



# **2019 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, 2019 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:** Any and 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 course of 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.

**PRESIDENT:** 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.

**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

Director. The 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 in order 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 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 and/or any other reason.

**GR8.** The Director and Chief Steward 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 Chief Steward.

**GR9.** The Director and Chief Steward 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** are not employees of **VORRA**. **VORRA** members assume all responsibility for all charges, premiums and taxes payable on any funds they may receive as a result 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 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 Director has the final decision on all issues involving any **VORRA** events. The Director has 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. The Sportsman class is 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.

**GR20.** **VORRA** reserves the right to change race vehicle numbers and/or background colors.

**GR21.** The Driver of Record and Co-Driver must sign all entry and release forms in person during registration in order 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 particular 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 a notarized release form.

**GR25.** Each seat in any class limited race vehicle must be occupied during the entire duration of the event as long as 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 any and all prize money, points and contingencies won in that particular 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 Director or Chief Steward. This would include ANY nerfing or contact with vehicles such as Class 11 that are not able to withstand such contact.

**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 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 in a safe and sensible manner and may be restricted or denied due to federal and/or state regulations. 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 Director when requested may result in a letter of reprimand and/or infraction penalty at the discretion of the Director. Failure to appear before the 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 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 any and 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 Director. In the event That 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 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 Director. The 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 in order to be declared the official winner.

**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 (if so equipped) of the location, vehicle number, and injuries, if any. All entrants

must retrieve a stuck stub from any other entrant who is displaying the stuck stub in the air and deliver the stuck stub to an official at the next controlled road crossing, stop check point or pit stop that they come to.

**GR44.** Two battery-operated red flashing beacons, two long 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 (similar to 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 the stuck stub, 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 race course 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 an automatic 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 in order 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 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 against another entrant only within the same class. An entrant in any class may file a non-technical protest. A five hundred-dollar (\$500) cash fee must accompany protests for each item protested. The protest must be in writing along with the fee and be delivered to the Chief Steward no later than 30 minutes after the official end of time limit. Protests considered by the Chief Steward that shows a lack of sportsmanship may not be accepted. The Chief Steward will direct the technical Director to check the protested items. The decision of the Race Steward and 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 protested competitor's mechanic.
4. **VORRA** officials.
5. At the discretion of **VORRA**, with the approval of the protested competitor, members of the press will be permitted to observe for reporting purposes only.
6. No other persons shall be present nor witness the proceedings until the inspection has been completed.

**GR57.** A complaint filed for improper driving or conduct does not require a cash fee. 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** may appoint a Competition Committee to assist in a protest ruling. **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 20-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 20 lbs. (i.e. one 20 lb., two 10 lb., four 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 any and all race vehicles.

**GR71.** **VORRA** assumes no responsibility for impounded vehicles.

**GR72.** The 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 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**. The penalties may include a 5-minute time penalty per 100 miles of course.

**GR75. VORRA** reserves the right to apply frame identification markers to any and 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. **VORRA** supplies a stuck stub. The stuck stub must be placed in the vehicle along with a writing instrument. The stuck stub must remain in the vehicle. If a break down or out- of-race condition occurs, the stuck stub must be completed and given to the proper race official.

**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 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.

**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. 1) Failure to appear before the Chief Steward and/or Director when requested: Letter of reprimand and infraction penalty.
2. 2) Second failure to appear before the Chief Steward and/or Director when requested within one season: Infraction penalty and suspension for up to one year.
3. 3) Three or more letters of reprimand in a single season: Loss of one position in last race entered.
4. 4) Rolling through a stop checkpoint (i.e. failure to come to a complete stop): Fifteen-minute time penalty for each occurrence.
5. 5) Speeding through and/or unsafe racing up to or through a stop checkpoint: Disqualification.
6. 6) Race vehicle traveling on the racecourse in the reverse direction of the race: Disqualification.
7. 7) Minor nerfing: One position.
8. 8) Major Nerfing: Disqualification.
9. 9) Abusive conduct toward a race official: Disqualification, suspension, one hundred dollars, (\$100) fine or any combination of the three.
10. 10) Short coursing: Disqualification.
11. 11) Stationary pits or chase crews outside of designated areas or traveling in restricted areas: Disqualification.
12. 12) Reckless driving in pit areas or any access roads by race vehicle or race support vehicles: Disqualification.
13. 13) Speeding in a restricted speed area up to 10mph over announced or posted speed limit by race vehicle or race support vehicles: One position.
14. 14) Speeding in a restricted speed area over 10mph over announced or posted speed limit by race vehicle or race support vehicles: Disqualification.
15. 15) Any combination of two or more infractions at any one **VORRA** sponsored event: Disqualification.
16. 16) Rolling through a controlled road crossing (i.e., failure to come to a complete stop): Fifteen-minute time penalty each occurrence.
17. 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 race course at any time, including warm ups 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 / SA2005, 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 & M2005 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 after the year 2019. **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 5 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 5 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 have eye protection in the vehicle with them at all times. It is highly recommended that entrants wear eye protection even with the windshield.

## **VEHICLE SAFETY EQUIPMENT**

### **UR5: ROLLCAGES**

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 come into contact with 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 (3) 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 in order 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 as long as 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 as long as 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 come into contact with the vehicle occupant's helmets must be padded.

#### **UR 10: BREAKDOWN SAFETY DEVICES**

Two battery-operated red flashing beacons, 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 (similar to trucker's breakdown triangles). Flares will not be permitted as a breakdown device. Official **VORRA** information cards aka "Stuck Cards" are also supplied to each entrant at registration. These information cards must be kept in the vehicle and used if vehicle is out of competition. **(LC Only)**

#### **UR 11: HORN**

All vehicles must have a loud sounding horn. Horn must be very audible from a distance of 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 carried in each vehicle at all times 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. In the event that 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 nitro-methane is permitted. Commercially produced nationally advertised fuel additives may be used.

## **UR 29: FUEL TANKS**

Safety fuel cells are required for all vehicles. 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>Minimum Standard</u>	<u>Test Specification</u>
Tensile Strength Method 5102	450 lbs.	Spec CCC-T-1916
Tear Strength 5134	50 lbs.	Spec CC-T-1916 Method
Puncture Test	175 lbs.	Spec MIL-T-6396

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 after-market 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** 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** 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 is 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** 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 at all 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 8 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** recommends 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 provided that 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

It is a design that has been series produced for USA sale in quantities of 5000 units or more and is readily available to the general public in the U.S.A.

