

SECTION 8 - AMCA BANDIT DWARF RACECAR TECHNICAL REQUIREMENTS

1. BODY TYPES

- A. There will be no special class of cars; all oval track Dwarf Cars run under the same competition.
- B. Car body will be of 1928 to 1948 vintage coupe, sedan, sedan delivery, wagon, or pick-up truck. Must be representative of a production model car. No open top cars such as roadsters or convertibles. No convertible bodies with hard tops or "T" tops. The cars must be general replicas of factory stock bodies.
 - B.1. All frames and roll cages, including firewall, doors, and rear section framing, must be fabricated as a single frame unit, already forming the actual contour and dimensions of the finished body.
 - B.2. Sheet metal outside skins must be secured with Dzus type fasteners, or permanently attached by rivets or spot weld no more than 12" between each attachment point located at the perimeter of each panel where it meets the roll cage, firewall, or trunk framing. Skin must not bulge, or gap open between attachment points. Any gap or hole exceeding 3/8" must be covered with sheet metal, a plug, or permanent type sealant.
- C. They must have full roof of metal construction. The roof shall start at the top of the cowl in the front of the car and extend, ending at the top of the trunk.
 - C.1. Roofs must incorporate a front window. The windows must be cut to simulate to match the original body and shall extend inward to cover the roll cage in the front and the rear. All roll cage bracing must be intact, permanently welded.
 - C.2. Enter and exit only by door or with approved rooftop entry. Doors must be functional, and driver must be able to exit from either door safely. Doors must have no less than two contact points to cars body that are adequately sized to prevent collapse in case of impact and must have a locking latch with roll cage protection for the driver.
 - C.3. Rooftop entry must have minimum of two points locking latch and roll cage that protects the driver with no less than five contact points of adequate size to prevent collapse in case of a rollover.
- D. No foreign makes. Only closed top, meaning hardtop American made passenger cars or trucks.
- E. All cars will be of metal construction. No fiberglass, plastic, nylon etc. No aluminum for frame or roll cage. Outer skin shall be a minimum of 26-gauge steel or .030 aluminum.
 - E.1. Firewall between engine and manned compartment is mandatory. There must be a complete firewall, front and rear separating engine and trunk compartments from manned compartments.
- F. No fenders of any type. No structure of any type to simulate or act as a fender.
 - F.1. Doors and windows must remain in stock appearance and location.

F.2. Body must be skinned to match its type. (I.e. 3-window coupe must be skinned as a 3 window, not as a 5-window).

F.3. Right and left doors must be operational and allow passage. Windows and door must be near scale size, shape and location.

F.4. All doors must be hinged as to open.

G. Each car will have grill shell and simulated original grill matching its body style or a simulated radiator and vertical loop mounting bar mounted in near stock location and a hood to match radiator size and body style as not to distract from overall appearance. No grill is required if simulated radiator is used.

G.1 Functional radiator may be mounted in the trunk area.

H. Engine compartment must conform to scale of body length and must match contour of body where it meets the right and left side of body panels. Firewall or cowling outer skin must be stock appearance in size and shape; only inner panel may be altered.

I. Any hood may be notched, bent or cut in such a manner as not to distract from the stock appearance or on car using a radiator/simulated radiator, hoods may not be altered so as to detract from neat appearance.

J. Hood scoop height (ie: carbs, air cleaners, hood scoop) will be measured from a straight line projected out from the rear most portion of the hood. The maximum cowl height is 30" measured from the top of the frame rail to the top of the cowl. No part of hood scoop (ie: carbs, hood scoop, air cleaners) shall exceed 30". The hood scoop may not exceed 4" above that line and at no place on the hood may the hood scoop exceed 5". A tolerance of $\frac{1}{2}$ " will apply.

J.1 There will be no obstruction of the drivers view.

K. At the beginning of race night, all cars must have all body parts intact.

L. No airfoils, wings or streamlining of body.

2.DIMENSIONS

A. Maximum car height, 52", top to ground at highest point.

B. Maximum body width, 38". Measured from outside of door post to outside of door post on opposite side.

C. 44" maximum body height from top of frame rail to top of car.

D. The slope / rake of the roof may not exceed 3 1/2" as measured from the top of the main chassis frame to the highest point in the rear just before the main cage starts

to turn downward, to the lowest point in the front just before the main cage starts to turn downward as measured to the top of the main chassis frame.

