber LED with a round (approximately 2.5" diameter) or rectangular (approximately 2" x 6") shape.
- Light must meet SAE specification P2. (NAPA part# LIT 1052A-round, or LIT 2150A3-rectangular or similar lights).
- Light must be mounted on, or near the truck's centerline, and in a location that provides good visibility from the rear and side of the truck.
- **Dust light must be on at all times when the electrical master switch is on.**
- Dust light may not strobe or flash.

#### **SHOCKS**

- All vehicles must have at least one working shock on each wheel position.
- All shock maximum diameters specified in individual class rules refer to nominal inner diameter of the shock body.
- Shocks must be hydraulic design without electrical or magnetic assistance.
- Shocks cannot be adjusted while vehicle is in motion.
- Heating or cooling liquids or chemicals in shocks are not allowed.
- Shocks may have external bypass tubes and reservoir cans.
- Sportsman Series Technical Director must approve all team-manufactured shocks.
- Remote, rocker arm, or cantilever-mounted shocks are not allowed.
- Each shock must operate independently at each wheel position.

#### **WEIGHT OF VEHICLE**

- All class weights are applicable both pre and post-race. The driver is included in vehicle minimum weight.
- Weight shifting devices of any kind are not allowed.
- A complete set of body panels must be presented to Sportsman Series Technical Director for weighing at or prior to first race of season. Excessive loss of body panels during competition will result in crew chief removing all body panels from race vehicle, adding weight of total panels.
- Race vehicle total weight must be declared on event entry form.
- All vehicles may be weighed after competition at the discretion of the Sportsman Series Technical Director.
- Cleaning may be required.
- Failure to present a vehicle to Technical Inspection will result in disqualification.

#### **BALLAST**

- Added weight must be in block form of no less than 10-pound blocks.
- No liquid of any type (except the fuel in fuel cell), pellets, or other granulated weight is allowed.

- Added weight must be securely bolted in place. Dislodged weight cannot be returned to vehicle for weighing at end of race.
- Sportsman Series Officials must approve all weight material.
- All block ballast weight must be identified with vehicle number and painted bright fluorescent color.
- Two holes must be drilled in the ballast block and attachment point for the attachment of a seal if necessary.
- Weight may be sealed at the discretion of the Sportsman Series Technical Director.

### **VEHICLE BODIES**

- Standard production or after-market approved bodies may compete.
- All bodies must be of volume production models as selected and approved by Sportsman Series.
- Vehicles must be neat appearing.
- All vehicles must have complete bodies, cabs, hoods, doors, fenders, grills and roof, in top quality condition, in standard location, maintaining make and model body lines.
- All body parts and box covers must be attached, preventing loss of body panels and covers during competition.
- Original dimensions of all bodies must remain as manufactured, except changes that may be necessary for tire clearance.
- Sportsman Series must approve any changes for tire clearance.
- All stock production glass must be removed from race vehicles.
- All operational doors must be fastened in a manner acceptable to Sportsman Series Officials.
- All body components must be installed in their standard location  $\pm 1"$ , as referenced by a production model vehicle.
- Complete bodies must be attached at the start of competition, pre-run or any other on track activities. If conditions warrant, the Race Director may allow trucks to practice without bedsides.
- Bodies must be attached in such a fashion as not to create a pointed or sharp extrusion when panels are removed.
- Sportsman Series mandates a loop body mounting bracket construction.
- For fan and sponsor recognition, all vehicles must display the driver's name across the roof at the windshield or door line. The series sponsor must be displayed on the hood, cowl or roof at the windshield line.

### **DOOR**

- Door panels must retain all factory-molded contours and accent lines.
- Standard production or after-market approved doors may be used.

### **HOODS AND ROOFS**

- All vehicles will have a roof.
- Aluminum or steel sheeting must be firmly attached to the top of the roll cage above driver's head.
- Minimum thicknesses of attached sheeting are 0.075" aluminum or 16ga. steel.

- The hood must be locked down with six positive pin fasteners equipped with clip cables, of which, four must be evenly spaced across the front of the hood and two placed in the rear corners of the hood.
- Roofs must be properly attached to the cage of the vehicle.
- Roof latches must be metal on metal. No bungee latches will be allowed.

#### **BED AND TAILGATE**

- Standard production or after-market box panels may be used.
- The panels must be attached as not to come off during competition.
- Vehicle production lines must be maintained.
- Tonneau covers may be used.

#### **BUMPERS AND NERF BARS**

- All vehicles must have safe bumpers front and rear.
- Bumpers must have looped corners.
- Front bumper cannot be extended more than 12" beyond grille and no wider than 2" inside the inner sidewall of the front tire when straight.
- Nerf bars and rear bumpers may not extend more than 2" beyond the outside front to rear tire line.
- Nerf bars are required in all buggy classes.
- Nerf bars must be rounded at the ends with no sharp corners.
- Rookie drivers must display a yellow painted rear bumper.
- Use of angle iron on any bumper, nerf bar or other outside protection is illegal.
- Use of angle iron on rear bumpers of buggies is allowed.
- Truck classes must have a hook point straight down from the A-pillar on each side of the truck for use by safety officials in case of a rollover. This hook point may be integrated into a nerf bar, but must not allow the hook to slide down the length of the nerf bar.

#### **FLAPS**

- Rear mud flaps are required.
- Buggy classes are exempt from using mud flaps.
- Kart classes are not exempt from using mud flaps.
- **Mud flaps must be at least 1" wider than the width of the tire** and touch the ground when the vehicle is stationary.
- Mud flaps must be installed directly behind the tire.
- Mud flaps must be made of a semi-rigid, non-brittle material such as 0.25" TIVAR 88, available from Quadrant Engineering Plastic Products ([quadrantplastics.com](http://quadrantplastics.com)), or equivalent.
- Rear mud flaps must be attached to the rear bumper or a non-pivoting body brace.

#### **ROCK SCREENS**

- All vehicles are required to have an acceptable rock screen securely attached to the vehicle in front of the driver.
- Short Course Karts are exempt from using a rock screen. Mod Karts are not.

## **ENGINES**

- Engine blocks and cylinder heads must adhere to the same basic design parameters as produced by the manufacturer of the vehicle being used (except in PRO classes).
- Cubic inch of race vehicle motor must be declared at time of event registration.
- Sportsman Series Technical Director's primary method of cubic inch measurement is the "P&G Cubic Inch Tester".
- At the discretion of Sportsman Series Technical Director, engine displacement can be measured conventionally by the removal of one or both cylinder heads.

## **ENGINE SEALS**

- All competitor race vehicle engines must be capable of being sealed via some permanent method such as a drilled cap on one head bolt, one intake manifold bolt, and two adjacent oil pan bolts for use in sealing engine.
- Sportsman Series Technical Director is the only individual authorized to seal any competitor's engine.
- If seal is broken, Sportsman Series Technical Director will require engine cubic inch verification by the approved Sportsman Series measurement method.
- If requested, engines must be pumped and sealed by Sportsman Series Officials before entering into competition.
- Sealed engines may be pumped at the discretion of the Sportsman Series Technical Director.

## **DIPSTICKS**

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

## **OIL COOLERS**

- Oil coolers are allowed.
- Engine and transmission oil-to-air and oil-to-water heat exchangers are permitted.
- Cooling fans are permitted.

## **ENGINE COOLING SYSTEMS**

- No icing or refrigerant chemicals may be used.
- Impellers of the water pump may be altered.
- Electrical engine cooling fans are allowed.

## **CARBURETOR RESTRICTOR PLATES**

- Carburetor restrictor plate may be required.
- All restrictor plates must be purchased from Sportsman Series and cannot be modified in any way.
- Restrictor plate gaskets may be no more than 1/16" in thickness.
- Devices designed to increase or re-direct airflow between the carburetor and the intake manifold are not allowed.
- Vehicles must use open plenum or straight bore design spacer with standard gaskets only.
- Carburetor chokes are not considered to be restrictor plates.

### AIR INTAKE AND FILTERS

- Only naturally aspirated engines are allowed.

### ENGINE EXHAUST SYSTEMS

- All vehicles cannot exceed a maximum of one hundred (100) dB as measured 50' from trackside with or without mufflers.
- Collector pipes must be attached to headers in a secure manner.
- Exhaust pipes must extend past driver compartment to the outer edge of the vehicle or to the rear of the vehicle.
- All exhaust must discharge downward or outward.
- Exhaust heat shields are permitted.
- Exhaust pipes that enter the cab of the vehicle must have a protective heat shield.

### ENGINE AND VEHICLE ELECTRICAL SYSTEM

- No computerized systems are permitted, unless Sportsman Series Tech approved.
- Any make or brand of spark plug may be used.
- All vehicles must have a working alternator/generator system.
- All vehicles must have a self-starter in working condition.
- Vehicles must be capable of starting on their own power. After race is underway, vehicles may be started by hand pushing on pit road only.
- All electrical switches must be located on the dash panel.

### MASTER ELECTRICAL CUT-OFF SWITCH

- A master switch that will shut off all electrical power, and the engine, must be so labeled and located on the left dash panel. This rule applies to truck classes.
- A 2<sup>nd</sup> switch must be located near the rear of the vehicle, accessible while standing at the rear bumper and must be so labeled. It must be a master battery disconnect switch that shuts off the vehicle and eliminates all power from the battery when in the off position. It should be easy for safety personnel to immediately identify and shut it off. No momentary push button, toggle or pull cable switches allowed. This rule applies to all classes.
- The master on/off disconnect must have a red circle around the switch and labeled ON/OFF.



### **ELECTRICAL ACCESSORIES**

- No communication/telemetry will be allowed between the vehicle and/or data acquisition system with any other item and system during any sanctioned Sportsman event (practice, qualifying, or racing) with the exception for the request of television; certain vehicles may compete with telemetry systems, as so installed by the Sportsman Series television production network requesting such information.
- Vehicles cannot carry on board computers, micro-controllers, processors, recording devices, electronic memory chips, or traction control devices. However, data acquisition systems (digital dash logger) are allowed in all classes.

### **TRACTION CONTROL**

- Traction Control of any type is not allowed.
- Entrants whom commit a traction control offense, as determined by Sportsman, will lose all season points and be subject to suspension and fines.

### **DATA ACQUISITION**

- Data acquisition systems are allowed.
- Only type of sensors allowed are: Temperature, Pressure, Voltage, RPM, Oxygen, and Exhaust Temperature.
- No other Sensors allowed.
- All sensor data must be recorded on the data acquisition system.
- Any sensor not sending data to the data acquisition system must be removed from the vehicle.
- Data acquisition systems used during any sanctioned Sportsman event (practice, qualifying, or racing) will be limited to only the collection, display, and storage of data.
- Any system that is capable of modifying/activating, ignition timing, air or fuel ratio mixtures, traction control, throttle position, or any other setting on the vehicle is expressly forbidden.
- Sportsman officials may require that any or all data acquisition devices or sensors be removed or disabled during any sanctioned Sportsman event.
- Downloading of the data stored on the data acquisition system to a computer for data analysis after an event is permitted.
- All teams shall provide any and all, of the data to Sportsman officials upon request during any sanctioned Sportsman event.
- No communication will be allowed between a data acquisition system and any other item or system during any sanctioned Sportsman event.

### **FUEL SPECIFICATIONS**

- Race gas is required.
- 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/oxygen containing compounds.
- Pump gas is not allowed as it may contain additives or contaminants that could fail the Sportsman fuel tests.
- Cooling of the fuel by any means is not permitted during competition.
- In the event an "Official Fuel" is named, Sportsman Series 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.
- Sportsman Series Official has the right to sample a competitor's fuel at any time the vehicle is entered in a Sportsman Series event. All samples will be impounded for observation and/or testing by Sportsman Series or outside laboratories at Sportsman Series discretion.
- The use of nitrous oxide is prohibited.
- Any chemical testing will be conducted at the expense to the competitor.

### **FUEL CELL AND SYSTEMS**

- The use of a commercially manufactured fuel cell is mandatory.
- No material other than standard foam as provided by the fuel cell manufacturer is permitted.
- 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.
- Fuel cell must not be defective or damaged.

- No pressure systems will be allowed. Any concealed or non-concealed pressure type containers, feed lines or actuating mechanisms will not be permitted, even if inoperable.
- Electric fuel pumps must have oil pressure shut-off. Loss of oil pressure must automatically shut off fuel pump.
- A momentary-on bypass may be installed. The momentary on by pass may be a push button, 2-pole starter button, which can be mounted in a position best suited to the driver.
- The oil pressure-sending units are: Part# CARQUEST #53-33582 and Delco# 25036938.
- All fuel cell fillers must have check valves installed.
- 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.
- The fuel cell cannot be vented into the driver or engine compartment of any vehicle.
- The fuel cell, in all trucks, must be located behind the vehicle cab.
- Fuel cells must be enclosed in a metal outer shell.

