



# 2021 Rule Book

Valley Off Road Racing Association L.L.C. herein to be referred to as VORRA sets forth these rules and regulations to establish minimum acceptable requirements and to provide for the orderly conduct of racing events. Effective January 1, 2021 these rules and regulations will govern all VORRA events. All VORRA members who willingly participate in these events are deemed to have complied with these rules and/or regulations. No express or implied warranty of safety shall result from publication of, or compliance with, these rules and/or regulations. These rules and/or regulations are in no way a guarantee against injury or death to participants, spectators, or any other person or persons. They are intended as a guide for the conduct of the sport only. VORRA rules and regulations are the sole property of VORRA.

VORRA, its members, officers, directors, or staff assume no responsibility, legally or otherwise, for failure or malfunctions of any product or products of recognized manufacturers listed in the rules and/or regulations herein. VORRA is not liable for decisions and/or actions made by individuals, promoters, organizations, or others using VORRA rules in whole or in part.

Specifications and/or regulations contained in this rulebook are intended for use as a guide with respect to safety and for that purpose only. VORRA assumes no responsibility for consequences resulting from their voluntary application by any association, organization, manufacturer or individual.

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**TERMINOLOGY**

The terminology, definitions and abbreviations contained herein shall be used in the VORRA

Rulebook, supplementary rules, entry forms, newsletters and for general use.

**VORRA:** Valley Off Road Racing Association LLC is the entity that acts as an event promoter and sanctioning body to organize competitive events for its members.

**VORRA PROMOTION:** All racing related events fully produced by VORRA. **VORRA CO-PROMOTION:** Another promoter working with VORRA to promote an event.

**VORRA SANCTIONED:** The authority to organize and conduct an event including using rules established herein as granted by VORRA.

**EVENT:** A contest between vehicles competing against the clock and/or directly against each other. An Event may be comprised of many class specific contests conducted individually or concurrently. A.K.A. RACE.

**CLASS:** A class is a category of vehicle as determined by engine size, vehicle type, seating capacity, or any other method listed in this VORRA rulebook. Classes may be combined at the discretion of VORRA.

**ENTRANT:** A VORRA member whose entry is accepted for an event.

**OWNER of RECORD:** The person or team listed on an official VORRA entry form to represent a race entry for the purpose of awards and the season championship points.

**DRIVER of RECORD:** The person listed on an official VORRA entry form to be the main operator of a vehicle entered in an event.

**CO-DRIVER:** A person listed on an official VORRA entry form as an alternate operator of a vehicle that is eligible to drive or ride during the race.

**PASSENGER:** A Co-Driver that is not authorized to drive but is approved to ride.

**PARTICIPANT:** A person listed on an official VORRA entry form to participate in a race as either a driver, co-driver, or as a passenger. A person not eligible to operate a vehicle could still be a participant given appropriate restrictions to the extent they participate are in effect.

**CEO:** The Chief Executive Officer of VORRA, responsible for the conduct of all business transactions for the organization. The President retains the final decision on all issues involving any VORRA events or resulting matters for the organization.

**RACE DIRECTOR:** The Official Representative of VORRA designated by the President as responsible for the conduct of race events by the organization. All other officials report to the Race Director. The Race Director has full discretion to make any determinations, judgments, or penalties in relationship to all VORRA rules and/or regulations.

**CHIEF STEWARD:** The Associate Director of VORRA, sharing responsibility for the on-course conduct of all race events, and carrying out other responsibilities as assigned by the Director.

**RACE OFFICIAL:** Individuals designated by the Director or Chief Steward to officiate during a VORRA event.

**COURSE MARSHALS:** The race officials appointed by VORRA to assist the Chief Steward in the on-course conduct of a race event.

**CHIEF TECHNICAL INSPECTOR:** The race official appointed by VORRA to direct the inspections of entrant's vehicles before and after each event, for technical and safety compliance with the VORRA rulebook.

**ASSISTANT CHIEF TECHNICAL INSPECTOR:** The race official appointed by the Chief Technical Inspector and VORRA to assist the Chief Technical Inspector. The Assistant Chief Technical Inspector shall perform all duties of the Chief Technical Inspector in the event the Chief Technical Inspector is not available.

**SCORING DIRECTOR:** The race official appointed by VORRA to direct the timing and scoring operations of a race event.

**COMMUNICATIONS DIRECTOR:** The race official appointed by VORRA to direct the radio communications network operations of a race event.

**CHECKPOINT CAPTAIN:** A race official appointed by VORRA to direct the operations of their checkpoint and the immediate area around the checkpoint.

**CONTROLLED ROAD CROSSING CAPTAIN:** A race official appointed by the VORRA to direct the operations of their controlled road crossings and the immediate area around the controlled road crossing

**PIT STOP CAPTAIN:** A race official appointed by VORRA to direct the operations of their pit stop and the immediate area around the pit stop.

**STARTER:** The person responsible for starting an event by displaying the appropriate flags and/or lights, as directed by the Chief Steward.

**SUPPLEMENTARY REGULATIONS:** Regulations that define special or additional rules for a specific event.

**IMPOUND:** A specific place with restricted access designated for the containment of all race vehicles immediately before and/or after an event.

**CONTINGENCY:** A contingency is the commitment made to VORRA by verbal or written contract with a manufacturer, company, or individual to post or pledge a certain amount of cash or product as an award to contestants. Contestants must apply for, be approved by, and meet requested requirements as set by the manufacturer, company or individual posting the contingency. Decals are generally required and must be assumed to be required unless otherwise stated. Unless otherwise stated the contestant must finish the event to be eligible.

**PAYBACK:** The share of the purse that an entrant receives for finishing a race in a paying position. Only actual finishers qualify for a share of the monetary purse. If the payback schedule pays to more positions than the number of finishers in a class, the remaining purse will be transferred to the year end points fund for that class.

**SHORT COURSE EVENT:** A closed course event consisting of multiple contests to determine event winners. (SC Only)- Indicates rules that only apply to Short Course Events

**LONG COURSE EVENT:** A timed distance event typically of a length to include several checkpoints to verify the required route. Also referred to as a “Desert Race”. (LC Only) - Indicates rules that only apply to Long Course Events

MIN WEIGHT: The “As Raced” or “Race Ready” vehicle weight without passengers, fuel, tools, and spares. This weight is for the purpose of meeting a defined CLASS WEIGHT.

MAX WEIGHT: The “As Raced” or “Race Ready” vehicle weight without passengers. This weight is for the purpose of determining roll cage requirements.

## **GENERAL REGULATIONS OFFICIALS**

GR1. Off road racing is a hazardous sport and as being such, no entrant, pit crew member or vehicle sponsor shall have any claim for damages, expenses, lawsuits or otherwise against promoter, track operator, VORRA, its officers, agents or directors arising from damage to any vehicle, personal injury or death, or monetary loss of any kind whatsoever. Entrants, pit crew members or vehicle sponsors who voluntarily participate in any racing activities conducted under these rules, waive any claim they may have against promoter, track operator, VORRA, its officers, agents, or directors.

GR2. The promoter or track operator may run any type of approved VORRA event.

GR3. The Race Director or Chief Steward shall have the authority to penalize, disqualify and/or suspend any entrant or crewmember for the violation of these rules including special rulings and supplementary regulations.

GR4. VORRA may issue special rulings to account for conditions presented by the location of the race, the condition of the course or any other circumstance.

GR5. Special rulings and specifications will be considered as official amendments to the list of rules and regulations when issued by VORRA in written form in official VORRA publications.

GR6. Supplementary regulations may be issued for each event as necessary to amend, suspend or modify existing rules and regulations.

GR7. VORRA assumes no responsibility whatsoever for delays, postponements and/or cancellations of all or part of an event because of inclement weather, unsafe course conditions, COVID related concerns and/or any other reason.

GR8. The Race Director and CEO will have the responsibility for the conduct of all events sanctioned by VORRA. All official race personnel will be directly responsible to the Director and CEO.

GR9. The Race Director and CEO shall have the authority to penalize (including disqualification and/or suspension) any entrant for violating the rules or for unsportsmanlike conduct.

GR10. No one falling under the jurisdiction of any race official(s) at any VORRA event shall subject said official(s) to improper language, physical abuse, threats, or any other demeaning action.

GR11. VORRA members and volunteers are not employees of VORRA. VORRA members and volunteers assume all responsibility for all charges, premiums, and taxes payable on any funds they may receive because of their participation in any VORRA sanctioned event(s).

GR12. VORRA reserves the right to refuse and/or deny any entry application.

GR13. VORRA uses the frequency of 151.625 MHz as a main race channel. VORRA reserves the right to change the main race channel frequency if deemed necessary. VORRA will make all reasonable efforts to notify all entrants of the new frequency. All radio or other transmissions which affect VORRA control communications are strictly prohibited except in the case of medical emergencies.

GR14. The checkpoint captains are the direct representatives of the Chief Steward at their respective checkpoints. They are also responsible for the course on either side of the checkpoint.

GR15. Checkpoint captains may designate areas surrounding the checkpoint area for checkpoint personnel only. No support teams, pit crews, chase crews or any other person without expressed permission will be permitted in this area. Failure to comply will subject the entry to penalties of up to and including disqualification.

GR16. Classes may be combined at the discretion of VORRA. The combining of classes is for the sole purpose of allowing entrants to race. Entrants will be eligible for position money of the combined class and will be awarded points in their respective classes.



GR17. The Race Director or Chief Technical Inspector shall have the authority to penalize, disqualify and/or suspend any entrant for violations of vehicle technical rules.

GR18. The Race Director and CEO have the final decision on all issues involving any VORRA events. The Race Director and CEO have full discretion to make any final determinations, judgments, suspensions, or penalties in relationship to all VORRA rules and/or regulations.

## PARTICIPANTS

GR19. A race vehicle number will be assigned to the Owner of Record for the entire season. Any vehicle displaying that number for a particular event can be linked to the entry that is competing in the point series. All classes are limited to one vehicle change during the season. The Points will follow the vehicle number entered in a particular class and reference the Owner of Record. The Drivers and Co-Drivers will be identified separately for registration purposes. All participants riding in a race car must obtain a yearly VORRA membership.

GR20. VORRA reserves the right to change race vehicle numbers and/or background colors. Racers Must have a correct and visible number plate. If VORR can not clearly read your number plate you may not be scored.

GR21. The Driver of Record and Co-Driver must sign all entry and release forms in person during registration to be eligible for points, prize money, and contingency awards in that event. Identification may be required during registration. Special consideration registration may be permitted with advanced approval of VORRA.

GR22. Any entrant who fails to fully fill out and sign required entry forms and releases can be disqualified and shall forfeit any prize money, points and contingencies won in that event. Entry forms and releases must be signed in person in front of VORRA entry personnel. Identification may be required.

GR23. No entrant may enter racing areas until they have signed all releases and/or entry forms. No person shall sign the release or entry forms for anyone other than himself or herself. Identification may be required.

GR24. The entry applications of persons under the age of 18 must have a parent or legal guardian sign the minor release form.

GR25. Each seat in any class limited race vehicle must be occupied during the entire duration of the event if vehicle remains in competition.

GR26. Any entrant who competes in a vehicle that he/she is not registered to drive or co-drive or permits such action, shall forfeit all prize money, points and contingencies won in that event. Such action may result in vehicle disqualification.

GR27. Deliberate or abusive nerfing or bumping shall be reason for reprimand, penalty, disqualification and/or suspension at the discretion of the Race Director or CEO. This would include ANY nerfing or contact with vehicles such as Class11 that are not able to withstand such contact. (IE. No rear bumper)

GR28. All drivers and co-drivers of record as listed on the official VORRA entry form must attend all drivers/riders' meetings. Failure to do so may result in penalties of up to and including disqualification and/or fines. Armband checks and written roll calls may be made at the meeting.

GR29. Only entrants that are listed on official VORRA entry forms may drive or co-drive in the vehicle for which they are registered. No entrant may drive or co-drive on or in any vehicle for which they are not registered.

GR30. A driver will not permit any other person other than a registered co-driver in the co- driver's normal riding position. The driver shall not permit anyone to ride on or in any part of his or her vehicle other than the normal riding positions.

GR31. No entrant, crewmember, pit personnel or any other person(s) other than the Race Director, Chief Steward or a VORRA official shall remove, alter, or relocate course markings. The person(s) found to have removed, altered, or relocated course markings may be disqualified and/or suspended from future VORRA events.

GR32. Course inspection and course knowledge is the responsibility of every entrant in VORRA events. Course inspection must be done during a VORRA led Poker run. Unsafe and/or irresponsible driving during course inspection may subject entrant to penalties of up to and including disqualification or suspension at the discretion of VORRA. Participants in course inspection with open cockpit

vehicles or motorcycles must wear full personnel protective gear. NOTICE: Course inspection is at one's own risk.

GR33. Failure to appear before the Race Director when requested may result in a letter of reprimand and/or infraction penalty at the discretion of the Race Director. Failure to appear before the Race Director when requested twice within a race season may result in an infraction penalty and/or suspension for up to one year at the discretion of the Race Director.

#### DISQUALIFICATION

GR34. Drinking intoxicating beverages is forbidden during a VORRA event. The use of narcotics or other controlled substances is also forbidden. Any entrant or crewmember that shows evidence whatsoever during an event of being under the influence of any aforementioned may be disqualified and subject to suspension from all future VORRA events.

GR35. Any entrant who makes a false statement on a contingency or entry form may be disqualified and shall forfeit all prize money, points and all contingencies won in the race. Entrant may also be suspended from future events for a period of one year.

GR36. Any entry application containing a falsified signature will cause entrant to be disqualified and shall forfeit all prize money, points and contingencies won in that event. Entrant may also be suspended from future events for a period of one year.

GR37. Any entrant disqualified from any event for any reason whatsoever forfeits all rights to prize money, points, and contingencies. Entrant will not be entitled to a refund of any portion of his/her entry fee.

GR38. Any entrant, respective pit crews, or support crews seen or reported traveling backwards on the course will subject entrant to penalties of up to and including disqualification and/or suspension. VORRA retains the right to assess each situation and respond accordingly. Situations involving safety are at the discretion of the Chief Steward or Race Director. If a vehicle breaks down on the course, respective pit crews or support crews may only access the course with the approval of the Check Point Captain, Chief Steward, or Race Director.

GR39. Any race entrant or their support personnel who subject any VORRA official, other race entrants or their support personnel to verbal threats and/or physical abuse will be brought before the Race Director. The Race Director will make the decision of disqualification and/or suspension of the driver/rider of record and the offending support personnel for said offenses. Acts of physical abuse may be reported to the proper authorities and may lead to legal action.

## **EVENT COURSE**

GR40. VORRA will set the maximum duration and length of an event.

GR41. An entrant's official time shall be the total elapsed time from their assigned starting time to the time they cross the official finish line. The elapsed time must be less than the official time limit of the event. If an entrant does not report to the staging area in time to stage in their respective starting position, the entrant will be placed in the rear of their class. If the last of their class has already started; the entrant will be started in the next available position solely at the discretion of VORRA. In all cases, if the entrant does not start at their assigned time, their time will start from their assigned starting time, not their actual starting time.

GR42. The winner of each class shall be the entrant that finished the race with the lowest elapsed time, the most laps within the event time limit, or the first entrant to complete the required number of laps. The entrant must also meet all other criteria to be declared the official winner. A race finish is completing all the laps/miles prescribed by VORRA.

GR43. All entrants must report all accidents and/or breakdowns they may have witnessed. Entrant must inform a VORRA official at the next stop check point, controlled road crossing, pit stop or by radio 151.625(if so equipped) of the location, vehicle number, and injuries, if any.

GR44. Reflective devices must be at least 12 inches high and 12 inches long and be free standing (like trucker's breakdown triangles). Beacons, glow sticks or reflective devices must be placed at least 200 feet and 20 feet behind any breakdown or accident and be placed beside the track on the same side of track as the vehicle. (LC Only)

GR45. Passing is not permitted within 300 feet on either side of any controlled road crossing or stop checkpoint, except at the direction of a VORRA official. (LC Only)

GR46. Any entrant who must discontinue the race must report, in person or via radio channel 151.625 to a checkpoint, controlled road crossing, pit stop or start/finish that they are out of the race.

GR47. No aircraft is permitted for the purpose of race support. This includes, but is not limited to, flying over any race vehicle, transportation of drivers/riders and or support crews (unless a medical emergency exists), communication with race vehicle, spotting for race vehicle, transportation of equipment and/or parts, landing on or near the racecourse in areas other than approved by VORRA and within FAA rules, flying too low, and interfering with the normal conduct or actions of the event. Violation of this rule may lead to entrant's disqualification. Note: Requests for aircraft special use (i.e.: filming, observing, etc.) must be submitted to VORRA in writing. Requests must include the radio frequencies to be used and must be submitted no later than one week prior to the scheduled event.

GR48. Starting procedures will be announced at the drivers/riders meeting prior to each event.

GR49. Every vehicle must leave the start line at its designated start time. Only those vehicles that cross the finish line within the designated time limit will be declared official finishers. Every vehicle must travel through all checkpoints. Every vehicle must come to a complete stop at all VORRA designated controlled road crossings. (LC Only)

GR50. All vehicles must enter each stop checkpoint or controlled road crossing at a safe speed. Unsafe racing into and/or through any stop checkpoint or controlled road crossing is prohibited. Speeding through a stop checkpoint or controlled road crossing is can led to a disqualification. Rolling through a stop checkpoint or controlled road crossing is a minimum fifteen-minute time penalty for each occurrence. Safe speed is defined as a speed at which a vehicle may make a controlled stop without endangering anyone within the immediate vicinity of the checkpoint, controlled road crossing or pit areas. (LC Only)

GR51. All entrants may be checked for their armband and all vehicles may be checked for the technical inspection sticker at any or all checkpoints or controlled

road crossings. Every entrant is responsible for his/her armband and vehicle technical inspection sticker. Any entrant found not to have an armband or a vehicle without a technical inspection sticker may cause that vehicle to be disqualified.

GR52. No vehicle shall be towed, pushed, pulled, or transported by any non-race-entered vehicle on the official course while an official event is still in progress. Another race entered vehicle or an official VORRA vehicle may push, pull, or tow the race-entered vehicle up to the nearest pit stop or checkpoint but may not push, pull, or tow it through the pit stop or checkpoint. Occupants of the vehicle that is pushed, pulled, or towed to that point must make necessary repairs to leave that area under their own power. No vehicle may be pushed, pulled, or towed by another vehicle within one (1) mile of the finish line. All vehicles must cross the finish line under their own power. VORRA officials may assist the vehicle occupants if it is deemed necessary for the protection of the entrants.

GR53. Registered entrants may simultaneously compete in more than one pro class with the same vehicle assuming entries are paid in each class. Each subsequent class must be a more limited class in which the vehicle also meets all class technical requirements.

GR54. A marked course is the official route designated with official VORRA markings. All vehicles must follow this route during the event. No vehicle may deviate from the marked course at any time unless the course is wide enough to pass. Passing is only permitted where there is no vegetation on the side of the course. Short coursing is not permitted and will result in disqualification. Short coursing is any deviation from the marked course for any reason other than passing. No deviation from a marked course, including passing, is permitted in sensitive areas. Deviation from the marked course in these areas is automatic disqualification. Sensitive areas are those marked by VORRA markings and DQ signs. VORRA is not responsible for markings that are damaged or removed. All vehicles must drive only in the correct direction of the course route or trail. Driving backwards on the racecourse at any time is prohibited. Driving backwards on the course is grounds for penalties of up to and including disqualification and/or suspension. (LC Only)

## **PROTESTS**

GR55. The Race Director, with or without protest, has the right to penalize, fine, disqualify, and/or suspend any vehicle or entrant for violation of any VORRA rules. An entrant may make technical protests another entrant only within the same class. An entrant in any class may file a non-technical protest. A two hundred- and fifty-dollar (\$250) cash fee must accompany protest forms for each item protested. All protests will be put forth before the Racer Committee for review. Interpretation of all rules along with violations and penalties thereof are at the discretion of VORRA. Upon the committee ruling, \$150 of the cash fee will be returned to the individual IF the ruling is found in their favor. IF the ruling is found in favor of VORRA, or the other questioned party the cash fee will not be returned. The protest must be in writing along with the fee and be delivered to the Track Steward/ Race Director/CEO no later than 60 minutes after the official end of race day activity.

Protests considered by the Track Steward/Race Director/CEO that shows a lack of sportsmanship may not be accepted. The decision of the Race Steward and Race Director will be final. Interpretation of all rules along with violations and penalties thereof are at the discretion of VORRA. Penalties levied at the discretion of VORRA are final.

GR56. Any entrant who has an official protest lodged against his/her race vehicle must submit to an inspection of the protested items. Failure to submit to inspection will result in automatic disqualification and/or suspension. Those attending the inspection(s) will be as follows:

1. The protester or their designated representative.
2. The protested competitor or their designated representative
3. The Racer committee. Chosen at random and announced at the drivers meeting.
4. VORRA officials.
5. No other persons shall be present nor witness the proceedings until the inspection has been completed.

GR57. The complaint must be filed in writing with the Chief Steward or Director no later than 30 minutes after the official time limit of the event. A complaint may be verbally filed with any radio equipped VORRA official if entrant filing the complaint is broken down on the track. The official will notify the Chief Steward or Director of the protest. The entrant against whom the complaint is filed will be

held in impound until complainant arrives at the impound area. The complainant must make every effort to arrive at the impound area within one hour after the official end of the event.

GR58. VORRA will appoint a racer Committee to assist in a protest ruling. The Committee will be randomly selected and announced at the drivers meeting.