A maximum of four cylinders with a maximum of four valves per cylinder.

### **CLASS 10**

#### **OPEN-WHEEL UNLIMITED SUSPENSION LIMITED ENGINE & TRANSMISSION**

Single or two seat open-wheeled vehicles.

## **GENERAL REGULATIONS**

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 otherwise stated 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 arise, the rule contained under this class has precedence.

## **STEERING & BRAKE COMPONENTS UR23: BRAKES**

Steering or turning brakes permitted.

## **FUEL SYSTEM**

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

## **UR 31: ENGINE LOCATION & DISPLACEMENT**

## **MODIFIED ENGINE DISPLACEMENTS**

Any engine may be used providing:

- A. It is a design that has been series produced for USA sale in quantities of 5000 units or more and is readily available to the general public in the U.S.A.
- B. A maximum of four cylinders with a maximum of four valves per cylinder.
- C. It does not displace more than the following:

### Water Cooled Engines

2500cc of any manufacture is permitted. See notes

### Air Cooled Engines

Any VW air cooled engine is permitted. See notes

It is not a rotary-piston engine.

Single and two-seat vehicles may use one carburetor providing:

- 1. 1) It retains a maximum of two venturi per carburetor.
- 2. 2) Maximum allowable venturi size is 42mm.
- 3. 3) Carburetor(s) must be of the production automotive type.

Fuel injection is stock production with the following restrictions:

- 1) Intake manifold will remain as delivered by the manufacturer. It must retain its stock shape,

size, and configuration. No porting or other modifications. Ports may be matched to the heads, but matching may not exceed .250". Manifold must be the unit that was installed and delivered on the engine by the original manufacturer. Only USA delivery fuel injection is permitted. Manifold must be installed and sold on production vehicles for street use in the U.S.A. and be readily available to the general public.

2) Throttle body must be production (OEM) type readily available to the general public in the U.S.A. A single 58.5mm throttle body size is the maximum allowed.

3) The use of a restrictor plate in cases where the intake manifold or throttle body do not conform to these rules may be approved by VORRA. Restrictor plates are to be placed between the throttle body and the cylinder head.

4. 4) The engine management system is open.

5. 5) Variable or Dynamic valve timing and/or lift engines are prohibited. Adjustable

but static cam pulleys are allowed.

**OR**

## **STOCK ENGINE DISPLACEMENTS**

Any engine may be used providing:

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

## **CLASS 12**

### **OPEN WHEEL – BEAM SUSPENSION AIR COOLED ENGINES ONLY**

Single or two seat open-wheeled cars limited to air-cooled engines and twin beam suspension with trailing arms.

## **GENERAL REGULATIONS**

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 otherwise stated 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.

## **SUSPENSION COMPONENTS**

1. Front suspension is limited to VW type 1 configuration only. Suspension must be of the twin beam with trailing arm type only.
2. Beam is open including the width and manufacturer.
3. Trailing arms are open including the width and manufacturer.
4. Spindles are open.

## **STEERING & BRAKE COMPONENTS UR23: BRAKES**

Steering or turning brakes permitted.

## **FUEL SYSTEM UR29: FUEL TANKS**

Safety fuel cells are required.

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

Engine must be a VW type 1 and adhere to the following:

1. It retains a maximum of two (2) valves per cylinder.
2. Single seat vehicles are limited to a maximum of 1776cc.
3. Two seat vehicles are limited to a maximum of 1835cc.
4. All vehicles are limited to one (1) carburetor. Any make of carburetor may be used with the

following provisions.

1) Limited to a maximum of two (2) venturi.

2) Maximum allowable venturi size is 42mm.

5. Must be of the production automotive type.
6. The engine must be located behind the rear axle centerline.

## **UR33: TRANSMISSION**

Transmission type is open.

## **GENERAL VEHICLE COMPONENTS UR45: WEIGHT**

Minimum weight is 1,500lbs for all vehicles.

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers. 12XX series

## **CLASS 5**



## UNLIMITED BAJA

Vehicles must be a VW sedan type-1, hardtop or convertible. 181 Safari, 900 series Porche, 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 as long as 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 as long as combined modifications do not exceed the 3.625-inch limit. Windshield and window glass is 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 1600cc BAJA BUG

Vehicle must be a VW sedan type-1 hardtop or sunroof as delivered from the factory. Vehicles must have the appearance of a "Baja Bug" conversion.

## **GENERAL REGULATIONS**

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

## **COMPETITION REGULATIONS**

This class is a stock production class and all components must remain stock except for those modifications permitted 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 and rear suspension components are limited to stock VW production type-1 parts unless otherwise stated within these rules.

### **FRONT SUSPENSION**

Front suspension may only use either VW type-1 ball joint or king and link pin. Front axle torsion tube must maintain stock width, but centers may be cut, rotated and welded or torsion adjusters added. Any manufacturer torsion bars are permitted. Front torsion tubes may be additionally supported by attachment to the floor pan and/or roll cage. Original seams may be reinforced. Front trailing arms may be reinforced or replaced but stock VW width and length must be retained. Suspension limiters are permitted. Spindles, link pins, ball joints and upper shock mounting locations are open. Lower shock mount may be moved or replaced but location must remain on the lower trailing arm. Sway bars may be removed.

### **REAR SUSPENSION**

Only VW type-1 IRS or swing-axle based suspension is allowed and limited to stock VW type-1 rear suspension. Rear torsion tubes may be additionally supported by attachment to the floor pan and/or roll cage. No material may be removed from trailing arm except stock shock mount. Rear shock tower may be removed to body mounting hole only. IRS swing-arms may be reinforced or replaced for strengthening purposes as long as stock VW IRS swing-arm length is retained plus or minus 1 inch. Stock VW dimension between the centerline of the rear axle to the centerline of the rear torsion housing is 16.250 inches plus or minus 1 inch. Torsion adjusters are permitted. Original wheelbase must be retained. 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 51 inches as measured from backing plate flange to backing plate flange.

