

## BEAUDESERT SHOW – 2022 DEMOLITION DERBY VEHICLE BUILD RULES 3rd SEPTEMBER 2022

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The rules and specifications listed here are to be read and abided by in a sportsperson-like manner. Failure to do so may result in the driver/car being excluded from the event. Any misinterpretation or misrepresentation of the rules to gain a competitive advantage be it accidental or deliberate may result in disqualification of the driver and car. If you are in doubt – please email [derby@beaudesertshow.com.au](mailto:derby@beaudesertshow.com.au) and your enquiry will be answered as soon as possible.

- **RULINGS & DECISIONS** - ALL DECISIONS MADE BY THE STEWARDS AND SCRUTINEERS ARE FINAL IN ALL MATTERS.
- DRIVERS must be over 16 years of age. Drivers 16 -18 years of age must have permission and have the appropriate waiver signed.
- **STRICTLY NO PASSENGERS**
- **All GLASS**, interior and exterior door handles, mirrors, locks, badges, grilles, chrome strips, alloy mouldings and surrounds, plastic mouldings, airbags [seek professional advice] etc are to be removed. (This means anything which may be dislodged and become a projectile). Under-body brackets (eg exhaust brackets) are also to be removed.
- **All unnecessary FLAMMABLE MATERIAL** is to be removed, eg hood and door linings, any plastic or rubber. Original heater in heater box must be removed. All holes in firewall must be adequately covered with steel sheeting [.8mm-1.6mm thick] and pop riveted/screwed and sealed with silastic.
- **FUEL TANK:** ALL CARS MUST HAVE INSTALLED A BEAUDESERT SHOW SOCIETY REGULATION FUEL TANK Only the approved Beaudesert fuel tank design is to be used (1 tank per car). Main demolition derby cannot hold more than 5L of fuel. Fuel tank must be securely mounted with 4 bolts (not tek screws) on a sound part of floor only [no mounting plates]. Tanks to be 800mm or more from the rear of car, and are to be covered with a leak and flame-proof 20L metal tin which will hold any spilt fuel in the event of a rollover. Cover tin must be securely held at 4 points with non-flammable material eg wire, chain, right angle brackets etc- NB: these may be purchased from the Beaudesert Show Office.
- **ORIGINAL FUEL TANK** must be removed completely or have a hole of at least 25mm (1") in diameter punched into it at lowest point in bottom of fuel tank. Do not try to cut or drill a hole in a tank with a grinder, oxy or any device that may create a spark, even if it is empty.
- **FUEL LINE** is to be no longer or larger in diameter than original fuel line. The only fuel filter to be fitted is to be no larger than a plastic Ryco Z14KA or equivalent. Screw-up hose clamps must be used on all hose connections. Fuel filter must be located between the tank and pump. If located in cab, it must be under tank cover. Avoid unnecessary connections in fuel line. Only lead-replacement fuel or unleaded fuel to be used.
  - **FOR FUEL INJECTED CARS ONLY:**
    - All unnecessary **FLAMMABLE MATERIAL** is to be removed, eg hood and door linings, any plastic or rubber. Dash may remain in car, computer/ECU may be shifted. Original heater in heater box must be removed. All holes in firewall must be **adequately** covered with steel sheeting [.8mm-1.6mm thick] and pop riveted/screwed and sealed with silastic.
    - **FUEL TANK:** Only approved fuel tank may be used (New design for fuel injected: 1 tank per car). Fuel tank must be securely mounted [800mm or more from rear of car] with 4 bolts (not tek screws) on a sound part of the **floor only [no mounting plates]**. The cover/spill tin is not required for fuel injected cars due to design of tank.
    - Original **FUEL LINE** underneath car must be used. Fuel line can be shortened to allow for mounting of new pump. 1 x external high pressure fuel pump [eg VL Commodore pump] mounted underfloor as close as possible to derby fuel tank. 1 x Ryco Z200 fuel filter, fitted underfloor. Pump and filter may be shielded, [must not reinforce bodywork of car]. **All rubber connections, hoses and clamps must be fuel injection grade.** Lead-replacement fuel or unleaded fuel only.
    - SAFETY SWITCH for fuel pump is compulsory and must be clearly visible and mounted in centre of windscreen panel.
- **HOSES, ELECTRICAL WIRING and FUEL LINES** may be re-routed in the engine bay. Re-routing of the fuel line must not increase the overall length of the fuel line. When rewiring ignition, starter etc use a grommet when passing wires through steel panels (they may rub through and cause an electrical fire otherwise). Keep electrical wiring and fuel lines at least 150mm apart. Re-routing of cooling system hoses must not increase the volume of water in the cooling system.
- **IGNITION or kill switch** and starter switch must be able to be reached by the driver without undoing or slipping out of seat belt. Switches **MUST** be used. Twisting wires together to start/stop is not acceptable.