#### **BELL HOUSINGS**

- A scatter shield of not less than 0.25" thick must be installed over flywheel, clutch, or torque converter and transfer case area.

#### **TRANSMISSIONS**

- The Sportsman Series Technical Director must approve all transmissions.
- All forward gears and reverse gears must be in working order.
- Installed in stock order, engine to transmission to differential via a drive shaft; the engine must be located in front of vehicle.
- Engine crankshafts must be connected to the transmission input shaft via conventional clutch assembly or vane type torque converter.
- Clutch assemblies are limited to a maximum of three clutch discs.
- All transmissions must manually change gears by a lever or shifter from a manufacturer. Electronic shifters and push button shifters are not allowed.

#### **DRIVE SHAFT LOOP**

- One 360 degree solid steel drive shaft loop, no less than 2" wide and 0.25" thick, must be placed around each drive shaft.
- A round steel tube no less than 1" OD with a wall thickness of at least 0.095" may also be used .
- The loop must be designed to prevent the shaft from contacting the ground or entering the driver compartment in the event of a shaft or joint failure.

#### **REAR AXLE/DIFFERENTIAL**

- Rear axle ring and pinion may be of any gear ratio.
- Quick-change rear ends are not allowed.
- Only steel axles are permitted.
- Independent rear suspension is not allowed.
- The rear end assembly must be in stock location.
- Rear differential must be spool type only.
- The differential/spool/axle assembly must not allow one wheel to turn independently of the other, either in a forward or backwards rotation.

- Rear differential must have a minimum of 1-1/2" inspection bung or plate placed in such a manner that Sportsman Series Tech can see and identify the spool.

### **TIRES**

- Only one tire per axle wheel position is permitted.
- Inner liners are only allowed in specific classes. Check the Technical requirements of each class.
- D.O.T. tires are required. Sizes are mandated in each class's general rules.
- Sportsman Series definition of the term D.O.T. is as follows:
  - a. Must meet all D.O.T. guidelines, and tests, and be stamped accordingly.
  - b. Must be part of a full line of like tires available through retail dealers.
  - c. Must be readily available to the general public in quantity if requested.
  - d. Model of tire must be offered in multiple sizes and conform in size with industry standards.
  - e. Retail pricing must be competitive with other manufacturers of like tires.
- Manufacturers wishing to compete in a D.O.T. Class must submit, no later than 60 days in advance of the first competition:
  - a. Size or sizes of tires intended to use.
  - b. Design measurements and weight of tire.
  - c. Target design durometer measurement of tire, using an ASTM D2240 Type A Durometer.
  - d. Digital picture of tread area as molded.
  - e. Sample catalog, listing intended tire.
  - f. List of retail distributors where tire is available.
- "One-off" or limited run tires will not be allowed.
- All tire measurements will be taken at 20.0 PSI unless otherwise noted.

### **WHEELS/LUG NUTS/BEAD LOCKS**

- All wheels must be in good condition.
- Lug nut must be open ended and of proper size.
- All competition vehicles must have recessed bead lock bolts.
- Studs must extend a minimum of two full threads past the end of the lug nut.
- If bead lock opening is more than 8" diameter, wheel studs may be no closer than 1-1/2" from the outer most face of bead lock.
- Stud ends must be rounded.
- Any cutout for a valve stem opening must be radiused and capped.
- Snap clips or dzus fasteners on wheels are not allowed.

### **NUMBERING/ MARKING/IDENTIFICATION**

- All vehicle numbering is subject to approval of and assignment by Sportsman Series
- Vehicle number must be placed on the upper left-hand corner of the windshield area. Number must be a minimum of 3" in height and easily visible by track crew, announcing tower, timing staff.
- All vehicle numbers must be solid black on a white background and must allow prompt identification by Sportsman Series Officials at all times.
- Numbers must have 1" of space between them
- All numbers must have a minimum height of 8", and be a minimum of 1-1/2" wide.

- Minimum number plate size is 10" high by 14" long
- One number must be on the rear of the vehicle facing rearward.
- One number must be on each side high and close to the back of the roof.
- All numbers must be mounted in such a way to stay clean and unobstructed.
- Foil or reflective numbers are not permitted.
- Sportsman Series Officials may require a competitor to use a different number to avoid confusion or duplication at a race.
- In the event that a vehicle number is not visible from timing and scoring, the competitor will not be scored. It is the competitor's responsibility to make sure their vehicle number is visible during all race conditions.
- Advertising on race vehicles must be in good taste.
- Competitor will have the option to use special award or contingency decals. Non-participation will disqualify competitor from sharing awards or prizes from special award or contingency sponsor.
- Sportsman Series may require the use of specific Sportsman Series sponsor decals.
- Team vehicles with the same paint and colors must have distinguishing markings of some kind.
- Any race vehicle being sold during a race season is required to change to an unused number.
- Any race vehicle being rented to multiple parties during a race season is required to change to an unused number each time the vehicle is rented out to a new party.

#### **TIMING & SCORING**

- All Sportsman classes are required to carry a functioning transponder.
- MYLAPS transponders will be used in Sportsman divisions until further notice.
- The transponder must be mounted vertically, at a maximum of 120 cm (4') above the track and no further forward than the vertical plane created by the leading edge of the front tire.
- The transponder must have clear view to the track with no obstructions, metal, or carbon fiber underneath.
- Maximum operating temperature of the transponder should not exceed 122F/50°C.
- It is the entrants' sole responsibility to insure the transponders are installed and functioning properly.
- Sportsman Series will not be responsible for qualifying times and/or race finishing positions of vehicles with inoperative or malfunctioning transponders. **Must have transponder in place prior to tech**

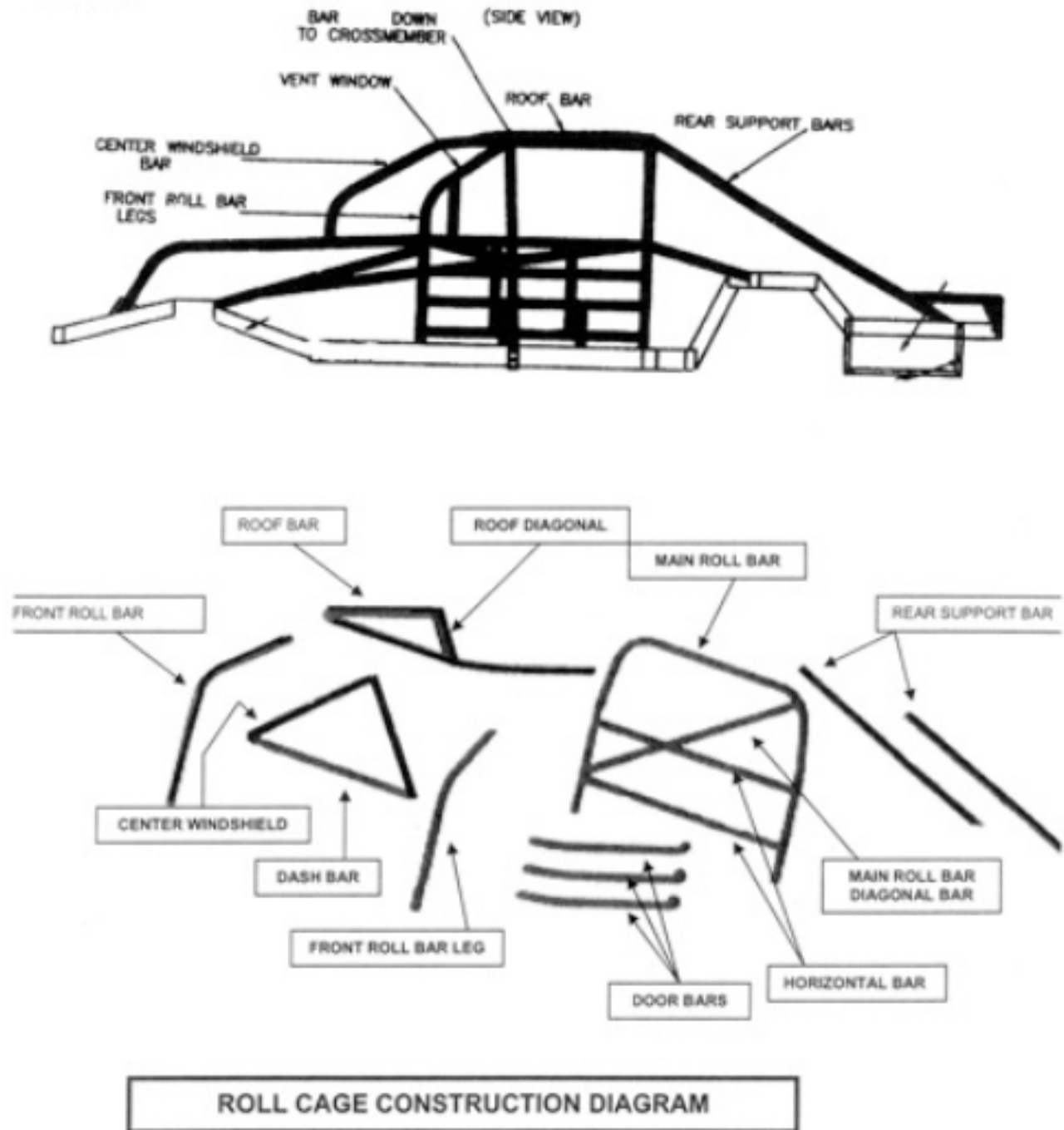
#### **RADIOS**

- A spotter with radio communication is mandatory.
- Radios must be of two-way voice communication type only.
- Each race team is responsible for meeting FCC requirements and regulations.
- Radios must operate independently of vehicles electrical system.
- Radio communication between team drivers is not permitted.
- All radio frequencies must be approved and reported to Sportsman Series prior to their use.
- No scanning type radios that can transmit voice or other communicative noise will be allowed. Such devices when detected will be confiscated by Sportsman Series.

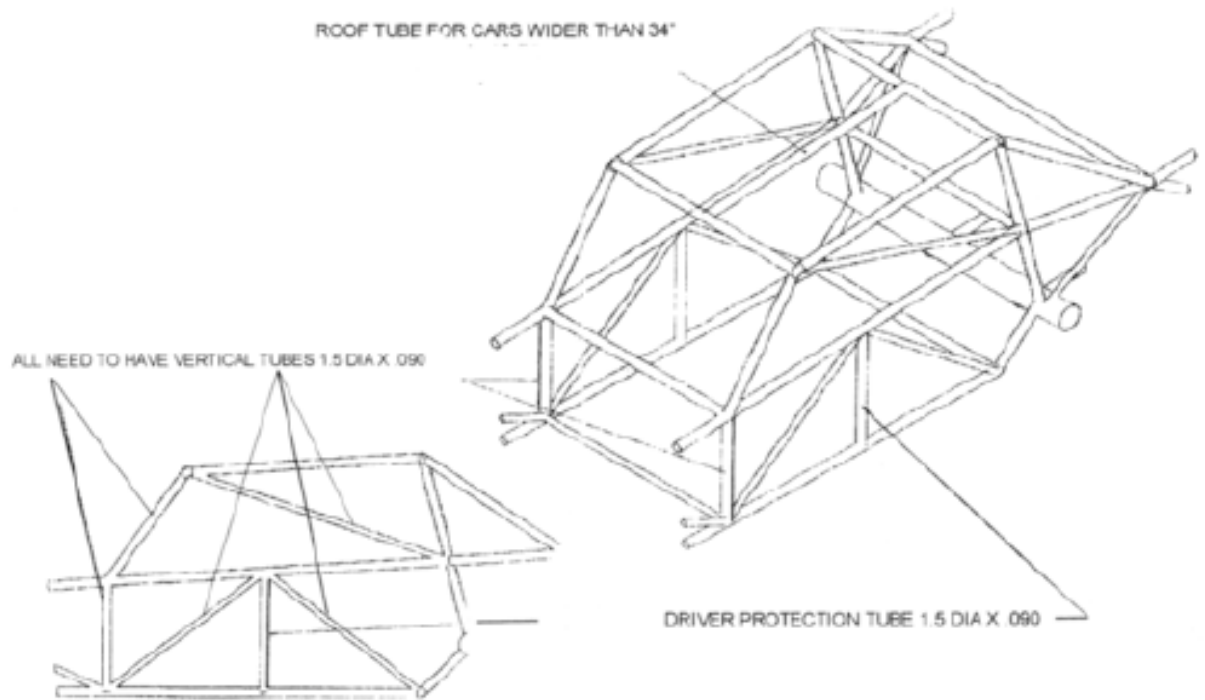
- Either the driver or spotter is required to have a Nitro-Bee and/or radio setup to receive communication from Race Control.