The race committee will be chosen at random prior to each race and has the following duties/authority:

To ensure that the present rule is being respected implemented accurately

To be called on following a race to settle a protest that may be filed.

To present recommend sanctions which could be taken against offenders of the present rule official ruling will be finalized after review and presentation to race director and CEO

The racer committee will then present their ruling to the Race Director and CEO.

## **CHECK POINTS & PITS**

GR59. VORRA may restrict the vehicles that will be permitted to enter pit areas or race areas. This may include requiring a valid VORRA pit pass. Race support vehicles are required to display a race-vehicle number clearly visible on the front and rear of the vehicle.

GR60. At all times, the Owner of Record assumes responsibility for the actions of their pit crew members, support crews, and all others associated with their organization.

GR61. No person(s) under suspension by VORRA will be permitted to participate or be permitted to enter the pits or race area.

GR62. Any pit support vehicle traveling in a restricted area will result in entrant being disqualified. No pit vehicle may follow or lead a race vehicle on the racecourse. Any pit vehicle running backwards on the racecourse will cause the race vehicle to be disqualified. Any pit



support vehicle stopping at a controlled road crossing will cause the race vehicle to be disqualified. Any pit support vehicle stopping on a road that is near the racecourse and not in an official designated area may cause the race vehicle to be disqualified.

GR63. Maximum speed limit on all main pit access roads and in all pit, areas will be 15mph for all support vehicles. Maximum speed limit on all other access roads will be 35mph unless otherwise posted. VORRA reserves the right to change speed limits to account for conditions.

GR64. The VORRA Check Point Captain will determine the pitting zone around each checkpoint. (LC Only)

GR65. All pits must have the equivalent of a UL approved 10-lb. ABC fire extinguisher at all times; the extinguisher(s) must be manned during all pit stops. This capability may be accomplished using fire extinguishers of any combination (minimum 5-lb. extinguisher) that equals 10 lbs. (i.e., one 10 lb., two 5 lb.). If 5 LB extinguishers are to be utilized, then the pit crew must man two fire extinguishers and be at the ready. All pit fire extinguishers must have current (less than one year old) fire marshal's tag, seal in place, and be fully charged. (LC Only)

GR66. All young children and pets must be kept out of the immediate area where the vehicle will pit. Pets must be kept on a leash. All campfires must be kept out of immediate pit area. Campfires must not be placed between the track and pit vehicles. Campfires may not be permitted due to federal and state regulations.

GR67. All entrants are responsible for cleaning the pit areas they use during the event.

#### TECH-INSPECTION & IMPOUND

GR68. It is the entrants', drivers', owners', and sponsors' full responsibility to meet all VORRA rules and regulations.

GR69. VORRA reserves the right to limit the number of personnel into any area or garage in which inspections are being made or within which vehicles are impounded.

GR70. VORRA reserves the right to seal or impound all race vehicles.

GR71. VORRA assumes no responsibility for impounded vehicles.

GR72. The Race Director, Chief Steward, or Chief Technical Inspector may impound any vehicle or vehicle parts.

GR73. No vehicle may be removed from an inspection area or impound area without permission from the Race Director, Chief Steward, or Chief Technical Inspector. Failure to comply shall subject that entry to disqualification. Any vehicle not taken directly to the inspection or impound area when requested shall subject that entry to disqualification.

GR74. Entrants must make all reasonable effort to arrive at the registration and pre-race technical inspection during the hours listed on race information sheets. Failure to do so may result in penalties being placed on entrant at the discretion of VORRA.

GR75. VORRA reserves the right to apply frame identification markers to all vehicles. The frame identification markers are to remain intact and unaltered by vehicle owners, drivers, or support personnel.

GR76. Each vehicle must pass a safety inspection before it will be permitted to race in any VORRA event. A designated identification marker will be placed on the vehicle after successfully passing the safety inspection. The identification marker must remain on the vehicle until after the finish of the race. A VORRA decal must be placed on each side of the vehicle in a prominent location.

GR77. All personal protective gear will be checked at pre-race tech. This includes, but is not limited to, fire suits, helmets, and neck braces. First-aid kits, fire extinguishers, seat belts, and nets will also be checked. This does not imply that these items will be the only items checked.

GR78. Pre-race impound will be at the discretion of VORRA. After safety inspection, vehicles will be directed to an impound area where they will remain until an assigned removal time.

GR79. VORRA reserves the right to subject any vehicle to a mechanical inspection at the discretion of the Chief Steward and/or Chief Technical Inspector. In the event of a mechanical inspection, the driver of record will be responsible for removing or preparing the requested items to be inspected as directed. Failure to

comply will result in disqualification of entrant and vehicle and may result in suspension from future VORRA events.

GR80. The Chief Steward or Race Director may require the owner or entrant of a vehicle damaged in a race- related incident to submit to post-incident inspection. If the owner or entrant refuses, the vehicle and entrant may be disqualified and suspended from future VORRA events.

GR81. Post-race impound of all finishing vehicles is at the discretion of VORRA. Impound time limit is one half hour after the official finish of the race. VORRA will release vehicles earlier at its discretion. Vehicles involved in any type of protest will be held until after resolution of the protest.

GR82. All limited engine class competitors are required to make provisions that allow sealing of engines after inspection. Combinations of drilled bolts and/or components that can be wired together as close as possible thereby inhibiting removal of cylinder heads and/or intake manifolds.

**GR83:** Trophies: All Trophies must be picked up at awards or at tech and Contingency at the following race. Trophies and finishing pins will NOT be mailed after the race. Payback's may be sent at the discretion of the Race director and CEO.

**INFRACTIONS & PENALTIES** The following legend of infraction penalties is a guideline used by VORRA in assessing penalties. These guidelines are not meant to infer that these are the only possible infractions or penalties that may be assessed against any entrant participation in a VORRA event.

1. Failure to appear before the Chief Steward and/or Race Director when requested: Letter of reprimand and infraction penalty.
2. Second failure to appear before the Chief Steward and/or Race Director when requested within one season: Infraction penalty and suspension for up to one year.
3. Three or more letters of reprimand in a single season: Loss of one position in last race entered.
4. Rolling through a stop checkpoint (i.e., failure to come to a complete stop): First offense= verbal warning. Second offense= Fifteen-minute time penalty for each occurrence.

5. Speeding through and/or unsafe racing up to or through a stop checkpoint: Disqualification.
6. Race vehicle traveling on the racecourse in the reverse direction of the race: Disqualification.
7. Minor nerfing: One position.
8. Major Nerfing: Disqualification.
9. Abusive conduct toward a race official: Disqualification, suspension, one hundred dollars, (\$100) fine or any combination of the three.
10. Short coursing: Disqualification.
11. Stationary pits or chase crews outside of designated areas or traveling in restricted areas: Disqualification.
12. Reckless driving in pit areas or any access roads by race vehicle or race support vehicles: Disqualification.
13. Speeding in a restricted speed area up to 10mph over announced or posted speed limit by race vehicle or race support vehicles: 1 minute per mph over.
14. Speeding in a restricted speed area over 10mph over announced or posted speed limit by race vehicle or race support vehicles: Disqualification.
15. Any combination of two or more infractions at any one VORRA sponsored event: Disqualification.
16. Rolling through a controlled road crossing (i.e., failure to come to a complete stop): Fifteen-minute time penalty each occurrence.
17. Speeding through and/or unsafe racing up to or through a controlled road crossing: Disqualification.

**UNIVERSAL RULES** The rules herein apply to all classes unless otherwise noted in supplementary or class- specific regulations. Modifications or optional equipment is not permitted unless the class requirements or safety regulations specifically state that it will be permitted. VORRA's intent when prescribing specifications for safety equipment for vehicles that will compete under these rules is to provide reasonable protection to all entrants, pit crews, officials, and spectators. VORRA encourages all entrants to give full attention to safety requirements. Entrants must wear an approved helmet, protective clothing, eye protection and safety equipment when operating a vehicle on the racecourse at any time, including warmups and testing. All body components and nets must be properly secured during such operations. It is imperative that all class entrants ensure that their vehicles conform to the intent, spirit and requirements of the rules set forth in the VORRA rulebook. Any illegal components, devices or fabrications found on your vehicle may result in disqualification. Any component, device or fabrication

that is considered questionable in the opinion of VORRA will result in penalties up to and including disqualification. Any vehicle that is found to be out of compliance with the rules will be required to correct the items before being allowed to participate in any VORRA event.

## PERSONAL SAFETY EQUIPMENT

### UR 1: HELMETS

Helmets must meet one of the following: Snell SA2010 (last year 2021) SA2015, SA2020 or FIA Standard 8860- 2004. Straps must have D-ring fasteners only. No snaps or Velcro will be permitted. The interior and exterior areas of the helmet must be free of defects (i.e., the padding must be in good condition and the exterior of the helmet must not be damaged). VORRA requires that entrants use helmets specifically designed for racing. The “M” rated helmets do not meet the same fire-resistant standards as “SA” helmets. VORRA will allow Snell M2010 & M2015 and M2020 only if they are used in conjunction with a fire-retardant balaclava.

UR2: HEAD & NECK RESTRAINTS VORRA will be requiring HNR devices to be used by all participants in 2021. Racers have a 1 race grace period to purchase a HNR Device. THEY ARE STRONGLY ENCOURAGED. These devices must meet the SFI 38.1 requirements and bear the appropriate labeling and date tags. All devices that can be demonstrated to VORRA as “designed and manufactured by a reputable company as an HNR device prior to 2013” will be acceptable for a period of 10 years from the date of manufacture for that device. As required under SFI 38.1 guidelines, HNR devices must be replaced or “Re-Certified” by the OEM (Original Equipment Manufacturer) every 10 years.

UR3: PROTECTIVE CLOTHING Single layer, one-piece fire suits are mandatory. Two-piece suits are not permitted. The suits must cover from the neck to the ankles and to the wrists. The suits must not have any holes, rips, and tears or be worn thin. The suits must also be free from any petroleum-based contaminants. All suits must be made from fire-resistant material with the manufacturer’s fire-resistant rating label attached. Multi-layer fire suits, fire resistant gloves, and footwear are recommended.

UR 4: EYE PROTECTION Shatter resistant eye protection is required for all entrants competing in a VORRA event. Entrants whose vehicles have full windshields must

always have eye protection in the vehicle with them. It is highly recommended that entrants wear eye protection even with the windshield.

## VEHICLE SAFETY EQUIPMENT

### UR5: ROLL CAGES

It is each competitor's responsibility to present a safe vehicle for pre-race tech inspection. You must maintain your safety equipment including roll cage integrity. VORRA reserves the right to not allow any safety cage design that, in the view of the Tech Inspector, is not fit for competition. You, as the competitor, are ultimately responsible for your own vehicle's safety features with respect to the design, quality of execution, maintenance, and repair of the roll cage structure. All vehicles in competition must be equipped with a roll cage conforming to the following design specifications, tubing types, and tubing sizes.

Table 2. Tubing Size Guideline

Tube size O.D. x Wall	Max Vehicle Weight 55Kpsi/40Kpsi tubing	Max Vehicle Weight 80Kpsi/70Kpsi tubing
1.5" x .095"	2,000	2,700
1.5" x .120"	2,476	3,343
1.75" x .095"	3,265	4,408
1.75" x .120"	3,948	5,330
2.0" x .095"	4,975	6,716
2.0" x .120"	6,050	8,168

Note: See manufacturers' reference material for tubing equivalent strengths. No aluminum or other non-ferrous materials are permitted.

### TUBING MATERIAL

Two categories of tubing are compared in Table 2 for reference. The first is based on grade 1010 mild steel tubing with a minimum rated tensile strength of 55Kpsi and yield strength of 40Kpsi. The second is based on grade 1018/1026 or 4130 tubing with a minimum rated tensile strength of 80Kpsi and yield strength of

70Kpsi. Roll cage material may be, but is not limited to, CREW, HREW, DOM, or 4130 alloy steel. 4130 alloy steel is only recommended for roll cage construction when specialized fabrication techniques are followed. All welds must be of high quality and craftsmanship with good penetration and with no undercutting of parent material. Non-ferrous material or pipe is not permitted.

## ROLL CAGE DESIGN

All roll cages must be designed and constructed with at least two hoops (Front & Rear or Left and Right), two interconnecting top bars, two rear down braces, one diagonal brace and all necessary gussets. The two top interconnecting bars must be placed as far to the outside of the hoops as possible. When the cage hoops terminate at a door/elbow bar the Lower A-pillar and or Lower B-pillar must be the same tubing size as the cage. Rear down braces and diagonal brace must angle a minimum of 30 degrees from vertical. Opened-wheeled vehicles built only wide enough for a single seat are excluded from having the diagonal brace (although the diagonal brace is highly recommended for the single seat vehicles). At the bottom of the diagonal brace there must be a cross member of the same tubing material and dimensions as the hoop. All roll cage components (hoops, braces, gussets, etc.) must have a minimum of 3-inch clearance from the component to the vehicle occupant's helmets when occupants are seated in their normal riding positions. All portions of the roll bar or bracing that might encounter the vehicle occupant's helmets must be padded. Roll cages must be securely mounted to the frame or body. All intersecting points must be gusseted and braced. Cab or body mounted roll cages must be bolted through the body structure and be attached with a minimum of 0.1875" thick doubling plates (one on each side of body structure). Bolts and nuts must be at least 0.375" diameter S.A.E. Grade 8 or equivalent aircraft quality. 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 1.5 inches of movement in the cage terminal end.

All vehicles including those with stock steel doors must have at least one side bar on each side of the vehicle that will protect occupants from side impact. The side bars must be the same tubing material and dimensions as the rest of the roll cage. The side bars must be as close to parallel to the ground as possible, be located to provide maximum protection to the occupants, and be securely welded to the front and rear hoops. The location of the sidebars must not cause difficulty in entering or exiting the vehicle.

Gussets constructed of 0.125-inch x 3-inch x 3-inch flat-plate or split, formed, and welded corner-tubing, or tubing-gussets made of the same material and thickness as the roll cage may be used. Gussets must be installed at all major intersections, including diagonal and rear down braces, where single weld fractures can affect occupants' safety.

In stock classes with rear leaf spring suspension, you may add a plate to the front leaf spring outboard mounted hanger if a main roll cage mount is terminated at that point. The plate may only be placed in the V of the hanger and be welded in place to the hanger only. The plate itself may not attach directly to the frame of the vehicle except for the roll cage attachment bolt that passes through the plate, the roll cage terminal end, and the frame. The plate may only be large enough to allow for a good brace for the roll cage mount. Plate design and installation must meet with VORRA approval. The rear leaf spring hanger of the rear leaf spring may have a kicker bar attached to the flat horizontal portion of the hanger and extend to the main roll cage down brace. The main roll cage cannot directly mount to the rear hanger. The design of kicker bar must be such that you can unbolt it from the hanger. Kicker design must meet with VORRA approval.

In the stock classes you may attach a main roll cage mount to the top of the front spring bucket. Design and installation must meet with VORRA approval.

#### UR 6: SAFETY HARNESS

All vehicles must have a heavy-duty; five-point minimum; fast release latch (no push button type); harness with metal-to-metal buckles and connectors for each occupant. The five-point harness system consists of one 2-inch-wide anti-submarine strap, one 3-inch-wide seat belt and two 3-inch-wide shoulder straps (no "y" type shoulder belts permitted). Chest buckles are optional. Harness material shall be made of nylon or Dacron polyester. Each harness must be in new condition with no cuts, frayed layers, chemical stains, or excessive dirt and must be flexible. All harnesses must show the manufacturer's name and the month and year of manufacture. All belts must be changed after three (5) years of the date of manufacture. The harness may not be altered in any fashion from the manufacturer's design. Where slip type rings are used for length adjustment, they must be doubled up. A single ring may be utilized if the loose end is sewn to the main strap in an X and BOX pattern and meets with VORRA approval. Shoulder straps must be mounted behind the occupants. The recommended position is 4



inches below the top of the occupants' shoulders. The recommended lap belt mounting position is 2.5 inches forward of the seat bottom and back rest intersection. The anti-submarine straps should be mounted to the floor structure as close to the front of the seat as practical to exert maximum restraint to the upward movement of the lap belt and shoulder straps. All adjustment buckles must be a minimum distance of 1.5 inches from the seat to prevent loosening or chafing.

The harness should be mounted to main structure members of the same size as the roll cage. Mounting hardware must be a minimum of 0.312-inch hardened steel bolts, a 1.5-inch diameter flat washer, and lock nuts or cotter keys when attached through the body or frame. All harness hardware must be safety tied. If a wraparound type harnesses is used, care must be taken to prevent them from slipping and chafing from sharp frame components. Wraparound harnesses are highly discouraged.

#### UR 7: ROOF

The roof must be covered with sheet metal. Steel or aluminum is allowed with minimum thickness 0.080". Occupants of all vehicles must be protected during a roll over in such a manner that prevents any body part from extending outside the body or frame of vehicle.

#### UR 8: SAFETY NETS

VORRA approved safety nets are mandatory on all vehicles and must cover the complete open area of the cockpit on both sides of the vehicle. Occupants of all vehicles must be protected during a roll over in such a manner that prevents any body part from extending outside the body or frame of vehicle.

Net attachments should be every 6 to 8 inches around the perimeter of the net. The net border or edge and the net attachment must be made of materials that are as strong as or stronger than the net itself. Nets should be installed in a manner that prevents them from being damaged or coming off in the event of a roll over. Nets attached to doorframes are permitted if the door has a positive secondary latching device. Acceptable attachments include, but are not limited to, the following: hose clamps, snaps, heavy-duty nylon ties, lift-a-dot, metal hooks

and steel rods. Full-length steel rods or Velcro is acceptable for fastening the bottom of the net. Velcro can loosen when dirty and should be carefully checked.

Nets must be installed so that the occupants can release the netting unassisted and exit the vehicle regardless of the position of the vehicle. Net installation must meet with the approval of the Chief Technical Inspector. Lexan in the side windows can be substituted for nets if positive secondary latching devices are used. Lexan side windows must be mounted in such a fashion as to allow quick removal in event door will not open.

#### UR9: SEATING

A recognized manufacturer that specializes in seats for racing applications must make all seats. No stock production seats are allowed. All seats must be securely mounted to the frame of the vehicle and be properly reinforced in such a manner as to keep the seat from moving in relationship to the frame. Adjustable track type seats must be securely mounted as to allow no lateral or vertical movement. Stock VW-type seat runners must be clamped to the floor with a minimum of two 0.375-inch diameter U-bolts per rail and have 1-inch minimum diameter flat washers on the underside. Head and neck restraints designed and installed to prevent whiplash are mandatory on all vehicles. Restraints must be a headrest constructed of at least 2-inch-thick resilient padding and be approximately 36 square inches in area. All portions of the roll bar or bracing that might encounter the vehicle occupant's helmets must be padded.

#### UR 10: BREAKDOWN SAFETY DEVICES

Two large glow sticks or two red reflective devices must be carried in the vehicle. Reflective devices must be at least 12 inches high and 12 inches long and be free standing (like trucker's breakdown triangles). Flares will not be permitted as a breakdown device.

#### UR 11: HORN

All vehicles must have a loud sounding horn. Horn must be very audible from 100 feet in front of the vehicle.

#### UR12: REFLECTORS

All vehicles must have two 2-inch-wide x 8-inch-long red reflective tapes or two 2-inch round red reflectors (DOT stock taillight lenses satisfy this requirement) attached to the rearmost portion of vehicle at each corner. The reflective tape or reflectors must be clearly visible from the rear. Non-reflective LED lights do not meet this requirement alone.

#### UR 13: FIRE EXTINGUISHER

Each vehicle must carry a portable UL approved 2.5 -lb. ABC-class dry chemical type or equivalent Halon fire extinguisher. Fire extinguisher must have a gauge, be fully charged, and be easily accessible from inside of the vehicle. If not also easily accessible from outside the vehicle, an additional 2.5-lb. ABC-class, dry chemical fire extinguisher must be mounted on the exterior of the vehicle. The mounting must be in such a manner as to prevent damage to fire extinguisher during rollover and must be marked in such a manner as to allow persons not familiar with vehicle to easily find fire extinguisher. On-board fire extinguishers with nozzles in the driving compartment, fuel compartment, and engine compartment are highly recommended in addition to the portable fire extinguishers.

#### UR 14: FIRST AID KIT

A weatherproof first aid kit must be always carried in each vehicle and be easily accessible within the occupant's area without having to remove any body panels or equipment. (LC Only)

The kit is recommended to contain at least the following items:

- 4" Bandage Compress x2
- 2" Bandage Compress x2
- 1 Triangle Bandage
- 2"x3" Adhesive Bandages x8
- 1"x 3.375" Adhesive Bandages x4
- Antiseptic x4
- Latex Gloves (or appropriate substitute for allergies) x2
- Eye Dressing Packet x1
- Ace Bandage x1
- Wire Splint (compact) x1
- CPR Face Mask x1

## UR 15: SURVIVAL SUPPLIES

All vehicles must carry at least one day's worth of survival supplies and one quart of water per occupant or rider. It is highly recommended that additional water be carried for each occupant during the hotter months. (LC Only)

## SUSPENSION COMPONENTS

### UR 16: SHOCK ABSORBERS & BUMP STOPS

There must be at least one shock absorber per wheel in working condition at the start of the race. Suspension bump stops must be of the solid type unless class rules allow movable bump stops or secondary suspension.

### UR 17: SECONDARY SUSPENSION

Secondary suspension includes leaf springs, torsion bars, coil-over shocks, air bags, haga balls or any other item, other than shock absorbers and the stock concept suspension system that came with the vehicle, which changes the wheel rate at any point in its travel. Air shocks will be considered secondary suspension when charged to 200psi in their fully extended state and the static pressure exceeds 300psi when fully compressed. Movable bump stops will be considered secondary suspension when they contact the suspension unit more than 4 inches before the end of the wheel's upwards travel.