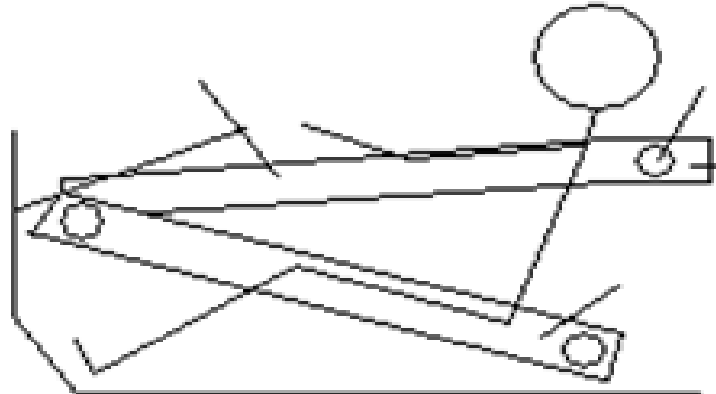
- **BATTERY** to be securely mounted with metal bracket (plastic holders are not acceptable) on top of battery with at least two 8mm (5/16") bolts through bracket and car floor with adequate washers under floor, or attached to a base frame [max dimension 400x300x2mm] which is mounted to floor with adequate washers. If battery is mounted inside cabin, an acid-proof cover must be effectively fitted. If using a rubber inner tube, cut holes so they seal around the battery terminals, or seal the holes with silicon. Passengers will not be allowed if battery is fitted on the front floor. Do not mount the battery on the tunnel or on the same side of car as fuel tank. Leave a gap of at least 150mm between battery and tank. One 12 volt battery only allowed. Joins in battery cables must be heavily insulated [eg use radiator hose, not insulation tape].
- **SEAT BELTS:** 3 point or better for driver. Must be bolted in, not welded. Belts to be in good condition (no burn marks or fraying). Inertia reels may be used and will be locked at scrutineering.
- **BAR WORK:** All cars to have a minimum 75x50x3mm (3"x2") RHS or equivalent steel beam across each front door to protect the driver and passengers' legs and hips. The beam should follow the line of your leg from hip to knee when seated. These beams are to be secured to the door pillars (front and rear) via welds.
- **All cars must have the following:** TRIANGLE SIDE INTRUSION BAR [minimum size 50x50x3mm or equivalent] formation as illustration in Diagram 1.
- Pipe is to be welded between the left and right beams (one behind the seat and one across the dash). The pipe is to be butted up against the centre of the vertical face of the ends of each beam. The pipe is to be a minimum of 40mm (1½") nominal bore black steel 3mm wall thickness (gal water pipe will not be accepted). In addition, a steel plate of at least 5mm thickness and approx. (minimum of) 600x400mm (preferred pillar to pillar) is to be located between the 75x50mm beam and the door for both driver and passenger; (if applicable) to add further protection to the legs and hips.
- **A 40mm (1½")** or larger NB Black steel pipe is to be welded between the door pillars near the top of the seat to support the rear of the seat and to help prevent the pillars from collapsing. If the seating position prevents you from welding the pipe directly to the door pillars, a piece of 50x6mm flat steel should be welded to the ends of the pipe and run forward to the pillars.