Outboard bus reduction gears are permitted. Any manufacturer's spring plate may be utilized with additional retainer straps. Top and bottom may be removed but must maintain stock mounting method. Swing axle type suspension may be converted to IRS type by welding any manufacturer's tabs to torsion housing in stock locations but must maintain stock geometry.

## **UR16: SHOCK ABSORBERS & BUMP STOPS**

Any manufacturer shocks and sizes are permitted. Cooling fins and/or reservoirs are permitted. A maximum of one shock per front wheel and two shocks per rear wheel are permitted. Rear shocks may be in any location. Air or coil-over shocks are not permitted. Hydraulic bump stops are not permitted.

## **UR17: SECONDARY SUSPENSION**

Secondary suspension is not permitted.

## **UR18: WHEELS & TIRES**

Any wheel and tire combination permitted that will mount directly onto VW drums. Wheel adapters are not permitted. Spare tire may be located anywhere inside of the body.

## **STEERING & BRAKE COMPONENTS**

### **UR22: STEERING**

Steering box may be of any origin. Any Manufacturers steering wheel and adaptor may be used in the stock location. Any steering dampener may be used. Any steering shaft allowed, and sheet metal tube may be removed. Power steering is allowed as long as all other rules are adhered to. Any tie rods and tie rod ends are allowed.

### **UR23: BRAKES**

May use VW drum or disc brakes, or any combination. May install studs in drums.

## **ELECTRICAL SYSTEM**

### **UR24: IGNITION**

Battery ignition only. Magnetos are not permitted. Any distributor may be used. Any 6- or 12-volt VW type alternator or generator in the stock location may be used.

## **FUEL SYSTEM**

### **UR29: FUEL TANKS**

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

## **ENGINE TRANSMISSION & DRIVELINES**

### **UR31: ENGINE LOCATION & DISPLACEMENT**

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

## **ENGINE CASE**

Any VW type-1, 2, 3 or universal case is permitted. May be drilled and tapped for oil and temp sending units. May be machined for crank pulley seal.

Installation of case savers.

Cylinder seating surface may be machined. Oil galleries may be enlarged to 10mm.

Threaded oil gallery plugs.

## **OIL PUMP**

Any oil pump is permitted. Deep sumps, dry sumps, or sump alterations are not permitted. Windage trays are allowed. Any oil bypass piston and spring 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**

Stock three ring pistons only. Any piston and cylinder are permitted as long as 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 assembly.

## **CRANKSHAFT**

Stock VW crankshaft only. Crankshaft may be balanced. Maximum journal size is limited to 0.030 undersize. Polishing or lightening is not permitted. Any gear is permitted. Any engine bearing is permitted as long as stock dimensions are maintained. Power pulleys are permitted. Pulley may be balanced. Sand seals are permitted. Any VW flywheel may be lightened and balanced. Aluminum flywheels are not permitted. Any clutch disk and pressure plate but must retain stock VW diameter. Connecting rods may be balanced to the lightest non-balanced rod. Polishing or profiling of rods is not permitted. Eight dowel flywheels are permitted with any gland nut and washer.

## **HEADS**

Heads may be US sedan stock single port or dual port, or their equivalent Heads may be fly cut for clean up only. Porting or polishing **NOT** allowed. Dual port heads from Brazil,

Part # 0401013752, Part # 04010137513, Part # 04010137519, or Stock OEM heads will be allowed. Carb Spacer Adapter allowed Empi 981293B.

### **CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS**

Any camshaft, gear, valve springs, valve spring retainers and lifters are permitted. Valve spring seat diameter in head must remain stock. Valves must be stock 45 degrees. One-piece valves are permitted. Valve guide may be steel, bronze or cast iron. No grinding or polishing in the port including valve guides. Must use stock 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. Roller or needle bearings will not be permitted 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 adjustment screws. Valve covers may be of any manufacture.

### **FAN-SHROUD**

Aftermarket, fan-shrouds are permitted. Heater tubes are optional.

### **CARBURETOR**

Must use stock VW carburetor 30 pict. 1, 2, 3. Maximum venturi size is 24.10mm. Velocity stacks may be used but cannot be welded or bonded to the carburetor. Internal modifications are not permitted. 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, choke plate and shaft may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used.

### **UR33: TRANSMISSION**

Must be a stock VW type-1 or 2 transaxle housing with internal modifications only. No more than four forward gears are permitted. Any internal modifications permitted. Any gear ratio combination permitted but only VW type helical cut gears may be used. Any aftermarket side covers are permitted. Any gearshift lever permitted. May use any type-1, 2 or 181 stub-axle. May use any VW or Porsche CV-joint. May use oversized bolts as long as engine remains in stock location. Rear frame horns may be modified for CV-joint clearance as long as it does not extend below seam. Strengthening gussets may be used on exterior of case.

### **UR38: FLUID COOLERS**

Any oil coolers permitted with the location optional. Full flow system is permitted. Deep sumps or dry sumps are not permitted.

### **VEHICLE SAFETY EQUIPMENT UR11: SEATING**

Any manufacturer's racing seat is permitted but must remain in stock location.

## **GENERAL VEHICLE COMPONENTS**

### **UR41: DRIVER'S COMPARTMENT**

It is highly recommended that flammable items such as the rear seat, upholstered panels, headliners and carpets are removed. Removal of dash and firewalls is prohibited. Dash may be covered with aluminum to install gauges. Pedals must remain in the stock fore and aft location. May use roller pedal. May use any throttle cable in stock VW housing. Any holes drilled in firewall for air cleaner hose; oil lines, etc. may not have a gap around lines greater than 0.125 inches.

### **UR42: DOORS & LATCHES**

Doors must remain functional and in original stock location with original hinges and working latches. Secondary positive latching devices are mandatory.

### **UR46: FLOORBOARDS**

No alterations to pan permitted except for heating, bending or cutting of pan to a maximum of 1-Inch to allow for tie rod and CV joint clearance. Frame head may be interchanged from early to late or late to early.

### **UR47: BUMPERS**

Nerf bars may be added to the sides in front of the rear wheels. Nerf bars may not extend more than 1-inch past outside edge of tires.

### **UR49: SKID PLATES**

Any type of front and rear skid plate permitted. Any engine guards permitted.