## ILLUSTRATIONS

DIAGRAM



## BUGGY DIAGRAM



# #100 to #199 MORR 1600 Light Buggy Technical Specifications

## **DEFINITION**

- A limited four-wheeled vehicle, using Volkswagen Type 1 stock components, with a 1585cc air-cooled engine.
- No parts may be replaced or modified unless stated in this document.
- Technical specifications for this class supersedes CCR.

## **CHASSIS**

- Minimum wheelbase is 92".

## **FRONT SUSPENSION**

- Must be Type 1 Volkswagen suspension only.
- Stock beam width must be 34-3/16".
- Front axle tubes may be cut, rotated, and re-welded to change the ground clearance, and may be reinforced by adding material.
- Link pin or ball joint front ends are allowed.
- The front spindles may be reinforced, but the diameter on the outside bearing must remain stock. The inside bearings may be enlarged. The speedometer hole may be welded and/or filled.
- Stock torsion bars must be used.
- Front bump stop snubber removal is allowed.
- Limiters or limit straps are allowed.
- Stock arms must be used but may be reinforced using additional material.
- Torsion adjusters are not allowed.

## **REAR SUSPENSION**

- Type 1 IRS or swing axle only.
- The torsion tubes, bars, and drive axles must be stock.
- Track width is 51" maximum, measured from backing plate to backing plate at ride height.
- IRS swing arms may be strengthened, as long as the stock measurements are kept. The stock dimensions are measured from the center of the rear torsion tube to the center of the rear stub axle and must measure 16.25".
- Rear torsion tubes may be strengthened, but must maintain the stock width of 40.5".
- A support member of the roll cage may additionally support rear torsion bar tubes.
- The trailing arm bumper may be removed. Rear spring plates must be stock. Rear torsion snubbers may be of any manufacture but must be of stock dimensions.
- **Upper and lower spring plate stops on the rear torsion housing must remain intact.**
- **Spring plates may not be notched out around the stops.**
- No type of secondary suspension is allowed.
- Rear torsion adjusters are not allowed.

## **SHOCKS**

- Only one shock per wheel is allowed.
- Front shock towers may be re-welded and reinforced but cannot be replaced with other material. Stock appearance and dimensions must be maintained.

- Rear shock length and location is open.
- Air and/or coil over shocks are not allowed.
- Any type of reservoir shock, external by-pass tubes, or shocks larger than 3" is not allowed .
- Internal floating piston shocks are not considered reservoir shocks and are allowed.

### **STEERING**

- Rack and pinion steering only is allowed.
- **No power steering is allowed.**
- Chromoly or any other metal material tie rods are allowed.
- Tie rods must be one piece only.
- Tie rod ends may be any ball and socket type .
- Stock tie rods may not be modified in any way.

### **BRAKES**

- Any combination of pedal assembly, master cylinder, and clutch slave cylinder is allowed.
- Volkswagen Type 1 drum brake systems only.
- Brake drums must be OEM or OEM reproduction of one-piece steel design.
- Mechanical steering brakes are allowed.
- Hydraulic steering brakes are not allowed.
- Brake bias adjusters are allowed.
- The dust ring on brake drums may be machined off, but the outer face of the drum must be otherwise untouched.
- Drilling out 4-bolt brake drums for a 5-bolt pattern is allowed.
- **Brakes must lock all four tires when tested.**

### **WEIGHT**

- Minimum weight is 1,550 pounds at race end with driver. Cleaning of the vehicle may be required.
- Ballasts are allowed, with 3/8" minimum bolt to secure ballast to the frame.

### **ROOF**

- Must be of 0.075" aluminum or 16 gauge (.063") steel sheeting only.
- Opening in roof must have a heavy-duty hinge with a secure latching system.
- Positive latch system must be Sportsman Series approved.

### **BODY**

- Unrestricted.

### **ENGINE CASE**

- Any Type 1, 2, 3 or universal case.
- Align boring is allowed.
- Drilling and/or tapping for oil pressure and/or temperature sending units is allowed.
- Machined or push-in crank pulley seals are allowed.
- Case savers are allowed.

- Seating surfaces for the piston cylinders may be machined, but the cylinders must be shimmed back to original stock deck height of .039" or 1 mm minimum.
- Oil galleries on the early cases may be enlarged to 10mm to match the universal case.
- All oil gallery plugs may be removed and threaded.
- Oil by-pass piston and springs are unrestricted.
- Oil sump wind age trays are allowed.
- No other modifications are allowed.

#### **CRANKSHAFT**

- Must be stock Volkswagen Type 1, 1600cc (69mm stroke only).
- Power pulleys are allowed.
- Sand seals are allowed.
- May be undersized up to 0.030".
- Balancing is allowed.
- Any brand bearings may be used as long as the stock dimensions are maintained.
- Crank lightning or the removal of any material other than for balancing is not allowed.
- Polishing, knifing and/or lighting of the counterweights is not allowed.

#### **CONNECTING RODS**

- Connecting rods must be Volkswagen #311 "B" rods only.
- 5.394" length plus or minus .010" measured C/L to C/L.
- Minimum weight must be 570 grams.
- Balancing of rods is allowed. When balancing, one small end and one large end must be left untouched.
- Bolts rather than the pressed studs and nuts will identify Volkswagen "A" rods.
- Polishing and profiling is not allowed.

#### **OIL PUMPS**

- Any manufacturer wet sump oil pump is allowed.
- Deep and/or dry sumps are not allowed.
- Any sump alterations or modifications are not allowed.

#### **PISTONS & CYLINDER ASSEMBLY**

- Any manufacturer, stock specification cylinders are allowed (85.5mm diameter maximum).
- **Pistons must be cast. Forged pistons are not allowed.**
- Three ring pistons only. Ring groove sizes are to be 2mm, and 5mm wide, above the piston pin.
- **Rings must be correct to the groove size. No spacers are allowed.**
- Wrist pin retainers may be of any type.
- Wrist pin size must be 22mm/0.687".
- Pin height must be 1.5495"  $\pm 0.002$ " from the top of the piston to the center of the hole.
- Pistons may be balanced to a minimum weight of 356 grams each (piston only).
- Machining the top of the piston is not allowed.
- Slipper skirts are not allowed.
- **Gas ports are not allowed in skirts or ring grooves.**
- Notched and/or domed pistons are not allowed.

### **CAMSHAFT & CAM GEAR**

- Cam gear may be bolt-on type, and must use stock design gear.
- Cams must be to these specifications: (Lift is measured off push rod)
  - a. Intake:
    - Opens 16.5° BTDC, Closes 52.5° ABDC, Duration @.020 249°, Lobe Center 108°
    - Opens 1.5° ATDC, Closes 34.5° ABDC, Duration @.050 213°, Lobe Center 108°
    - Opens 17° ATDC, Closes 19° ABDC, Duration @.100 182°, Lobe Center 108°
    - CAM LIFT .303
  - b. Exhaust:
    - Opens 51.5° BBDC, Closes 15.5° ATDC, Duration @.020 247°, Lobe Center 108°
    - Opens 37° BBDC, Closes 1° ATDC, Duration @.050 218°, Lobe Center 108°
    - Opens 21.5° BBDC, Closes 14° BTDC, Duration @.100 187°, Lobe Center 108°
    - CAM LIFT .287
- New production cams that meet these specifications are available from Web Cam Inc. under the following part numbers:
  - a. P/N 00-782: New billet, Requires bolt-on gear, No core required
  - b. P/N 00-780: Reground stock cam, Core required

### **CYLINDER HEADS**

- Must be U.S. sedan stock single port design.
- Fly cutting is allowed to clean seating surfaces, but must retain a 44cc combustion chamber.
- Only three angle valve seats (15-45-75 degrees).
- Grinding, polishing, or porting in any area of the head is not allowed.
- Back cutting of the valves is not allowed.
- Combustion chamber shape must not be altered or modified.

### **VALVES**

- Valve sizes must be:
  - a. Intake: 35.5mm.
  - b. Exhaust: 32.0mm.
- Must be stock one or two-piece valve with stock profile.
- Only one 45 degree angle is allowed.
- Valve guide may be bronze, cast iron, or steel of any manufacturer and length.
- Any manufacturer of valve springs, spring retainers, and lifters is allowed. Stock dimensions inside and out must be retained.
- Grinding, polishing, and porting in any area of the head is not allowed.
- Back cutting of the valves is not allowed.
- Titanium (or other exotic material) valves are not allowed.
- Swirl polished valves are not allowed.

### **ROCKER ARMS & SHAFTS**

- Any shaft that permits the use of stock Volkswagen Type 1, 1600cc 1.1:1 rocker arms is allowed.
- Stock Volkswagen Type 1, 1600cc rocker arms only.
- Resurfacing of rocker arms to accept swivel adjusters is allowed.

- Any manufacturer valve covers and gaskets are allowed.
- Any other grinding, resurfacing, or other modification is not allowed.
- Needle or roller bearings are not allowed .

#### **INTAKE MANIFOLD**

- Must be stock single port only.
- Heater tubes may be removed.
- No other modifications are allowed.
- Chemical milling is not allowed.

#### **RESTRICTOR PLATES**

- Restrictor plates are available at Sportsman Series tech trailer.
- Must use the 21.0mm Sportsman Series plate only.
- Must be the only piece between the carburetor and the intake manifold.
- No modifications to plate are allowed.
- Polishing, filing, or chemical milling is not allowed.

#### **CARBURETOR**

- Stock Volkswagen 30 PIC 1, 2, or 3 only.
- EMPI 30 PICT-1 Stock Replacement Carburetor (P/N: 98-1288-B) is allowed.
- Maximum venturi size is 24.10mm.
- Removing of automatic choke housing, choke plate, and shaft is allowed.
- Stock float bowl vent may be removed and plugged. An external float bowl vent is allowed.
- Stock fuel pump must be used.
- Any manufacturer air/fuel filter in any location is allowed.
- Any fuel pressure regulator may be used.
- Brosol PIC carburetor is allowed. No modifications to throttle shaft, throttle plate, or venturi.
- Carburetor listed as PIC 30 is not allowed.
- Bonding or welding of velocity stacks to the carburetor is not allowed.
- Internal modifications, including polishing, filing, or chemical milling are not allowed.
- Removal of any parts from the throat area is not allowed.

#### **ENGINE COATINGS**

- Performance enhancing coatings may not be applied to engine components. This includes anodizing.
- Exhaust components may be coated.

#### **EXHAUST HEADERS**

- Unrestricted.

#### **MUFFLERS**

- Unrestricted.

#### **IGNITION SYSTEMS**

- A distributor must be used to send current to the spark plugs.

- Only one distributor is allowed.
- Battery ignition of 6 or 12 volts is allowed.
- Stock or direct replacement coil only.
- **Stock or direct replacement distributor only.**
- Any manufacturer distributor is allowed.
- Magnetic pickups that directly replace the points may be used.
- Any Volkswagen alternator or generator is allowed and must be mounted in the stock location.
- Alternator and cooling fan must use the Type 1 design and the charging system must be operational.
- Magneto, multiple coil, and direct fire ignition systems are not allowed.

#### **ENGINE COOLING**

- Fan shroud must be stock.

#### **DRIVE TRAIN**

- Only a stock diameter Volkswagen Type 1 design flywheel with four or eight dowels may be used.
- Lightening and balancing of the flywheel is allowed.
- Any gland nut and washer may be used on the flywheel.
- Any stock diameter clutch and pressure plate may be used.
- Clutches may be balanced
- Hydraulic clutch slave cylinders are allowed.
- An aluminum flywheel is not allowed.

#### **TRANSMISSION**

- Stock Volkswagen Type 1 Beetle only.
- **Only IRS transmissions are allowed.**
- **Swingaxle transmissions are not allowed.**
- **Swingaxle specific gearsets are not allowed for use in IRS transmissions. For example:**
  - a. **4.375 ratio ring and pinions are not allowed.**
  - b. **1.32 ratio third gears are not allowed.**
- AH, AT designation is allowed.
- AH-8:33 ring and pinion-4.125 ratio. Stock gears must be retained.
- AT-8:31 ring and pinion-3.875 ratio. Stock gears must be retained.