- **ROLL BAR** or roll cage is optional, however it may only be made using black steel and must not protrude more than 300mm past the back of driver's seat or forward of the inside of the firewall.
- **BRAKES:** Minimum of two-wheel lockup.
- **SPARE TYRE** is to be removed. If the car was fitted with an under-car carrier, this must also be removed. TOW BARS to be removed.
- **GEARSHIFT** to be operated by hand from driver's seat without undoing or slipping out of seatbelt. Holes cut in floor for gearshift must not exceed 250mm x 120mm and must be adequately sealed [eg with rubber tyre tubing or insertion rubber with a slit cut in it.]
- **ACCELERATOR** must be operated by the driver's right foot. A hand-operated back up or extra accelerator is allowed.
- **DOORS and BOOT / TAILGATE:**
  - Can be welded externally to the mudguards, the sill and to the roof, are securely tied shut with chain [6mm diameter links] refer to Diagram 2. If the car has an externally exposed centre door pillar, the rear of the front door may be welded to it and the front of the rear door. If rod is used to fill gap, it must not be more than 4mm or 3/16 in diameter.
  - The hoops that hold up the roof lining are ideal for this and cost nothing. If doors / boot / tailgate have less than 1 metre of welding per opening, they must also be securely tied shut with chain through door handle holes [6mm diameter links] and appropriate D shackles.
  - Utes and panel vans built must have tailgates /rear doors and there is to be **NO** cutting of the rear ute or van floor to aid in crumpling.
  - **Drivers door** must be painted in YELLOW and clearly visible and identifiable when on the course.
- **BONNETS** are not to have any holes except for hold-down points. Original hinges are to be used and must have all bolts. Remove gas struts. A maximum of 4 x straight bolts / pins are allowed in total and are to be a maximum diameter of 16mm and maximum length of 300mm. All washers to be a maximum 100mm x 100mm x 4mm. Bonnets may be tied with 2 x 6mm chains and D shackles instead of bolts / pins. Maximum 4 hold-down points in total [eg 4 pins, or 2 pins and 2 chains etc].
- **BONNET INTRUSION BARS** are compulsory [unless windscreen has full mesh], regardless of whether bonnet is front/rear hinged. Weld 2 x 10mm rods from the firewall to roof, to protect against bonnet coming through between windscreen pillars. MESH may be fitted securely to front door windows or windscreen. However you must still be able to exit the front of the car, so don't do both. MESH on doors to be placed inside door cavity and zip-tied in with good quality 5mm zip ties.
- **NO FULL CHASSIS CARS**