D.1. The slope on the front hood should remain in proportion to the rest of the body.

3. TIRES and WHEELS

A. Steel wheels only, 13" wheels only.

A.1. Use of Bead Lock rims is permitted on the right rear.

A.2. Rim not to exceed 8" in width. (Note that overall car width may not exceed 62" per rule 4.B below.)

A.3. Offsets are not limited, so long overall width does not exceed 62".

B. Department of Transportation approved tires, 45 duramoter or harder.

B.1. Dirt events - Hoosier tire RC1, RC3, - UDRA medium or soft or Western States Hoosier HTWD tires. These are Chainlink and Boz block Hoosier tires. American Racer NeDwarf short or large tires are permitted on the dirt. Tires used for dirt events can be grooved and sighthpen in any manner.

B.2. Asphalt events – American Racer NewDwarf short & large tires. Above listed Hoosier dirt tires are permitted at AMCA asphalt events for up to 2 events for cars that normally run dirt. If running for AMCA championship points, the American Racer tires must be used for all asphalt events.

B.3. Tires used for asphalt events can be sighthpen in any manner.

B.4. No tire may exceed 9 inches of treaded area.

B.5. **No chemical soaking or chemical alterations to stock tire compound from the manufacturer is permitted.**

4. WHEEL BASE

A. Wheel base 73" (1/2" tolerance allowed) measured at the center of the spindle to the center of rear end housing.

B. Outside tire width not to exceed 62" for all races AMCA holds the contract with the track (must be able to pass through 62" opening). At AMCA races that another club holds the contract with a track, maximum width will be per their rules, unless otherwise approved.

B.1. If the car will not pass through a fixed 62" opening that is perpendicular from the ground, camber of wheels will be taken into consideration. Measurements are to be taken at the center of the spindle hub on both sides of the car to determine width.

5.FUEL

- A. Only automotive pump gas, race fuel of up to 95 octane or aviation fuel / gasoline is permitted.
- B. No nitrous oxide, no nitro, no propylene oxide type additives, or any other oxygenating additives.

6.FUEL CELL

- A. Not to exceed 5 gallons.
- B. Tank must be vented so as not leak fuel in any position, non-leaking cap.
- C. Fuel vent must have check valve installed to prevent spillage if car turns over.
- D. Fuel cell must be mounted between frame rails, in trunk.
- E. Fuel cell must be mounted with metal straps or brackets only.
- F. Must have complete fire wall between driver and fuel cell.

7.ENGINES

- A. Motorcycle engines only. No snowmobile or other special application engines. 1250cc is the maximum allowable displacement. Hayabusa motors are not permitted. Any questions about approved motors, please contact AMCA officials.
- B. 1250 cc maximum, 4 cycle, 4 cylinders maximum.
- C. Must be a regular production (minimum of 500 units per year) for two consecutive full years. **"2020 production and earlier for 2022 season."**
- D. Engine must have complete assembly and all parts operational, such as transmission and clutch. Clutch and transmission must be in engine and clutch and **all gears installed and operational.**
- E. Charging system optional.
- F. No turbochargers, blowers or forced induction. Must be naturally aspirated.
- G. Engine must be cooled by original intent. May use extra fans or oil cooler.

H. Exhaust and headers must be installed so as not to detract from stock appearing hood, with the exception of side panels below engine cowling.

I. Mandatory Muffler with one of the following three met: manufacturers of 1) Flow Master or 2) Borla or 3) 90dba @ 75 feet." (This rule is added due to increased pressure to reduce noise by different race venues. The 90dba @ 75 feet meets the current most stringent track requirements.

J. No auxiliary starter.

K. Fuel Injected Engines: All engine rules above apply plus.

K.1. Aftermarket electronic Power Commander devices are allowed but can only control fuel curve / richness and RPM. NO TRACTION CONTROL / ANTI-SLIPPAGE CONTROL OR OTHER USAGE ASIDE FROM FUEL CURVE ARE PERMITTED.