#### **Transmission Ratios:**

|             | AT    | AH    |
|-------------|-------|-------|
| First Gear  | 3.780 | 3.780 |
| Second gear | 2.059 | 2.059 |
| Third gear  | 1.260 | 1.260 |
| Fourth gear | 0.930 | 0.890 |

- Gear ratios must be used with their original ring and pinion ratio, as shown in columns of the gearing chart above.
- Rear transaxle mounts may be additionally supported.
- Any manufacturer shifter is allowed.
- Beef-A-Diff is allowed.
- Differentials must meet the definition of an open differential, allowing 100% of power distribution between the rear wheels to be transferred to either rear wheel independently.
- Welding of 3rd gear is allowed.
- Any modifications except as listed above are not allowed.
- Heavy-duty side plates are not allowed.
- Axle over-tubes are not allowed.
- Close ratio gears are not allowed.

#### **OIL COOLERS**

- Any full-flow system is allowed.
- Coolers must be mounted in a safe location.

#### **TIRES**

- Tires must be D.O.T. approved as stated in the Combined Class Rules.

#### **WHEELS**

- Any stock Type 1 wheel or any manufactured 15" steel wheel may be used.
- Wheels may be reinforced by adding material.
- Studs may be used.
- Wheel adapters are not allowed.
- Bead locks are not allowed.

#### **MUD FLAPS**

- All buggy classes are exempt from using mud flaps.

# #200 to #299 MORR Mod Kart Technical Specifications

## DEFINITION

- This class is represented by a four-wheeled race vehicle, powered by a 400cc or 450cc based Honda or Yamaha quad engine. It is designated for drivers ages 11-17.
- Please refer to the MORR General Rules for driver "Age In" and "Age Out" requirements.

## TRUCK NUMBERS & MARKINGS

- All Mod Karts will carry a 3-digit number starting with the #2.  
Examples: 218/262.
- Numbers must be 6" or larger, presented on both sides of vehicle, 4" or larger on the front & rear of the vehicle & 12" or larger on roof.

## CHASSIS/ROLL CAGE

- Mod Kart chassis are a spec chassis built by Ehren Precision Speed Products in Green Bay, WI.
- No modifications to the original design of the main frame/roll cage are allowed except to add additional bracing if desired. No removal of original frame material is allowed.
- All repairs to frame or roll cage must be declared to TECH for inspection.

## DRIVER COMPARTMENT

- The driver compartment must accommodate the drivers ease to exit the vehicle.
- The cockpit must be enclosed with a minimum thickness of 0.060" aluminum sheeting.
- Firewalls or bulkheads should be installed to separate driver from fuel or engine fluids.

## MEASUREMENTS & WEIGHTS

- WHEELBASE: Wheelbase length is 73"  $\pm 1$ " and is measured from the center of the front wheel to the center of the rear wheel.
- TRACK WIDTH: Track width will be measured from the outside of the tire to the outside tire on the opposite side. Front track width is 58-1/2"  $\pm 1$ " and rear track width is 57"  $\pm 1$ ".
- OVERALL LENGTH: Overall length will be measured from the front point of front bumper to the rear point of rear bumper. Overall length is 121-1/2"  $\pm 1$ ".
- KART WEIGHT: Minimum Kart weight is measured with driver included and for the Pro Mod Class minimum weight is 850 lbs.
- ADDITIONAL WEIGHT/ADDED WEIGHT:  
All added weight must be painted white and marked with the Kart number. All weights must be mounted securely with a minimum 3/8" grade 8 bolt, with a locknut or cotter key locked regular nut. No added weight can be carried loose by the driver. All weights measured as raced.

## **BODY AND FENDERS**

- A “Five Star Short Course Kart” body is required.
- Body mounts must be sufficient to hold all panels in place during normal race conditions.
- The body must be complete and in good condition at the start of the competition.
- An aluminum hinged roof must be attached to vehicle
- **Roof latches must be metal on metal. No bungee latches will be allowed.**
- Additional body mounts are allowed as long as they are loops with no protruding ends.
- **A rock guard to protect the driver’s feet is required.**

## **MUD FLAPS**

- All Mod Karts must be equipped with mud flaps behind the rear tires.
- Mud flaps must be at least 1” wider than the widest part of the rear tires.
- **Mud flaps must be a maximum of 2” from the ground at ride height.**
- Mud flaps must be securely fastened to the frame or mud flap loop with bolts or screws with washers and locknuts.
- Mud flaps cannot be attached to the body.

## **AVAILABLE ENGINE PACKAGES**

- The newer 450 Liquid Cooled Engine Package will eventually replace the legacy 400 Air Cooled Engine Package, which is to be phased out at a later date. On-track data collection will be conducted throughout the 2023 race season to ensure that the 450 engine package and the 400 engine package are as equal as possible. The reason for the move to the 450 engine package is to reduce costs by having a more reliable engine package with better parts availability.
- **The 400 Air Cooled Engine Package will be phased out at the conclusion of the 2025 racing season. Only the 450 Liquid Cooled Engine Package will be legal for the 2026 racing season.**
- MORR reserves the right to alter the rules for either engine package at any time to ensure the fairness of competition between the two engine packages.

## **450 LIQUID COOLED ENGINE PACKAGE**

- Engine must be a production engine 450 cc four stroke. Other engines may be approved by MORR. The approved engines for this class are as follows:
  - a. 450 cc Quad Engines:
    - Honda TRX450
    - Yamaha YFZ450 & YFZ450R
- The following modifications are legal:
  - Honda TRX450ER (2006-2014) – cases may be machined for a heavy duty crank bearing retaining plate. Transmission gears may have the dog teeth back-cut angle re-cut to aid in engagement/retention in gear.

- Yamaha YFZ450R (2009-2014)-the crankshaft can be updated to the Yamaha pn#1TD-11400- 00-00. 2014 engines can block off A/S with Yamaha #1TD-141-B0-V0-00. 2004-2006 Yamaha YFZ450 engine case be machined to use the 2007 or newer piston squirter and oil pump.
- Yamaha YFZ450 (2004-2012)- the stator and rectifier may be replaced with Ricky Stator pn# RSYFZ450, Rick's Motorsports YFZ stator 04-09 pn# 99\_400 or RM stator YFZ stator 04-09 pn# RM22430.
- Yamaha YFZ450 2006-2008 must run the flat slide OEM carburetor. 2009-2012 must run the round slide OEM carburetor. MAY NOT upgrade to the Yamaha pn# 1TD-11400-00-00 crank. 2004-2005 YFZ carburetor single rib pn# 5tg-14101-00-00 and intake boot pn# 5ta-13597-00- 00 can be replaced with 2006-2009. YFZ carburetor dual rib pn# 5tg-14101-31-00 and 2006- 2009 intake boot pn# 5xd-13597-10-00.
- Engine case welding repairs are allowed by approval only to repair external damage (ie. Chain guide bosses, engine mounts).
- External cylinder head welding repairs are allowed by approval only to repair external damage (ie. Hold down bolt boss, exhaust stud boss).
- Standard rebuild valve job is allowed. Valve seat angles are open. Only the steel valve seat is allowed to be machined. No aluminum in head or around valve seat may be touched, machined, removed, blended, etc. or the head will be considered illegal.
- Crankshaft connecting rod pin can be welded to the crank halves for increased reliability.
- Cylinder walls can be re-plated to stock specifications.
  
- A MORR approved stock replacement JE piston will be allowed with no modifications. Approved JE part numbers for each engine brand are:
  - Honda TRX450ER/TRX450R: 347644
  - Yamaha YFZ450R/YFZ450: 347646
- Below are the minimum allowable measurements for cylinders and heads (these are OEM-.005"):
  - Honda TRX450ER specs: cylinder 2.6630" thick, head 2.8470" thick
  - Yamaha YFZ450 (EFI) specs: cylinder 3.0320" thick, head 3.6560" thick
- No modifications may be made to this engine unless otherwise specified herein. This includes no modifications of any kind to the block, connecting rod, piston, valve train, cam shaft, flywheel, bearings, governor, or oil system.
- All engine components must be OEM quad parts, with the exception of OEM motorcycle camshafts, and OEM motorcycle valves. Factory racing parts are not allowed (HRC, GYTR, KWI, Yoshimura, etc.)
- Engine gaskets and seals are open.
- Cam timing can be altered by rotating the stock gears. Decompression pin to gear and cam gear to cam may be tack welded.
- The intake design before the carburetor/throttle body may be modified for engine fitment within the chassis. Any air filter is allowed.
- The exhaust system may be modified. Exhaust systems must have a muffler that has less than a 100 db noise limit, measured at a distance of 100'.
- No turbocharger, supercharger, or any other form of pressurizing the inlet air will be allowed.

- No nitrous oxide or other foreign chemicals may be injected into or near the inlet air.
- Engines may be rebuilt by anyone you choose.

#### **400 AIR COOLED ENGINE PACKAGE**

- Engine must be a 400cc Honda Quad Motor from 1999-2011. If engine is so equipped, reverse may be used.
- Stock engine may be modified as follows:
  - a. Engine may be built up to a 440cc.
  - b. No stroker motors allowed.
  - c. No titanium or exotic materials allowed.
  - d. No porting of the head or intake is allowed.
  - e. Head can use aftermarket valves & spring but must be stock size.
  - f. Flywheel must be stock, no lightening.
  - g. Must use stock stator & pickup coil.
  - h. Can use aftermarket CDI Box.
  - i. Normally aspirated engine only. No fuel injection, turbos, or nitrous.
  - j. Carburetor must remain stock. No porting or polishing. You can use carburetor from the Honda TRX 450R (Either 39 or 40mm).
  - k. Titanium valve spring retainers are allowed. This is the only exception to the exotic materials rule.
- Engines may be rebuilt by anyone you choose.
- Exhaust may be modified. Exhaust systems must have a muffler that has less than a 100 db noise limit, measured at more than a distance of 100'.
- Any engine found to have been modified internally in anyway other than specified will be disqualified from the competition.

#### **BUMPERS & NERF BARS**

- Bumpers should follow basic design as supplied from manufacturer (EHRENS).
- All vehicles must run a front and rear bumper that is attached to the Kart.
- Additional hoops, metal, gussets, etc. can be added but no material can be removed from the original design.
- Bumpers must be at least 36" wide and measure a minimum of 18" from the ground to bottom of bumpers and 26" from the ground to top of bumpers.
- All vehicles must run a left and right nerf bar or rub rail that is of loop design and attached to the frame. These should be at a height measured from the ground to bar of 18"  $\pm$  2".

#### **FRONT SUSPENSION**

- All front suspension mount points have to remain in same position as manufactured.
- Front suspension must be of an A-arm design.
- Limit of (1) one shock per wheel or corner.

## **REAR SUSPENSION**

- All rear suspension mount points have to remain in the same position as manufactured.
- Rear suspension needs to be of a trailing arm design as manufactured.
- Limit of (1) one shock per wheel or corner.
- Sway bars are allowed.
- Limiting straps are allowed.

## **STEERING**

- Steering rack has to remain in location and position as delivered from manufacturer.
- Power steering is allowed.
- Steering quickeners are allowed.

## **SHOCKS & SPRINGS**

- One (1) shock allowed per wheel or corner.
- Air shocks are NOT allowed.
- Oil reservoir shocks are allowed.
- Springs may be dual rate with a third tension spring if desired.
- Shock lengths are limited to:
  - 8" Front shock travel
  - 8" Rear shock travel

## **BRAKES**

- Brakes are required on all (4) four wheels.
- Brake system should be a dual (front/rear) system to provide brakes in the event that one end or the other loses brake function. A proportioning valve is allowed to adjust front and rear brake amounts.
- Brakes must be in safe working order and must remain in working condition for the entire event. If brake failure is encountered, repairs must be made before continuing in the competition.

## **ELECTONICS, IGNITION**

- All vehicles must be equipped with an ON/OFF switch and a push button or master disconnect kill switch on the rear of vehicles, to be located in an open position for safety crew ease to shut down engine if necessary.
- Aftermarket ignition modules are allowed.
- Data logging electronic equipment is allowed. This equipment cannot control any functions of the vehicle.
- Any brand or type of spark plug is allowed.

## **CLUTCH / GEARING**

- Clutch is open, can be factory or aftermarket.

- Engine and transmission must be configured as manufactured.
- The EHREN Mod Kart is equipped with a secondary gear box. The gear ratio of this secondary gear box is limited to gear ratios/gear sets as produced by EHREN only.
- All other gearing and gear ratio's including the rear axle are open.
- Chain drive is required. No shaft driven rear differentials.

#### **WHEELS / TIRES**

- Front Wheel size: 10" x 5"
- Rear Wheel size: 10" x 8"  
or 9" x 8"
- Front Tire size: AT 21 x 7-10
- Rear Tire size: AT 20 x 11-10  
or AT 20 x 11-9
- Wheels and tires can be any brand as long as sizes remain as stated above.
- Bead lock rims are recommended but not required.
- Plastic or foam rear wheel covers/plugs are allowed.
- Cutting and siping of tires are allowed.