### **UR51: 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 maximum of 1.5 inches above the bodyline as measured at the top of the fender. Minimum width of 6 inches as measured from the centerline of the rear wheel. Rear fender well may be modified or removed to 0.5-inch below the stock fender holes. If fender well is removed the resulting hole must be covered air tight with the same thickness as the metal removed. Rear package trays must remain in stock location and remain stock size.

### **UR52: CHASSIS & BODY**

Original wheelbase must be maintained. 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 permitted. Canvas hoods are not permitted. No lift kits.

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers. 51XX series

## **CLASS 1-2 1600**

**OPEN-WHEEL RESTRICTED SUSPENSION SINGLE & TWO-SEAT CARS LIMITED TO 1600cc VW ENGINE & VW TYPE-1 SUSPENSION SYSTEM**

### **GENERAL REGULATIONS**

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

### **COMPETITION REGULATIONS**

This is a restricted open wheeled class. Components will be open unless otherwise stated 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.

### **SUSPENSION COMPONENTS**

#### **FRONT SUSPENSION**

Front suspension is based on the VW type-1 ball joint or king and link pin style suspension. 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 welded. Torsion adjusters are allowed. Any manufacturer torsion bars are permitted. Tube center spacing is open. Front trailing-arms may be reinforced or replaced as long as stock VW width and length is retained. Spindles, link pins, ball joints and shock mounting locations are open. Front suspension track width must not exceed stock VW track width. Suspension limiters are permitted. Front suspension track width must not exceed 55.75" (inches) as measured from wheel mount face to wheel mount face.

#### **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 permitted as long as stock VW IRS swing-arm length is retained plus or minus 1-inch. The stock VW dimension between the centerline of the rear axle to the centerline of the rear torsion housing is 16.25 inches plus or minus 1-inch must be retained. Outboard bus reduction gears are permitted. Any axle assemblies are permitted as long as original VW type suspension is retained. Rear torsion tubes may be supported or replaced but must remain steel and retain stock VW width. Torsion adjusters are permitted. A single torsion bar per wheel of any manufacturer is permitted. Torsion bars must remain inside the torsion



housing. Torsion bars must be connected to the trailing arm with steel spring plates of any manufacture. Rear suspension track width must not exceed 58.25" (inches) as measured from wheel mount face to wheel mount face. The width between the Stub Axle CV mounting surfaces at ride height must not exceed 47.375".

#### **UR16: SHOCK ABSORBERS & BUMP STOPS**

The number of shocks and the sizes of the shocks are open. Cooling fins are permitted. Air or coil-over shocks are not permitted.

#### **UR17: SECONDARY SUSPENSION**

Secondary suspension is not permitted.

#### **UR18: WHEELS & TIRES**

Any wheel is permitted that will mount directly on VW drums. Wheel adapters are not permitted.

#### **STEERING & BRAKE COMPONENTS UR22: STEERING**

Steering system is open. Any tie rod and tie rod end permitted.

#### **UR23: BRAKES**

May use any combination of drum or disc brakes. Steering or turning brakes are permitted.

#### **ELECTRICAL SYSTEM**

#### **UR24: IGNITION**

Battery ignition only. No magnetos permitted. Any distributor may be used. Any VW-type alternator or generator in the stock location may be used. 6-volt or 12-volt system may be used.

#### **FUEL SYSTEM UR29: FUEL TANKS**

Safety fuel cells are required.

#### **ENGINE TRANSMISSION & DRIVELINES**

#### **UR31: ENGINE LOCATION & DISPLACEMENT**

Engine must utilize VW series type-1, 1600cc; US model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as factory delivered.

#### **ENGINE CASE**

Any VW type-1, 2, 3 or “universal” case is allowed. The following stock case modifications are permitted:

1. May be line/align bored.
2. May be drilled and tapped for oil and temp sending units.
3. May be machined for crank pulley seal.
4. Installation of case savers.
5. Cylinder seating surface may be machined.
6. Oil galleries may be enlarged to 10mm.
7. Threaded oil gallery plugs.

## **OIL PUMP**

Any oil pump is permitted. Deep sumps, dry sumps or sump alterations are not permitted. Windage trays are allowed. Any oil bypass piston and spring is 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**

Stock 3 ring pistons only. Any piston and cylinder is allowed as long as original stock dimensions are maintained. Wrist pin retainers are open. Piston assemblies may be balanced to the lightest original non-balanced piston assembly.

## **CRANKSHAFT**

Only stock VW crankshafts are allowed. Crankshaft may be balanced. Journal size is limited to 0.030” undersize. No polishing or lightening. Any gear is permitted. Any engine bearing is permitted as long as stock dimensions are maintained. Power pulleys are permitted. Pulley may be balanced. Sand seals are permitted. Any VW flywheel may be lightened and balanced. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. Connecting rods may be balanced to the lightest non-balanced rod. No polishing or profiling of rods. Eight dowel flywheels are permitted with any gland nut and washer.

## **HEADS**

Heads may be US sedan stock single port or dual port or their equivalent. Heads may be fly cut for clean up only. Porting or polishing **NOT** allowed. Dual port heads from Brazil,

Part # 0401013752, Part # 04010137513, Part # 04010137519, or Stock OEM heads will be allowed. Carb Spacer Adapter allowed EMPI 981293B.

## **CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS**

Any camshaft, gear, valve springs, valve spring retainers and lifters are permitted. Valve spring seat diameter in head must remain stock. Valves must be stock 45 degrees. One-piece valves are permitted. Valve guide may be steel, bronze or cast iron. No grinding or polishing in the port including valve guides. Must use stock 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. Roller or needle bearings will not be permitted 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 adjustment screws. Valve covers may be of any manufacture.

## **FAN-SHROUD**

Aftermarket fan-shrouds are permitted. Heater tubes are optional.

## **CARBURETOR**

Must use stock VW carburetor 30 pict. 1, 2, 3. Maximum venturi size is 24.10mm. Velocity stacks may be used but cannot be welded or bonded to the carburetor. Internal modifications are not permitted. 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, choke plate and shaft may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used.

## **RESTRICTOR PLATES**

Intake manifold is restricted to a stock 34mm original equipment center section or its replacement.