K.2. Flashing the original OEM ECU box is permitted with the same conditions as a Power Commander.

8.DRIVE TRAIN

A. Must use drive shaft from motor to rear differential gear.

B. Driveline loops shall be 360 degree construction of 2" X 1/4" flat bar or 3/4" X .065 wall tubing, minimum.

B.1. The front loop shall be within 8" of the center of the front u-joint. A second loop shall be within the knee/thigh area. A third loop is to be located in the bulkhead area. Three driveline loops are MANDATORY.

C. Drivelines must be painted white.

D. Quick change rear differentials are allowed.

9.FRAME and ROLL CAGE

A. Roll cage must be constructed of a minimum 1.25".065 wall OD or 1.5" OD x .065 wall tubing in the main roll cage. Secondary members will be a minimum of 1" OD x .065. wall.

B. All lower frame side rails will be a minimum of 1" x 2" rectangular tubing with a minimum of .120" wall. The lower frame rails on the right and left side running from the extreme front to extreme rear. Does not include cross member.

B.1. If frame rail is cut, it must be gusseted with 1 x 2" .120 wall.

- B.2. No round, oval or square tubing in lower side frame rail.
 - B.3. No over slung rear frame rails.
- C. There will be a minimum of three (3) cross members in the main compartment; one at the forward end, one in the center and one at the rear. The cross members will be made of steel only, with a minimum wall thickness of .120". Cross members may be round, oval, square or angle.
- D. The right and left doors must have a minimum of three bars with a minimum of .065" wall x 1" OD tubing welded through the midsection of the door frame.
- D.1. The bar supporting the drive shaft tunnel may be included as one of these, only on drive shaft side. Drive shaft side of car must have two bars, minimum of .065" wall x 1" tubing, welded inside to front and rear door post positioned horizontally.
- E. All cars will have a permanent structure support bar, located behind the seat at shoulder level.
- F. The bottom of the seat will not be more than 63" back, measured from the upper ball joint to the center of the seat at the height of the permanent structure bar. The seat may be tilted back for added driver head clearance; however, no portion of the seat may be back more than 68" as measured above.
- G. A seat pan must be welded in place, using a minimum of 16-gauge steel.

10. ENGINE LOCATION and SET BACK

- A. All engines must be front mounted, in stock location for model of car.
- B. Engines (block and cylinder heads) may not be extended more than 12" to either side of car body center line.
- C. Engine set back is the square of the motor (rear fins) may not extend more than 17" from center of front axle. No part of the engine or transmission may be more than 21" set back, as measures above.

11. SUSPENSION

- A. Front suspension must not exceed 25 inches measured from the ground to the highest point of any front suspension or extend rearward past the most forward panel of the firewall, except under frame rail, where it cannot be seen from either side.

- B. Steering components must have safety fasteners, such as cotter pins or self-locking nuts.
- C. If steering box is mounted in front cowling, the pitman arm may not extend more than 1 ½ inches outside the natural contour of the body near that point and must not prevent proper door operation.
- D. No straight axles.
- E. No leaf springs. No torsion bars used as primary suspension. Sway bar is permitted on the front suspension, in combination with coil over springs.
- F. No bird cage type rear linkage or Jacob's ladder.
- G. Trailing arms, located outside the frame may not extend beyond the rear door post.
- H. Steel body or aluminum shocks **ARE** permitted.
- I. Coil-over springs can be mounted with adjustments at the top or at the bottom.
- J. Weight jacks for adjusting cross-weight are not permitted in the car within reach of the driver to allow for adjustment during racing.

12. WEIGHT

A. Car must weigh a minimum of **1,000 pounds without the driver** for safer construction concerns AND a minimum of **1200 pounds with the driver** for the purpose of competition. The 1000 pound is to prevent unsafe construction resulting from an effort to reduce car weight to reach minimum weight with driver requirements.

A.1 A maximum of 54% left side with driver is permitted.

B. AMCA WEIGH IN PROCEDURES:

B.1 It is the driver's responsibility to ensure that their car is within the prevailing technical inspection always.

B.2 It is the driver's responsibility to ensure that their car will meet the minimum weight requirements when exiting the track after each event.