### UR 18: WHEELS & TIRES

Snap-on hubcaps or Snap-on wheel covers of any type are not permitted in any class of vehicle during competition. Tires will be visually checked for condition and must be considered reasonably safe by VORRA prior to competing. Maximum mounted tire size is 40 inches outside diameter @ 18psi. No multiple tires permitted. It is highly recommended that all foreign material be removed from mounting surfaces of the rim and wheel.

### UR 19: TIRE TRACK WIDTH

Tire track width is measured outside of tire to outside of tire at spindle height with the vehicle at ride height. This measurement can be made ahead and behind

the spindle and averaged in order to eliminate "Toe" affecting the result.

UR 20: WHEEL TRAVEL Wheel travel will be measured at the end of the centerline of the spindle on all vehicles, regardless of make of vehicle or hub design. If the end of the spindle cannot be established, the entrant may be required to remove end caps, etc., to make the end of the spindle available. The measurement shall be taken from full droop (full extension of the limit strap) to where the moving parts contact a constant rigid member stopping the upward movement. Bump stops must be fully compressed at time of measurement. Vehicles with solid axle front ends will be measured from suspension member to metal stop; this is where the axle contacts a constant rigid metal part of the main chassis in a straight up and down motion. Duck walking will not be considered wheel travel. Solid rear axles will be measured in the same manner as a solid front axle noted above.

#### U R 2 1: FASTENERS

It is recommended that all component parts on the vehicle's suspension system, chassis and running gear be secured with S.A.E. Grade 8 or better nuts and bolts. Bolts must be secured with either lock nuts, lock washers, cotter pins or safety wire and have at least one full thread showing through the nut. A nut with thread engagement equal to or greater than the diameter of the bolt or stud also meets this criterion.

#### STEERING & BRAKE COMPONENTS

##### UR 22: STEERING

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

##### UR 23: BRAKES

Brakes must be in a safe working condition and be able to apply adequate force to lock up all four tires. Brakes must be in a safe operating condition during the entire event. If brake system problems do occur during the event, they must be repaired before continuing in competition. Turning or steering brakes are not permitted unless specified in class rules.

## ELECTRICAL SYSTEM

### UR24: IGNITION

Each vehicle must have a positive action on/off switch in good working order. The switch must be labeled "Ignition on/off" and be located within easy reach of the driver and from the outside of vehicle. All electric fuel pumps with independent switches must be labeled "Fuel on/off" and be within easy reach of driver and from outside of vehicle. It is highly recommended that electric fuel pumps are disabled when the Ignition switch is off.

### UR 25: BATTERIES

Batteries must be securely mounted with metal-to-metal tie downs. Batteries located in the driver's compartment must be fully enclosed including the sides and bottom. Enclosure must be able to contain the quantity of acid contained in the battery if inverted. Batteries will be considered as being in the driver's compartment if there is no firewall between the battery and the driver.

### UR 26: LIGHTS

All vehicles must have a minimum of two taillights, two brake lights and one rearward facing amber light. All lights must be in operating condition at time of inspection. Headlights may be removed for daytime races unless class rules specify stock headlights are to be retained. All rearward-facing lights (taillights, brake lights, amber light) must be in operating condition before the vehicle will be permitted to start the race. If, during the race, any rearward-facing lights is damaged or burned out, the light must be fixed or replaced at the next available pit before proceeding in the race. Any amber light that is wired such that it can be turned "Off" while the vehicle is still operating under its own power will be grounds for disqualification. All rearward-facing lights must be protected against damage in the event of a rollover. Rearward-facing lights must be at least 3 inches in diameter, or meet with VORRA approval, and must be mounted in such a manner as to be clearly visible from a distance to the rear of the vehicle. Rearward facing amber light must be at least 40watts but not greater than 55watts. The amber lens must be deep-coated amber in color. The amber light must be mounted a minimum of 48 inches from the ground and must be clearly visible, with no obstructions, from any position aft of the vehicle. The amber light must remain on during the entire race.

## UR27: STARTER

All cars and trucks must be self-starting by use of an onboard electric starter.

## FUEL SYSTEM

### UR 28: FUEL

Any of the following commercially available fuels may be used:

Service station pump gasoline (the type normally used in passenger vehicles for highway use, this also includes E85.)

Racing gasoline as manufactured

Commercial aviation gas

Diesel fuel

Propane or natural gas.

No alcohol, NOS, or nitromethane is permitted. Commercially produced nationally advertised fuel additives may be used.

### UR 29: FUEL TANKS

Safety fuel cells are required for all vehicles other than UTV's. If a UTV is running a stock tank, a fire suppression system must be used. Auxiliary fuel tanks may be added in all classes except those classes that do not allow auxiliary fuel tanks.

Auxiliary fuel tanks must be safety fuel cells.

Alternative fuels (propane or natural gas) must use an approved fuel cell as determined by DOT standards and with the approval of VORRA. Alternative fueled vehicles may not use auxiliary fuel cells. All fuel tanks must be securely mounted.

Fuel tanks must be filled from and vented to the outside of the vehicle and have a substantial cross member between the tank and driver for rear mounted tanks.

There must be a firewall between the fuel tank and the occupants.

Safety fuel cells consist of a bladder enclosed in a smooth skinned container. Poly tanks designed for racing can also be permitted. The container shall be constructed of 20ga. steel, 0.060- inch aluminum or 0.125-inch marlex.

Magnesium is strictly prohibited. Container must be securely attached to vehicles with bolts or steel straps. All fittings must be built into the skin and bonded to the skin as an integral part of the tank or mechanically sealed by a ring and counter ring system by either flat joint or an "O" ring. Internal baffling is mandatory in all

fuel cells. Bladder construction shall be of nylon or Dacron woven fabric impregnated and coated with a fuel resistant elastomer. Rotary molded polymer cells are acceptable. The physical properties minimum standards are in accordance with Table 1.

Table 1

<u>Test Type</u> <u>Specification</u>	<u>Minimum Standard</u>	<u>Test</u>
Tensile Strength Method 5102	450 lbs.	Spec CCC-T-1916
Tear Strength 1916 Method 5134	50 lbs.	Spec CC-T-
Puncture Test 6396	175 lbs.	Spec MIL-T-

These physical properties must be maintained throughout all areas of the finished bladder including seams, joints, and fittings.

No GI-cans or fuel containers similar in construction will be allowed in or on any vehicle during the race.

#### UR 30: FUEL FILLER, VENTS & CAPS

Fuel filler lines and positive-locking non-vented fuel filler caps (Monza/flip-type caps are strictly forbidden) must be located and secured in such a manner as to prevent being knocked off or open during movement, roll over or accidental impact. Design and installation must be in such a manner as to prevent fuel escaping from pickups, lines, fillers, and breather vents if vehicle is partially or totally inverted. Fuel breather lines must have a roll over check valve incorporated in the fuel cell. The vent line must extend to the highest point of the roll cage nearest the fuel cell, across the width of the vehicle, and down to below the belly pan of the vehicle or 3 inches below the fuel cell, whichever is lower. OPTIONAL PLACEMENT: The vent line may be wrapped one full loop around the outside of the fuel cell near the top of the fuel cell and then down below the vehicle 3 inches below the lowest point of the fuel cell. Where the vent line attaches to the fuel cell there must be a loop above the fuel cell that extends 4



inches higher than the top of the fuel cell. The breather line must be vented outside of driver's compartment and be directed away from the engine and exhaust system. All fuel fillers attached to the frame or body panel must use a flexible coupling to the tank. All fuel fillers must be surrounded by a boot or splashguard (body panel is acceptable as a splashguard if sealed). Boot or splashguard must direct fuel spillage to the outside of the vehicle and away from driver's compartment, engine, and exhaust. A fuel filler rollover-check-valve must be incorporated into all fuel cells. It is highly recommended that all detachable fuel filler caps have a flexible strap or chain attached between it and the frame of the vehicle.

## ENGINE, TRANSMISSIONS & DRIVELINES

UR 31: ENGINE LOCATION & DISPLACEMENT Where applicable, engine displacement and location must adhere to class rules. Engine displacement and location may be checked by VORRA. VORRA reserves the right to mark engine blocks prior to an event.

UR 32: ENGINE REPLACEMENT No entrant may replace a complete engine during an event. Entrant will be deemed to have replaced engine if the block or case halves have been replaced. (LC Only)

UR 33: TRANSMISSION Every vehicle must have a functional reverse gear. Four-wheel drive vehicles must be capable of being driven through all wheels.

UR 34: THROTTLES Every vehicle with a foot throttle must have two return springs, with a minimum of a 2-lb. pull, attached to the carburetor. Fuel injected vehicles are exempt from having two return springs. Computer controlled throttles are exempt from having two return springs but must maintain the stock system. A stop or override system must be used to keep linkage from passing over center and sticking in an open position. A hand throttle may be used if physical limitations necessitate the use of such device. The hand throttle must follow the same guidelines as a foot throttle and must be deemed safe and approved by VORRA.

UR 35: EXHAUST Forestry approved spark arrestors or approved mufflers are required on all vehicles. Exhaust system design and installation must be done in such a manner as to extend a minimum of 1 foot past the rear of the driver's

compartment, be directed rearward out of the body and away from the driver and co-driver, fuel cells and tires. The exhaust must be placed in such a manner as to minimize the production of dust.

UR36: DRIVESHAFTS All front engine vehicles with open drive shafts must have a 0.25-inch x 2-inch steel strap or a 2-inch-wide heavy nylon webbed retainer hoop securely mounted to a body or frame member and located within the first 6 inches of the main driveline behind the slip yolk or universal joint. Hoop or strap must be fabricated and located in such a manner that it will reasonably prevent the front of the driveshaft from digging into the ground when the rear suspension is fully compressed to the upper limit of wheel travel. The loop must be as short as possible to prevent severe whipping of the driveshaft. A plate that extends down from the frame or body to shorten the strap is advisable.

UR 37: FLYWHEEL SHIELDS All front-engine vehicles with manual transmissions must have a SEMA-approved bell housing or cover. It is highly recommended that front engine vehicles with automatic transmissions have SEMA-approved covers.

UR 38: FLUID COOLERS Oil coolers, transmission coolers and radiators located ahead of the driver and co -driver or in the passenger compartment must have a shroud that will prevent liquids from blowing back onto the driver and/or co-driver in the event of a rupture or leakage. All hoses running through the passenger compartment must be shielded. Steel braided hoses do not constitute a shield.

UR 39: AUXILIARY EQUIPMENT All vehicles must start each race with a functional generator or alternator-fan, water pump (water-cooled vehicles) and a completely functional electrical system.

UR 40: SUPERCHARGERS & TURBOCHARGERS Forced Induction is not permitted on gasoline-powered vehicles in classes that clearly limit engine displacement. Factory installed or aftermarket turbochargers may be permitted on diesel-powered vehicles, unlimited classes, or in specific classes in limited configurations only.

#### GENERAL VEHICLE COMPONENTS

UR 41: DRIVER'S COMPARTMENT The vehicle occupants must be able to enter and exit, unassisted and with great ease, the driving compartment with the

vehicle in any position. Firewalls and/or bulkheads must separate the driving compartment from any fuels, engine fluids and acids.

UR 42: DOORS & LATCHES All vehicles with operational doors must have positive locking mechanisms and must have a permanently attached positive secondary latching device.

UR 43: FIREWALLS All vehicles must have an all-metal barrier separating the driver's compartment from the danger of fire relating to fuel supplies or the engine, and from the danger of burns relating to hot fluids from the engine. A minimum firewall must be liquid tight and extend from the driver's shoulder height to the vehicle floor and from body side to body side. If rear mounted fuel cell is higher than driver's shoulder height, the firewall must extend at least 2 inches above the top of the fuel cell. The hood is considered an extension of the firewall on front engine vehicles.

Any hole placed in the firewall for structure members, lines, etc. must be kept to a minimum. The hole should not have more than 0.0625-inch gap around the items passing through the firewall. Metallic tape must be used to seal the hole between the firewall and the item passing through the firewall.

UR 44: BALLAST is all material used for the purpose of adding weight to meet minimum vehicle weight limits. Must be securely attached to a non-removable structure member and be attached in such a manner as to allow weight to be sealed to structure member.

UR45: WEIGHT Vehicle weight for the purpose of meeting specific class rules (MIN) and for determining roll cage requirements (MAX) differ. MAX weight is considered the weight of the vehicle "As Raced" without occupants. MIN weight is considered the weight "As Raced" with the deletion of fuel from the fuel cell, removal of spare tires, tools, spare parts, and without occupants in vehicle. Official weight will be the weight as shown on the VORRA official scales.

UR 46: FLOORBOARDS or belly pans are required on all vehicles and must be attached by a minimum of six 0.25-inch bolts per side if not an integral part of the body or chassis (Dzus fasteners are not permitted). Floorboards must cover the entire area from in front of the pedal assembly to behind the seats and from outside edge to outside edge on each side. Floorboards in the front must extend

up in front of the pedal assembly. Installation must be done in such a manner as to afford maximum protection to the occupants from debris.

UR 47: BUMPERS No hazardous front or rear bumpers, nerf bars, frame heads or other protruding objects from vehicles are permitted. Ends must be capped and rounded to prevent any sharp edges. Bumpers and nerf bars must be designed in a way as to reasonably inhibit two vehicles from becoming locked together. A safe front and rear bumper are required on all vehicles. Design of front and rear bumpers may be specified in some restricted classes. Every vehicle must incorporate an energy-absorbing device in the front bumper for Long Course events. Extruded Rubber D-bumpers are recommended to satisfy this requirement, but other designs can be substituted. The intent is to reduce damage to both vehicles involved when bumping or light nerfing occurs while attempting to pass in desert conditions. Hard hitting or rough driving is in no way being encouraged by VORRA. VORRA officials will determine if a substitute method is acceptable. VORRA may provide temporary devices that can be used by entrants new to VORRA while supplies last.

UR48: MIRRORS A rear-view mirror is required on all vehicles. Mirrors must have at least 6 square inches of mirror surface. Mirror must have a reasonably unobstructed view of area behind vehicle.

UR 49: SKID PLATES Skid plates designed to reasonably protect the front suspension, steering and brake components are recommended on all vehicles. Skid plates must be made of metal and be securely attached.

UR50: STORAGE All spare parts and extra equipment carried on a vehicle must be securely fastened to prevent movement during competition. All spare parts and extra equipment must be carried in such a manner as to reduce the risk of injury to the occupants.

UR 51: FENDERS must be securely attached to vehicle on all classes requiring fenders. The removal of fenders during competition for any reason other than damage incurred during the competition will result in disqualification.

UR 52: CHASSIS & BODY All body parts must remain on the vehicle (accidental damage excluded) during the entire length of race. Body and chassis series must be maintained with the body and chassis combination as specified in class rules. All repairs must meet with the approval of VORRA. Photographic evidence of the

damaged frame may / will be required for approval of repair work. Entrants must notify VORRA of required frame repair before starting repair work. If frame damage occurs at a VORRA event it is highly recommended that you notify the Chief Technical Inspector so that an inspection of damaged frame may be made at the post race inspection area if possible.

UR 53: HOSES All fuel and brake line hoses, including metal lines and fittings, must be secured and/or safety wired.

UR 54: IDENTIFICATION MARKERS All vehicles in competition must be identified with class vehicle numbers displayed in the proper locations and sizes. Minimum 6 inches high with 1-inch-wide stroke on each side of vehicle. Minimum 6 inches high with 1-inch-wide stroke on the rear of vehicle, plainly visible from the rear.

Minimum 4 inches high located on the front of vehicle, plainly visible from the front.

Any letters used by VORRA in your class may be 1/2 sized to the respective number.

VORRA requires all numbers be black on white backgrounds or white on black backgrounds. If the background is the vehicle color, it should be outlined with the numbering color to provide a 1.25" minimum boarder around the numbers. Any number location that is deemed by VORRA to be too hard to read may have to be changed prior to a vehicle competing in the event.

Note: VORRA assumes no responsibility for scoring vehicles with unrecognizable numbers. It is the Entrant's responsibility to provide adequate vehicle markings. All vehicles in competition must display an official VORRA decal on both sides of the vehicle.

#### PIT-SUPPORT VEHICLES

All pit-support vehicles will have a minimum 4-inch-high number (front and back) of their affiliated race vehicle. Pit passes may be required.

UR 55: ADVERTISING ON VEHICLES Advertising, symbols and names may be displayed on vehicles contingent that they do not interfere with identification markings and if they are in good taste.

UR56: WORKMANSHIP All construction, modifications and alterations must be performed in a workmanlike manner and meet with the rules, regulations, and approval of VORRA.

UR 57: RADIO EQUIPMENT Any race or support vehicle radio equipment is strictly prohibited from interfering with or disrupting race communications on all frequencies allotted to the amateur radio band, public service band, marine band, and aircraft band as permitted by FCC rules. VORRA uses 151.625MHz.

## GENERAL REGULATIONS

### **CLASS 1**

#### UNLIMITED

Class entrants shall comply with all class and applicable general regulations.

## COMPETITION REGULATIONS

This is an open class, and all components will be considered open unless it states otherwise within these class rules. Note: All universal rules apply unless specified. The URXX abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs; the rule contained under this class has precedence.

FUEL SYSTEM UR29: FUEL TANKS Safety fuel cells are required.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 1XX series

### **6100:**

## GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations. All parts are to be approved by VORRA.

## COMPETITION REGULATIONS

This is an engine spec class, and all components will be considered spec unless it states otherwise within these class rules. Engines will be spec crate engines from Ford & GM manufacturers. Engines must be sealed and tagged by Turnkey Engine Supply. Motor must be tagged prior to start of race or penalties up to and including disqualification can be assessed. Only engine kits listed will be allowed.

Turnkey Engine Supply will tag and seal the engines before being shipped to the customer

Contact Turnkey Engine Supply for more information.

Contact Turnkey Engine Supply at [www.turnkeyenginesupply.com](http://www.turnkeyenginesupply.com)

3915 Oceanic Drive, Oceanside, CA, 92056, 760-966-2663

Note: The SCR abbreviations refer to the cross-reference listings in the front of this book and are part of the class rules. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

### SCR13: WHEELS & TIRES

Maximum tire size of 40" tall

Knock-off hubs are permitted.

SCR17: IGNITION Control Packs must have easy access for removal and visual inspection.

### SCR22: FUEL TANKS

Safety fuel cells are required.

## ENGINE TRANSMISSION & DRIVELINES

### SCR24: ENGINE LOCATION & DISPLACEMENT

Engine is limited to a sealed 8 cylinder. Only those engines listed here are permitted. See below list.

All engines must be purchased through Turnkey Engine Supply.

NOTE: Starting January 2020 we will only accept the Cup style tag from Turnkey. NO Cable tags will be allowed.

1. Ford 5.0L V8 engine kit part number M-6007-M50C with wire loom and control pack part number M-6017-M50B
2. General Motors LS3 V8 engine kit part number 19370416 with wire loom and control pack part number 19258270 - Upgrade option: GM Cam Shaft part number 88958770 that comes in the GM LS3 525HP motor. Turnkey Engine Supply will be the only engine builder allowed to perform this upgrade
3. Ford 3.5 twin turbo Eco boost engine
4. Ford 351 V8 Engine - Kit Part Number M-6007-S374W.
5. Ford Boss (535 HP) - Part number M-6007-Z2427FFT
6. GM LS3 (525 HP) - Part number 19370413 with GM Control Pack Part number 19354332
7. GM LT1 - Part number 19416592 with LT1 Control Pack Part number 19417227.
8. Billet Fuel rails allowed.
9. Water pumps are open, must be mechanical factory concept, no electric pumps allowed.
10. All Ford Motors can use either of these two carburetors – 650 CFM Holley part#  
80541-1 or 750 CFM Holley part#80528-1

All engines regardless of manufacture must be purchased thru Turnkey Engine Supply, i.e., Ford, GM,



etc.... Turnkey Engine Supply will tag and seal the engines before being shipped to the customer.

For those vehicles that might already have the larger displacement motors installed and tagged by another engine builder, your vehicle will be legal to compete beginning Jan. 1st, 2020. However, if your vehicle finishes in the Top 10 with another engine company's tag, it may be subject to inspection.

Those vehicles with other engine sealing company's tags will ONLY be honored Jan. 1st, 2020 through

August 1, 2020. Beginning August 13, 2020 Class 6100 vehicles will be required to have an engine sealed and tagged by Turnkey Engine Supply to participate.

Contact Turnkey Engine Supply at [www.turnkeyenginesupply.com](http://www.turnkeyenginesupply.com) –

3915 Oceanic Drive, Oceanside, CA, 92056, 760-966-2663.

SPECIAL NOTE: Spec Engine control module programming open.

Engines must be tagged and sealed by Turnkey Engine Supply.

Turnkey Engine Supply may be used for engine tagging. All parts that come in the engine kit will be considered part of the engine including Intake – upper and lower, valve covers, Oil Pan.

LS engines must use factory GM LS style wet sump oil pan, no aftermarket pans are permitted. GM pans may be modified to fit chasses, modified pans must use stock baffling and no increase in volume is permitted. Pans must be inspected and installed by Turnkey when engine is sealed.

Ford: No Dry Sump oil systems allowed. All Ford engines must use wet sump stock oil pan as delivered in the engine kit from the manufacturer. Ford pans may be modified to fit chasses, modified pans must use stock baffling and no increase in volume is permitted. Pans must be inspected and installed by Turnkey when engine is sealed.