A 1 1/2-inch (1.500) long by half-inch (.500) diameter tube may be weld two inches below carburetor flange. A maximum of 1/4 inch (.250) may be removed from each end of the center section for clearance. A slip tube with a 1 5/8-inch (1.625) diameter, two inches (2.000) long may be welded to the end of the runners to allow the use of a better hose connection. No porting or polishing.

Single seat restrictor plates are 21.5mm.

Two seat restrictor plates are 24.0mm.

**Warning:** Restrictor plates may not be modified in any manner.

No other item except restrictor plate may be installed between carburetor and manifold.

## **UR33: TRANSMISSION**

Only stock VW type-1 or 2 transaxle housing is allowed. A maximum of four forward gears are allowed. Any internal modifications permitted. Only VW helical cut gears may be used with any gear ratio combinations permitted. Aftermarket side covers are permitted.

## **UR38: FLUID COOLERS**

Any oil cooler and location permitted. Full flow systems are permitted. Deep or dry sump systems are not permitted.

## **GENERAL VEHICLE COMPONENTS UR45: WEIGHT**

Vehicle minimum weight will be 1550 lbs. for both single and two seat vehicles.

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

## **CLASS 9**

OPEN WHEEL 100" WHEELBASE

Single or two seat open-wheeled vehicles with a maximum wheelbase of 100".

## **GENERAL REGULATIONS**

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 otherwise stated 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.

## **SUSPENSION COMPONENTS**

Front and rear suspension components are limited to stock VW production parts unless otherwise stated within. Suspension must retain stock concept and no other suspension types may be added (i.e. air shocks, sway bars, coil over shocks, dual torsion bars, etc.)

### **FRONT SUSPENSION**

Front suspension must be VW type-1 ball joint style. Front axle torsion tube centers may be cut, rotated, re-welded to increase ground clearance. Original seams on the front beam may be welded but not reinforced. No additional material may be added. Torsion adjusters are allowed. Filling the speedometer hole in spindle is permitted. The spindle may be reinforced by welding a 0.25" gusset from the top of the upper ball joint mount to the end of the steering arm. A single tube may be welded between the shock towers as a reinforcement member. Suspension limiters are allowed.

### **REAR SUSPENSION**

Rear suspension is limited to VW type components. Rear suspension torsion bars may be of any origin. The torsion housing must retain stock dimensions, aftermarket housing is allowed. Torsion bar grommets may be of any manufacturer as long as stock dimensions are retained. Torsion adjusters are allowed. Rear suspension limiters and spring plate retainers are allowed. Rear spring plate plates may be of any origin.

#### **UR16: SHOCK ABSORBERS & BUMP SHOCKS**

Only one shock per wheel is allowed. The outside diameter of the shock may not exceed 65.00mm. The shock shaft may not have a diameter greater than 0.875". 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 greater than 31.5". Shock reservoirs are allowed. Shocks may be of any manufacturer. No air or coil-over shocks are allowed. No external bypass shocks are allowed.

#### **UR17: SECONDARY SUSPENSION**

No secondary suspension is allowed.

#### **UR18: WHEELS & TIRES**

Must use steel rims, 5" wide maximum, with any standard offset. Any manufacturer's tire and size are allowed up to 32" tall and 10" wide as mounted and inflated with 18 psi of air pressure.

#### **STEERING & BRAKE COMPONENTS**

##### **UR22: STEERING**

Steering box may be of any origin. No power steering is allowed. Any manufacturer's steering wheel and adapter may be used. Any steering dampener may be used. Any steering shaft allowed, and sheet metal tube may be removed. Any tie rods and tie rod ends are allowed.

##### **UR23: BRAKES**

Original VW type drum brakes only. Drums may be studded but not reinforced. Any combination of brake linings may be used. Any combination of VW master cylinder and wheel cylinder is allowed. Dual master cylinders are allowed.

#### **ELECTRICAL SYSTEM**

##### **UR24: IGNITION**

Only battery ignitions are allowed, 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 in the stock location may be used.

## **FUEL SYSTEM**

### **UR28: FUEL**

Fuel is restricted to automotive pump gasoline only. This gasoline must be sold to the general public for use in domestic cars.

### **UR29: FUEL TANKS**

Safety fuel cells are required. Fuel cell may not hold more than 22 gallons.

## **ENGINE TRANSMISSION & DRIVELINES**

### **UR31: ENGINE LOCATION & DISPLACEMENT**

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

## **ENGINE CASE**

Any VW type-1, 2, 3 or "universal" case is allowed. The following stock case modifications are permitted:

1. May be line/align bored.
2. May be drilled and tapped for oil pressure and temperature sending units.
3. The case may be machined for crank pulley seal.
4. Installation of case savers.
5. Cylinder seating surface may be machined.
6. Oil galleries may be enlarged to 10mm.
7. Threaded oil gallery plugs.

## **OIL PUMP**

Any oil pump is permitted. No deep sumps, dry sumps or sump alterations are allowed. Windage trays are allowed. Any oil bypass piston and spring is 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 fuel pressure regulators may be used.

## **PISTONS**

Stock 3 ring pistons only. Any piston and cylinder is allowed as long as original stock dimensions are maintained. Wrist pin retainers are open. Piston assemblies may be balanced to the lightest original non-balanced piston assembly.

## **CRANKSHAFT**

Only stock VW crankshafts are allowed. Crankshaft may be balanced. Journal size is limited to 0.030" undersize. No polishing or lightening is allowed. No offset grinding is allowed. Any gear is permitted. Any engine bearing is permitted as long as stock dimensions are maintained. Power pulleys are not allowed. Pulley may be balanced. Sand seals are permitted. Any VW flywheel may be lightened and balanced. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. Connecting rods may be balanced to the lightest non-balanced rod. No polishing or profiling of rods. Eight dowel flywheels are permitted with any gland nut and washer.

## **HEADS**

Heads may be US sedan stock single port or dual port or their equivalent. Heads may be fly cut for clean up only. Porting or polishing **NOT** allowed. Dual port heads from Brazil,

Part # 0401013752, Part # 04010137513, Part # 04010137519, or Stock OEM heads will be allowed.

Intake manifold is restricted to a stock 34mm center section. A 1.5" long by 0.5" diameter tube may be welded two inches below the carburetor flange. A maximum of 0.25" may be removed from each end of the center section for clearance. A 2.0" long by 1.625" diameter slip tube may be welded to the end of the runners to allow a better hose connection. No porting or polishing.

