



## **Full-Size Futures Division Car Building Rules**

**Sanctioned by D.E.M.O.**

**[www.demo-motorsports.com/](http://www.demo-motorsports.com/)**

### **Competition Format**

Heats will consist of several pods of (3) on the track at once. The pods of 3 will be drawn live prior to your heat and have their pillars taped the same color for identification. You must beat the other 2 drivers in your pod. You can only advance by beating your competition. Consi's will be ran but will always be harder than the heats; for example, you will be in a heat of 4 or more with only 1 winner.

### **Car Choice**

1. Any American made 1980's and newer RWD sedan or station wagon permitted.
  - a. No hearses or limousines are permitted.
  - b. Fresh cars only.

### **General**

1. A 24 in. x 16 in. roof sign is always mandatory for all cars. The roof sign must be clear and legible.
2. Cars must be stock, unless stated below in the rules. Any aftermarket parts must be approved by the head inspector if they are not identified directly in these rules.
3. All welds on the car can be a maximum of ½ in. wide and ¼ in. tall, single pass only.
4. No clipping or re-stubbing of frames will be permitted. Body Swaps will not be permitted.
5. All cars must be completely stripped of anything necessary to compete in the show prior to inspection. The interior must be swept clean of debris and glass.

### **Front Frame**

1. No frame shaping will be permitted.
2. Front frame rails may be shortened to the front of the core support mounting hole.
  - a. The entire hole must be visible and cannot be cut into in any way.
3. All cars can be tilted at the boxes only by cutting the flap and rewelding it.
  - a. 03 and newer will not be permitted to tilt.
4. Frame rails cannot be cut apart and narrowed and then re-welded in any section of the rail.
  - a. Frame locators that locate the two halves must be visible. Width measurements will also be taken and compared to factory dimensions.
  - b. A-arm brackets and a-arms cannot be moved from factory locations.

### **Center Frame**

1. No frame shaping will be permitted. No modifications on center rails beyond what is allowed to mount crossmember.

### **Rear Frame**

1. No frame shaping will be permitted unless otherwise stated.
  - a. Rails cannot be squeezed together or narrowed. Rails will be measured from side to side and compared to factory measurements.
  - b. The top of the rails can be dimpled or cut for bending purposes only.

### **Front Suspension**

1. A-arms must be OEM factory from passenger car origin.

- a. A-arms are interchangeable but must be a direct bolt on.
- 2. No aftermarket coil springs, or coil spring spacers are allowed.
  - a. Only 1 coil spring allowed per pocket.
- 3. Upper A-arms will be permitted a maximum of (4) total upper A-arm straps.
  - a. On the upper you are permitted to have one strap on front side toward bumper and one strap on back side of a-arm toward driver.
  - b. Measurement of flat strap can be (2) inch wide, ( $\frac{1}{4}$ ) inch thick, and (4) inches long.
    - i. No parallelograms.
    - ii. Upper A-arm strapping must follow contour of arm on front and back sides going down to ball joint.

### **Rear Suspension**

- 1. No wire, chains, or any welding on the rear ends or the rear spring pockets beyond what is mentioned below.
- 2. Factory shock may be replaced with (1) piece of 1 in. all thread per shock location, max.
  - a. If replaced it must run through the spring.
  - b. All thread may run through the body and act as a body mount, but all thread must run through coil spring and exit through factory hole on package tray.
  - c. Coil spring must line up with axle tubes.
  - d. All thread may extend 6 in. max, above the package tray.
  - e. You will be permitted to weld aftermarket threaded coil buckets to secure all thread to the rear end.
- 3. You must run OEM coil springs – 1 permitted per side.
  - a. You may use (2) strands of doubled wire per spring.
- 4. Unaltered OEM trailing arms must be used, and rear end must bolt directly into the car using the factory brackets.
  - a. Watts conversion kits will not be permitted.

### **Steering**

- 1. Unless stated in rules, steering components must be of OEM factory car origin, remain stock and mount in factory location.
  - a. No aftermarket spindles are allowed.
    - i. Spindles must be stock OEM car spindle.
    - ii. Spindles cannot be reinforced in any way.
- 2. An aftermarket steering column will be permitted.

### **Cage/Gas Tank Protector/Halo Bar**

- 1. No cage component, including halo bar, can be larger than 3 in. material (round or box tubing) except the (2) side bars, which can be 2x6 in. max.
- 2. Side bars must stay within the driver's compartment and 68 in. max length and must be 6 in. away from wheel tubs, this includes the halo bar.
- 3. If you stack cage material it must conform to all cage specifications and when stacked it cannot exceed the max allowed measurement when added together.
- 4. No cage component can be contoured or rounded. A 4-point cage surrounding the driver consisting of a maximum of (1) dash bar, (2) side bars and (1) rear seat bar is permitted.