GM: No Dry Sump oil systems allowed. All GM engines will be open to any GM wet sump oil pan but must be approved and installed by Turnkey Engine Supply.

GM: OEM Water pump Only

No external oil pumps allowed

You may install an external oil cooler and external oil filter but must be done without modification to the engine block or oil system in any way. Oil filter adapters are permitted.

3-Quart oil accumulator is allowed.

GM Engine Only: A race quality harness is an option to use with the required GM Factory ECU. Also, Engine can have a replacement high volume wet sump oil pump and an aftermarket harmonic balancer.

Both must be installed by Turnkey Engine Supply before sealing of engine.

Engines must be mounted in the front of the vehicle like a truck with all pulleys facing forward. No mid-engine chassis configuration.

SCR25: ENGINE REPLACEMENT – no engine rebuilds are allowed. If engine fails a new engine must be purchased thru Turnkey Engine Supply. See SCR24:

SCR26: TRANSMISSION

All vehicles must use a Turbo 400 automatic transmission only. This will be the only transmission type allowed.

All transmissions must have 3 forward gears and a working reverse.

DIFFERENTIAL

Rear axle assembly must use a light automotive type straight axle housing with standard Ford 9" removal type ring & pinion third member. Standard type bearings, drive plate, floating Hub is to be used. Ring and pinion size, ratio open. Must be approved by VORRA.

No overdrive units allowed.

SCR26.5: 2-WHEEL DRIVE ONLY

(1) One Exception only – Race Vehicle #6130 will be grandfathered into rules, but race vehicle #6130 must comply with the following specifications:

1. Transfer Case must be a one-to-one ratio in high range only. Transfer case must be tagged, sealed...
2. Transfer case must have lockout installed for low range.

#### SCR27: THROTTLES

Fly by wire throttle pedal assemblies must be used if the engine kit is delivered from the

manufacturer with electronic throttle pedal configuration.

#### SCR33: SUPERCHARGERS & TURBOCHARGERS

No Superchargers or Turbochargers permitted in this class

No forced induction system of any kind

#### VEHICLE SAFETY EQUIPMENT

#### SCR37: SEATING

Minimum of two (2) and Maximum of three (3) seats may be used but must meet with BEST IN

#### THE DESERT RACING ASSOCIATION APPROVAL.

#### GENERAL VEHICLE COMPONENTS

#### SCR42: WEIGHT: No Weight Limit

#### SCR48: FENDERS

Vehicle must have fenders. No open wheeled vehicles permitted.

#### SCR49: CHASSIS & BODY

#### CHASSIS

Wheelbase and overall width are open. (Track Width Open)

All vehicles must be configured like a TRUCK or SUV.

All must use an automotive type straight axle housing and third member with either 3 or 4 links

rear suspension configuration.

## BODY

Body must resemble a truck or SUV and must have emblem of manufacture of type of truck (i.e.

Ford Oval or Chevy bowtie) Overall width and length is unlimited.

## SCR51: IDENTIFICATION MARKERS

VORRA will assign vehicle numbers. 6100-6199

## **CLASS 10**

OPEN WHEEL – LIMITED MOTOR

SINGLE OR TWO SEAT VEHICLES LIMITED IN ENGINE SIZE

## GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

## COMPETITION REGULATIONS

This class is an open class, and all components will be considered open unless restricted herein

Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of

this book. These cross-referenced listings are part of the class rules. Where a conflict occurs

between the cross-referenced listing and a rule contained under this class, the rule contained

under this class has precedence

## SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

## SUSPENSION COMPONENTS

SCR10 Shock Absorbers and Bump Stops

SCR11 Secondary Suspension

SCR12 Wheels and Tires

SCR13 Fasteners

## STEERING AND BRAKE COMPONENTS

SCR14 Steering

SCR15 Brakes

## ELECTRICAL SYSTEM

SCR16 Ignition

SCR17 Batteries

SCR18 Lights

SCR19 Starters

## FUEL SYSTEM

SCR20 Fuel

SCR21 Fuel Tanks

Safety fuel cells are required

SCR22 Fuel Lines, Vents, Caps

## ENGINE, TRANSMISSION AND DRIVELINE

SCR23 Engine and Engine Displacement

Any engine may be used providing:

(1) It is a design that has been series produced in quantities of 5000 units or more in

a 12-month period and is readily available to the public in the U.S.A.

(2) It did not displace more than 2000cc in the stock form.

(3) It retains a maximum of four valves per cylinder.

(4) It is not a rotary piston engine.

(5) It does not displace more than the following:

## Air Cooled Engines

Single-seat, 2 seats, ANY cc – four (4) cylinder push rod.

May utilize two (2) carburetors or stock fuel injection.

May utilize two (2) carburetors or stock fuel injection.

## Water Cooled Engines.

Single-seat 1990cc – 8 valve single Two-barrel carburetor with a maximum venturi size of

38mm.

Single-seat 1940cc – 16 valve Single two-barrel carburetor with a maximum venturi size of

38mm or stock fuel injection with maximum throttle body of 55.5cm.

Two-seat 1990cc – 8 valve single two-barrel carburetor. Maximum venturi size of 40mm.

Two-seat 1940cc – 16 valves Single two-barrel carburetor with a maximum venturi size of 40mm or stock fuel injection with maximum throttle body of 56.5cm.

Single or Two seat vehicles may use carburetors providing:

1. It retains a maximum of 2 (two) venturi per carburetor.
2. Maximum allowable venturi size is 40mm for two seat and 38mm for single seat vehicles.
3. Carburetor(s) must be of the production automotive type.

## Stock Production Engines

All stock production engines are to be inspected and sealed by TURNKEY ENGINE

SUPPLY, WIKS RACING ENGINES OR MAJOR PERFORMANCE to be certified as stock

replacement.

Stock production engines must be stock as delivered from the factory except for the following:

- a. Oil and water-cooling systems. (no dry sumps)
- b. Exhaust system, including exhaust manifold.
- c. Fuel pumps.
- d. ECU
- e. Oil pan may be modified or replaced
- f. Power steering pump.
- g. Alternator
- h. Air filter
- i. Belts and pulleys
- j. Fly by wire is allowed.

GM ECOTEC 2.2cc or 2.4cc

Stock production GM Ecotec 4 cylinder. 2.2 or 2.4 Allowed in either single seat or two seat vehicles.

Pistons must be stock or stock replacement pistons, must retain stock dimensions.

2.2 Or 134 CI will be 86mm bore and 94.6mm stroke.

2.4 Or 145 CI will be 88mm bore and 98mm stroke.



2.2 or 2.4 Ecotec Direct port injection will be allowed in single and two seat vehicles but must

meet the minimum weight:

Minimum weight of 2100lbs for two seat vehicles.

Minimum weight of 2300lbs for single seat vehicles.

Non-Direct Port injection vehicles must meet the minimum weight:

Minimum weight of 2000lbs for two seat vehicles.

Minimum weight of 2200lbs for single seat vehicles.

#### FORD ECOBOOST

2.0-liter, 16 valve, I4-DI-TIVCT Direct port injection will be allowed in single seat or two seats

vehicles but must meet the minimum weight:

Minimum weight of 1950lbs for two seat vehicles.

Minimum weight of 2050lbs for single seat vehicles.

#### HONDA

2.4 direct port injection will be allowed in single and two seat vehicles providing the single seat

vehicles weigh a minimum of 2400lbs

displacement: 2,354cc

Bore and stroke: 87mm x 99mm (3.43 x 3.90 inches) (143.6ci).

The two seat vehicles weigh a minimum of 2300lbs.

Stock K24 series engine as delivered from the manufacture to vehicles sold in the USA

by Honda. Engine cannot be rebuilt. Must be tagged and sealed by one of the company's

on the list.

Stock production engines must abide the following:

Camshaft must be stock or equal replacement only.

Camshaft must retain original manufacture specifications. Head / valve train must remain per

manufactures original specifications. After Market valve train is prohibited, no porting or polishing

of head. Must retain manufactures original specifications.

Intake manifold will remain as delivered from manufacture. It must retain its stock shape, size and

configuration. No porting or other modifications will be allowed.

Throttle body will remain as delivered from the manufacturer, not to exceed 65mm on blade. No

dry sump systems.

Fuel injection is stock with the following restrictions:

(1) Intake manifold will remain as delivered by the manufacture. It will retain its stock

shape, size, and configuration. No porting or other modifications. Ports may be

matched to heads, but matching may not exceed .250 inches ¼ deep. Manifold

must be the unit that was installed and delivered on the engine by the original

manufacture. Only U.S.A. delivery fuel injection is allowed. Direct port injection

allowed.

(2) Manifold must be installed and sold on production vehicles that are sold for highway use in the U.S.A. and be readily available to the public.

(3) Throttle body must be production (OEM) type readily available to the general public in the U.S.A. (FLY BY WIRE IS OK.)

All stock production engines are to be inspected and sealed by TURNKEY ENGINE

SUPPLY, WIKS RACING ENGINES, OR MAJOR PERFORMANCE to be certified as stock

replacement.

SCR24 Engine Replacement

SCR25 Transmission

SCR26 Throttles

SCR27 Exhaust

SCR28 Drive Shafts

SCR29 Flywheel Shields

SCR30 Fluid Coolers

SCR31 Auxiliary Equipment

SCR32 Superchargers and Turbochargers

VEHICLE SAFETY EQUIPMENT

SCR33 Roll Cages

SCR34 Safety Harness

SCR35 Safety Nets

SCR36 Seating

GENERAL VEHICLE COMPONENTS

SCR37 Drivers Compartment

SCR38 Doors and Latches

SCR39 Firewalls

SCR40 Ballast

SCR41 Weight

SCR42 Floorboards

SCR43 Bumpers

SCR44 Mirrors

SCR45 Skid Plates

SCR46 Storage

SCR47 Fenders

SCR48 Chassis and Body

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

IF VORRA AT ANY TIME DURING THE RACING SEASON DETERMINES THAT ANY PARTICULAR BRAND OR MAKE OF ENGINE HAS AN ADVANTAGE, WE MAY

EQUALIZE THAT ENGINE EITHER BY A REDUCTION IN CC'S, OR THE USE OF A RESTRICTOR PLATE OR BY WEIGHT LIMIT CHANGE. THESE

CHANGES MAY BE REQUIRED DURING THE RACING SEASON.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 10XX series

## **CLASS 12**

OPEN WHEEL – AIR COOLED

SINGLE OR TWO SEAT VEHICLES LIMITED TO AIR COOLED ENGINES

GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

COMPETITION REGULATIONS

This class is an open class, and all components will be considered open unless restricted herein

Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of this book. These cross-referenced listings are part of the class rules. Where a conflict occurs between the cross-referenced listing and a rule contained under this class, the rule contained under this class has precedence

SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

## SUSPENSION COMPONENTS

Front suspension

Front suspension is limited to VW type 1 configuration. Suspension must be of the twin beam, trailing arm type.

Beam is open. This includes width and manufacturer.

Trailing arms are open this includes width length and manufacturer.

Spindles are open.

SCR10 Shock Absorbers and Bump Stops

SCR11 Secondary Suspension

SCR12 Wheels and Tires

SCR13 Fasteners

## STEERING AND BRAKE COMPONENTS

SCR14 Steering

SCR15 Brakes

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## ELECTRICAL SYSTEM

SCR16 Ignition

SCR17 Batteries

SCR18 Lights

SCR19 Starters

FUEL SYSTEM

SCR20 Fuel

SCR21 Fuel Tanks

Safety fuel cells are required

SCR22 Fuel Lines, Vents, Caps

ENGINE, TRANSMISSION AND DRIVELINE

SCR23 Engine and Engine Displacement

Engine must be VW air cooled type and conforms to the following:

- (1) it retains a maximum of two valves per cylinder.
- (2) Single seat vehicles do not displace more than 1776cc.
- (3) Two seat vehicles do not displace more than 1835cc.
- (4) All vehicles limited to 1 carb of any type.
- (5) Carb retains a maximum of 2 venturies per cyl.
- (6) Maximum allowable venture size for two valve engines is 42mm.
- (7) Carburetors must be of the automotive type.
- (8) This is a rear engine class only; engine must be located behind rear axle centerline.

NEW CLASS 12 ENGINE OPTION

Engine must be a Type 1 VW

Displacement:

Single Seat vehicles do not displace more than 2110cc

Two Seat Vehicles do not displace more than 2276cc

Any Bore/Stroke Combination Allowed

Carburetors & manifolds:

Individual runner manifolds only, No balance tube. 1 3/4in maximum runner size.

No Plenum Manifolds allowed.

OE End Castings only Allowed. Any modifications allowed.

All vehicles limited to 1 carburetor

Weber 44IDF & EMPI HPMX 44 carburetors only allowed

Maximum venturi size is 34mm

Piston: Open

Crankshaft: Open

Compression Ratio: Maximum compression ratio limited to 9.0:1.

Cylinder Heads:

Any manufacture cylinder heads. Titanium retainers are allowed. Any valve size and manufacture

allowed. Any valve spring size and manufacture allowed.

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Camshaft and Rocker Arms:



Only 1.1:1 & 1.25:1 rocker arms allowed. No roller tip rockers allowed. Any rocker shaft

manufacture allowed.

Any camshaft and lifter manufacture allowed.

Any Timing Gears allowed.

Aftermarket VW type fan shrouds allowed. Must be upright type 1 VW shroud. No Porsche 911

shrouds allowed.

Oil pump and oil system:

Any manufacture oil pump is allowed. Dry sump, deep sump, and accusump systems allowed.

Ignition

Any ignition system allowed

SCR24 Engine Replacement

SCR25 Transmission

SCR26 Throttles

SCR27 Exhaust

SCR28 Drive Shafts

SCR29 Flywheel Shields

SCR30 Fluid Coolers

SCR31 Auxiliary Equipment

SCR32 Superchargers and Turbochargers.

## VEHICLE SAFETY EQUIPMENT

SCR33 Roll Cages

SCR34 Safety Harness

SCR35 Safety Nets

SCR36 Seating

## GENERAL VEHICLE COMPONENTS

SCR37 Drivers Compartment

SCR38 Doors and Latches

SCR39 Firewalls

SCR40 Ballast

SCR41 Weight

Minimum 1500 lbs.

SCR42 Floorboards

SCR43 Bumpers

SCR44 Mirrors

SCR45 Skid Plates

SCR46 Storage

SCR47 Fenders

SCR48 Chassis and Body

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

## **CLASS 5**

### UNLIMITED BAJA

Vehicles must be a VW sedan type-1, hardtop, or convertible. 181 Safari, 900 series Porsche, Karmann Ghia, VW type-2, and VW type-3 is included in this class.

### GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations

### COMPETITION REGULATIONS

This class is an open class, and all components will be considered open unless stated otherwise herein these class rules. Vehicles must have the appearance of a "Baja" conversion.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

### SUSPENSION COMPONENTS

Front and rear suspension systems may be modified or replaced if stock concept (trailing- arms, swing-axles, IRS, etc.) is retained and wheelbase limit is not exceeded. Stock concept suspension may be substituted by open trailing-arm type suspension, but wheelbase limit must not be exceeded. Torsion bars and/or leaf springs are optional.

### STEERING & BRAKE COMPONENTS UR22: STEERING

Center steering wheel is not permitted.

## UR23: BRAKES

Steering or turning brakes are permitted.

## UR29: FUEL TANKS

Safety fuel cells are required.

## ENGINE TRANSMISSION & DRIVELINES UR31: ENGINE LOCATION & DISPLACEMENT

Any four-cylinder air or water-cooled engine is permitted. Engine displacement is open.

## VEHICLE SAFETY EQUIPMENT UR11: SEATING

One or two seats may be used in any location, except center seating.

## GENERAL VEHICLE COMPONENTS

### UR41: DRIVER'S COMPARTMENT

Sheet metal front and rear firewalls are required. Firewalls may be attached to the roll cage. Interior sheet metal may be removed but stock appearance must be retained from the outside and firewall rule is complied with. It is highly recommended that flammable materials such as rear seat, upholstered panels, headliners, and carpets be removed. Pedals may be of any manufacturer with mounting location optional on left side of vehicle.

### UR42: DOORS & LATCHES

Doors must remain in stock location and maintain stock in shape and size. Doors may be welded or fastened shut.

### UR51: FENDERS

Front fenders must be used. Fender mounting location must remain stock. Fenders may be one- piece fiberglass. Rear fenders must not measure less than 6 inches from body when measured at top center of fender. Rear fender mounting

height is optional. Rear fenders must have rolled edges but may be made of metal or fiberglass. Rear fenders must resemble Baja fenders.

#### UR52: CHASSIS & BODY

Vehicle must retain original steel body and doors. Metal may be added to strengthen the body and floor pan. Floor pan is optional. One-piece front ends are permitted. Removal of front and rear sheet metal is permitted but only enough as required to allow for installation of Baja kit or one-piece front end. Body may not be cut any farther forward than the upper line of the original engine cover. Hardtop sedans must retain top, removal of top is not permitted. If convertible body is used the windshield framework must be retained. Rear crossover piece forward of the engine cover may be removed. Stock body width must be retained. A body lift of a maximum of 3.625 inches from the floor pan is permitted. Wheel wells may be cut out a maximum of 2.5 inches. Any other combination of raising or cutting is permitted if combined modifications do not exceed the 3.625-inch limit. Windshield and window glass are optional but must be shatterproof if retained. Wheelbase may be lengthened to a maximum of 105" as measured from front wheel centerline to rear wheel centerline at ride height. Combined measurement from both sides cannot exceed 211".

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 5XX series

#### **CLASS 5-1600**

OPEN WHEEL – 1600 BAJA BUG

VEHICLES MUST BE A VW SEDAN TYPE 1 HARDTOP OR SUNROOF AS DELIVERED

FROM THE FACTORY. VEHICLE MUST HAVE THE EXTERNAL APPEARANCE OF A

“BAJA BUG”. NO CONVERTIBLES, KARMAN GHIAS, 181 SAFARI’S, VARIANTS OR

SUPER BEETLES

GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

## COMPETITION REGULATIONS

This class is a stock production class, and all components must remain stock except for those

modifications allowed herein

Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of

this book. These cross-referenced listings are part of the class rules. Where a conflict occurs

between the cross-referenced listing and a rule contained under this class, the rule contained

under this class has precedence

## SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

## SUSPENSION COMPONENTS

Front and rear suspension components are limited to stock VW production type 1 parts unless

otherwise stated within

## FRONT SUSPENSION

Front suspension may use either VW type 1 ball joint or king and link pin only. Front axle torsion tube centers may be cut, rotated, rewelded or torsion adjusters added. Any manufacturer's torsion bars are allowed. Any beam of two steel torsion tubes may be used but must retain stock width.

Front torsion tubes may be additionally supported by attachment to floor pan and/or roll cage.

Original seams may be reinforced. Front trailing arms may be reinforced or replaced if

stock VW width and length are retained. Spindles, link pins, ball joints, and upper shock mounting locations are open. Lower shock mount may be moved or replaced if it stays on the lower trailing arm. Sway bars may be removed. Front suspension track width will be measured from wheel mounting face to wheel mounting face and the maximum width is 55.75 inches.

## REAR SUSPENSION

Rear suspension is based on VW type 1 IRS or swing axle. Rear torsion tubes may be additionally supported by attachment to the floor pan and/or roll cage.

IRS trailing arms may be modified or replaced if stock measurement is 16.250 plus or minus 1 inch as measured from center of torsion to center of axle. any manufacturers axle assemblies are allowed if VW type suspension is retained, this includes the use of micro stub hubs.

Rear shock tower may be removed to body mounting bolt hole only. Torsion adjusters are allowed.

Original wheelbase must be retained. Torsion bars must be connected to the trailing arm with steel spring plates of any manufacture. Rear suspension track

width must not exceed a maximum of 58.250 inches as measured from wheel mounting face to wheel mounting face. Cv joint mounting face to Cv joint mounting face must not exceed 47.375" inches as measured at ride height. The entire outer Cv must remain inboard of the trailing arm inner bearing. May convert existing swing axle suspension to IRS by welding in any manufacturers pivot boxes to torsion housing in stock location while maintaining stock geometry.

#### SCR10 Shock Absorbers and Bump Stops

Any manufacturer's shocks and sizes are allowed. Cooling fins and/or reservoirs allowed.

One shock per wheel in the front. Two shocks per wheel in any location in the rear. No air or coil over shocks allowed. No hydraulic bump stops allowed.

#### SCR11 Secondary Suspension

No secondary suspension allowed

#### SCR12 Wheels and Tires

Any tire and wheel are allowed that will mount directly on VW drums. No wheel adapters allowed. Spare tire may be relocated anywhere inside body

#### SCR13 Fasteners

### STEERING AND BRAKE COMPONENTS

#### SCR14 Steering

Steering box may be of any origin. Any steering wheel in the stock location. Any tie rod and tie rod ends allowed. Power steering ok.

#### SCR15 Brakes

Disk brakes ok.

### ELECTRICAL SYSTEM

#### SCR16 Ignition



Battery ignition only, no magnetos. Six- or twelve-volt systems may be used. Any distributor may be used. Any VW type alternator or generator in the stock location may be used

SCR17 Batteries

SCR18 Lights

SCR19 Starters

FUEL SYSTEM

SCR20 Fuel

SCR21 Fuel Tanks

Safety fuel cells are required. Fuel cell may be relocated from stock location. Any size fuel cell is allowed

SCR22 Fuel Lines, Vents, Caps

ENGINE, TRANSMISSION AND DRIVELINE

SCR23 Engine and Engine Displacement

Engine must utilize VW series type 1, 1600cc, U.S. model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as delivered from the factory

ENGINE CASE

Any VW type 1, 2, 3 or "universal" case is allowed. The following modifications may be made to the stock case:

(A) The case may be line bored

(B) The case may be drilled and tapped for oil and temp sending units

(C) The case may be machined for crank pulley seal

- (D) Case savers may be installed
- (E) Cylinder seating surface may be machined
- (F) Oil galleries may be enlarged to 10mm
- (G) Threaded oil gallery plugs allowed
- (H) Oil squirters allowed
- (I) Case may be full flowed

#### OIL PUMP

Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed.