End castings must be original equipment VW, with VW logo and part numbers. No porting, polishing, or matching of ports is allowed. The balancing slot may be welded close. Vacuum holes may be plugged. A 34mm to 30mm carburetor adapter, EMPI 98-1293-B, must be used.

Combustion chamber volume may not be smaller than 42cc, 7.5:1 is the highest compression ratio allowed.

## **CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS**

Any camshaft, camshaft gear, single valve springs, steel valve spring retainers and lifters are permitted. Valve spring seat diameter in head must remain stock VW. Valves must be stock 45 degrees. One-piece valves are permitted. No polishing or profiling of valves is allowed. Valve guides may be steel, bronze or cast iron. Valve guide seals are allowed. No grinding or polishing

in the port including valve guides. Must use stock VW 1600 rocker arms. No other grinding or changes may be made to the rocker arms. Roller or needle bearings will not be permitted 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 adjustment screws. Rocker arm clips may be wire tied. Valve covers and sheet metal must remain stock, but any year is allowed. Valve covers and sheet metal may be modified a minimum to allow for engine breathers.

## **FAN-SHROUD**

Must be stock fan shrouds. Heater tubes are optional.

### **CARBURETOR**

Must use stock VW carburetor 30 pict. 1, 2, 3, or the Solex H-30-PIC replacement. Maximum venturi size is 24.10mm. Velocity stacks may be used but cannot be welded or bonded to the carburetor. Air cleaner location and manufacturer is open. Internal carburetor modifications are not permitted. This includes no removing of parts, no grinding, polishing or filing. Intake manifolds must be stock VW. No chemical milling of manifold or carburetor. The choke plate and shaft may be removed. Electric needle valves are optional. The stock float bowl vent may be plugged and/or relocated. An external vent may be used. Any air and main jet may be used.

### **UR33: TRANSMISSION**

Type-1 bug, 4-speed swing axles only. Heavy-duty side plates and differential are allowed. Only stock VW type-1 ring and pinion ratios (8:33 and 8:35 only) with stock VW type-1 gears are allowed. 3<sup>rd</sup> and 4<sup>th</sup> gear ratios are open. Axle over-tubes are allowed. Other internal modifications are optional.

### **UR38: FLUID COOLERS**

Any oil cooler and location allowed. Full flow systems are allowed. Deep or dry sump systems are not allowed.

### **GENERAL VEHICLE COMPONENTS UR45: WEIGHT**

Minimum weight is 1,550 lbs. for single seat vehicles and is 1,350 lbs. for two seat vehicles.

### **UR52: CHASSIS & BODY**

Maximum wheelbase is 100".

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers. 9XX series

## **CLASS 11**

### **STOCK VW SEDANS**

Vehicles must be a stock VW sedan as delivered in the USA.

### **GENERAL REGULATIONS**

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

### **COMPETITION REGULATIONS**



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

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**

Front axle torsion tube centers may be cut, rotated, & re-welded to increase ground clearance or front torsion adjusters may be used. Original seams may be welded (not reinforced) on front beam. Shock tower may be supported by a single gusset not to extend more than 2" above top torsion tube. Stock front spindles and trailing arms must be retained. No material may be added, but filling the speedometer hole in spindle is permitted, and the sway bars may be removed. The steering arm may be reinforced by welding a 0.25" gusset from the top of the spindle to the end of the steering arm. Front snubbers must retain stock VW dimensions and mounting method. Suspension limiters are allowed.

### **REAR SUSPENSION**

Rear suspension torsion bars and spring plates may be of any origin. Torsion bar grommets may be of any manufacturer as long as stock dimensions are retained. Torsion adjusters are allowed. Torsion bars may be additionally supported only by the attachment of a terminal end or support member of the roll cage.

Rear shock towers may be re-welded, not reinforced, and may be additionally supported only by the attachment of the terminal end of the roll cage down braces or longitudinal support bars. Transverse bars may not be attached directly to the shock tower. Lower rear shock mounts on 1969 and later models may be shortened by no more than 1.5".

### **UR16: SHOCK ABSORBERS & BUMP SHOCKS**

Only one shock per wheel is allowed using stock mounts. Mounting bolts may be increased to 0.5" maximum diameter. The outside diameter of the shock may not exceed 61.00mm. Cooling fins and/or reservoirs are allowed.

### **UR17: SECONDARY SUSPENSION**

No secondary suspension is allowed.

### **UR18: WHEELS & TIRES**

Must use steel rims, 4" wide maximum, with any standard offset that bolts to a stock VW brake drum. Bolted hubs may be replaced with studded hubs. Any manufacturer's tire and size are allowed up to 31" tall and 10" wide as mounted and inflated on a 4" rim with 18 psi of air pressure. Spare tire is required but may be mounted any place within body shell or trunk.

## **STEERING & BRAKE COMPONENTS**

### **UR22: STEERING**

Any manufacturer's steering wheel and adapter may be used. Steering box must remain stock, but shims may be used between pitman arm and box. Other components such as ball joints, steering arms, and tie rods must remain stock.

### **UR23: BRAKES**

Original VW type-1 drum brakes only. Front and rear drums may not be interchanged. Drums may be studded but not reinforced. Any combination of brake linings may be used as long as dimensions remain stock. Any combination of VW master cylinder and wheel cylinder are allowed. Emergency brake may be removed but resulting opening must be covered.

## **ELECTRICAL SYSTEM**

### **UR24: IGNITION**

Only battery ignitions are allowed, 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 in the stock location may be used.

## **FUEL SYSTEM**

### **UR29: FUEL TANKS**

Fuel cells may be located anywhere with any capacity. Stock tank may be used in the stock location. Any type of fuel shut-off valve is allowed. Stock fuel pump must be used, but an electric backup fuel pump may be used as long as the routing continues through the stock fuel system.

### **UR30: FUEL FILLER, VENTS, & CAPS**

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

## **ENGINE TRANSMISSION & DRIVELINES**

### **UR31: ENGINE LOCATION & DISPLACEMENT**

Engine must utilize VW series type-1, 1600cc; US model sedan components and dimensions. The maximum allowable engine displacement is 1584cc as factory delivered.