#### **EXOTIC MATERIALS**

- No titanium or magnesium materials may be used anywhere in vehicle.

#### **RADIOS / SPOTTERS**

- All drivers must have radios to allow for two-way communication with their spotter.
- Driver's radio must also be equipped with a race receiver set to the track frequency to allow driver to hear any transmissions from track officials.
- Each team is limited to one spotter per truck in the designated spotter stand.
- Good sportsmanship is required of all race teams including their spotter. Any spotter displaying unsportsmanlike actions will be removed from the spotter stand and the driver will be docked 2 positions of race finish position.

# #300 to #399 MORR 1600 Single Buggy Technical Specifications

## DEFINITION

- A limited four-wheeled vehicle, using a Volkswagen Type 1, 1600cc air-cooled engine.
- **Note:** In an effort to unify the rules in this class, either single or dual port heads may be used. Dual port engines will be using a 21.5mm restrictor plate and an EMPI 981293B adapter plate. Single port engines will use the following rules, but will not use a restrictor plate.
- **Technical specifications for this class supersedes CCR.**

## CHASSIS

- Minimum wheelbase is 95".
- **Maximum front track width, from wheel mounting surface to wheel mounting surface, at ride height, will be 56"  $\pm$  1/2". This measurement will be taken at the widest point between the outer wheel mounting surfaces of the two hubs, while at ride height. The  $\pm$  1/2" tolerance of this measurement is to allow for slight inconsistencies in manufactured hubs from various brands.**

## FRONT SUSPENSION

- Type 1 Volkswagen suspensions only are allowed.
- Stock beam width of 34-3/16" only.
- Custom manufactured parts are allowed as long as stock dimensions and measurements are maintained.
- Reinforcement of stock components is allowed.
- Front axle torsion tubes may be cut, rotated, and re-welded.
- Torsion adjusters may be installed.
- Any ball joints or kingpins are allowed.
- Any manufacturer tie rods and tie rod ends are allowed.
- Shock towers may be strengthened, replaced, or extended.
- Trailing arms can be reinforced or replaced with aftermarket arms. Stock dimensions must be maintained.
- Lower shock mounting studs may be relocated and/or enlarged.
- Spindles may be reinforced or replaced.
- Any manufacturer torsion bars allowed.
- Sway bars may be removed.
- A lay-down front shock configuration is allowed.
- Secondary suspension of any type is not allowed.
- Aluminum front axle beams are not allowed.

## REAR SUSPENSION

- Volkswagen Type 1 IRS or swing axle only.
- **The rear track width with drum brakes must not exceed 51" from backing plate flange to backing plate flange, while at ride height. If disk brakes are used, track width will not exceed 58.75". This measurement will be taken at the widest point between the outer wheel mounting surfaces of the two hubs, while at ride height.**

- Strengthening or replacement of the IRS swing arms is allowed as long stock dimensions are retained  $\pm 1"$ . The stock dimensions from the centerline of the rear torsion housing to the center of the rear stub axle are 16.25",  $\pm 1"$ . The maximum measurement will be 17.25".
- Torsion adjusters are allowed.
- Out board Bus/Type 2 reduction gears are allowed.
- Any manufacturer rear torsion bars, axles, spring plates, and additional retainer straps are allowed as long as original type suspension is retained.
- The rear torsion tube may be strengthened or replaced, but must retain the stock maximum width of 40.5".
- Trailing arm brackets must be 13.50"  $\pm 1"$ , measured from the inside of the spring/flex plate to the inner most flange of the trailing arm pivot point.
- Secondary suspensions of any type are not allowed.

### **SHOCKS & SPRINGS**

- Any size or number of shocks are allowed.
- Cooling fins are allowed.
- Air or coil over shocks are not allowed.

### **BRAKES**

- Any manufacturer drum or disk brakes are allowed.
- Inboard brakes are not allowed.

### **WEIGHT**

- Minimum weight with driver is 1,580 pounds.
- Ballast is allowed with 3/8" minimum bolts to secure ballast to the frame.

### **BODY**

- A roof is required. Roof must be made of .075" Aluminum or 16 gauge (.063") steel sheeting.
- Opening in the roof must have a heavy-duty hinge with a secure latching system.
- Positive latching system must be Sportsman Series approved.

### **ENGINE**

- Stock Volkswagen Type 1, 1600cc only (US specifications, as received from the factory).
- Maximum engine displacement will be 1600cc.
- Maximum bore allowed is 85.5mm.
- Maximum stroke allowed is 2.7465".
- Polishing, knifing, and/or lighting counterweights is not allowed.
- Titanium, composite, or exotic parts or materials inside the engine are not allowed.

### **CASE**

- Any Type 1, 2, 3, or universal case is allowed.
- Align boring is allowed.
- Drilling and/or tapping for oil pressure and/or temperature sending unit is allowed.
- Machining for push-in crank pulley seal is allowed.
- Case savers are allowed.
- Seating surfaces for cylinders may be machined.

- Oil galleries on the early cases may be enlarged to 10mm, the same as a universal case.
- All oil gallery plugs may be removed and treaded.
- Any oil bypass pistons and springs may be used.
- Oil sump windage trays are allowed.
- Internal deburring is allowed.

#### **FLYWHEEL/CLUTCH/PRESSURE PLATE**

- Only a stock diameter Volkswagen Type 1 design flywheel with four or eight dowels may be used.
- Lightening and balancing of flywheel is allowed.
- Any gland nut and washer may be used on the flywheel.
- Any stock diameter clutch and pressure plate may be used.
- Clutches may be balanced.
- An aluminum flywheel is not allowed.

#### **CRANKSHAFT**

- Stock Volkswagen Type 1, 1600cc only.
- Any gears are allowed.
- Any size power pulley is allowed.
- Sand seals are allowed.
- May be undersized up to 0.030".
- Balancing is allowed.
- Any brand bearings are allowed as long as stock dimensions are maintained.

#### **CONNECTING RODS**

- Connecting rods must be Volkswagen #311 "B" rods only.
- 5.394" length plus or minus .010" measured C/L to C/L.
- Balancing of rods is allowed. When balancing rods, one small end and one large end must be left untouched.
- Bolts rather than the pressed studs and nuts will identify Volkswagen "A" rods.
- Polishing and profiling is not allowed.

#### **OILING SYSTEMS**

- Any manufacturer wet sump oil pump is allowed.
- Oil coolers may be used and must be mounted in a safe location.
- Deep and/or dry sumps are not allowed.
- Any sump alterations or modifications are not allowed.

#### **PISTONS**

- Any manufacturer flat top pistons are allowed, but stock dimensions must be retained. 85.5mm three ring pistons only.
- Wrist pin retainer may be of any style.
- Balancing of rods and pistons allowed.
- Minimum piston weight is 310 grams.
- Cylinders may be machined for proper deck height.

- Piston skirts may be drilled. (3) 0.125" diameter holes allowed per side, for a total of 6 holes.
- Slipper skirts, dished, or domed pistons are not allowed.
- Machined notching for valves is not allowed.
- Cutting of the piston top at an angle other than 90 degrees is not allowed.

#### **CAMSHAFT AND CAMSHAFT GEAR**

- Any manufacturer is allowed.

#### **CYLINDER HEADS**

- Must be U.S. sedan stock single port design.
- Fly cutting for compression is allowed.
- Combustion chamber volume is open.
- Only three angle valve seats (15-45-75 degrees).
- Welding for repairs only is allowed.
- Grinding, polishing, or porting in any area of the head is not allowed.
- Back cutting of the valves is not allowed.
- Angle cutting of the head is not allowed.
- Machining cylinder head for valve spring clearance is not allowed.

#### **VALVES**

- One-piece valve of any manufacturer are allowed. Stock sizes must be maintained. Intake: 35.5mm. Exhaust 32.0mm.
- Swirl polished stainless steel valves are allowed.
- Only one 45 degree angle is allowed.
- Valve guides may be bronze, cast iron or steel, of any manufacturer and length.
- Valve guide seals are allowed.
- Any manufacturer of valve springs, spring retainers and lifters are allowed.
- Stock valve spring seat diameter in the head, inner and outer, must be maintained.
- Grinding, polishing, blending, or porting of any kind is not allowed.
- Back cutting of the valves is not allowed.
- Titanium (or other exotic material) valves are not allowed.

#### **ROCKER SHAFTS & ARMS**

- Any shaft that permits the use of stock Volkswagen Type 1, 1600cc 1.1:1 rocker arms is allowed.
- Stock Volkswagen Type 1, 1600cc rocker arms only.
- Resurfacing of rocker arms to accept swivel adjusters is allowed.
- Any manufacturer push rods and tubes are allowed.
- Any manufacturer valve covers and gaskets are allowed.
- Any other modifications are not allowed.
- Needle or roller bearings are not allowed.

#### **INTAKE MANIFOLD**

- Stock single port only.
- Spacer (carburetor to intake) no more than 3/8" thick with a straight bore the same diameter as the carburetor.

- Heater tubes may be removed.
- Manifold may be shortened but not welded back together. Hose and clamps must be used to secured the manifold back together and allow inspection.
- Any other modification is not allowed.
- Chemical milling is not allowed.

#### **CARBURETOR**

- Stock Volkswagen 30 PIC 1, 2, or 3 only.
- EMPI 30 PICT-1 Stock Replacement Carburetor (P/N: 98-1288-B) is allowed.
- Maximum venturi size is 24.10mm.
- Removing of automatic choke housing, choke plate, and shaft is allowed.
- Stock float bowl vent may be removed and plugged. An external float bowl vent is allowed.
- Any fuel pump, stock or electrical, is allowed.
- Any fuel pressure regulator may be used.
- Any manufacturer air/fuel filter in any location is allowed.
- Velocity stacks are allowed.
- Brosol PIC carburetor is allowed. No modifications to throttle shaft, throttle plate, or venturi.
- Carburetor listed as PIC 30 is not allowed.
- Bonding or welding of velocity stack to the carburetor is not allowed.
- Internal modifications, including polishing, filing, or chemical milling are not allowed.
- Removal of any parts from the throat area is not allowed.

#### **FAN SHROUD**

- Any manufacturer stock style fan shroud is allowed.

#### **EXHAUST HEADERS**

- Unrestricted.

#### **MUFFLERS**

- Unrestricted.

#### **IGNITION SYSTEMS**

- A distributor must be used to send current to the spark plugs.
- Only one distributor is allowed.
- Battery ignition of 6 or 12 volts is allowed.
- Stock or direct replacement coil only.
- Any manufacturer distributor is allowed.
- Magnetic pickups that directly replace the points are allowed.
- Any Volkswagen alternator or generator is allowed and must be mounted in the stock location.
- Alternator and cooling fan must use the Type 1 design and the charging system must be operational.
- Magneto, multiple coil, and direct fire ignition systems are not allowed.

#### **TRANSMISSION**

- Stock Volkswagen Type 1 or 2 transaxle housing with only four forward gears.

- Any gear combinations are allowed using only Volkswagen style gears.
- Internal modifications are allowed.
- Gears other than Volkswagen style are not allowed.

#### **WHEELS AND TIRES**

- Tires must be D.O.T. approved as stated in the Combined Class Rules.
- Wheels that mount directly to Volkswagen drum allowed.

#### **MUD FLAPS**

- All buggy classes are exempt from using mud flaps.

# MORR Short Course Kart Technical Specifications

## DEFINITION

- Spec mini race trucks, with Briggs & Stratton spec engine, driven by children ranging in age from 7-13 years. All Short Course Karts raced, must be 100% spec to ensure quality racing between drivers with no mechanical advantage. All kids should have a chance to win based on ability.
- Please refer to the MORR General Rules for driver “Age In” and “Age Out” requirements.
- ALL PARTS MUST REMAIN STOCK AS DELIVERED FROM MANUFACTURER UNLESS OTHERWISE NOTED IN THIS RULEBOOK.