Any oil bypass piston and spring allowed. no accusump systems allowed.

#### FUEL PUMP

Any combination of stock fuel pump or electric pump may be used. Any fuel filter and pressure regulator may be used.

#### PISTONS

Pistons must be stock 3 ring only. Any piston and cylinder if original stock dimensions are maintained. Any type wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston, wrist pin, etc., total seal rings are ok.

#### CONNECTING RODS

Any VW aftermarket connecting rod is allowed if the rods are stock VW length (5.393) and stock weight with a 500-gram minimum with one (1) rod untouched. No polishing or profiling of rods.

#### CRANKSHAFT

Crankshaft must be stock VW. Crankshaft may be balanced. Maximum journal size is limited to .030" undersize. No polishing or lightening. Any gear is allowed. Any engine bearing is allowed if stock dimensions are maintained. Power pulleys are allowed. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. May be offset to 69.5mm.

## HEADS

Heads must be U.S sedan stock single port or dual port or their equivalent. Only dual port heads with the following numbers will be allowed. 040101375 2, 040101375 13, 040101375 19 or autolenia heads or stock OEM heads will be allowed. The MOFOCO replacement heads with a part# (mfc-cch040) will be allowed. Heads may be fly cut for clean-up. No porting or polishing.

Stock intake 34mm original equipment center section or its replacement. A 1" by 1.5" long by ½ inch tube may be welded 2 inches below the carb flange. A minimum of material may be removed from the end of the tube for clearance. A 1 5/8 X 2" long slip tube may be welded to the end of the runners for use of better hose connection. End castings must be original equipment VW, with the VW logo and part numbers. Balance slot may be welded closed. Vacuum hole may be plugged

## CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS

Any camshaft, gear, valve springs, valve spring retainers, lifters are allowed. Valve spring seat diameter in head must remain stock. Valve guide may be steel, bronze, or cast iron. No grinding or polishing in the port including valve guide. Any camshaft, gear, valve spring retainers, lifters are allowed. Beehive springs allowed. Valve spring seat diameter in head must remain stock. May use any valve but must be stock 45 degrees and stock dimensions and 8mm stem size. No titanium valves allowed. Must use stock VW 1600 rocker arms. The rocker arms may be resurfaced to permit the use of swivel feet. No other grinding or changes may be made to the rocker arms. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arms and the camshaft. Any push rods and push rod tubes. Any valve adj screws. Valve covers may be of any manufacture

## FAN SHROUD

After market VW fan shrouds are allowed

## CARBURETOR

Stock VW carb 30 pict 1, 2, 3 or the solex h-30-pic replacement must be used. Maximum venturi size is 24.10mm. Velocity stacks may be used if they are not bonded to the carburetor.

No internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock. No chemical milling of manifold or carburetor. Choke housing may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used. A 34mm to 30mm carb adapter must be used.

Low compression engine option:

1600cc maximum displacement and 8 to 1 compression ratio, must use same heads as high compression engine with same valve size and no porting at all. Stock VW end castings with VW part numbers must be used, no polishing allowed. An EMPI or WEBER 40 or 44 idf carb may be used and tube style intake manifold, No Plenum Manifolds allowed. Must use a maximum 26mm venturi. This is a pump gas only engine option with a maximum of 91 octane.

SCR24 Engine Replacement

SCR25 Transmission

Must be stock VW type 1 or 2 transaxle housing with internal modifications only. No more than four forward speeds are allowed. Any internal modifications allowed. Any gear ratio combinations allowed but only VW type gears (helical cut gears) may be used. Must have a working reverse gear. Any gear shift lever allowed. Rear frame horns may be modified for cv joint clearance if it does not exceed below seam. Any cv joint and axle assemblies.

SCR26 Throttles

SCR27 Exhaust

Any exhaust allowed

### SCR30 Fluid Coolers

Any oil cooler allowed with the location optional. Full flow system is allowed. No deep sumps or dry sumps will be allowed

### SCR31 Auxiliary Equipment

### SCR32 Superchargers and Turbochargers

## VEHICLE SAFETY EQUIPMENT

### SCR33 Roll Cages

### SCR34 Safety Harness

### SCR35 Safety Nets

### SCR36 Seating

Any seat allowed but must remain in stock location. Rear seat may be removed. If stock

seats are used they must have at least two U-bolts per runner

## GENERAL VEHICLE COMPONENTS

### SCR37 Drivers Compartment

Rear seat, upholstered panels, headliners, and carpet may be removed. Removal of dash and firewall is prohibited. Dash may be covered with aluminum to install gauges. Pedals must remain in stock fore and aft location. May use roller pedal. May use any throttle cable and VW stock housing. Air cleaner hose may pierce firewall for such things as oil lines, etc.

### SCR38 Doors and Latches

Doors must remain functional and in original stock location with original hinges and working latch.

Secondary positive latching devices mandatory if net is attached to doors

#### SCR39 Firewalls

#### SCR40 Ballast

#### SCR42 Floorboards

Serial numbers are required on the floor pan. No alteration to pan allowed except for heating, bending, or cutting of pan. 1" to allow for tie rod clearance. Frame head may be interchanged from early to late or late to early.

#### SCR43 Bumpers

Nerf bars may be added to the sides in front of the rear wheels

#### SCR44 Mirrors

#### SCR45 Skid Plates

Any type front and rear skid plate allowed. Any engine guards allowed

#### SCR46 Storage

#### CR47 Fenders

Fenders must be stock Baja Bug kit fenders. Rear fenders may be of any manufacturer. Metal fenders require rolled edges. Rear fenders may be mounted a maximum of 1.5" above the body line as measured at the top of the fender. Minimum width of 6" as measured from the center line of the rear wheel. Rear fender wells may be modified or removed .5" below stock fender holes. Rear package trays must remain in stock location and remain stock size. If fender well is removed the resulting hole must be covered airtight with the same thickness as the material removed

#### SCR48 Chassis and Body

Original wheelbase must be maintained. Body must be VW type 1 bug or sunroof bug.

No convertibles, Ghia's, 181 Safari's, Variants or Super Beetles. Main body shell must be all original. Sunroofs must have metal covering. No fiberglass body or

doors. Front and rear sheet metal can be removed far enough to allow a Baja Bug kit. Running boards may be removed. One-piece front end allowed. No canvas hoods allowed. No lift kits

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 550-599

## **CLASS 1/2-1600**

OPEN WHEEL – RESTRICTED 1600CC

SINGLE AND TWO SEAT BUGGIES LIMITED TO 1600CC VW ENGINE AND VW TYPE 1

GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

COMPETITION REGULATIONS

This is a restricted class, and all parts shall remain stock unless otherwise noted in the rules.

Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of this book. These cross-referenced listings are part of the class rules. Where a conflict occurs between the cross-referenced listing and a rule contained under this class, the rule contained under this class has precedence

SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

## SUSPENSION COMPONENTS

### FRONT SUSPENSION

Front suspension is based on VW type 1 ball joint or king and link pin style. Any beam of two steel torsion tubes may be used but must retain stock width. Front axle torsion tube centers may be cut, rotated and rewelded to increase ground clearance. Uses of torsion adjusters are optional.

Tube center spacing is open. Any manufacturer's torsion bars are allowed. Front trailing arms may be reinforced or replaced if stock VW width and length are retained. Suspension limiters are allowed. Spindles, link pins, ball joints, and shock mounting locations are open. Front suspension track width will be measured from wheel mounting face to wheel mounting face. The maximum width is 55.75 inches. Stock type sway bar is ok. Mounted in the stock location.

### REAR SUSPENSION

Rear suspension is based on VW type 1 IRS or swing axle

Rear trailing arms may be of any manufacturer. Tubular arms are allowed if stock VW IRS swing arm length is retained plus or minus 1 inch. Any type of pivot ok.



The stock VW dimension between the center line of the rear axle to the center line of the rear torsion housing is 16.250" plus or minus 1 inch must be retained. Outboard bus reduction gears are allowed. Any axle assemblies are allowed if original VW type suspension is retained. This includes the use of "micro stub hubs" Rear torsion tubes may be supported or replaced but must remain steel and retain stock VW width. Torsion adjusters are allowed. A single torsion per wheel of any manufacturer is allowed. Torsion bars must remain inside the torsion housing. Torsion bars must be connected to the trailing arm with steel spring plates of any manufacturer. Rear suspension track width must not exceed a maximum of 58.25" as measured from wheel mounting face to wheel mounting face. Cv joint mounting face to Cv joint mounting face must not exceed 47.375" inches as measured at ride height. The entire outer Cv must remain inboard of the trailing arm inner bearing.

#### SCR10 Shock Absorbers and Bump Stops

No limit on the number of shocks and the sizes of shocks, cooling fins allowed. No air or coil over shocks allowed

#### SCR11 Secondary Suspension

No secondary suspension allowed

#### SCR12 Wheels and Tires

Any tire and wheel are allowed that will mount directly on VW drums. No wheel adapters allowed

#### SCR13 Fasteners

### STEERING AND BRAKE COMPONENTS

#### SCR14 Steering

Steering system open. Any tie rod and tie rod end allowed

#### SCR15 Brakes

Any type of brake may be used if all other rules are adhered to.

## ELECTRICAL SYSTEM

### SCR16 Ignition

Battery ignition only, no magnetos. Six- or twelve-volt systems may be used. Any distributor may be used. Any VW type 1 alternator or generator in the stock location may be used and must be a working charging system.

No crank fired ignitions allowed.

### SCR17 Batteries

### SCR18 Lights

### SCR19 Starters

## FUEL SYSTEM

### SCR20 Fuel

### SCR21 Fuel Tanks

Safety fuel cells are required

### SCR22 Fuel Lines, Vents, Caps

## ENGINE, TRANSMISSION AND DRIVELINE

### SCR23 Engine and Engine Displacement

Engine must utilize VW series type 1, 1600cc, U.S. model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as delivered from the factory

## ENGINE CASE

Any VW type 1, 2, 3 or "universal" case is allowed. The following modifications may be made to the stock case:

(A) The case may be line bored

(B) The case may be drilled and tapped for oil and temp sending units

(C) The case may be machined for crank pulley seal

(D) Case savers may be installed

(E) Cylinder seating surface may be machined

(F) Oil galleries may be enlarged to 10mm

(G) Threaded oil gallery plugs allowed

(H) Oil squirters allowed

(I) Case may be full flowed.

(J) Gussets are allowed.

#### OIL PUMP

Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed.

Any oil bypass piston and spring allowed. No accusump systems allowed.

#### FUEL PUMP

Any combination of stock fuel pump or electric pump may be used. Any fuel filter and pressure regulator may be used

#### PISTONS

Pistons must be stock 3 ring only. Any piston and cylinder if original stock dimensions are maintained. Any type wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston. Any manufacture piston rings allowed.

#### CONNECTING RODS

Any VW aftermarket connecting rod is allowed as long as the maximum length is 5.4". connecting rod weight is 500 gram minimum with one (1) rod untouched. No polishing or profiling of rods.

## CRANKSHAFT

Crankshaft must be stock VW. Crankshaft may be balanced. Maximum journal size is limited to .030" undersize. No polishing or lightening. Any gear is allowed. Any engine bearing is allowed if stock dimensions are maintained. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced. No aluminum flywheel. Any clutch disk and pressure plate but must retain stock VW diameter. Crank may be offset to a maximum of 69.5mm.

## HEADS

Heads must be U.S sedan stock single port or dual port or their equivalent. Only dual port heads with the following numbers will be allowed. 040101375 2, 040101375 13, 040101375 19 or

autolenia heads or stock OEM heads will be allowed. The MOFOCO replacement heads with part # (mfc-cch040) will be allowed. Heads may be fly cut for clean-up. No porting or polishing. Stock intake 34mm original equipment center section or its replacement. A 1" by 1.5" long by ½ inch tube may be welded 2 inches below the carb flange. A minimum of material may be removed from the end of the tube for clearance. A 1 5/8 X 2" long slip tube may be welded to the end of the runners for use of better hose connection. End castings must be original equipment VW, with the VW logo and part numbers. Balance slot may be welded closed. Vacuum hole may be plugged

## CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS

Any camshaft, gear, valve spring retainers, lifters are allowed. Beehive springs allowed Valve spring seat diameter in head must remain stock. May use any valve but must be stock 45 degrees and stock dimensions and 8mm stem size. no titanium valves allowed. Valve guide may be steel, bronze, or cast iron. No grinding or polishing in the port including valve guide. Must use stock VW 1600 rocker arms. The rocker arms may be resurfaced to permit the use of swivel feet.

No other grinding or changes may be made to the rocker arms. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arms and the camshaft.

Any push rods and push rod tubes. Any valve adj screws. Valve covers may be of any manufacture

#### FAN SHROUD

After market VW fan shrouds are allowed

#### CARBURETOR

Stock VW carb 30 pict 1, 2, 3 or the solex h-30-pic replacement must be used. Maximum venturi size is 24.10mm. Velocity stacks may be used if they are not bonded to the carburetor.

No internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock. No chemical milling of manifold or carburetor. Choke housing may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used... A 34mm to 30mm carb adapter must be used.

#### RESTRICTOR PLATES

Single seat restrictor plates are 22.5mm

Two seat restrictor plates are 25.0mm

#### Low compression engine option

1600cc maximum displacement and 8 to 1 compression ratio, must use same heads as high compression engine with same valve size and no porting at all. Stock VW end castings with VW part numbers must be used, no polishing allowed. An EMPI or WEBER 40 or 44 idf carb may be used and tube style intake manifold, No Plenum Manifolds allowed. Must use a maximum 25mm venturi for two seat and a maximum 24mm venturi for single seat. This is a pump gas only engine option with a maximum of 91 octane.

#### SCR24 Engine Replacement

## SCR25 Transmission

Must be stock VW type 1 or 2 transaxle housing with internal modifications only. No more than four (4) forward speeds are allowed. Any internal modifications allowed. Any gear ratio combinations allowed but only VW type gears (helical cut gears) may be used. Must have a working reverse gear. Any shifter allowed.

## SCR26 Throttles

## SCR27 Exhaust

## SCR30 Fluid Coolers

Any oil cooler allowed with the location optional. Full flow systems are allowed. No deep sumps or dry sumps will be allowed or accusumps.

## SCR31 Auxiliary Equipment

## SCR32 Superchargers and Turbochargers

## VEHICLE SAFETY EQUIPMENT

## SCR33 Roll Cages

## SCR34 Safety Harness

## SCR35 Safety Nets

Safety nets must be always attached during the event.

## SCR36 Seating

## GENERAL VEHICLE COMPONENTS

## SCR37 Drivers Compartment

Roof must have a positive latch no Velcro. And roof must be properly always attached

during the event.

SCR38 Doors and Latches

SCR39 Firewalls

SCR40 Ballast

SCR41 Weight

Single seat = 1550 lbs.

Double seat = 1550 lbs.

SCR42 Floorboards

SCR43 Bumpers

SCR44 Mirrors

SCR45 Skid Plates

SCR46 Storage

SCR48 Chassis and Body

Wheelbase is open

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 16XX series

## **CLASS 9**

OPEN WHEEL – 100" WHEELBASE

SINGLE AND TWO SEAT BUGGIES WITH A MAXIMUM WHEELBASE OF 100"

## VEHICLE PARTS ARE BASED ON A TYPE 1 VW

### GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

### COMPETITION REGULATIONS

All parts called out for in this class shall remain in their stock shape, size, and configuration unless otherwise stated herein. There will be no rule changes unless safety related in this class for a period of five years. If it does not say you can change or replace a part, you CAN'T do it!!!

Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of this book. These cross-referenced listings are part of the class rules. Where a conflict occurs between the cross-referenced listing and a rule contained under this class, the rule contained under this class has precedence

### SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

### SUSPENSION COMPONENTS



Front and rear suspension components are limited to stock VW production type 1 parts unless otherwise stated herein. Suspension must retain stock concept and no other suspension types used with the stock suspension

## FRONT SUSPENSION

Front suspension must be type 1 ball joint. Front axle torsion tube centers may be cut, rotated and rewelded to increase ground clearance. Original seams may be welded (not reinforced) on front beam. Torsion adjusters allowed. Any manufacturer's torsion leaves are allowed.

Suspension limiters are allowed. Filling of speedometer hole in spindle is permitted. Steering arm on spindle may be reinforced by welding a ¼" gusset from the top of the upper ball joint to the end of the steering arm. A single tube may be welded from one shock tower to the other shock tower as a reinforcement member. Only VW ball joints may be used, no aftermarket ball joints allowed. Stock VW trailing arms and spindles only

## REAR SUSPENSION

Rear suspension is limited to stock VW type 1 components. Rear suspension torsion bars may be of any origin. The torsion housing must remain stock dimensions, aftermarket housing is allowed. Any spring plates and spring plate grommets are allowed. Torsion adjusters are allowed.

Spring plate retainers are allowed

## SCR10 Shock Absorbers and Bump Stops

Only one shock per wheel is allowed. Outside diameter of shock may not be larger than 65mm. shock shafts may not have a diameter larger than .875". Front shocks must be mounted in the stock location. Rear shocks may be mounted in any location. Rear shocks may not have an extended length longer than 31.5". Shock reservoirs allowed. Shocks may be of any manufacturer. No air or coil over shocks allowed. No external bypass shocks.

## SCR11 Secondary Suspension

No secondary suspension allowed.

#### SCR12 Wheels and Tires

Must use a 15" steel rim, 5" wide maximum with any standard offset. Any pneumatic tire and size allowed up to a 33" tall and 10" wide as mounted on 5" x 15" rim with 18lbs of air

#### SCR13 Fasteners

### STEERING AND BRAKE COMPONENTS

#### SCR14 Steering

Steering box may be of any origin. No power steering allowed. Any tie rod and tie rod end allowed

#### SCR15 Brakes

Original VW type drum brakes only. Type 1, 2, 3, and 181 any combination of brake shoes. Any combination of VW wheel cylinder Dual master cylinders allowed. Turning brake allowed. Aluminum center drums allowed. Steel spline center is allowed with the aluminum hub that attaches to a VW drum.

### ELECTRICAL SYSTEM

#### SCR16 Ignition

Battery ignition only, no magnetos. Six- or twelve-volt systems may be used. Any distributor may be used. Any VW type alternator or generator in the stock location may be used. Electronic ignition allowed. No crank fired ignition.

#### SCR17 Batteries

Battery must be sealed from driver's compartment

#### SCR18 Lights

#### SCR19 Starters

## FUEL SYSTEM

### SCR20 Fuel

Automotive pump gas only. This means only fuel sold to the public for use in domestic cars.

### SCR21 Fuel Tanks

Safety fuel cells are required. Fuel cell may not hold more than 22 gallons. Electric fuel pump may be used but must be used as a backup and routed through the stock system.

### SCR22 Fuel Lines, Vents, Caps.

## ENGINE, TRANSMISSION AND DRIVELINE

This is an engine claimer class. This means that any finisher in the top five can claim the first-place finisher's engine by putting up \$2500.00 in cash in the allotted protest time. The first-place finisher must release rights to his engine to the claimer. The engine in this case will be the long block. Sheet metal, fan housing, carburetor, generator/alternator, distributor, intake manifold, exhaust, etc. are not included in this rule. The protest time will be one hour after the last official finisher crosses the finish line. There must be a VORRA official present at the time of the protest.

VORRA will take no responsibility for the condition of the engine; it will be bought as is. Failure to abide by claimer rule is grounds for disqualification and a ban from racing future VORRA races for a period of one (1) year.

### SCR23 Engine and Engine Displacement

Engine must utilize VW series type 1, 1600cc, U.S model sedan components and dimensions. The maximum allowable engine displacement is 1584cc as delivered from the factory.

## ENGINE CASE

Any VW type 1, 2, 3 or "universal" case is allowed. The following modifications may be made to the stock case:

- (A) The case may be line bored
- (B) The case may be drilled and tapped for oil and temp sending units
- (C) The case may be machined for crank pulley seal
- (D) Case savers may be installed
- (E) Cylinder seating surface may be machined
- (F) Oil galleries may be enlarged to 10mm
- (G) Threaded oil gallery plugs allowed
- (H) Oil squirters allowed
- (I) Case may be full flowed
- (J) The case can have gussets welded on top

#### OIL PUMP

Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed.

Any oil bypass piston and spring allowed. Full flow systems ok. No accusump systems allowed.

#### FUEL PUMP

Stock fuel pump must be used. Electric fuel pump may be used but must be used as a backup and routed through the stock system. Any fuel filters and pressure regulators allowed

#### PISTONS

Pistons must be stock 3 ring only. Any piston and cylinder if original stock dimensions are maintained. Any type wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston, wrist pin, etc. total seal rings allowed.

## CONNECTING RODS

Any VW aftermarket connecting rod is allowed if the rods are stock VW length (5.393) and stock weight with a 500-gram minimum with one (1) rod untouched. No polishing or profiling

of rods.

## CRANKSHAFT

Crankshaft must be stock VW. Crankshaft may be balanced. Maximum journal size is limited to .030" undersize. No polishing or lightening. No offset grinding allowed. Any gear is allowed. Any engine bearing is allowed if stock dimensions are maintained. Power pulleys are not allowed. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced. Flywheel may be 8 dowel pinned. Any gland nuts. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. Aluminum stock sized pulley ok.