## **ENGINE CASE**

Any VW type-1, 2, 3 or “universal” case is allowed. The following stock case modifications are permitted:

1. May be line/align bored.
2. May be drilled and tapped for oil pressure and temperature sending units.
3. The case may be machined for crank pulley seal.
4. Installation of case savers.
5. Cylinder seating surface may be machined.
6. Oil galleries may be enlarged to 10mm.
7. Threaded oil gallery plugs.

## **OIL PUMP**

Any oil pump is permitted. No deep sumps, dry sumps or sump alterations are allowed. Windage trays are allowed. Any oil bypass piston and spring is 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 fuel pressure regulators may be used.

## **PISTONS**

Stock 3 ring pistons only. Any piston and cylinder are allowed as long as original stock dimensions are maintained. Wrist pin retainers are open. Piston assemblies may be balanced to the lightest original non-balanced piston assembly.

## **CRANKSHAFT**

Only stock VW crankshafts are allowed. Crankshaft may be balanced. Journal size is limited to 0.030” undersize. No polishing or lightening is allowed. No offset grinding is allowed. Any gear is permitted. Any engine bearing is permitted as long as stock dimensions are maintained. Power pulleys are not allowed. Pulley may be balanced. Sand seals are permitted. Any VW flywheel may be lightened and balanced. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. Connecting rods may be balanced to the lightest non-balanced rod. No polishing or profiling of rods. Eight dowel flywheels are permitted with any gland nut and washer.

## **HEADS**

Heads may be US sedan stock single port or dual port or their equivalent. Heads may be fly cut for clean up only. Porting or polishing **NOT** allowed. Dual port heads from Brazil,

Part # 0401013752, Part # 04010137513, Part # 04010137519, or Stock OEM heads will be allowed.

Intake manifold is restricted to a stock 34mm center section. A 1.5" long by 0.5" diameter tube may be welded two inches below the carburetor flange. A maximum of 0.25" may be removed from each end of the center section for clearance. A 2.0" long by 1.625" diameter slip tube may be welded to the end of the runners to allow a better hose connection. No porting or polishing.

End castings must be original equipment VW, with VW logo and part numbers. No porting, polishing, or matching of ports is allowed. The balancing slot may be welded close. Vacuum holes may be plugged. A 34mm to 30mm carburetor adapter, EMPI 98-1293-B, must be used.

Combustion chamber volume may not be smaller than 42cc, 7.5:1 is the highest compression ratio allowed.

### **CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS**

Any camshaft, camshaft gear, single valve springs, steel valve spring retainers and lifters are permitted. Valve spring seat diameter in head must remain stock VW. Valves must be stock 45 degrees. One-piece valves are permitted. No polishing or profiling of valves is allowed. Valve guides may be steel, bronze or cast iron. Valve guide seals are allowed. No grinding or polishing

in the port including valve guides. Must use stock VW 1600 rocker arms. No other grinding or changes may be made to the rocker arms. Roller or needle bearings will not be permitted 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 adjustment screws. Rocker arm clips may be wire tied. Valve covers and sheet metal must remain stock, but any year is allowed. Valve covers and sheet metal may be modified a minimum to allow for engine breathers.

### **FAN-SHROUD**

Must be stock fan shrouds. Heater tubes are optional.

### **CARBURETOR**

Must use stock VW carburetor 30 pict. 1, 2, 3, or the Solex H-30-PIC replacement. Maximum venturi size is 24.10mm. Velocity stacks may be used but cannot be welded or bonded to the carburetor. Air cleaner location and manufacturer is open. Internal carburetor modifications are not permitted. This includes no removing of parts, no grinding, polishing or filing. Intake manifolds must be stock VW. No chemical milling of manifold or carburetor. The choke plate and shaft may be removed. Electric needle valves are optional. The stock float bowl vent may be plugged and/or relocated. An external vent may be used. Any air and main jet may be used.

### **UR33: TRANSMISSION**

Type-1 bug, 4-speed transaxles only. Heavy-duty side plates and differential are allowed. Only stock VW type-1 ring and pinion ratio 8.33 (4.12) with stock VW 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> gears only, no close ratio gears allowed. Axle over tubes are not allowed. Other internal modifications are optional. Rear mounts may be supported by maximum of two 0.25" x 1" vertical straps. Any gearshift lever allowed. Shift tube must be inside tunnel. Any type 1, 2 or 181 stub axle and any VW CV joint may be used, and oversized bolts are allowed.

### **UR38: FLUID COOLERS**

Any oil cooler and location allowed. Full flow systems are allowed. Deep or dry sump systems are not allowed.

### **GENERAL VEHICLE COMPONENTS UR54: IDENTIFICATION MARKERS**

VORRA will assign vehicle numbers. 11XX series 40

### **EXTREME TRUCK**

UNLIMITED

### **GENERAL REGULATIONS**

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.

### **UR29: FUEL TANKS**

Safety fuel cells are required.

### **GENERAL VEHICLE COMPONENTS UR51: FENDERS**

Vehicles must have fenders.

### **UR52: CHASSIS & BODY**

Body must resemble a Truck or SUV.

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers.

## **GENERAL REGULATIONS**

### **CLASS 44**

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 is 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, wheel base, 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 Extreme Trucks, SCORE "Trophy Trucks", SNORE "Ultimate Trucks" or BITD "Trick Trucks" are not eligible.

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers.

The prefixes T?XX 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 T4XX
2. 6 Cylinder T6XX
3. Prod. Frame 8cyl T8XX
4. Tube Frame 8cyl,2wd T2XX
5. Tube Frame 8cyl,4wd T3XX
6. PRO Truck T5XX
7. VORRA Class 7 T7XX

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-			
340-356	11.25	340-356	11.5		
		357-			
357-375	11.75	357-375	12	<385	4000min
376-395	12.25	376-395	12.5	386-395	10.4
		396-			
396-415	12.75	396-415	13	396-415	10.9
		416-			
416-437	13.25	416-437	13.5	416-437	11.4
	13.75		14		11.9



438-460		438-460		438-460	
461-484	14.25	461-484	14.5	461-484	12.4
485-510	14.75	485-510	15	485-510	12.9

## 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 general 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 as long as 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 in order 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 as long as the original block casting remains the same. Engine must be readily available to the general 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 UR11: 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 with the exception of 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 with the exception of 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 general 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

#### **UR17:**

be adhered to.