## CHASSIS/ROLLCAGE

- Kart chassis are spec. No material may be removed. The following are examples that cannot be changed or removed:
  - a. All pivot points.
  - b. All chassis and roll cage tubing.
  - c. Engine mounts.
  - d. Axle housing.
  - e. All control arms.
  - f. All Shock mounts.
  - g. Front spindles and tie rod mounts.
  - h. Steering rack location.
  - i. Body mounts.
- New spec chassis may be purchased from Ehren Precision Speed Products in Green Bay, WI.
- The only modification allowed to the original chassis is by making the down tube that is directly in front of the clutch assembly removable. An interlocking tube connector must be used for the lower connection and a two-bolt flange for the upper assembly.
- Additional tubing, plate, gussets, weld washers etc. may be added to strengthen Spec Chassis design.
- The removal of any original material is not allowed.
- In the event a Kart is damaged and spec areas need to be rebuilt, series officials may require Kart to return to an authorized chassis builder for repair.
- All repairs to chassis mounts/control arms must be approved by series officials.
- Must use factory replacement parts when replacing damaged components.
- **Roof latches must be metal on metal. No bungee latches will be allowed.**

## MEASUREMENTS & WEIGHT

- All measurements will be taken with driver in kart at both pre and post-race technical inspection.
- Wheelbase will be measured from center of the front wheel to the center of the rear wheel.
- Track width will be measured from outside of tire to outside of tire at widest point.

- Wheelbase length is 73"  $\pm 1$ ".
- Front Track width is 58"  $\pm 1$ ".
- Rear Track Width is 55"  $\pm 1/2$ ".
- Minimum Kart weight is 780lbs, measured pre and post-race.
- Minimum weight includes driver.
- Additional weight may be added to meet minimum weight requirement.
- Any weights added must be mounted within the centerline (front to back) of the Kart seat.
- Any added weight must be painted white, and marked with kart number.
- All weights must be mounted securely using 3/8" Grade 8 Bolts.
- All mounting methods must meet approval of series officials.
- Weight may not be carried on driver's person.
- All measurements will be taken as raced (i.e. tire pressures & ride height).

### **ENGINE & CLUTCH ASSEMBLY**

- Engine, clutch, and mounts are spec.
- The entire engine package must remain as delivered by Briggs & Stratton and must remain sealed, including start & ring gear.
- Engine will be sealed by approved engine sealer. Karts will not be allowed to race with a broken engine seal.
- Approved engine:
  - a. Briggs and Stratton World Formula 11.5 HP engine Briggs and Stratton World Formula.
- Engines must be rebuilt by authorized builder. Jim at Faster Motors is an approved engine rebuilder & sealer. (Faster Motors, W3201 County Road MM, Elkhart Lake, WI 53020, (920) 207-9180)
- Muffler is allowed to be gutted (only removing internal baffles), but must retain the complete factory outer case. No other modifications allowed.
- The following exhaust system is available from Faster Motors as an option, but may not be modified in length from the exhaust flange to the last size expansion step:
  - a. P/N EXF5952: World Formula Pipe and Silencer Kit
  - b. P/N MNT5908: RLV Silencer Mount for WF Silencer
- Only JR Race Car Clutch P/N: FI-4995-k may be used.
- Tuning of clutch is allowed. MUST USE TUNING PARTS FROM JR RACE CAR ONLY. NO MODIFYING OF STOCK PARTS OR CUSTOM-MADE PARTS.
- Only use factory supplied drive belt.
- Approved drive belt:
  - a. JR Racecar P/N: 34583 or 34584
- Jet sizes may be changed, but must use unaltered OEM jets available from Briggs and Stratton.
- No additional adjusting or tuning to the engine is allowed.
- No modifications to the carburetor, intake, or any engine components are allowed.
- Tech may impound any engine deemed illegal along with possible suspension.
- Must use factory replacement parts when replacing damaged components.

### **CLUTCH SHIELD**

- A clutch scatter shield is required.
- The clutch shield should be, at minimum, the width of the clutch assemblies.
- The clutch shield must completely guard the top and front of the clutches.
- Clutch shield minimum thickness is 0.090" aluminum.

### **BODY & FENDERS**

- Five Star Short Course Kart body is required.
- Mounting methods must remain stock using existing brackets.
- Body must be complete and in good condition at start of competition.
- Removal or modification of any existing body mounts is not allowed.
- Must use factory replacement parts when replacing damaged components.
- A rock guard to protect the driver's feet is required.

### **MUD FLAPS**

- All Mod Karts must be equipped with mud flaps behind the rear tires.
- Mud flaps must be at least 1" wider than the widest part of the rear tires.
- Mud flaps must be a maximum of 2" from the ground at ride height.
- Mud flaps must be securely fastened to the frame or mud flap loop with bolts or screws with washers and locknuts.
- Mud flaps cannot be attached to the body.

### **BUMPERS & NERF BARS**

- Must use stock nerf bars, front bumpers, and rear bumpers as provided from manufacturer.
- Must have front and rear bumper secured to frame.
- No objects protruding from karts are permitted.
- Front bumper must extend beyond front of grill so safety crews can have easy access to a tow hook.
- Additional tubing, plate, gussets, weld washers etc. may be added to strengthen the spec bumper design.
- Material may be added but not removed. Any additions must be approved by Tech and must not change the original design.
- Must use factory replacement parts when replacing damaged components.

### **PIVOT POINTS**

- All pivot points must be the same material and grade as manufactured.
- Must use factory replacement parts when replacing damaged components.

### **FRONT SUSPENSION & STEERING**

- All front-end parts are spec, including but not limited to:
  - a. Pivot points.
  - b. Lower A-arm.
  - c. Upper A-arm.
  - d. Spindle.
  - e. Steering rack and location.
  - f. Hubs.
  - g. Bearings.
  - h. Shock mounts.
  - i. One coil over shock per wheel.
- Front Shocks may be any manufacturer.
- Adjustments to the shocks are allowed. Must use shock manufacturer components for adjustments. No custom-made components.
- Front coil springs may be any manufacturer.
- Front wheel travel is limited to 12 inches.
- Limit straps are allowed.
- No remote or piggy back reservoirs.
- No dual rate or variable rate springs.
- No secondary suspension.
- No hydraulic or pneumatic bump stops.
- No custom suspension parts.
- Must use factory replacement parts when replacing damaged components.

### **REAR SUSPENSION**

- All rear end parts are spec, including but not limited to:
  - a. Pivot points.
  - b. Track arms and wishbone.
  - c. Axle housing and all mounts.
  - d. Hubs.
  - e. Bearings.
  - f. Axle.
  - g. Brake caliper.
  - h. Brake rotor.
  - i. Brake pads.
  - j. Sprocket holder.
- Must use and retain the factory sway bar as provided by manufacturer.

- One coil over shock per wheel.
- Rear shocks may be any manufacturer.
- Adjustments to the shocks are allowed. Must use shock manufacturer components for adjustments. No custom-made components.
- Rear coil springs may be any manufacturer.
- Limit straps are allowed.
- Rear wheel travel is limited to 13 inches.
- No remote or piggy back reservoirs.
- No secondary suspension.
- No hydraulic or pneumatic bump stops.
- Must use factory replacement parts when replacing damaged components.

## STEERING

- Must use stock steering rack as provided by Manufacturer.
  - a. Manufacturer P/N: FI-AC425150.
- Location and position is spec.
- Steering stops are allowed.
- No power steering.
- No steering quickeners.
- Must use factory replacement parts when replacing damaged components.

## BRAKE

- Master cylinder, caliper, rotor, and brake pads are spec.
- Must retain factory mounts as provided by manufacturer.
- Location may be changed by using the adjustable settings provided by manufacturer.
  - a. If there is not enough adjustability, approval from series official is required.
- Brakes must be in safe working condition and be able to apply adequate force to lock up tires.
- Brakes must be in safe operating condition during the entire event. If brake system problems do occur during the event they must be repaired before continuing in competition.
- Front brakes are optional.
- Must use factory replacement parts when replacing damaged components

## FUEL CELLS

- Fuel cell, location, and mounts are spec.
- Vent line must be routed above cell to opposite side of vehicle, then down to a point lower than the bottom of cell.
- Fuel cell foam is permitted.
- No pressurizing of fuel tank.
- Must use factory replacement parts when replacing damaged components.

## FUEL

- Spec fuel is required and must be purchased at the track.
- The spec fuel is VP MS98L.
- Fuel can be tested at any time during the event.
- Cooling of fuel is not permitted.
- Penalties for use of hazardous chemicals will be severe and may include a fine, and/or reduction of points, disqualification, and/or suspension.
- If series officials suspect maskers in fuel, chemical testing will be conducted at possible expense to competitor.

## GEARING & DRIVE PARTS

- Gearing/sprocket sizes are spec.
  - a. Clutch shaft (12T) to main driveshaft (26T) = 2.17:1
  - b. Main driveshaft (12T) to axle shaft (48T) = 4:1
  - c. Final drive ratio 8.68:1
- Shaft locations and materials are spec. Shafts as provided from manufacturer must be used.
- Approved drive shaft bearings:
  - a. Two bolt flange bearing: 3/4" bore
- Sprockets must be chain driven.
- Must use stock gears and shafts as provided by manufacturer.
- No custom or different manufacturer gears and shafts.
- Any manufacturer chain is allowed as long as it works with the stock gears.
- Must use factory replacement parts when replacing damaged components.

## REAR AXLE

- Axle must retain original parts, mounting points, and configuration.
- Axle shaft must be the same size and material as original axle from manufacturer.
- Must use factory replacement parts when replacing damaged components.

## WHEELS & TIRES

- Tire and wheel size must remain as delivered.
  - a. Front Wheels PIN: FI-ASOS-02
  - b. Rear Wheels PIN: FI-ASOS-03
  - c. Front Tires PIN: FI-532040
  - d. Rear Tires PIN: FI-532035
- No inner liners, tire balls, foam, or other inserts allowed.
- No bead lock wheels allowed.
- One tire per corner permitted.

- No wheel covers, or caps are allowed.
- Must use factory replacement parts when replacing damaged components.

#### EXOTIC MATERIALS

- No titanium, magnesium, carbon fiber, or any other exotic materials may be used anywhere in the vehicle.

#### HOSES

- All fuel and brake line hoses, including metal lines must be securely fastened.

# #500 to #599 MORR Stock Truck Technical Specifications

## DEFINITION

- A two-wheel drive pickup truck with a 3/4 ton or smaller chassis, with coil front springs, manufactured in quantities of at least 5,000 units of same model per year and available for sale in the United States. This is a stock class as defined by original equipment parts (OEM) and replacement parts made to OEM specifications only. Stock also includes options sold on the truck from the same make and model of the truck.
- All trucks, regardless of year built, must be properly constructed and maintained in presentable condition.
- Drivers must declare year/make/model of the chassis. This information will be used to enforce chassis dimensions.
- Technical specifications for this class supersedes CCR.

## CHASSIS

- Chassis must remain stock but may be reinforced by adding material.
- Shortening of a long wheelbase frame to match short wheelbase specs is allowed.
- The wheelbase must be stock measurement  $\pm 2$ ".
- If rear bumpers are removable, they must use two mounts with (4) 1/2" Grade 8 bolts per side.
- Frames cannot be notched or smashed in the rear to lower ride height while maintaining wheel travel. Must be stock. Reinforcement is allowed if needed to keep it maintained.

## SUSPENSION

- Stock suspension parts and locations must be maintained as delivered.
- Overall width must be in stock.
- Pivot points must remain stock and in stock locations.
- Front and rear wheel travel limit is 12" measured to metal stop. Front wheel travel will be measured at the spindle.
- Any manufacturer upper ball joint is allowed, including a mono-ball style.
- Upper spindle mounts may be spaced up a maximum of 1" to clear upper joint.
- Lower ball joints must be OEM or direct OEM replacement. No mono-ball style joints allowed.
- Lower control arms must be stock for the year of manufacture of the chassis. They may not be modified to alter the location of the lower ball joint.
- Lower control arms must be from a 2wd chassis. No 4wd versions allowed.
- Rubber/poly bump stops but must be removed to measure wheel travel.
- Reinforcement of front suspension components is allowed.

## SHOCKS & SPRINGS

- Maximum of two shocks are allowed per corner.
- Air and/or coil over shocks are not allowed.
- Any type of reservoir shock, external by-pass tubes, or shocks larger than 2.0" are not allowed.
- Internal floating piston shocks are not considered reservoir shocks and are allowed.
- Rear suspension must utilize leaf springs as the only suspension springs.

- Aftermarket leaf springs are allowed, but must be stock length and mount in the stock locations.
- “Military wrap” leaf springs are allowed.
- Any leaf spring with a wrap designed to increase traction by reducing axlewrap, such as leaf springs with a “Rebound wrap” or “snail wrap” are not allowed.
- Quarter elliptical springs are not allowed.
- Shackles lengthened or moved from stock locations are not allowed.
- Composite or fiberglass springs are not allowed.
- Air bump shocks/stops are not allowed.
- Any shock or part of suspension protruding through the hood or fenders must be removed.
- Remote reservoirs are not allowed.
- Take a part shocks except those described above are not allowed.
- Custom made shocks are not allowed.
- Shocks must not be mounted in the driver compartment.
- Coil-over shocks are not allowed.
- Remote and/or cantilever shocks are not allowed.
- Air shocks are not allowed.
- Position sensitive shocks are not allowed.
- Shocks with shafts larger than 5/8” in diameter are not allowed.