- **RUST:** Cars with excessive driver / passenger compartment rust may be judged by the scrutineers to be unsafe and may be excluded. Any MODIFICATION [eg plating over rust patches etc] considered necessary to a car with excessive rust, or one which has been in a previous derby must be pre-approved by a scrutineer. Modifications must be carried out strictly in line with scrutineers' recommendations and shall in no way reinforce the car. These must be noted on entry form and pointed out at scrutineering. No BODY FILLER (bog). All welds must be visible.
- **REMOVABLE** floor panels [eg covering original fuel tank etc] to be removed or secured by 4 x 16mm [max] diameter bolts/pins with washers [max 100x100x4mm] through to underneath of car. Panel must be easily removed for scrutineering and must also have 100mm inspection / vapour release hole punched in centre. Removable panel will now be secure enough to mount fuel tank and battery. Floor panels are to be close to the thickness of the original panel.
- **MUDGUARDS** are to be standard (not to be cut away unless car has been in a previous derby and approved by scrutineer). No welding or cutting to gain a competitive advantage.
- **Cutting of any BODY PANELS** including sub-frame is **prohibited**.
- **BUMPER BARS** are to be in the original position and are to be identical to the original bars. No steel bars in place of plastic. Only original mounts are to be used. Welding of bumpers is limited to 150mm at each end (top and bottom). If you are running a plastic bumper, paint your number on it and make sure you take it home.
- **SPRING LEAVES:** Excessively protruding spring leaves on cars that have competed in previous derbies must be cut off. The ends of original spring clamps may be welded together.
- **SUSPENSION:**
  - All cars must meet a common height of 300mm from flat ground to bottom of sill at the points closest to each wheel. We will be using a standardized measuring tool to ensure cars are not excessively high.
  - If you choose to insert pipe to raise rear suspension the pipe must be securely welded and tied to vehicle with chain as a back-up in the event of a weld breaking.
  - If the scrutineer feels any modification to the suspension is unsafe or modified to gain a competitive advantage or car is excessively high the car will not be allowed to compete. For this reason, modifications are allowed, but strongly discouraged. This applies to fresh and second-hand cars.
- **\*\*4-CYLINDER CARS ONLY\*\* DISTRIBUTOR:** May have distributor protection not exceeding 100mm x 100mm x 6mm plate mounted to engine only.
- **RADIATOR** compulsory and to be standard car type and to be mounted in as close to original position as possible. Original heater in heater box must be disconnected. If heater is removed, hole must be covered with sheet metal maximum 1.6mm thick. No other radiator type devices are to be fitted. Radiators are to be filled with water only. No additives, unless stop-leak is required, in which case you must consult a scrutineer for approval.
- **FAN** can be removed and a 125x125mm square of metal (1.6mm or less) may be attached to the radiator in front of the fan pulley.
- **MOTOR** may be swapped with an identical size / model as per original production. Any other changes must be done with prior written request of Chief Scrutineer. This ruling may enable you to change a fuel-injected motor for a carburetted motor of similar capacity.
- **NO DIESEL** engines.
- **ENGINE and GEARBOX** mounts: Rubber mounts may be replaced with steel or chain. CLUTCH linkages may be changed to cable or hydraulic systems. DIFF centre may be welded or locked, but housing must not be welded to subframe via spacers.
- **Devices** designed to create smoke will not be allowed. Excessively smoky cars may be excluded.
- **WHEEL WEIGHTS** are to be removed. RIMS are to be manufacturers' diameter for that make and model. Mag wheels are not to be used, STEEL RIMS ONLY. TYRES can be changed.
- **SEATS** may be changed, but must be mounted securely BOLTS ARE NOT TO BE WELDED. Adequate PADDING for driver and passenger is compulsory.
- **FIRE EXTINGUISHERS** are allowed, but must be securely mounted with a steel bracket.
- **Cars must be clean** internally (no rubbish inside cars).

Below are the diagrams of the layout of the required bar work. This bar work is designed to reduce your chances of injury in case of side impact. As the diagrams indicate, the 75x50mm RHS is to run in line with your upper leg.

Diagram 1:



40mm NB 3mm (or stronger wall pipe)  
Plate to secure pipe to door pillar.  
Side intrusion bar [parallel to door sill]  
75x50x3mm [or stronger] RHS

Diagram 2:



#### Terms and Abbreviations Used:

1. NB Stands for Nominal Bore and is an approximate inside diameter. For example, 40mm NB pipe is at least 40mm inside and usually 50mm outside.
2. MILD STEEL Refers to a low carbon grade of steel that is easy to cut and weld.
3. BLACK STEEL Refers to untreated mild steel (it may be painted, but must not be galvanised)
4. RHS Refers to Rolled or Rectangular Hollow Section and indicates how it was formed
5. GAL Refers to galvanised steel and is of similar strength to mild steel, but requires advanced welding skills. It can appear to be welded correctly, but is often only a surface weld with no strength.

FOR ALL ENQUIRIES EMAIL For all enquiries please email [derby@beaudesertshow.com.au](mailto:derby@beaudesertshow.com.au)

These build rules have been approved by AASA (Australian Auto-Sport Alliance).