### **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 in order 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 general 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 particular 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 general 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, with the exception of 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 general public in the U.S.A. within a 36-month period. Vehicle must be readily available to the general 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 with the exception of 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 wheel base 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 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. In order 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 in order 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 located 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: ROLLCAGES**

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 at all times 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 window sill 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 at all 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 general public in the U.S.A. within a 36-month period. Vehicle must be readily available to the general 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 with the exception of 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 wheel base 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. In order 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 in order 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 located 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 make 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 at all times 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 window sill 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 at all 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

## **GENERAL REGULATIONS**

### **UTV.**

Class entrants shall comply with all applicable general regulations. VORRA has selected the class framework and guidelines related to UTV specific definitions that are published Best in the Desert B.I.T.D. Rules for these classes are for the 2019 season.

## **COMPETITION REGULATIONS**

This class is a production class. Anything not built in compliance with the spirit of the class may be deemed ineligible to collect points, trophies, prize funds, and contingency. Manufacturer's body, chassis, engine, transmission, and differentials must be retained. All UTV vehicles must have a driver and a co-driver in the vehicle for the duration of the race during desert races.

Note: All universal rules apply unless specified. The URxx abbreviations are provided.

### **UR29: FUEL TANKS**

Safety fuel cells are required for any vehicle that has modified its factory fuel system. Unmodified stock fuel tanks will be allowed. VORRA recommends a shield installed between the stock fuel tank and occupants.

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

Forced induction may be allowed in certain cases or a specific class may be formed for such vehicles. Generally accepted rule of thumb would be that a smaller engine displacement with forced induction may be found to be appropriate to compete along with larger normally aspirated engines. VORRA and its UTV Class Representative will assist in making these determinations

## **VEHICLE SAFETY EQUIPMENT**

### **UR7: ROLLCAGES**

Stock UTV cages rarely meet VORRA minimum cage requirements. VORRA may approve a Factory cage as manufactured or as modified if it is deemed to meet the requirements of UR7. Key factors include but are not limited to welded joints, 6 attachment points, X-bracing, gusseting, and material. All attachments must be welded or secured to the frame with appropriate .1875" shear plates and minimum 3/8" grade 8 bolts.

### **UR11: SEATING**

A centered seat position will not be considered consistent with a UTV or "side-by-side."

## **GENERAL VEHICLE COMPONENTS**

### **UR42: DOORS & LATCHES**

All vehicles must have a minimum of a single door bar bracing in door area of the same tubing size and material of the roll cage. Doors that latch or open and close are only allowed provided they have secondary locking pins. Full door window nets are required. Wrist restraints may be substituted for window nets during short course events only, although not recommended.

### **UR43: FIREWALLS**

All vehicles must have an all-metal barrier separating the driver's compartment from the danger of fire relating to fuel supplies and from the danger of burns relating to hot fluids from the engine. Stock UTV engine covers meet the engine firewall requirement for the UTV class. All fuel vent lines must be properly routed per UR30.

### **UR46: FLOORBOARDS**

Stock UTV floorboards are acceptable. Although adding extra protection made of metal is highly recommended.

### **UR47: BUMPERS**

Must have rear bumper secured to frame using minimum 1.5" outside diameter, .090" wall tubing.

### **UR52: CHASSIS & BODY**

All UTV vehicles must utilize the stock chassis (frame) and maintain stock appearance. The stock chassis (frame) is defined as the main lower rails running along the inner sides of the

UTV and the front and rear tubes that connect them. Any modifications to the stock chassis (frame) must be pre-approved by a VORRA tech inspector. A custom-built frame may be allowed but must be built with the suspension mounting point dimensions that are the same as a current UTV. The stock chassis (frame) may be added to, for durability and strength, but must retain the stock width, length, and configuration. All body parts must remain on the vehicle (accidental damage excluded) during the entire length of race. The roof must be covered with sheet metal or aluminum.

### **UR54: IDENTIFICATION MARKERS VORRA**

will assign vehicle numbers. 19XX series

### **PILOT**

Single seat "Mini ATV Buggies"

## **GENERAL REGULATIONS**

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

## **COMPETITION REGULATIONS**

This class is a production class. Anything not in compliance with the spirit of the class may be deemed ineligible to collect points, trophies, prize funds, and contingency. 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**

All suspension arm mounting points and design must remain in the stock location as delivered from the manufacturer, however they may be reinforced for strength.

### **UR16: SHOCK ABSORBERS & BUMP STOPS**

Suspension bump stops must be of the solid type.

### **UR29: FUEL TANKS**

Safety fuel cells are required. Stock fuel tanks will be allowed for short course events. All fuel vent lines must be properly routed per UR30.

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

2 Stroke - maximum engine displacement is 750cc.

4 Stroke - maximum engine displacement is 950cc.

Engine must be located in the manufacturer's OEM mounting location.

### **UR33: TRANSMISSION**

Every vehicle must use the stock transmission and clutch design.

### **VEHICLE SAFETY EQUIPMENT UR7: ROLLCAGES**

Production roll cages must meet VORRA approval under the requirements of UR7.

## **UR10: SAFETY NETS**

Full door window nets are required. Wrist restraints may be substituted for window nets during short course events only, although not recommended.

## **GENERAL VEHICLE COMPONENTS**

### **UR52: CHASSIS & BODY**

Vehicles must utilize the stock chassis (frame) and maintain stock appearance. Any modifications to the stock chassis (frame) must be pre-approved by a VORRA tech inspector. The stock chassis (frame) may be added to, for durability and strength, but must retain the stock width, length, and configuration. All body parts must remain on the vehicle (accidental damage excluded) during the entire length of race.

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers.

## **GENERAL REGULATIONS**

### **SPORTSMAN**

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. NO forced induction gasoline engines.

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 must be utilized. Stock fuel tanks must be removed completely.

## **VEHICLE SAFETY EQUIPMENT**

### **UR11: SEATING**

All vehicles must use seats designed specifically for racing applications manufactured by a recognized racing seat manufacturer.

## **GENERAL VEHICLE COMPONENTS**

**UR54: IDENTIFICATION MARKERS VORRA** will assign vehicle numbers.