#### **STEERING**

- Steering must be in stock location and components in safe working order.
- Heim joint tie-rod ends are allowed.
- Fabricated tie-rods are allowed.
- An aftermarket slip tube may be used.
- Steering quickeners are allowed.
- Any steering pump is allowed, but must be belt driven.

#### **BRAKES**

- Disc brakes are allowed front and rear, but must use steel rotors and calipers.
- Rotors and calipers must be OEM replacement, but may be from any model or manufacturer.
- Drilled and slotted rotors are allowed as long as they are OEM replacement. No two-piece rotors.
- Hubs may be redrilled to accommodate a different bolt pattern or stud size.
- Proportioning valves are allowed for front to rear bias, but all four tires must lock up when tested.

#### **WEIGHT**

- Trucks originally manufactured as less than 1/2 ton chassis style by manufacturers and using a V6 engine (mini and mid-size trucks) must weigh a minimum of 3,500 pounds.
- All full or mini/mid-sized trucks using a V8 engine must weigh a minimum of 4,000 pounds.

#### **BODY**

- Body and fenders must remain stock, absolutely no bending or flaring, especially to fenders or wheel openings.
- Body must be sourced from the same manufacturer as the chassis and engine, but may be newer or older than the chassis.
- Rear of cab needs to be retained.

- A one-piece fiberglass or plastic truck nosecone and grille assembly may be used. The assembly must have stickers matching the stock headlights and grille.
- Rear wheel wells, firewalls and floorboards must be repaired for rust as well as all other damage.
- Outer box sides must be steel and have a stock appearance. Box sides may be custom fabricated as long as they match the factory body lines.
- OEM fiberglass step-side outer box sides may be utilized if they came stock for the body model and year. No reproductions allowed.
- Nothing is allowed above the stock bedsides besides number plates, bars, and safety light. No tinwork above the bedsides.
- Front fender wells may be removed.
- **Rear fender wells may be removed.**
- Flat hood only, no hood scoops allowed.
- **Stock grill assembly and/or aftermarket must be an exact duplicate for the body year.**
- **Headlight glass must be removed and covered with flat material.**
- **Headlight stickers to match the body style are required.**

## **ENGINE**

- Stock cast iron components and parts only.
- No aftermarket or GM Performance Vortec heads are allowed.
- Maximum CID:
  - Ford: 362 (0.060" over 351)
  - GM: 360 (0.060" over 350)
  - Dodge: 367 (0.040" over 360)
- Engine blocks accepted are: GM 350, Mopar 360, & Ford 351 Windsor or smaller.
- The engine must be in stock position and have stock components such as fan and alternator.
- The block may be drilled for oil or temperature sending units.
- Factory street production head with factory cast marking only.
- The following stock replacement cylinder heads are allowed. The heads must remain as-cast with part numbers clearly visible:
  - a. Engine Quest CH350I (GM)
  - b. Dart Speedway Motors 91624360 (GM)
  - c. Engine Quest CH318B (Mopar)
  - d. World Products 53030 (Ford)
- Valves can be 2.02 intake and 1.60 exhaust maximum.
- GT-40P and GT-40 heads are allowed.
- Any oil pan is allowed. Oil pan must have a 3/4" inspection plug providing clear view of the crank and connecting rods.
- Engine oil coolers are not allowed.
- Aluminum blocks and/or cylinder heads even if they were available as an option are not allowed.
- Compression ratio must be under 10:1. This will be checked as a static compression check.
- External or internal modifications and/or grinding to heads is not allowed. Heads and block can be cleaned up for gasket sealing but must remain under the 10:1 compression ratio.
- Interchanging heads from other similar motors (305 to 350, 289 to 351, etc.) is not allowed.

### **CAMSHAFT & LIFTERS**

- Must be stock type cast flat tappet camshafts with a maximum valve lift as measured at the valve of 0.500".
- Must be stock lifter bore size.
- Full roller rockers are required, stud mounted only.
- Aftermarket direct replacement timing chain and gears are allowed.
- Roller mushroom type lifters are not allowed.
- Gear or belt drive cams are not allowed.
- Shaft type rockers are not allowed, unless OEM.

### **PISTONS AND CONNECTING RODS**

- Flat top or dished, stock, or OEM replacement piston only.
- Cast or forged pistons.
- Steel rods with stock dimensions only:
  - GM: 5.791"
  - a. Mopar: 6.123"
  - b. Ford: 5.954"
- Titanium, stainless, aluminum, etc. rods are not allowed.
- H-beam rods are allowed.
- No domed or notched pistons.
- Pistons must remain at or below deck height at TDC.

### **CARBURETOR & INTAKE**

- One 2-barrel Holley model number 0-4412 is allowed. HP or BK models are not allowed.
- One combination restrictor plate with two 1.375" bores is required.
  - a. Must be used with standard size gaskets only.
  - b. This unit is available through Sportsman Series tech only.
  - c. Must have MORR stamped on it.
- Modifications to the throttle bore, plate, shaft, choke horn, booster, or Sportsman restrictor plate are not allowed.
- Breathers and air filters may be of any material or size are allowed, but must be mounted under the hood with no modifications to the hood.
- No fuel injection is allowed, even if the vehicle had factory fuel injection.
- The carburetor must pass tech gauges and measurement tools.
- **No adapters or spacers are allowed. The carburetor must bolt directly to the restrictor plate. The restrictor plate must bolt directly to the intake.**
- Any cast iron OEM intake manifold allowed.
- Must be as-cast Edelbrock part numbers allowed:
  - GM: 5001 or 2716
  - a. Mopar: 5076 or 7577
  - b. Ford: 5081
- GM engines are allowed to run Edelbrock intake #2716 with stock Vortec heads.
- Match porting is allowed by the removal of material only. Within the last 1/2" of the runner only.
- Use of an OEM mechanical fuel pump is required, and must be mounted in the OEM location only.
- Electric fuel pumps are not allowed.

## **HEADERS**

- Stock, as cast, production exhaust manifolds only.
- Dual exhaust only.
- No crossover, 2 into 1, H, or X tubes.

## **MUFFLERS**

- Unrestricted.

## **IGNITION SYSTEMS**

- Ignitions must be OEM or PRO Comp HEI – PC6001, PC6004 or PC6006.
- Ford may use Speedway 91012360.
- The MSD Blaster ignition coil may be used.
- Aftermarket plug wires are allowed.
- An RPM limiter may be used, but is not required.

## **ENGINE COOLING**

- Any radiator is allowed, but must be mounted in stock location.
- Core support may be removed and engine compartment can be caged in.

## **REAR AXLE**

- Any automotive or light truck production housing is allowed.
- No aluminum gear carrier allowed.
- No aluminum wheel hubs allowed.
- Aftermarket floater axels are allowed.
- Anti-wrap up bars are not allowed.
- Spools are allowed.
- A rear axle truss may be added to the rear axle housing.

## **TRANSMISSION**

- Transmission must be from the same manufacturer as the engine.
- Transmission coolers are allowed.
- Any steel conventional vane type, non-electric torque converter is allowed.
- Aluminum valve body is allowed.
- Factory gears only are allowed.
- Factory aluminum planetary is allowed.
- Trans brakes are not allowed.
- Aluminum torque converters are not allowed.
- Aluminum or lightened aftermarket internal parts are not allowed.

## **TIRES**

- D.O.T. only and available to the general public.
- Maximum tire size of 33 x 12.5 or approximate metric equivalent. Tire must be 33" in diameter or less.

## **WHEELS**

- Wheel maximum width is 8-1/2".

- Any steel wheel, or one piece cast aluminum wheel is allowed.
- Maximum wheel size is 17".
- Bead locks, bead liners, and inner liners are not allowed.
- Spun aluminum or magnesium wheels are not allowed.
- Three-piece wheels are not allowed.

# #800 to #899 MORR Super Stock Truck Technical Specifications

## DEFINITION

- A two-wheel drive, standard-size pickup. The truck must be of stock production that has been produced in quantities of at least 5,000 for a one-year period and available for purchase by the general public in the USA.
- This is a production class and must utilize an engine, body, and frame of the same vehicle manufacturer. All components must remain stock unless modifications are allowed by this rulebook.
- All trucks, regardless of year built, must be properly constructed and maintained in presentable condition.
- Drivers must declare year/make/model of the chassis. This information will be used to enforce chassis dimensions.
- Technical specifications for this class supersedes CCR.

## CHASSIS

- Factory installed chassis and body must be maintained for year specified .
- Strengthening of chassis and frame by adding material is allowed.
- Stock wheelbase must be  $\pm 1"$ .
- Shortening of long wheelbase frame to match short wheelbase specs is allowed, but must have Sportsman Series Tech approval.
- Front frame horns may be shortened no more than 3" in front of the forwardmost steering box bolt.
- Removal of any cross members or any other materials is not allowed.
- Alterations to the frame such as "kicking" is not allowed.
- If rear bumpers are removable, they must use two mounts with (4) 1/2" Grade 8 bolts per side.
- Frames cannot be notched or smashed in the rear to lower ride height while maintaining wheel travel. Must be stock. Reinforcement is allowed if needed to keep it maintained.

## SUSPENSION

- Stock suspension parts and locations must be maintained as delivered.
- All suspension mounts must be in the stock factory location. It is the driver's responsibility to prove to the Sportsman Tech Officials that the stock location is maintained.
- Track width must be stock. Measurement will be determined from the factory manual.
- Pivot points must remain stock and in stock locations.
- Travel limit in the front and rear is 12" and will be measured metal stop to metal stop without anything in between.
- Stock spindles or stock replacement spindles with 3/4 or 1-ton components are required.
- Stock lower A-arms are required.
- Any manufactured or fabricated upper A-Arm is allowed.
- Any manufactured ball joint or heim joint is allowed.
- Upper spindle mounts may be spaced up a maximum of 1" to clear upper joint.
- Steel springs of any rating, and any manufacturer are allowed, but must be stock length.
- Replacing all/any rubber mounts with poly or other material is allowed.
- Two single-point anti-wrap up bars attached on the axle housing are allowed.

- Only stock sway bars are allowed. Use of larger stud or bolts is allowed.
- Rubber/poly bump stops are allowed.
- Hydraulic bump stops are allowed on the front and rear.
  - a. Can only absorb a maximum of the last 3" of upward travel.
  - b. Bump stops cannot be attached to any moving suspension and may only be attached to the chassis.
  - c. Only one bump stop per corner
- Reinforcing of parts with additional material with no modifications to the part is allowed.
- Early model Dodge and Chevrolet trucks with bolt-in cross shafts for the upper A-arm brackets may attach alternate fabricated brackets to the frame. Brackets must be on stock OEM centerline and in stock location. It is the driver's responsibility to prove to the Sportsman Tech Officials that the stock location is maintained. All other trucks must use the stock mounts in the stock location.
- Quarter elliptical springs are not allowed.
- Shackles must be OEM length and remain in the factory location.
- Composite and/or fiberglass springs are not allowed.
- Only factory equipped rear leaf spring models of trucks are allowed.
- Rear coil-over suspensions are not allowed.
- Factory front coil-over suspensions are allowed. Stock front coil-over may be replaced with aftermarket coil-over but must bolt into the factory location. The shock body may extend through the stock spring bucket. The coil-over spring must remain below the stock spring bucket.
- Front coil-over suspensions may only utilize one single rate spring per shock.

### **STEERING**

- Any OEM steering box may be used, providing it is mounted in approximately the same location as stock and the pitman arm location does not change significantly.
- Internal steering box modifications are allowed.
- Tie rods, tie rod ends, and any ball and socket type ends may be used. All other steering must remain stock, but can be reinforced.
- Any steering wheel is allowed, but must remain within three inches of the stock location.
- Stock steering pump internal modifications are allowed.
- Steering pump and reservoir may be of any manufacturer, but must be belt driven.
- Steering quickners are allowed.
- Chassis that originally have rack and pinion steering may use an aftermarket rack mounted in the approximate stock location. Must have Sportsman Series tech approval.

### **SHOCKS**

- Any number of 2" shocks can be used.
- Floating pistons and remote reservoirs are allowed.
- Shocks larger than 2" may be used, but are limited to a total of one shock per wheel. If a shock larger than 2" is used, no other shock is allowed on that corner.

### **Not Allowed:**

- Custom made shocks are not allowed. All shocks must be available from normal retail sources.