- a. The dash bar must be a minimum of 6 in. away from the firewall or and 5 in. above the topside of the transmission tunnel.
- 5. The only connecting points for the cage are the a-pillar, b pillar, and down legs.
- 6. You are permitted to have up to (2) down legs. (1) per side.
  - a. Max size of 3x3 in. x ¼ in. material.
  - b. Must be vertical and must run off of the side bars.
    - i. May be welded to the top side of the frame, ONLY.
  - c. It must not be further forward than the front interior door seam.
  - d. Must remain entirely in front of the rear body bolt before the hump.
- 7. A 10x10 in. x ¼ in. thick plate max, may be added to the b- pillar ONLY to assist with attaching cage to body.
  - a. No added metal to a-pillar mount permitted.
- 8. The bar behind the seat must be no farther back than the kick panel.
- 9. You may have a center bar connecting the rear bar and dash bar.
  - a. The center bar cannot extend behind the rear bar or in front of the dash bar and must be at least 4 in. above the top side of the transmission tunnel.
- 10. A 32 in. wide max gas tank protector may be added and must be centered in the car.
  - a. Must be 3 in. off the floor measured from the body bolt height.
  - b. Cannot attach to package tray in any way.
  - c. Sheet metal in between the gas tank protector and package tray cannot be removed.
- 11. A Halo bar is mandatory but can only be attached to the side bars, (will count in 68 in. side bar rule).
  - a. The halo bar may be 2 x 6 in. material max.
  - b. Must be vertical coming up from side bar and must run straight across roof side to side.
- 12. Cage, gas tank protector, and halo bar can have (1) gusset per corner; max. length - 12 in.
  - a. Gussets are considered a cage component and must adhere to the size limitations.
- 13. Any material protecting the gas tank must be vertical and cannot extend upward more than 5 in. above the tank.
- 14. No cage component can be farther back than where the gas tank protector meets package tray on coil spring cars.
- 15. Gas tank protector cannot be beyond the body centerline of the rearend for leaf spring cars.
- 16. A 2x2 in. x ¼ in. square tube must be welded from the dash bar to the halo over the a-pillar to prevent the roof from caving on the driver side.

### **Tires**

- 1. Any tire and wheel combo permitted with the following modifications of (1) inch lip guards, 4 inches by 4 inches max valve stem protector and small center. No other modifications will be permitted.

### **Quarter Panels**

- 1. Shaping sheet metal on quarter panels is allowed but sheet metal cannot be doubled over and / or welded.
  - a. Rear quarter panels can be creased.
  - b. Bottoms of quarter panels may be folded up to trunk pan and can be attached in (3) locations by using 3/8-inch bolts and 1-inch outer diameter washers or 1-inch-long welds.
  - c. Quarter panels must remain vertical. It is understood the shaping of sheet metal affects the vertical appearance.

- i. The top quarter panels cannot be pushed any farther than the inner edge of frame rail on the same side of car.
  - ii. The top of the quarter panel must measure 10-inches tall from the body bolt elevation.
    - 1. This measurement will be taken at the top of the quarter panel above taillight area.
  - iii. The bottom of the quarter panel can be pushed in until it meets the trunk floor.
  - iv. The trunk floor cannot be narrowed, squeezed, or cut and rewelded. Trunk floor is defined by the entire width of the horizontal floor in trunk area. (Call if you are uncertain)
    - 1. Absolutely no metal may be added to quarter panels.
- 2. Quarter panels can be bolted together using (5) 3/8-inch bolts with 1 inch diameter washers.

### **Interior Bolt-Ins**

- 1. Aftermarket components for controlling the car are allowed.
- 2. No interior component including pedals, battery box, and steering column may connect or strengthen the car in any way.
- 3. Mounting of these components may not attach to, or be within 2 in. of the frame, crossmember, and/or body bolts.
- 4. Transmission coolers are permitted but cannot be mounted in a way that strengthens the car.
- 5. Fuel cells and batteries must be safely mounted (2 batteries max).
- 6. Bolt ins cannot extend beyond the floor where your feet are or under the seat.