## HEADS

Heads must be U.S sedan stock single port or dual port or their equivalent. Only dual port heads with the following numbers will be allowed. 040101375 2, 040101375 13, 040101375 19 or stock OEM heads will be allowed. Heads may be fly cut for clean-up. Minimum of 42 cc's in combustion chamber. No porting or polishing. Stock intake 34mm original equipment center section or its replacement. A 1" by 1.5" long by ½ inch tube may be welded 2 inches below the carb flange. A minimum of material may be removed from the end of the tube for clearance. A 1 5/8 X 2" long slip tube may be welded to the end of the runners for use of better hose connection. End castings must be original equipment VW, with the VW logo and part numbers. Balance slot may be welded closed. Vacuum hole may be plugged. A 34mm to 30mm carb adapter must be used. 7.5 to 1 is the maximum compression ratio.

## CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS

Any camshaft, gear, single valve spring, steel valve spring retainers and lifters are allowed. Valve spring seat diameter in head must remain stock. Valves must be stock 45 degrees. One-piece valve ok. Valve guide may be steel, bronze, or cast

iron. No grinding or polishing in the port including valve guide. Must use stock 1600 rocker arms. The rocker arms may be resurfaced to permit use of swivel feet. No other grinding or changes may be made to the rocker arms. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arms and the camshaft. Any push rods and push rod tubes. Any valve adj screws. Stock valve covers only

#### FAN SHROUD

Only stock VW fan shrouds are allowed. No 36 horse doghouse shrouds allowed. All sheet metals must be stock. Valve covers and sheet metal may be modified a minimum to allow the use of engine breathers

#### CARBURETOR

Stock VW carb 30 pict 1, 2, 3 or the solex h-30-pic replacement must be used. Maximum venturi size is 24.10mm. Velocity stacks may be used if they are not bonded to the carburetor.

No internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock one piece only. No chemical milling of manifold or carburetor. Choke housing may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used. Vacuum advance port may be removed and plugged

#### SCR24 Engine Replacement

#### SCR25 Transmission

Type 1 bug 4 speed swing axle only. Heavy duty side plates and differential allowed. Stock

VW type 1 ring and pinion ratios only (4.37 and 4.12). Stock VW type 1 gears only. Close ratio 3<sup>rd</sup> and 4<sup>th</sup> allowed. Axle cover tubes allowed. Other internal modifications are optional. No 3.88 ring and pinions and no close 1 and 2 gear shafts.

#### SCR26 Throttles

SCR27 Exhaust

Any manufacturers exhaust allowed

SCR30 Fluid Coolers

Any oil cooler allowed with the location optional. Full flow systems are allowed.  
No deep sumps or dry sumps will be allowed

SCR31 Auxiliary Equipment

SCR32 Superchargers and Turbochargers

VEHICLE SAFETY EQUIPMENT

SCR33 Roll Cages

SCR34 Safety Harness

SCR35 Safety Nets

SCR36 Seating

GENERAL VEHICLE COMPONENTS

SCR37 Drivers Compartment

SCR38 Doors and Latches

SCR39 Firewalls

SCR40 Ballast

SCR41 Weight

Single seat = 1550 lbs.

Double seat = 1350 lbs.

SCR42 Floorboards

SCR43 Bumpers

SCR44 Mirrors

SCR45 Skid Plates

SCR46 Storage

SCR48 Chassis and Body

Maximum wheelbase is 100" inches. Measured at ride height.

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

Class 9 number in VORRA is 9xx

## **CLASS 11**

STOCK BUG

STOCK VW SEDANS

MUST BE A STOCK VW SEDAN AS DELIVERED IN THE U.S.A.

GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations

COMPETITION REGULATIONS

Any questions concerning chassis combinations will be decided by referring to VW factory parts manuals and /or VW of America booklet. This is a stock production class, and all components must remain stock except for those modifications allowed herein.



Note: The SCR abbreviations listed under this class refer to cross reference listings in the front of this book. These cross-referenced listings are part of the class rules. Where a conflict occurs between the cross-referenced listing and a rule contained under this class, the rule contained under this class has precedence. If it does not say you can do it then you can't!

## SAFETY EQUIPMENT

SCR1 Helmets

SCR2 Protective Clothing

SCR3 Eye Protection

SCR4 First Aid Kit

SCR5 Flares

SCR6 Horns

SCR7 Reflectors

SCR8 Fire Extinguisher

SCR9 Survival Supplies

## SUSPENSION COMPONENTS

### FRONT SUSPENSTION

Front axle torsion tube centers may be cut, rotated, rewelded to increase ground clearance or front adjusters may be used. Original seams may be welded (not reinforced) on the front beam.

Shock towers may be additionally supported by the adding of a single gusset; gusset may not extend more than 2" above top torsion tube.

Stock front spindles and trailing arms must be used no additional material may be used. Sway bars may be removed. Filling of speedometer hole is permitted.

Steering arm on spindle may be reinforced by welding a .25 gusset from the top of the spindle to the end of the steering arm.

Front snubbers may be of any manufacture but must retain stock dimension and mounting methods. Suspension limiters allowed.

## REAR SUSPENSION

Rear suspension torsion bars may be of any origin. Rear suspension springs may be of

any origin. Torsion bar adjusters are allowed. Torsion bar grommets may be of any manufacturer

but must retain stock VW dimensions.

Rear torsion bars may be additionally supported only by the attachment of a terminal end (support member) of the roll cage. Rear shock tower may be removed to body mounting bolt hole. Lower rear shock mounts may be removed or replaced but must bolt directly to rear trailing arm or swing axle. No remote mounted shocks. Rear trailing arms must remain stock, shape, size, and configuration, but may be reinforced by adding material.

## SCR10 Shock Absorbers and Bump Stops

Only one shock per wheel is allowed. Stock front shock mounts must be utilized. Shock mounting bolts may be changed to a maximum of 1/2 in diameter. Any manufacture shock allowed with 2.0" maximum outside diameter. Rear shock must not have an extended length longer than 18", center of mounting hole to center of mounting hole. Cooling fins and/or reservoirs allowed.

No air shocks or coil over shocks allowed. No hydraulic bump stops allowed. No bypass shocks allowed.

## SCR11 Secondary Suspension

No secondary suspension allowed.

## SCR12 Wheels and Tires

Any stock VW steel 4" x 15" wheel that bolts on a stock VW brake drum may be used.

Wheel studs allowed. Any manufacturers tire and size allowed up to 31" tall and 10" wide as mounted and inflated on a 4" wide rim with 18 lbs. of air. Spare tire is mandatory but may be mounted any place within body shell or trunk.

## SCR13 Fasteners

### STEERING AND BRAKE COMPONENTS

## SCR14 Steering

Any manufacturer's steering wheel may be used. Steering shaft is open. Use of pillow blocks are allowed. Steering box must be stock, but shims may be used between pitman arms and box. Steering components such as ball joints, steering arms, and tie rods must remain stock.

## SCR15 Brakes

Original VW type 1 drum brakes only on all wheels. Front and rear drums may not be interchanged. Any combination of brake linings allowed if stock dimensions are maintained. Any combination of VW master and wheel cylinders are allowed. Emergency brake is optional but if removed the opening must be covered.

### ELECTRICAL SYSTEM

## SCR16 Ignition

Battery ignition only, no magnetos. Six- or twelve-volt systems may be used regardless of year model. Any manufacturer's distributor may be used. Any VW type alternator or generator system in the stock location may be used.

## SCR 17 Batteries

Battery must be relocated. If in the drivers compartment it must be covered or sealed to prevent acid from leaking in case of roll over.

## SCR18 Lights

Additional lighting is permitted. Headlights are optional for short course only. Stock headlights may be replaced with any brand so long as original mounting position is used. Pre 1967 model headlight lenses may be removed. Tail and stop lights must remain functional. Front and rear turn indicators are optional. Back up lighting may not be directed towards the engine compartment or function in any gear but reverse.

## SCR19 Starters

## FUEL SYSTEM

### SCR20 Fuel

### SCR21 Fuel Tanks

Safety fuel cells are required and may be mounted anywhere and have any capacity.

Stock tanks may be used in the stock location. Any type of fuel shut off valve allowed. Stock fuel pump must be used. Electric fuel pump may be used but must be used as a backup and routed thru the stock system.

### SCR22 Fuel Lines, Vents, Caps

Fuel fillers may penetrate and extend through hood but must have a drain/catch boot in case of spillage in front compartment. Fuel cell filler may be located in center of tank and have a maximum of a 2.25" internal diameter neck.

## ENGINE, TRANSMISSION AND DRIVELINE

### SCR23 Engine and Engine Displacement

Engine must utilize VW series type 1, 1600cc, U.S. model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as delivered from the factory

## ENGINE CASE

Any VW type 1, 2, 3 or “universal” case is allowed. The following modifications may be made to the stock case:

- (a) The case may be line bored
- (b) The case may be drilled and tapped for oil and temp sending units
- (c) The case may be machined for crank pulley seal
- (d) Case savers may be installed
- (e) Cylinder seating surface may be machined
- (f) Oil galleries may be enlarged to 10mm
- (g) Threaded oil gallery plugs allowed
- (h) oil squirters ok
- (l) case may be full flowed

#### OIL PUMP

Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed.

Any oil bypass piston and spring allowed. No accusump systems allowed.

#### FUEL PUMP

Stock fuel pump must be used. Electric fuel pump may be used but must be used as a backup and routed thru the stock system. Any fuel filter and pressure regulators may be used.

#### PISTONS

Pistons must be stock 3 ring only. Any piston and cylinder if original stock dimensions are maintained. Any type wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston, wrist pin, etc... Total seal rings are ok.

## CONNECTING RODS

Any VW aftermarket connecting rod is allowed if the rods are stock VW length (5.393) and stock weight with a 500-gram minimum with one (1) rod untouched. No polishing or profiling of rods.

## CRANKSHAFT

Crankshaft must be stock VW. Crankshaft may be balanced. Maximum journal size is limited to .030" undersize. No polishing or lightening. Offset grinding allowed max 69.5mm. Any gear is allowed. Any engine bearing is allowed if stock dimensions are maintained. Power pulleys are allowed. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced

No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter.

## HEADS

Heads must be U.S sedan stock single port or dual port or their equivalent. Only dual port heads with the following numbers will be allowed. 040101375 2, 040101375 13, 040101375 19 or stock

OEM heads will be allowed. Heads may be fly cut for cleanup. No porting or polishing. Stock intake 34mm original equipment center section or its replacement. A 1" by 1.5" long by ½ inch tube may be welded 2 inches below the carb flange. A minimum of material may be removed from the end of the tube for clearance. A 1 5/8 X 2" long slip tube may be welded to the end of the runners for use of better hose connection. End castings must be original equipment VW, with the VW logo and part numbers. Balance slot may be welded closed. Vacuum hole may be plugged.

A 34mm to 30mm carb adapter must be used.

## CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS

Any camshaft, gear, valve springs, valve spring retainers, and lifters are allowed. Valve guide may be steel, bronze, or cast iron. No grinding or polishing in the port. Any camshaft, gear, valve spring retainers, lifters are allowed. Beehive springs

allowed Valve spring seat diameter in head must remain stock. May use any valve but must be stock 45 degrees and stock dimensions and 8mm stem size. no titanium valves allowed. including valve guide must use stock VW 1600 rocker arms. The rocker arms may be resurfaced to permit the use of swivel feet. No other grinding or changes may be made to the rocker arms. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arms and the camshaft. Any push rods and push rod tubes. Any valve adj screws. Clips on rocker arms may be wire tied. Rocker assemblies may be subject to post race inspection.

#### FAN SHROUD

Must use stock VW fan shroud. Heater tubes optional.

#### CARBURETOR

Air cleaner location is optional and may be of any manufacturer.

Stock VW carb 30 Pict 1, 2, 3 or the solex h-30-pic replacement must be used. Maximum venturi size is 24.10mm. Velocity stacks may be used if they are not bonded to the carburetor.

No internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock. The cutting of manifolds to compensate for head milling is allowed but rewelding will not be allowed. No chemical milling of manifold or carburetor. Choke housing may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used

#### LOW COMPRESSION ENGINE OPTION

1600cc maximum displacement and 8 to 1 compression ratio, must use same heads as high compression engine with same valve size and no porting at all. Stock VW end castings with VW part numbers must be used, no polishing allowed. An EMPI or WEBER 40 or 44 idf carb may be used and tube style intake manifold, No Plenum Manifolds allowed. Must use a maximum 26mm venturi This is a pump gas only engine option with a maximum of 91 octane.

#### SCR24 Engine Replacement

## SCR25 Transmission

Type 1 bug 4 speed transaxle only. Heavy duty side plate and differential allowed. 8.33 (4.12) ring and pinion only. Stock VW 1st, 2nd, 3rd, 4th gears only, no close ratio gears allowed.

Axle over tubes is not allowed. Other internal modifications are optional. Rear transaxle mounts may be supported by a maximum of two vertical straps of .025" x 1" dimension. Adjustable straps are optional. Any gearshift lever allowed. Shift tube must be inside tunnel. Any type 1, 2 or 181 stub axle and any VW cv joint. Oversize bolts ok.

## SCR26 Throttles

Stock pedals with no other modifications are allowed.

## SCR27 Exhaust

Any exhaust system may be used.

## SCR28 Drive Shafts

## SCR29 Flywheel Shields

## SCR30 Fluid Coolers

Any manufacturer's oil cooler is allowed with the location optional. Full flow systems ok. No deep sumps or dry sump will be allowed. Late model housing approved.

## SCR31 Auxiliary Equipment

## SCR32 Superchargers and Turbochargers

## VEHICLE SAFETY EQUIPMENT

## SCR33 Roll Cages

There are no restrictions as to terminal points of the roll cage.



SCR34 Safety Harness

SCR35 Safety Nets

SCR36 Seating

Any manufacturer's seat allowed but must remain in the approximate location. If stock seat mounts are used, then they must be reinforced using at least two "u" bolts per seat runner.

#### GENERAL VEHICLE COMPONENTS

SCR37 Drivers Compartment

Rear seat, upholstered panels, headliner, and carpets may be removed. Dash may be covered with metal to install gauges.

SCR38 Doors and Latches

Doors must remain functional and in original stock location. Doors may have original hinges with workable latch. Secondary positive latching devices are mandatory.

SCR39 Firewalls

May run air intake through the firewall, hole may not exceed 4-inch diameter maximum and no larger than ½ inch around the intake tubing used.

SCR40 Ballast

SCR41 Weight

SCR42 Floorboards

Serial numbers are required on floor pan. No alterations to floor pan are allowed. Original seams may be rewelded. Undercoating may be removed. 1965 and older belly pans may be interchanged. 1966 to 1968 belly pans may be interchanged. 1969 or later belly pans may be interchanged. All must maintain original suspension type.

## SCR43 Bumpers

Original stock bumpers and over riders must be used. Stock VW bumper stiffeners are allowed. Brush guards may be added to stock bumpers but no larger than ¾ inch tubing allowed. Bumpers may be reinforced; no reinforcement shall protrude above or in front of stock bumpers.

## SCR44 Mirrors

## SCR45 Skid Plates

Any type front and rear skid plate may be used. Front skid plate may be attached to front beam using 2 “u” bolts with a maximum width of 1.5” attached to the skid plate. Skid plate may be extended forward and upward to but not above the top of the front bumper.

## SCR46 Storage

## SCR47 Fenders

Fender lips on the underside may be flattened to prevent cutting of tires. A rod of .025” maximum diameter may be welded under the outside edge for additional strength.

## SCR48 Chassis and Body

The vehicle must retain full chassis and body with no modifications allowed. Rear apron may be removable to aid in removing engine. But must retain stock external appearance. Body must be VW type one bug or sunroof bug. No convertibles, Ghias, 181 things, variants, or super beetles.

Running boards may be removed. Front and rear hood latches may be modified or replaced.

Hinges must remain stock. Front rear and side glass optional. Chrome strips, outside mirrors, antennas may be removed. A hole no larger than 1 inch in diameter larger than the shock OD may be cut in the rear fender well to allow for the rear shock. Low comp engine cars: May cut hole in deck lid to fit intake box. Hole for intake box must not exceed 1/2 “on all 4 sides.

SCR49 Hoses

SCR50 Identification Markings

SCR51 Advertising on Vehicles

SCR52 Workmanship

## **CLASS 4400**

UNLIMITED 4WD

Class entrants shall comply with all class and applicable general regulations.

### COMPETITION REGULATIONS

This is an open class, and all components will be considered open unless it states otherwise with these class rules.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs; the rule contained under this class has precedence.

#### UR18: WHEELS & TIRES

Any manufacturer's tire and size are allowed.

#### UR29: FUEL TANKS

Safety fuel cells are required.

### GENERAL VEHICLE COMPONENTS

Vehicles must have an operating transfer case with at least two forward speeds and be capable of being driven through all four wheels.

#### UR54: IDENTIFICATION MARKERS

VORRA will assign vehicle numbers. Three or four digits beginning with "4" (ex= 4XX, or 44XX)

## **GROUP T**

### **MIXED TRUCK & SUV**

#### **GENERAL REGULATIONS**

Class entrants shall comply with all class and applicable general regulations.

#### **COMPETITION REGULATIONS**

This is a HYBRID class, and all components will be considered specified in the rules that define each respective category that is participating in this group competition.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

Each vehicle must be fully aligned or compliant with at least one of the following categories: A. Open 4 Cylinder, Unlimited chassis, wheelbase, track width, and engine setback,

stock forced induction may be allowed

2. Limited 6 Cylinder (4.5L, 3,000lb Min, 87" Track); stock forced induction may be allowed
3. Tube Chassis 2wd 8 Cylinder (Max travel 22", Any Body, Weight Chart for Short Course)
4. Tube Chassis 4wd 8 Cylinder (4wd tube chassis, NO IFS, Weight Chart for Short Course)
5. Production Frame 8 Cylinder (Production Frame, 4,000lb Min or Weight Chart for SC)
6. PRO Truck (Sealed 360cid engine, 5,000lb Min)

In addition to being class compliant with a category A through F listed, Group T trucks must also adhere to the category specific vehicle weight to cubic inch reference chart. (SC Only) Until further notice minimum weight restrictions based on engine displacement are lifted for this class by association rules voting.

All other VORRA “Production” or “Pure-Stock” Truck/SUV classes are also eligible.

VORRA Unlimited Trucks, SCORE “Trophy Trucks”, SNORE “Ultimate Trucks”, BITD “Trick Trucks” and 6100 class trucks are not eligible.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers.

The prefixes 400 will identify each vehicle entering Group T; second digit will identify the category each vehicle represents. For example, the following numbering scheme will be used:

1. 4 Cylinder 400-499
2. 6 Cylinder 400 -99
3. Prod. Frame 8cyl 400-499
4. PRO Truck 400

Displacement to Required Vehicle Weight Cross Reference Chart: Short Course Events only 2011

4WD Tube Chassis		2WD Tube Chassis		Production Frame	
CID	Weight LB/CID	CID	Weight LB/CID	CID	Weight LB/CID
		>305	10		
		306-			
		321	10.5		
		322-			
<339	3750min	339	11		

340-356	11.25	340-356	11.5		
357-375	11.75	357-375	12	<385	4000min
376-395	12.25	376-395	12.5	386- 395	10.4
396-415	12.75	396-415	13	396- 415	10.9
416-437	13.25	416-437	13.5	416- 437	11.4
438-460	13.75	438-460	14	438- 460	11.9
461-484	14.25	461-484	14.5	461- 484	12.4
	14.75		15		12.9

485-510		485-510		485- 510	
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## GROUP T LITE

MIXED TRUCK & SUV

GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations.

COMPETITION REGULATIONS

This is a HYBRID class, and all components will be considered specified in the rules that define each respective category that is participating in this group competition.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

Each vehicle must be fully aligned or compliant with at least one of the following categories: A. Open 4 Cylinder, Unlimited chassis, wheelbase, track width, and engine setback,

stock forced induction may be allowed

1. Limited 4 and 6 Cylinder (4.5L, 3,000lb Min, 87" Track); stock forced induction may be allowed. Restricted to class 7,7s, 7100, stock mini, 4- and 6-cylinder 1450 classes

In addition to being class compliant with a category A through F listed, Group T trucks must also adhere to the category specific vehicle weight to cubic inch reference chart. (SC Only) Until further notice minimum weight restrictions based on engine displacement are lifted for this class by association rules voting.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers.

The prefixes 400 will identify each vehicle entering Group T; second digit will identify the category each vehicle represents. For example, the following numbering scheme will be used:

1. 4 Cylinder 700-799
2. 6 Cylinder 700-799

## **GROUP T SPORTSMAN**

MIXED TRUCK & SUV

### GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations.

### COMPETITION REGULATIONS

This is a HYBRID Sportsman class, and all components will be considered specified in the rules that define each respective category that is participating in this group competition.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

Each vehicle must be fully aligned or compliant with at least one of the following categories: A. Open 4 Cylinder, Unlimited chassis, wheelbase, track width, and engine setback, stock forced induction may be allowed

1. Limited 4 and 6 Cylinder (4.5L, 3,000lb Min, 87" Track); stock forced induction may be allowed
2. Tube Chassis 2wd 8 Cylinder (Max travel 22", Any Body, Weight Chart for Short Course)
3. Tube Chassis 4wd 8 Cylinder (4wd tube chassis, NO IFS, Weight Chart for Short Course)



#### 4. Production Frame 8 Cylinder (Production Frame, 4,000lb Min or Weight Chart for SC)

In addition to being class compliant with a category A through F listed, Group T trucks must also adhere to the category specific vehicle weight to cubic inch reference chart. (SC Only) Until further notice minimum weight restrictions based on engine displacement are lifted for this class by association rules voting.