- Shocks must not be larger than 3".
- External or internal bypass shocks are not allowed.
- Shocks may not protrude through the hood or fenders.
- Remote or cantilever shocks are not allowed.
- Air shocks are not allowed.

#### **RIDE HEIGHT**

- As specified in Combined Class Rules (CCR).

#### **WEIGHT**

- A minimum of 4,000 lbs. pre or post-race with driver. Cleaning may be required.

#### **BRAKES**

- Stock brake equipment only. No anti-lock systems, electrical or mechanical.
- Any brake pad or brake shoe material may be used.
- Any master cylinder or wheel cylinders may be used, as long as it bolts in place of the stock one.
- Any proportioning valve or brake bias control may be used.
- Braided lines are allowed.
- Disc brakes must use steel rotors and calipers only.
- Rotors and calipers must be OEM replacement, but may be from any model or manufacturer.
- Drilled and slotted rotors are allowed as long as they are OEM replacement. No two-piece rotors.
- Hubs may be redrilled to accommodate a different bolt pattern or stud size.
- Any aftermarket pedal assembly is allowed.
- Steering brakes are not allowed.

#### **BODY**

- Body must be sourced from the same manufacturer as the chassis and engine, but may be newer or older than the chassis.
- Stock floor mounts must be in original positions.
- Body must be in original size, shape, configuration, and appearance.
- Bodies of fiberglass or plastic composition are allowed.
- Stock grill assembly and/or aftermarket must be an exact duplicate for the body year.
- Doors, hoods, and fenders must be in the factory original stock location.
- Heater core hoses must be disconnected.
- Headlight glass must be removed and covered with flat material.
- Headlight stickers to match the body style are required.
- Stock body mounts may be replaced with any material.
- Removal of the tailgate is required.
- General body bracing by adding additional material is allowed.
- OEM cab floor and firewall must match the frame and be mounted in stock location. The remainder of the OEM cab is not required.
- Windshields and any other stock glass must be removed.
- Shocks, radiators, transmission coolers, air filters, and scoops protruding through the hood are not allowed.

### **INTERIOR**

- Removal of all upholstery, upholstery panels, headliners, carpets, and plastic interior parts is required.
- The pedal assemblies must remain in the approximate stock location.

### **SEATS**

- Only manufactured race seats are allowed.
- Sportsman truck classes must have a 0.25" metal protective shield covering the back and bottom of the seat.
- Refer to Sportsman Series Safety Standards chapter of this Rule Book.

### **FLOOR BOARDS**

- The OEM cab floor must be used, must match the frame, and must be mounted in stock location.
- Any repair of rust must be done with equal thickness metal.
- Minimum trimming will be allowed.

### **FIREWALL**

- The OEM firewall must be used, must match the frame, and must be mounted in stock location.
- Any repair of rust must be done with equal thickness metal.
- Modifications are allowed to facilitate the installation of the roll cage.

### **HOOD**

- The hood must be in the original stock location.
- The hood may be of any material, but must be an exact duplicate of the OEM panel.
- Removal of the hood latches is allowed.
- Hood pins are required.
- Hood scoops not allowed.

### **DOORS**

- Three horizontal bars of tubing, equal to the roll cage tubing, must be welded to the cage on each side.
- Doors must be mounted in the OEM location.
- Window glass must be removed.
- Window regulators and window hardware may be removed.
- Doors may be of any material, but must be an exact duplicate of the OEM panels.
- The door bars must be plated with 0.075" aluminum or 16ga. steel.

### **FENDERS**

- Enlargement of wheel openings for tire clearance is allowed, with 3" of cut out and 2" of flare.
- Use of hoops for mounting fenders and radiator is allowed.
- Outer box sides may be of any material, but must be an exact duplicate of the OEM panels.
- The inner box material is optional.

- Front fenders may be of any material, but must be an exact duplicate of the OEM panels.
- Inner front fender reinforcements may be removed.

### **ENGINE**

- "Stock" means the part or assembly in its "as cast" configuration as delivered and used on U.S. model, without modifications. All casting and/or part numbers must be visible.
- Mounting plates are not allowed.
- Three inspection holes are required in the oil pan for inspection of a knife-edged crank etc. If the crank and rods are not clearly visible you will be required to drop the pan.
- Engine must be pre-drilled for sealing. This includes oil pan, front cover, intake, restrictor plate, and carburetor.

### **BLOCK AND CRANKSHAFT**

- Approved standard OEM, as cast, iron production block. Blocks approved by Sportsman Series are:
  - a. GM 350
  - b. Mopar 360
  - c. Ford 351 Windsor
- Aftermarket cast iron race blocks are allowed.
  - a. Stock deck height must be maintained.
  - b. Camshaft must be in stock location within the block.
  - c. Original manufacturer's part number must be visible on block.
- Engine has a maximum of 370 cubic inch displacement.
- Crank must be stock stroke length.
- Stock cast or forged steel crankshaft or OEM aftermarket replacement only.
- Rod journal grind is unrestricted.
- A 3/4" inspection hole in the side of the oil pan, in line with crankshaft journal and crankshaft casting number, is required.
- Engines must be able to be sealed once they are pumped. One head bolt, one intake manifold bolt, and one oil pan bolt on each side of the oil pan must be drilled to allow sealing.
- Blue printing and balancing is allowed.
- Using studs rather than bolts is allowed.
- Oil pan windage trays are allowed.
- High volume or pressure oil pumps are allowed.
- Auxiliary engine oil coolers are allowed.
- A fan for the oil cooler is allowed.
- Remote oil filters are allowed.
- The harmonic balancer is unrestricted, any manufacturer and must be SFI 18.1 approved.
- Crankshafts that have been knife-edged or lightened are not allowed.
- Dry sumps or external wet sump pumps are not allowed.

### **CYLINDER HEADS AND VALVES**

- Standard production, as cast, iron heads that match the block, with the casting numbers clearly visible are required. Approved heads are:
  - a. GM: Any OEM production head. No Bowtie heads allowed.

- b. Mopar: Any OEM production head. Includes the Magnum head part #P5007086. W-2 heads are not allowed.
  - c. Ford: Any OEM production head. Also: GT40, GT40P, or World Products Roush 180 part No. 5303.
- The following stock replacement cylinder heads are allowed. The heads must remain as-cast with part numbers clearly visible:
  - a. Engine Quest CH350I (GM)
  - b. Dart Speedway Motors 91624360 (GM)
  - c. Engine Quest CH318B (Mopar)
  - d. World Products 53030 (Ford)
- Maximum allowed valve diameters:
  - a. Intake: 2.02"
  - b. Exhaust: 1.60"
- Aftermarket valve springs are allowed, provided the stock outside dimensions retained.
- Three angle valve jobs are allowed.
- A single 45 degree cut on the valve face is allowed.
- Valve guide material is unlimited.
- Stainless steel valves are allowed.
- Screw in studs and guide plates are allowed.
- One breather is allowed per valve cover.
- Machining of the head to accommodate the maximum valve size listed above is allowed.
- Any modifications of the cylinder head not specifically listed above are not allowed.
- Angled milling/cutting of the block or cylinder heads is not allowed.
- Bowl cutting is not allowed.
- Titanium or composite valves are not allowed.

#### **PISTONS AND CONNECTING RODS**

- Flat top or dished, stock, or OEM replacement piston only.
- Cast or forged pistons.
- Steel rods with stock dimensions only:
  - GM: 5.791"
  - a. Mopar: 6.123"
  - b. Ford: 5.954"
- Removal of casting flash from connecting rods is allowed.
- Shot peening of the connecting rods is allowed.
- Titanium, stainless, aluminum, etc. rods are not allowed.
- H-beam rods are allowed.
- No domed or notched pistons.
- Pistons must remain at or below deck height at TDC.

#### **CAM AND LIFTERS**

- Must be stock type cast flat tappet camshafts with a maximum valve lift as measured at the valve of 0.500".
- Must be stock lifter bore size.
- Other cam grind specifications are unrestricted.
- Full roller rockers are allowed, stud mount only.

- Aftermarket, direct replacement, timing chain and gears are allowed.
- Roller mushroom type lifters are not allowed.
- Gear or belt drive cams are not allowed.
- Shaft type rockers are not allowed, unless OEM.

#### **INTAKE MANIFOLD**

- Must be as-cast Edelbrock part numbers allowed:
  - GM: 5001 or 2716
  - a. Mopar: 5076 or 7577
  - b. Ford: 5081
- GM engines are allowed to run Edelbrock intake #2716 with stock Vortec heads.
- Match porting is allowed by the removal of material only. Within the last 1/2" of the runner only.
- Addition of a return water port in rear of intake manifold is allowed, but must be approved by Sportsman Series tech.
- Machining of intake to match Vortec heads is allowed.
- Standard design gaskets are required.
- Drilling of head to install the intake is allowed, but must be approved by Sportsman Series tech.
- No devices between the carburetor and the intake manifold, designed to increase or redirect airflow will be allowed.

#### **CARBURETOR & INTAKE**

- One 2-barrel Holley model number 0-4412 is allowed. HP or BK models are not allowed.
- One combination restrictor plate with two 1.375" bores is required.
  - a. Must be used with standard size gaskets only.
  - b. This unit is available through Sportsman Series tech only.
  - c. Must have MORR stamped on it.
- Modifications to the throttle bore, plate, shaft, choke horn, booster, or Sportsman restrictor plate are not allowed.
- Breathers and air filters may be of any material or size are allowed, but must be mounted under the hood with no modifications to the hood.
- No fuel injection is allowed, even if the vehicle had factory fuel injection.
- The carburetor must pass tech gauges and measurement tools.
- **No adapters or spacers are allowed. The carburetor must bolt directly to the restrictor plate. The restrictor plate must bolt directly to the intake.**
- Use of an OEM mechanical fuel pump is required, and must be mounted in the OEM location only.
- Electric fuel pumps are not allowed.

#### **HEADERS**

- Must be stock, as cast, production exhaust manifolds or "down and under" headers with a maximum tube diameter of 1.750".
- Header collectors are required.
- Custom built headers are not allowed.
- No part of the exhaust system may run through the driver's compartment.

## **MUFFLERS**

- Unrestricted.

## **IGNITION SYSTEMS**

- Stock type single point or HEI ignition system only.
- Spark must be activated through the distributor.
- Only one MSD ignition box is allowed. The chip of the box must be out of reach of the driver, but must be in easy access for tech inspectors to check and seal.
- MSD 6AL or 6ALN ignition module is required. Models using rev chips, or dial adjustment are allowed.
- MSD boxes must limit the engine maximum of 6500 RPM.
- Any coil is allowed.
- OEM or direct replacement alternator only.
- Magnetos or direct fire coil ignition systems are not allowed.

## **ENGINE COOLING**

- Multiple radiators are allowed and can be mounted in any location.
- OEM or direct replacement water pump only.
- An auxiliary water tank, used for cooling, of no more than 5 gallons is allowed.

## **DRIVE TRAIN**

- Support mounts in the area of the front of the transmission will be allowed.
- A steel midplate is allowed between the engine and transmission to tie them to the frame. Aluminum midplates are not allowed.
- Any motor mount is allowed, as long as the motor remains in the stock location.
- Any automotive or light truck production housing and third member for rear axle assembly is allowed.
- Any gear ratio is allowed in the differential.
- Any axles, including aftermarket floater axles are allowed.
- Rear differential must be spool type only.
- Knock off hubs are not allowed.
- Quick-change rear ends are not allowed.
- Aluminum 3<sup>rd</sup> members are allowed.
- Aluminum rear end housings are not allowed.
- Fabricated rear end housings are allowed. Maximum ring gear size is 9".

## **TRANSMISSION**

- Three speed automatic transmission only.
- Transmission must be from the same manufacturer as the engine.
- Transmission coolers are allowed and may be mounted in the box.
- Any steel conventional vane type, non-electric torque converter is allowed.
- Aluminum valve body is allowed.
- Factory gears only are allowed.
- Factory aluminum planetary is allowed.

- Trans brakes are not allowed.
- Aluminum torque converters are not allowed.
- Aluminum or lightened aftermarket internal parts are not allowed.

#### **TIRES**

- D.O.T. only and available to the general public.
- Maximum tire size of 33 x 12.5 or approximate metric equivalent. Tire must be 33" in diameter or less.

#### **WHEELS**

- Wheel maximum width is 9".
- Any steel wheel, or one piece cast aluminum wheel is allowed.
- Maximum wheel size is 17".
- Bead lock wheels are allowed.
- Bead liners and inner liners are not allowed.
- Spun aluminum or magnesium wheels are not allowed.
- Three-piece wheels are not allowed.