### **Hood**

- 1. Hood must be off for inspection but will be a part of the inspection process.
- 2. No metal may be added to the hood for any reason, except (8) 3 in. round x 1/8 in. thick washers welded on top of hood for hood bolts.
- 3. Access holes and/or exhaust holes may be bolted back together in a total of (12) locations by using 3/8 in. bolts and 1 in. outer diameter washers OR 1 in. long welds.
- 4. Hoods can be secured to the car in (8) locations.
  - a. Your core support bolts will be considered (2) of the (8) locations.
  - b. Factory hinges will be considered (2) of the (8) locations if used.
- 5. Bolts to secure hood must not exceed 5/8 in. diameter and 6 in. tall.
  - a. Bolts may be welded to fender and/or firewall ONLY.
  - b. (1) 5x5 in. x 1/4 in. thick plate may be added to each location to assist welding bolts to fender or firewall.
    - i. Plate may be folded into an angle if desired.
- 6. Washers to secure hood cannot exceed 5x5 in. x 1/4 in. thick.
- 7. All hood bolts must be outside of the exhaust tube width.

### **Trunk**

- 1. Speaker decks cannot be removed.
- 2. The trunk lid must be from the same make of the car and must be a trunk lid.
- 3. No metal may be added to the trunk lid or rain channel.
- 4. (2) 8x8 in. holes must be cut in the trunk lid for inspection purposes.
  - a. Holes must be over body mount area behind humps.

5. The back of the rear wheel tubs and all body mounts in trunk must be accessible and visible during inspection.
6. The trunk lid must mount in factory location but can be contoured down toward top of the package tray without exceeding the quarter panel rule.
7. Bolts for hinges must be factory size but can run through the top layer of trunk lid and be secured with washers/nuts with the washer being no larger than 1 in. outer diameter.
8. Trunk can be attached to car by welding 5x5 in. x 1/8 in. thick plates on exterior trunk seams only.
  - a. The 5 in. on, 5 in. off, method will be utilized.
  - b. Lower trunk/tailgate seam plates may attach to the rear bumper.
9. Station wagon tailgates must remain in the factory location but can be lowered into the box if applicable.
  - a. Attaching tailgate to car must be the same method as a trunk lid; 5 in. on and 5 in. off on the exterior only.
10. Trunk floor cannot be narrowed, squeezed or cut and rewelded.

### **Doors**

1. Shaping of sheet metal on doors will not be permitted.
2. Doors can be welded 5 in. on and 5 in. off, on the outside of car only
  - a. Max material - 3x5 in. wide x 1/8 in. thick strapping.
3. Driver's door reinforcement is mandatory.
  - a. Drivers' door only may be reinforced with up to 3/16 in. thick metal on the outside and/or inside.
  - b. The outside door skin cannot extend more than 3 in. from the front factory door seam or rear door seam in any direction.
  - c. The inner door skin may be welded from the rocker to the top of the door, only.
  - d. Cannot exceed length of inner door seams.

### **Wiring**

A simplified wiring harness is permitted (If applicable). If the car has a wiring harness in front of the core support, you may move it behind the core support, within the engine compartment.

### **Body Mounts**

1. Body mounts may be changed to 1/2 in. diameter max bolt.
  - a. Washers for body bolts may not be larger than 4x4 in. x 1/4 in. thick.
    - i. (2) washer's maximum per bolt
  - b. Body bolts cannot be moved from the factory location. Bolts must start in the factory location on frame and may run through body and be secured on top side with (1) washer and (1) nut.
2. All body mounts, except the core support locations, must have a 1 in. tall spacer between the frame and body.
  - a. The maximum spacer size is 3 in. diameter or 3x3 in. square and may not be welded.
  - b. Body spacers are permitted to be threaded.
3. Core support mounts will be permitted to be a maximum of 2 in. X 2 in. to the bottom of the core support only with a 5/8ths bolt going through the rest of core support.
  - a. Maximum of (4) nuts and (4) washers per core support mount permitted.
  - b. Washers on core support body mount are a 3 in. round/square washer x 1/4 in. thick.
4. A maximum of (2) nuts and (2) washers for all other body mounts permitted.

- a. It must be free floating.

### **Fuel Tank**

Fuel tanks must be mounted securely inside your gas tank protector. Only fuel cells will be permitted, no boat tanks or stock fuel tank.