All other VORRA "Production" or "Pure-Stock" Truck/SUV classes are also eligible.

VORRA Unlimited Trucks, SCORE "Trophy Trucks", SNORE "Ultimate Trucks", BITD "Trick Trucks" and 6100 class trucks are not eligible.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers.

The prefixes 1450-1499 will identify each vehicle entering Group T; second digit will identify the category each vehicle represents. For example, the following numbering scheme will be used:

### **CLASS 8**

#### PRODUCTION FULL-SIZED TRUCK & SUV

Vehicles built from two or four-wheel drive full-sized pickups and SUV's. Vehicles must have been series produced in quantities of at least 5000 units within a 12-month period and be readily available to the public in the U.S.A. Vehicle must be marketed as full-sized.

#### GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations.

#### COMPETITION REGULATIONS

Manufacturer's body, engine, and chassis combinations must be retained. This is an open class, and all parts will be considered open unless restricted herein.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule

contained under this class occurs, the rule contained under this class has precedence.

## SUSPENSION COMPONENTS

Front suspension must be of the same configuration as originally produced and installed on the chassis to which it is mounted. Suspensions may be strengthened and reinforced in any manner if original stock concept (a-arm, I-beam, etc.) is retained. Pivot points are open. Ball joints may be of any manufacturer. Spindles may be of any manufacture and may be reinforced. Vehicles with straight axle front ends may modify suspension configuration to utilize a four-link and coil over shock system.

Rear suspension must utilize an automotive differential. Suspension support system is open (quarter-elliptical, coil-over shocks, four-link, etc.). Outboard mounted rear springs are permitted. Spring rates and capacities are open.

Front and rear track width is limited to 80 inches maximum as measured from center line of tire to center line of tire. Tires must retract inside of fender wells. Stock wheelbase must be maintained within 2 inches. Tires must retract inside fenders.

Front and rear wheel travel is open.

## UR16: SHOCK ABSORBERS & BUMP STOPS

Number of shocks and mounting methods are open. Mounting points may be strengthened and design modified.

A. B. C.

Remote mounted shocks are permitted. Hydraulic bump stops are permitted. Shocks may not protrude through the hood.

## UR17: SECONDARY SUSPENSION

Secondary suspension is permitted. Ride height must be retained plus or minus 1.5 inches with secondary suspension disconnected.

## STEERING & BRAKE COMPONENTS

## UR22: STEERING

Steering box location is optional. Steering box mounting may be reinforced. Power steering is permitted. Steering box may be replaced. Steering parts (tie rods, tie rod ends, idler arms, relay rods, and turning arms) may be specially made. Heim joints are optional. Any manufacturer steering wheel may be used.

## FUEL SYSTEM

### UR29: FUEL TANKS

Safety fuel cells are required. Fuel cell location is optional. Fuel cell may be sunk into the bed. Rear frame member may be relocated or replaced to sink fuel cell.

## ENGINE TRANSMISSION & DRIVELINES

### UR31: ENGINE LOCATION & DISPLACEMENT

Engine must be of the same manufacturer basic design, type and have the same number of cylinders as the one installed by the manufacturer. Any displacement engine may be used if the original block casting remains the same. Engine must be readily available to the public in the U.S.A. Items with no restrictions include:

1. Strengthening and balancing.
2. Valve train and camshaft.
3. Bore and stroke.
4. Pistons
5. Blueprinting.
6. Oil and water-cooling systems. Dry sumps are permitted.
7. Air cleaners.
8. Fuel pumps.
9. Exhaust system.

Any make of carburetor will be permitted. Stock factory fuel injection is permitted. Aftermarket throttle body type fuel injection is permitted. Aftermarket port fuel injection is not permitted.

Water and vapor injection are not allowed unless originally equipped.

Engine must be within 1 inch of the stock mounting location as delivered. This is measured from the centerline of the front spindle to the back of the block, and height from the frame rail to the centerline of the crankshaft.

#### UR33: TRANSMISSION

Transmission is open.

#### DIFFERENTIAL

Rear axle assembly must use an automotive type straight axle housing and third member. Gear ratios, carriers, axles, and floating hubs are optional.

A. B. C.

Knock-off hubs are permitted.

Axle tubes may be replaced.

Two single point anti-wrap bars may be used on the rear differential.

#### VEHICLE SAFETY EQUIPMENT

#### UR38: SEATING

Any manufacturer's racing seat may be used but must remain in the approximate stock location.

#### GENERAL VEHICLE COMPONENTS

#### UR39: DRIVER'S COMPARTMENT

If the full stock cab is not being utilized, metal sheeting must be installed on the sides of the roll cage by the occupants to afford protection in event fiberglass doors are damaged or missing. The sheet metal must extend from the front firewall to behind the seats and from the floor to the horizontal bar at the approximate height of the door's windowsill. Sheet metal must be attached to the top of the cage if a fiberglass roof is used. Vehicles utilizing a stock cab are exempt from the sheet metal sides but it is recommended if utilizing fiberglass doors.

#### UR45: WEIGHT

Vehicle must weigh 4000 lbs. minimum.

#### UR51: FENDERS

Wheel openings in fender may be enlarged for tire clearance but must maintain their original bodylines. Fenders may be flared.

Front and rear fender inner panels may be modified, replaced, or removed. Fenders must be securely mounted. Hinged front ends are not permitted. Attachment of fenders, inner panels, and radiator to front hoop is acceptable providing that the stock external appearance is maintained.

Fiberglass front fenders are permitted.

#### UR52: CHASSIS & BODY

Manufacturer's chassis and body combinations must be retained.

#### CHASSIS

Original wheelbase plus or minus 2 inches must be retained.

Frame rails must remain stock shape, size, length, configuration, and material.

No material may be removed from frame rails except for the following.

The front end of the frame rail may be notched a maximum of 8 inches from the end for ground clearance. Top of frame rail must remain stock.

The rear frame may have hydraulic bump stops installed through the upper and lower rail, but rail must be cut or drilled only large enough for the installation of such bump stop.

The frame over the rear axle may be notched. The notch must not exceed 3 1/2 inch into the web of the original frame web. The top frame rail must remain stock.

#### BODY

Body must maintain the original shape, size, configuration, and appearance except for fender flaring. Mounting location (vertical, horizontal, lateral) must

remain stock in relationship to the frame. The measurement from the front spindle centerline to the back of the b-pillar post must remain stock plus or minus 1 inch.

Hoods, trunk lids, doors, fenders, and bedsides are required to be in stock locations. Hoods, front fenders, doors, and bedsides may be made of fiberglass. Pickup bed floor and inner fender wells may be removed. Tailgates and pickup bed front panels are optional.

Front Grill assembly must resemble stock appearance, (i.e., Decals or fiberglass.) Safety glass windshields, side, and rear glass are optional.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 8XX series

## **CLASS 7**

### PRODUCTION MINI OR MID-SIZED TRUCKS / SUV

Vehicles built two or four-wheel drive mini or mid-sized pickups. Vehicles must have been series produced in quantities of at least 5000 units within a 12-month period. Vehicle must be readily available to the public in the U.S.A. Vehicle must be marketed as a mini or mid- sized pickup.

### GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations.

### COMPETITION REGULATIONS

Manufacturer's body, engine, and chassis combinations must be retained. This is an open class, and all parts will be considered open unless restricted herein.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs; the rule contained under this class has precedence.

### SUSPENSION COMPONENTS

Suspension must retain the original stock concept (A-arm, Macpherson Strut, I-beam, etc.). Suspension support systems are open (leaf, coil, torsion bars, etc.).

Wheelbase must be within 2 inches of stock. Track Width must not exceed 78" outside tire to outside of tire.

#### UR16: SHOCK ABSORBERS & BUMP STOPS

Number of shocks and mounting methods are optional. Mounting points may be strengthened and redesigned or modified.

1. Shock reservoirs may be used. Remote mounted shocks are permitted.
2. Shocks may not protrude through the hood.
3. Hydraulic bump stops are permitted but frame and front wheel travel limit rules must

#### SECONDARY SUSPENSION

Secondary suspension is allowed. The primary system must be capable of maintaining ride height within 1 1/2 inches with secondary suspension system disconnected.

#### UR18: WHEELS & TIRES

Aftermarket wheel studs are permitted.

#### STEERING & BRAKE COMPONENTS

##### UR22: STEERING

Steering box must remain stock and original concept as produced by the mini or mid-sized truck manufacturer. Steering box mounting may be reinforced by adding material but must remain in the stock location. Aftermarket steering column mounted steering quickeners may be utilized. Steering components (tie rods, tie rod ends, idler arms, pitman arms, relay rods and turning arms) may be specially made providing they mount in stock location and operate in the original manner. Any manufacturer steering wheel may be used. A maximum of three inches fore or aft may be made in the steering wheel location.

##### ELECTRICAL SYSTEM UR26: LIGHTS

Any manufacturer light may be used. Stock headlight openings must be retained.

## FUEL SYSTEM UR29: FUEL TANKS

Safety fuel cells are required.

Fuel cell location is optional. Fuel cell may be sunk into the bed. The rear frame member may be relocated, removed, or replaced to sink the fuel cell.

## ENGINE TRANSMISSION & DRIVELINES

### UR31: ENGINE LOCATION & DISPLACEMENT

Engine must be one delivered in the vehicle or one that is available (with the provisions listed herein) from the manufacturer / importing distributor with a maximum of six cylinders. Engine must be available to the public of the U.S.A. Engine block must be of the same type of material as that of the block originally delivered in that chassis body combination. Water and vapor injection are not permitted. Engine location must be the stock mounting location as delivered from the manufacturer plus or minus 1-inch. This will be measured from the front spindle centerline to the back of the block.

Manufacturer's / importing distributor's substitute engine provisions:

1. It retains a maximum of six cylinders as originally produced by the manufacturer.
2. It does not displace more than 4500cc.
3. It has a manufacturer's stock number.

Any head may be used providing it is offered as a replacement or option, has a manufacturer's stock number, and is available to the public in the U.S.A.

Unrestricted engine items include:

1. Strengthening and balancing
2. Valve train and camshaft
3. Pistons
4. Blueprinting
5. Oil and water-cooling systems. Radiator must be in stock location.



6. Air cleaners
7. Fuel pumps
8. Exhaust system

## CARBURETOR

Any make of carburetor or stock factory fuel injection may be used but must maintain a maximum of one venturi per cylinder.

## UR33: TRANSMISSION

Any transmission that is listed and delivered by the manufacturer may be used. Any shifter may be used.

## DIFFERENTIAL

Front differential must remain original stock, except for gear ratios, as delivered by the manufacturer. Materials may be added for strengthening purposes only. Front differentials, including traction beam type, may be reinforced.

Rear axle housing is open but must remain stock concept automotive production housing and third member. Gear ratios, carriers, axles, and floating hubs are open.

Knock-off hubs are not permitted.

## VEHICLE SAFETY EQUIPMENT UR11: SEATING

Any manufacturer's racing seat may be used but must remain in the stock location.

## GENERAL VEHICLE COMPONENTS

### UR41: DRIVER'S COMPARTMENT

Dash is optional. It is highly recommended that flammable items such as upholstered panels, headliners and carpets are removed.

Pedal assemblies must remain in the stock fore and aft position.

#### UR42: DOORS & LATCHES

Doors must operate on stock hinges.

#### UR43: FIREWALLS

Firewalls must remain stock, complete and in original location. Holes left in stock firewall must be covered with metal.

#### UR45: WEIGHT

Vehicle must weigh 3000 lbs. minimum.

#### UR46: FLOORBOARDS

Alterations to floorboard, for the routing of exhaust to rear of vehicle, are permitted.

#### UR47: BUMPERS

Stock front and rear bumpers must be utilized.

#### UR51: FENDERS

Wheel openings in fenders may be enlarged a maximum of 3 inches for tire clearance but must retain their original bodylines.

Fenders may be flared 2 inches.

Enlarged wheel openings and fender flares must meet VORRA approval regarding excessive material removal or flare.

Front inner panels may be removed, modified, or replaced. Fenders must be securely attached. Hinged front ends are not permitted. Attachment of front fenders, inner panels and radiator to front hoop is acceptable providing stock external appearance is maintained.

Front fenders may be of any material.

#### UR52: CHASSIS & BODY

Chassis and body combinations of same manufacturer must be retained.

## CHASSIS

Original wheelbase must be maintained plus or minus 2 inches.

Frame may be strengthened by addition of material but must retain stock configuration. Lengthening or narrowing of frame is not permitted. Removal of material is not permitted. Frames may not be altered.

## BODY

Body shape, size, configuration, and appearance must be maintained, but may be made of any material. Additional body strengthening mounts or parts may be added. Original stock mounting location (vertical, horizontal, and lateral) in relation to the frame and mounting methods must be retained. The measurement from the spindle centerline to the back of the b-pillar post must remain stock plus or minus 1 inch. Internal body structural members must remain intact. Clearance holes may be cut or drilled for roll bars, supports, shocks, etc. Hoods, trunk-lids, doors fenders and bedsides are required to be in original stock locations. Pickup bed floor and inner fender wells may be removed. Tailgates and pickup bed front panels are optional. Stock front grill assemblies are required. Safety glass windshields, side and rear glass is optional.

UR54 IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 7XX series

## **FULL METAL**

### PURE-STOCK PRODUCTION FULL-SIZED PICKUP & SUV

Vehicles built from two or four-wheel drive full-sized pickups and sport utility vehicles. Manufacturer's stock wheelbase must be retained. Vehicle must have been series produced in quantities of at least 4000 units within a 36-month period. There must be a minimum of 4000 series vehicles sold to the public in the U.S.A. within a 36-month period. Vehicle must be readily available to the public in the U.S.A. A minimum bed size length of four (4) feet is required to be considered a full-size pickup truck. Vehicle must be marketed as full-sized pickup or sport utility vehicle.

## GENERAL REGULATIONS

Class entrants shall comply with all class and applicable general regulations.

## COMPETITION REGULATIONS

This class is a pure stock production class. All components must remain stock as delivered from the manufacturer unless otherwise stated within. Manufacturer's body, chassis, engine, transmission, and differentials must be retained.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

## SUSPENSION COMPONENTS

Front and rear suspension components must remain stock manufacturer, shape, size, and configuration as originally produced and installed on the chassis to which it is attached. All suspension components must remain in the original stock locations and retain the original stock mounting methods. All components will be original manufacturer's design and remain stock as delivered from the manufacturer.

No welded washers are allowed on any suspension component, pivot point, or any suspension mounting position except for the specific areas addressed under suspension components.

Vehicles with radius arm brackets that have a stock cross member attached to the bracket and the frame and must use the stock cross member as delivered from vehicle manufacturer. You cannot reinforce the stock cross member in any manner or manufacturer your own cross member. The cross member may only attach in the original stock mounting holes in the bracket and frame. **WARNING:** Only vehicles equipped from the factory with a radius arm cross member may use a horizontal cross member between the radius arm brackets. Vehicles that did not come stock from the factory with a radius arm brackets that require the radius arm cross member, may not use the radius arm brackets that require the cross member. Any attachment of a cross member or plate for any purpose, including skid plate bracket, to any other radius arm bracket is strictly forbidden.

A-arms, I-beams, and front axles must remain stock as delivered by the manufacturer of the chassis to which it is attached, unless specifically stated otherwise herein. All suspension components must remain stock size, shape, and configuration as delivered by the manufacturer; no addition of material is permitted unless stated otherwise herein. It is prohibited to intentionally bend or alter the shape, size, or geometry of any suspension component. It is prohibited to bend I- beams, A-arms, and front or rear axles for any reason. Stock pivot points must be retained. Rubber bushings may be replaced with urethane bushings.

Specific permitted component changes: Material may be added for shock mountings only. Added material must not reinforce the component to which the shock is attached. Added material must meet with VORRA approval. Front and rear springs must remain in the stock locations and retain original stock concept (leaf, torsion, and coil). Spring rates and capacities are open.

Ford-specific: The radius arm bracket may have a plate spot-welded onto the back of the bracket where the radius arm passes through the bracket. The plate may be a maximum of 3/8-inch-thick and may extend around the existing radius armhole a maximum of 5/8" (inch). You may only spot weld the washer in place, you may not weld entirely around the washer. The spot weld may only be long enough as what is needed to hold the washer in place without it falling. A washer welded to the front of the radius arm bracket is prohibited. The main engine cross member center I- beam pivot point may have one washer, maximum of the same thickness of the original pivot point thickness, welded to one side only of the pivot point. For model years 1998 thru 2002 the upper right two-piece A-arm is being replaced with a one-piece A-arm bearing part number of 2L5Z-3084-BA.

#### UR16: SHOCK ABSORBERS & BUMP STOPS

A maximum of two shocks per wheel is permitted. Shock locations are optional, but shocks or shock mounts must not protrude the hood of vehicle.

Rear shock specific: Shock locations are optional. Rear shocks may protrude through the bed or floor of the vehicle but not above the bed line for trucks or window line for SUV's, but must adhere to the following conditions:

Shocks may not be remote mounted.

The mounting area must be covered with a removable metal housing in such a fashion as to cover the shock and shock mount.

Remote mounted shocks, coil-over shocks, air springs, and air shocks are forbidden. Coil-over spring/shock combinations are not permitted unless such combination is standard equipment for that specific model year of vehicle.

Moveable bump stops are not permitted.

#### UR17: SECONDARY SUSPENSION

Secondary suspension is not permitted.

#### UR18: WHEELS & TIRES

Any manufacturer's wheel is permitted. Tire type is open. Aftermarket wheel studs are permitted.

Short wheelbase SUV's equipped from the factory with the spare tire only being able to be mounted to an exterior carrier by the tailgate may fabricate a new spare tire carrier out of tubing. The tubing for such mount may not penetrate the tailgate but may go over the top of the tailgate then back down to the floor bed. The tire must mount flush against the tubing and be parallel to the back of the vehicle. No tubing may protrude beyond the side of the tire that mounts to the new tire support. Long wheel-based SUV's must mount spare tire inside of vehicle.

#### STEERING & BRAKE COMPONENTS

##### UR22: STEERING

Steering box or rack and pinion must remain stock as delivered by the manufacturer and in the stock mounting location. Steering box or rack and pinion mounting may be reinforced by the addition of material. Aftermarket steering column mounted steering quickeners may be utilized.

Steering parts (tie rods, tie rod ends, idler arms, pitman arms, relay rods and turning arms) must remain stock as delivered by the manufacturer.

Any manufacturer power steering pump may be used in the approximate stock location.

Any manufacturer steering wheel may be used. Steering wheel location must remain stock. Steering column shaft may be replaced.

#### UR23: BRAKES

Turning or steering brakes are not permitted.  
Stock brake system must be retained. Antilock or proportioning valve may be removed or replaced.

#### ELECTRICAL SYSTEM

##### UR 24: IGNITION

Ignition system must remain original stock as delivered by the manufacturer. Any make of spark plugs, and wires are permitted. PCM calibrations may be modified.

##### UR25: BATTERIES

Battery type and location is open. If the stock mounting location is used, additional support is highly recommended for the mounting plate and tie down.

##### UR26: LIGHTS

Any manufacturer light may be used in the stock head light openings. Amber safety light is mandatory.

##### FUEL SYSTEM UR28: FUEL

Racing fuel or pump gas is permitted.

##### UR29: FUEL TANKS

Safety fuel cells are required.

Fuel cell location is optional. Fuel cell may be sunk into Pickup bed. Fuel cell may be sunk into SUV floor. To sink the fuel cell, the rear cross frame member may be

relocated or replaced. If suspension components mount to cross member then the cross member must remain in original stock location.

Only a minimum amount of material may be removed to sink the fuel cell.

## ENGINE TRANSMISSION & DRIVELINES

### UR31: ENGINE LOCATION & DISPLACEMENT

Any engine may be used providing that it is listed as standard equipment or an option for that model of vehicle. Stock block and heads must be utilized as delivered by the manufacturer but may be modified. All internal components are open.

Engine must be in the manufacturer's stock mounting location. Engine mounts may be strengthened by the addition of material.

Any make and type of exhaust is permitted.

Smog equipment may be removed.

Any maker of automotive carburetor(s) or factory stock fuel injection may be used, providing they maintain a maximum of one venturi per cylinder. Any original equipment factory intake manifold set (upper and lower) appropriate for the engine may be used. Upper intake of the factory fuel injection cannot be modified.

Any make of intake manifold may be used for carbureted engines only.

Any maker of air cleaner may be used with the location optional but must not cut the hood for clearance.

Any make of fuel pump and filter is permitted.

Dry sumps are not permitted. External oil coolers are permitted.

### UR33: TRANSMISSION

Any transmission produced by the vehicle manufacturer for that model of vehicle may be used.



## DIFFERENTIALS

Front and rear differentials must remain factory stock as delivered by the manufacturer. Straight axle differentials must be mounted in the same manner and location as originally manufactured (i.e.: A differential mounted to the top of the leaf springs must remain mounted to the top of the leaf springs. It is prohibited to change the mounting to the bottom of the leaf springs). Gear ratios and carriers are open. Front and rear straight axle differentials only may have material added for strengthening purposes only. Non-straight axle differentials (traction beam, etc.) may not have material added for strengthening but may use a skid plate to protect the front pumpkin only. The skid plate must be a bolted-on type only and may not reinforce the differential in any way.

Knock-off hubs are not permitted.

## UR38: FLUID COOLERS

Radiators must remain in the factory stock location. Aftermarket oil and transmission coolers are permitted.