### **Drive Train**

1. Any automotive engine and transmission are allowed.
  - a. Aftermarket headers are permitted.
  - b. Simple Lower cradle on rubber stock mounts will be permitted only.
    - i. 03 and newer will be permitted to use 6 x 6 in by ¼ mounting pads that bolt into the factory holes.
2. Aftermarket driveshafts will be permitted.
3. Only Factory OEM 5 Lug housing rear ends that bolt directly in will be permitted.
  - a. You may weld the spider gears to make it Posi.
  - b. Rear end bracing will not be permitted.
  - c. ½ in. studs maximum on axles
4. Crossmember must be factory car crossmember for make and model of the car.
  - a. Cross member must mount in factory location and must be straight across.
  - b. Angle iron to mount cross member can be no larger than 3x3 in. x (¼) in. thick angle iron and no longer than 6 in.
    - i. Must attach to the side rails only.
  - c. Angle Iron or cross member will not be permitted to attach to any secondary frame finger such as a Cadillac, before or during the derby.
  - d. Cross members must touch angle iron.
5. The engine and transmission mounting are addressed below.
  - i. Factory or aftermarket rubber motor mounts must be used to mount the motor.
  - b. No tranny braces or aftermarket bells will be permitted.
    - i. Tranny must mount to the crossmember with a factory OEM rubber mount or be free floating.
  - c. No pulley protectors or front plates will be permitted.

### **Window bar**

1. Front Window Bar
  - a. You are permitted (1) 2x2 in. x ¼ in. wall tube that must attach to the top side of the dash bar and your halo bar only.
  - b. No part of the tubing may extend past front or rear of the dash bar.
2. Back window Bar
  - a. You are permitted (1) 2x2 in. x ¼ in. wall tube attached from the roof to the top of the trunk lid at the trunk and speaker deck seam.
    - i. The tubing cannot extend beyond what is welded.
  - b. The tube can be attached to the halo bar and 6 in. on trunk lid.
    - i. The 6 in. connected trunk lid must start at trunk seam by speaker deck and must run back toward rear bumper.
  - c. You may use (1) 6x6 in. x 1/8 in. plate to assist with welding your bar on the roof and trunk lid.

- i. These (2) pieces must touch.
- d. The backbar cannot come within 4 in. of the gas tank protector in any way.

### **Firewall**

1. No modifications other than removing the firewall behind the engine for your distributor clearance.
  - a. You must place a tranny blanket over this area.
2. No rewelding factory firewall seams or adding metal permitted.

### **Front Bumper/Bumper Mounting**

1. **(Only)** Factory OEM front car bumpers allowed, or DEMO approved aftermarket bumpers will be permitted.
  - a. These bumpers are not permitted to have any embellish points or slants period. The bumper may be seam welded only with the outer skin being beat down to the inner skin only. No sharp or jagged edges allowed anywhere on bumper for safety reasons.
  - b. No OEM Chrysler Pointies or Replicas will be permitted.
  - c. Aftermarket bumpers can have a maximum thickness of 8 gauge but still must be DEMO approved.
    - i. We need a ¼ in. hole in the center on the top and bottom
2. You must mount your front bumper as follows:
  - a. You may hardnose your bumper using (1) 6 in. x 4 in. tall x 1/4 bumper bracket per frame rail.
    - i. This must attach to the bumper.
  - b. You may also add (2) additional 2 in. wide x 4 in. long x ¼ inch thick straps (2 per mounting location)
    - i. These must be attached to the bumper.
3. Maximum front bumper height is 20 in. to the bottom; to start every heat or feature (Unless noticeably bent – officials discretion)

### **Rear Bumper/Bumper Mounting**

1. **(Only)** Factory OEM rear car bumpers allowed or DEMO approved aftermarket bumpers will be permitted.
  1. These bumpers are not permitted to have any embellish points or slants period. The bumper may be seam welded only with the outer skin being beat down to the inner skin only. No sharp or jagged edges allowed anywhere on bumper for safety reasons.
  2. Aftermarket bumpers can have a maximum thickness of 8 gauge but still must be DEMO approved.
  3. Bumpers must be at least 6 in. tall.
  4. Must be mounted at 90 degrees to the frame.
2. You must mount your rear bumper as follows:
  1. You may hardnose your bumper using (1) 6 in. x 4 in. tall x 1/4 bumper bracket per frame rail.
    - i. This must be attached to the bumper.
  2. You may also add (2) additional 2 in. wide x 4 in. long x ¼ inch thick straps (2 per mounting location)
    - i. These must be attached to the bumper.
3. Minimum rear bumper height is 16 in. to the bottom; to start every heat or feature.

### **Fix-It Plates**

1. All plates must be purchased from D.E.M.O. at the event.
  - a. Consi cars will be permitted (2) more plates.
  - b. All cars will be permitted to have a total of (8) plates after their heat. The plates will be 6x6 in. x 1/8 in. flat stock.
    - i. You can shape these plates within the dimension of their original dimensions.
      1. Anything you cut off you will lose.
      2. You cannot stretch these plates.
    - ii. You will not be permitted to use these plates to touch or connect to the driveline or protector in any car.
    - iii. These plates cannot be removed once they have been welded on the car.
  - c. (10) extra double strands of #9 wire will be permitted total after your heat.

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