## VEHICLE SAFETY EQUIPMENT

### UR7: ROLL CAGES

The rear diagonal bar that is required for cage construction that extends from one upper corner on one side of the vehicle to the opposite side lower corner of the vehicle must be located directly behind the seats.

### UR11: SEATING

Any manufacturer's racing seat may be used in the approximate stock location. Additional seat bracing is mandatory.

There must be at least two registered entrants, driver, and co-driver, in the vehicle always during the event.

## GENERAL VEHICLE COMPONENTS

### UR41: DRIVER'S COMPARTMENT

Dash is required to remain stock. Items that may come off during competition such as ashtrays, glove box, etc. may be removed.

Aftermarket gauges in any location may be used. Air conditioning and heating units may be removed.

Items such as door panels, headliners, visors, rear seats, and carpets may be removed. Stock pedals in the stock locations must be maintained.

#### UR42: DOORS & LATCHES

Front doors must remain stock and operate on stock hinges as delivered from the manufacturer. Rear passenger doors, on four door vehicles, and the tailgate or hatch does not have to open but must remain stock as delivered from the manufacturer.

Positive latching secondary door latches are required.

#### UR43: FIREWALLS

Firewalls must remain stock as delivered from the factory and may not be modified. Holes may be placed for the routing of fluid lines, electrical, and roll cage but must have the absolute minimum of material removed for installation. Holes must be closely drilled to minimize the area open around the item penetrating the firewall and must meet with the approval of VORRA.

In addition, a sheet metal firewall must be installed between the fuel cell and SUV passengers. The firewall must extend from body side to body site, from the floor to windowsill height, and the top must curve back and cover one third of the fuel cell.

#### UR45: WEIGHT

Vehicle must weigh the original stock factory delivery weight minimum.

#### UR47: BUMPERS

Stock front and rear bumpers must be utilized but may be modified. Modification must meet with VORRA approval.

After market front brush guards may be utilized. The brush guard may only mount in the same manner as originally designed by manufacturer for normal street use. Brush guard design and installation must meet with VORRA approval.

Front and rear Nerf bars may be added so long as they adhere to the following.

The Nerf bars may not extend out past the sides of the vehicle.

The stock bumpers may have two holes placed in them so the Nerf bar can tie into the stock frame of the vehicle.

The front Nerf bar may only extend beyond the front of the bumper a maximum of ten inches and may only extend to the top of the stock front grill. Two bars may extend from the top of the Nerf bar through the front of the vehicle and tie into either the vehicle frame or the roll cage.

The rear Nerf bar may only extend beyond the back of the bumper a maximum of ten inches, short wheelbase vehicles that have spare tire mounted to the outside of vehicle may extend to just beyond the spare tire and may only extend to the bottom of the windowsill of the rear door. Two bars may extend from the top of the Nerf bar through the back of the vehicle and tie into either the vehicle frame or the roll cage.

#### UR49: SKID PLATES

Skid plates, skid plate brackets and braces must not be attached to any suspension component or pivot point in any fashion that would reinforce that component or pivot point.

#### UR51: FENDERS

Wheel openings in fenders may be enlarged a maximum of 2 inches for tire clearance. Front fenders and rear fenders must remain factory stock materials. Aftermarket fender flares may be added. Flares and wheel openings must meet with VORRA approval. Fenders must retain stock appearance and location.

Front inner fender panels may be modified to a minimum for shock installation. Plastic inner fender panels may be removed.

## UR52: CHASSIS & BODY CHASSIS

Manufacturer's stock wheelbase must be retained.

Original stock frame configuration must be retained. Lengthening or narrowing of frame is not permitted. Removal of material is not permitted. Damaged areas of the frame may be plated with the same thickness of metal as that of the original frame thickness (i.e., 0.25-inch-thick frame = 0.25-inch-thick plate). The plate area may only be as large as required to cover the damaged area and to allow for the welding of the plate to a non-damaged area of the frame.

All repairs must meet with the approval of VORRA. Photographic evidence of the damaged frame will be required for approval of repair work. Entrants must notify VORRA of required frame repair before starting repair work. If frame damage occurs at a VORRA event it is highly recommended that you notify the Chief Technical Inspector so that an inspection of damaged frame may be made at the post race inspection area if possible.

The frame at the location of the rear bump stop directly over the differential may be reinforced per the following options only. The reinforcement must be centered along the centerline of the bump stop. Installation must meet with VORRA approval. You may not combine the options.

(Option 1)

A single bar roll cage connection point may be utilized.

(Option 2)

Frame may be boxed with one flat plate only that is a maximum of 6' long with a maximum thickness of the existing frame thickness.

(Option 3)

Two vertical tubes may be placed between the upper and lower frame rails. The placement of the tubes may be placed a maximum of 6" apart as measured from centerline of tube to centerline of tube. The tubes may only have an outside

diameter as large as that of the measurement of the frame rail as measured on the inside of the frame from the web to the lip of the frame rail.

## BODY

Vehicles must utilize factory stock production hardtops only; no soft-tops or canvas tops will be allowed. If vehicle is equipped with a sunroof then that open area must be covered with sheet metal, the sheet metal may be added to the roof over the sunroof opening or to the roll cage directly under the sunroof opening.

Body must maintain the original shape, size, appearance, and configuration. Additional parts or mounts for body strengthening may be used. Mounting location (vertical, horizontal, and lateral) must remain stock in relationship to the frame and must retain stock mounting method. The measurement from the back of the b-pillar post to the centerline of the front spindle must remain stock. A maximum of a 3-inch body-lift may be utilized. The blocks must be made of a non-crushable material that will not deform during competition.

Internal body structural members must remain intact. Holes may be placed for the placement of roll cage, fluid lines, or electrical.

Pickup bed floors must remain intact except for the material removal required for sinking the fuel cell.

Hoods, trunk lids, fenders, tailgates, and doors must remain stock as delivered by the manufacturer. Hoods, fenders, and tailgates may be upgraded to the latest available update for that series of vehicle body and chassis combination. You cannot update the hoods, fenders, and tailgates between series of the same production vehicle if the body and chassis combination is different between the series runs. (Example: A Ford F150 with I-beam type suspension cannot upgrade body components to the A-arm series body components. The body components can only be upgraded to the last series run of I-beam type body components.)

Hummer specific: The square back version of roof that covers the entire passenger and cargo area combined is the only version allowed. The fast back version or canvas cover will not be permitted.

Stock front grill assemblies are required.

Safety glass windshields, rear and side glass is optional.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 81XX series

## **MINI METAL**

### **PURE-STOCK PRODUCTION MINI OR MID-SIZED PICKUP & SUV**

Vehicles built from two or four-wheel drive mini or mid-sized pickups and sport utility vehicles. Manufacturer's stock wheelbase must be retained. Vehicle must have been series produced in quantities of at least 4000 units within a 36-month period. There must be a minimum of 4000 series vehicles sold to the public in the U.S.A. within a 36-month period. Vehicle must be readily available to the public in the U.S.A. Vehicles must be marketed as mini or mid- sized pickups or sport utility vehicles.

### **GENERAL REGULATIONS**

Class entrants shall comply with all class and applicable general regulations.

### **COMPETITION REGULATIONS**

This class is a pure stock production class. All components must remain stock as delivered from the manufacturer unless otherwise stated within. Manufacturer's body, chassis, engine, transmission, and differentials must be retained.

Note: All universal rules apply unless specified. The URxx abbreviations are provided. Where a conflict between the cross-referenced listings and a rule contained under this class occurs, the rule contained under this class has precedence.

### **SUSPENSION COMPONENTS**

Front and rear suspension components must remain stock manufacturer, shape, size, and configuration as originally produced and installed on the chassis to which it is attached. All suspension components must remain in the original stock locations and retain the original stock mounting methods. All components will be original manufacturer's design and remain stock as delivered from the manufacturer.

No welded washers are allowed on any suspension component, pivot point, or any suspension mounting position except for the specific areas addressed under suspension components.

Vehicles with radius arm brackets that have a stock cross member attached to the bracket and the frame must use the stock cross member as delivered from vehicle manufacturer. You cannot reinforce the stock cross member in any manner or manufacturer your own cross member. The cross member may only attach in the original stock mounting holes in the bracket and frame. **WARNING:** Only vehicles equipped from the factory with a radius arm cross member may use a horizontal cross member between the radius arm brackets. Vehicles that did not come stock from the factory with a radius arm brackets that require the radius arm cross member, may not use the radius arm brackets that require the cross member. Any attachment of a cross member or plate for any purpose, including skid plate bracket, to any other radius arm bracket is strictly forbidden.

A-arms, I-beams, and front axles must remain stock as delivered by the manufacturer of the chassis to which it is attached, unless specifically stated otherwise herein. All suspension components must remain stock size, shape, and configuration as delivered by the manufacturer; no addition of material is permitted unless stated otherwise herein. It is prohibited to intentionally bend or alter the shape, size, or geometry of any suspension component. It is prohibited to bend I- beams, A-arms, and front or rear axles for any reason. Stock pivot points must be retained. Rubber bushings may be replaced with urethane bushings.

Specific permitted component changes: Material may be added for shock mountings only. Added material must not reinforce the component to which the shock is attached. Added material must meet with VORRA approval.

Front and rear springs must remain in the stock locations and retain original stock concept (leaf, torsion, and coil). Spring rates and capacities are open. Ford-specific: The radius arm bracket may have a plate spot-welded onto the back of the bracket where the radius arm passes through the bracket. The plate may be a maximum of 3/8-inch-thick and may extend around the existing radius armhole a maximum of 5/8" (inch). You may only spot weld the washer in place, you may not weld entirely around the washer. The spot weld may only be long enough as what is needed to hold the washer in place without it falling. A washer welded to

the front of the radius arm bracket is prohibited. The main engine cross member center I- beam pivot point may have one washer, maximum of the same thickness of the original pivot point thickness, welded to one side only of the pivot point. For model years 1998 thru 2002 the upper right two-piece A-arm is being replaced with a one-piece A-arm bearing part number of 2L5Z-3084-BA.

#### UR16: SHOCK ABSORBERS & BUMP STOPS

A maximum of two shocks per wheel is permitted. Shock locations are optional, but shocks or shock mounts must not protrude the floor, hood, or bed of vehicle.

Uni-body vehicle specific: Shock locations are optional. Rear shocks may protrude through the bed of the vehicle but must adhere to the following conditions:

Shocks may not be remote mounted.

The mounting area must be covered with a removable metal housing in such a fashion as to cover the shock and shock mount.

Remote mounted shocks, coil-over shocks, air springs, and air shocks are forbidden. Coil-over spring/shock combinations are not permitted unless such combination is standard equipment for that specific model year of vehicle.

Moveable bump stops are not permitted.

#### UR17: SECONDARY SUSPENSION

Secondary suspension is not permitted.

#### UR18: WHEELS & TIRES

Any manufacturer's wheel is permitted. Tire type is open. Aftermarket wheel studs are permitted.

Short wheelbase SUV's equipped from the factory with the spare tire only being able to be mounted to an exterior carrier by the tailgate (IE: Bronco II's, etc.) may fabricate a new spare tire carrier out of tubing. The tubing for such mount may not penetrate the tailgate but may go over the top of the tailgate then back down to the floor bed. The tire must mount flush against the tubing and be parallel to the back of the vehicle. No tubing may protrude beyond the side of the tire that



mounts to the new tire support. Long wheel-based SUV's must mount spare tire inside of vehicle.

Ford specific: 2002+ Explorer 4-door specific, Minimal wheel spacers (no adapters) and accommodating longer wheel studs may be used on the front axles of vehicles running factory offset wheels only. No rear wheel spacers or spacers with non-factory offset wheels will be allowed. This change is authorized for front tire to upright clearance only.

## STEERING & BRAKE COMPONENTS

### UR22: STEERING

Steering box or rack and pinion must remain stock as delivered by the manufacturer and in the stock mounting location. Steering box or rack and pinion mounting may be reinforced by the addition of material. Aftermarket steering column mounted —steering quickeners may be utilized.

Steering parts (tie rods, tie rod ends, idler arms, pitman arms, relay rods and turning arms) must remain stock as delivered by the manufacturer.

Any manufacturer power steering pump may be used in the approximate stock location.

Any manufacturer steering wheel may be used. Steering wheel location must remain stock. Steering column shaft may be replaced.

### UR23: BRAKES

Turning or steering brakes are not permitted.

Stock brake system must be retained. Antilock or proportioning valve may be removed or replaced. ELECTRICAL SYSTEM

### UR 24: IGNITION

Ignition system must remain original stock as delivered by the manufacturer. Any make of spark plugs, and wires are permitted. PCM calibrations may be modified.

### UR25: BATTERIES

Battery type and location is open. If the stock mounting location is used, additional support is highly recommended for the mounting plate and tie down.

#### UR26: LIGHTS

Any manufacturer light maybe used in the stock head light openings. Amber safety light is mandatory.

#### FUEL SYSTEM UR28: FUEL

Racing fuel or pump gas is permitted.

#### UR29: FUEL TANKS

Safety fuel cells are required.

Fuel cell location is optional. Fuel cell may be sunk into Pickup bed. Fuel cell may be sunk into SUV floor. To sink the fuel cell, the rear cross frame member may be relocated or replaced. If suspension components mount to cross member then the cross member must remain in original stock location.

Only a minimum amount of material may be removed to sink the fuel cell.

#### ENGINE TRANSMISSION & DRIVELINES

##### UR31: ENGINE LOCATION & DISPLACEMENT

Any engine may be used providing that it is listed as standard equipment or an option for that model of vehicle. Engine may have a maximum of six cylinders with a maximum displacement of 4300cc. Stock block and heads must be utilized as delivered by the manufacturer but may be modified. All internal components are open.

Engine must be in the manufacturer's stock mounting location. Engine mounts may be strengthened by the addition of material.

Any make and type of exhaust is permitted.

Smog equipment may be removed.

Any maker of automotive carburetor(s) or factory stock fuel injection may be used, providing they maintain a maximum of one venturi per cylinder. Any original equipment factory intake manifold set (upper and lower) appropriate for the engine may be used. Upper intake of the factory fuel injection cannot be modified.

Any make of intake manifold may be used for carbureted engines only.

Any maker of air cleaner may be used with the location optional but must not cut the hood for clearance.

Any make of fuel pump and filter is permitted.

Dry sumps are not permitted. External oil coolers are permitted.

### UR33: TRANSMISSION

Any transmission produced by the vehicle manufacturer for that model of vehicle may be used.

### DIFFERENTIALS

Front and rear differentials must remain factory stock as delivered by the manufacturer. Straight axle differentials must be mounted in the same manner and location as originally manufactured (i.e.: A differential mounted to the top of the leaf springs must remain mounted to the top of the leaf springs. It is prohibited to change the mounting to the bottom of the leaf springs). Gear ratios and carriers are open. Front and rear straight axle differentials only may have material added for strengthening purposes only. Non-straight axle differentials (traction beam, etc.) may not have material added for strengthening but may use a skid plate to protect the front pumpkin only. The skid plate must be a bolted-on type only and may not reinforce the differential in any way.

Knock-off hubs are not permitted.

### UR38: FLUID COOLERS

Radiators must remain in the factory stock location. Aftermarket oil and transmission coolers are permitted.

## VEHICLE SAFETY EQUIPMENT

### UR7: ROLL CAGES

The rear diagonal bar that is required for cage construction that extends from one upper corner on one side of the vehicle to the opposite side lower corner of the vehicle, must be located directly behind the seats. Refer to the diagram in the General Rules section.

### UR11: SEATING

Any manufacturer's racing seat may be used in the approximate stock location. Additional seat bracing is mandatory.

There must be at least two registered entrants, driver, and co-driver, in the vehicle always during the event.

## GENERAL VEHICLE COMPONENTS

### UR41: DRIVER'S COMPARTMENT

Dash is required to remain stock. Items that may come off during competition such as ashtrays, glove box, etc. may be removed.

Aftermarket gauges in any location may be used. Air conditioning and heating units may be removed.

Items such as door panels, headliners, visors, rear seats, and carpets may be removed. Stock pedals in the stock locations must be maintained.

### UR42: DOORS & LATCHES

Front doors must remain stock and operate on stock hinges as delivered from the manufacturer. Rear passenger doors on four door vehicles and the tailgate or hatch do not have to open but must remain stock as delivered from the manufacturer.

Positive latching secondary door latches are required.

### UR43: FIREWALLS

Firewalls must remain stock as delivered from the factory and may not be modified. Holes may be placed for the routing of fluid lines, electrical, and roll cage but must have the absolute minimum of material removed for installation. Holes must be closely drilled to minimize the area open around the item penetrating the firewall and must meet with the approval of VORRA.

In addition, a sheet metal firewall must be installed between the fuel cell and SUV passengers. The firewall must extend from body side to body site, from the floor to windowsill height, and the top must curve back and cover one third of the fuel cell.

#### UR45: WEIGHT

Vehicle must weigh the original stock factory delivery weight minimum. 60

#### UR47: BUMPERS

Stock front and rear bumpers must be utilized but may be modified. Modification must meet with VORRA approval.

After market front brush guards may be utilized. The brush guard may only mount in the same manner as originally designed by manufacturer for normal street use. Brush guard design and installation must meet with VORRA approval.

Front and rear Nerf bars may be added so long as they adhere to the following. The Nerf bars may not extend out past the sides of the vehicle.

The stock bumpers may have two holes placed in them so the Nerf bar can tie into the stock frame of the vehicle.

The front Nerf bar may only extend beyond the front of the bumper a maximum of ten inches and may only extend to the top of the stock front grill. Two bars may extend from the top of the Nerf bar through the front of the vehicle and tie into either the vehicle frame or the roll cage.

The rear Nerf bar may only extend beyond the back of the bumper a maximum of ten inches, short wheelbase vehicles that have spare tire mounted to the outside of vehicle may extend to just beyond the spare tire and may only extend to the bottom of the windowsill of the rear door. Two bars may extend from the top of

the Nerf bar through the back of the vehicle and tie into either the vehicle frame or the roll cage.

#### UR49: SKID PLATES

Skid plates, skid plate brackets and braces must not be attached to any suspension component or pivot point in any fashion that would reinforce that component or pivot point.

#### UR51: FENDERS

Wheel openings in fenders may be enlarged a maximum of 2 inches for tire clearance. Front fenders and rear fenders must remain factory stock materials. Aftermarket fender flares may be added. Flares and wheel openings must meet with VORRA approval. Fenders must retain stock appearance and location.

Front inner fender panels may be modified to a minimum for shock installation. Plastic inner fender panels may be removed.

#### UR52: CHASSIS & BODY CHASSIS

Manufacturer's stock wheelbase must be retained.

Original stock frame configuration must be retained. Lengthening or narrowing of frame is not permitted. Removal of material is not permitted. Damaged areas of the frame may be plated with the same thickness of metal as that of the original frame thickness (i.e., 0.25-inch-thick frame = 0.25-inch-thick plate). The plate area may only be as large as required to cover the damaged area and to allow for the welding of the plate to a non-damaged area of the frame.

All repairs must meet with the approval of VORRA. Photographic evidence of the damaged frame may / will be required for approval of repair work. Entrants must notify VORRA of required frame repair before starting repair work. If frame damage occurs at a VORRA event it is highly recommended that you notify the Chief Technical Inspector so that an inspection of damaged frame may be made at the post race inspection area if possible.

The frame at the location of the rear bump stop directly over the differential may be reinforced per the following options only. The reinforcement must be centered along the centerline of the bump stop. Installation must meet with VORRA approval. You may not combine the options.

(Option 1) A single bar roll cage connection point may be utilized.

(Option 2) Frame may be boxed with one flat plate only that is a maximum of 6" long with a maximum thickness of the existing frame thickness.

(Option 3) Two vertical tubes may be placed between the upper and lower frame rails. The placement of the tubes may be placed a maximum of 6" apart as measured from centerline of tube to centerline of tube. The tubes may only have an outside diameter as large as that of the measurement of the frame rail as measured on the inside of the frame from the web to the lip of the frame rail.

## BODY

Vehicles must utilize factory stock production hardtops only; no soft-tops or canvas tops will be allowed. If vehicle is equipped with a sunroof then that open area must be covered with sheet metal; the sheet metal may be added to the roof over the sunroof opening or to the roll cage directly under the sunroof opening.

Body must maintain the original shape, size, appearance, and configuration. Additional parts or mounts for body strengthening may be used. Mounting location (vertical, horizontal, and lateral) must remain stock in relationship to the frame and must retain stock mounting method. The measurement from the back of the b-pillar post to the centerline of the front spindle must remain stock. A maximum of a 3-inch body-lift may be utilized. The blocks must be made of a non-crushable material that will not deform during competition.

Internal body structural members must remain intact. Holes may be placed for the placement of roll cage, fluid lines, or electrical.

Pickup bed floors must remain intact except for the material removal required for sinking the fuel cell.

Hoods, trunk lids, fenders, tailgates, and doors must remain stock as delivered by the manufacturer. Hoods, fenders, and tailgates may be upgraded to the latest

available update for that series of vehicle body and chassis combination. You cannot update the hoods, fenders, and tailgates between series of the same production vehicle if the body and chassis combination is different between the series runs. (Example: A Ford Explorer with I-beam type suspension cannot upgrade body components to the A-arm series body components. The body components can only be upgraded to the last series run of I-beam type body components.)

Stock front grill assemblies are required.

Safety glass windshields, rear and side glass is optional.

UR54: IDENTIFICATION MARKERS VORRA will assign vehicle numbers. 71XX series

**Sportsman Buggy:**

Refer to Buggy classes in this rule book to qualify for class.

Sportsman Buggy class numbers are 1500-1599