B.3 AMCA may choose to weigh the cars after a race by virtue of their finishing position. This would require said cars and drivers to report directly to the scales after leaving the racing surface.

B.4 Any driver who fails to exit the track and drive immediately and directly to the scales shall be disqualified.

B.5 Any car or car and driver weighing less than the minimum weights shall be disqualified. Disqualification due to a violation of the minimum weight rule will result in

forfeiture of all points and position finishing prize monies earned at all events on that date. Tow money will be paid regardless on the first violation. Subsequent violations will result in no tow money being paid.

It is the sole responsibility of the driver to know their finishing position and their obligation to report to the scales. If any driver is uncertain of their finishing position, they should drive directly to the scales to ensure that they are not disqualified.

Only the AMCA technical inspection staff or their appointees, and the car drivers shall be permitted at the scales.

B.6 Sportsman like conduct on the part of all drivers, pit persons, or car owners is required. The driver shall be held responsible for any unsportsmanlike like conduct of his or herself, their pit persons, or their car owner.

C. **No ballast will be permitted outside of the inner edge of the frame rails at the driver's door post. No ballast shall be poured within the nerf bars or bumper tubing.** All ballast must be securely bolted or welded inside of body or frame rail and extend no lower than frame rail. Ballast will be painted white and have the car number clearly marked.

13. NERF BARS and BUMPERS

- A. Front bumper must be no wider than 36" and a minimum of 24" and will not extend more than 6" forward of front tires.
- B. Rear bumper must be no wider than 50" and a minimum of 40" and will not extend more than 6" from extreme rear body panel. Rear bumper may not extend past the rear tire tread.
- C. Bumpers must be centered to the overall width of the car + or - $\frac{1}{2}$ ", based on the center point between the frame horns.
- D. Front and rear bumpers must be a minimum of 4" above the ground, and a maximum of 14".
- E. A 2" extension bar may be allowed on top of the bumper but must not exceed 16" high from the ground.
- F. Bumper will be a minimum of 6" wide vertically.
- G. Bumpers are to be made from 1" round tubing .065" minimum, and .095" maximum wall.
- H. There will be no sharp points or edges.
- I. Nerf bars must be mounted on both sides in front of rear tire and be no more than 18" from center of rear axle to rear of nerf bar.

- I.1. A minimum of a three (3) point mounting is required.
- I.2. The lower bar must be parallel to lower frame rail of the car then curve or bend toward lower frame rail where it is mounted at both ends to the frame rail.
- I.3. The upper bar is to attach to the roll cage a maximum of 18" above the rear attachment point of the lower bar. An additional diagonal brace from frame rail to lower bar is strongly recommended.
- I.4. Nerf bars must not interfere with the opening of either door
- I.5. Lower bars may not extend more than 1" past the tire tread in rear only. Must roll through 62" opening.
- I.6. These nerfs will be constructed of round tubing 065" x 1" OD, and a maximum of .095" x 1" OD wall tubing.

14.ELECTRICAL

- A. All batteries must be rear mounted (trunk area). Batteries must be securely mounted with a top restraint made of metal. Restraint must also hold battery caps.
- B. Cars should have master electrical switch clearly located and marked.
- C. No electronic (i.e. computer) traction devices. No electronic or manual devices will be adjustable by the driver during a race. Any such devices shall be mounted outside the driver's compartment. This does not include brake bias adjustments or isolation switches.
- D. Except those computers installed on stock motorcycles by the new vehicle manufacture for the proper operation of such vehicles or Power Commanders per Section 7.k.1, no vehicles may be equipped with computers which in any way effect the operation of the vehicle. All related wiring, sensors, etc., must be identifiable to the Tech Inspector. A computer is defined as any device (electrical, mechanical, pneumatic, hydraulic, etc.) that activates any function of, or in any way effects the operation of the vehicle based on measurement, sensing, processing, etc. of any Data related to the performance of the vehicle. Engine error code reading abilities is permitted.
- E. Display or transmission of any data gathered or processed, to the driver or any remote location is strictly PROHIBITED!
- F. Data recorders may be used to record functions of a vehicle, so long as they do not activate any function of the vehicle. Data recorders may not be activated by the throttle, clutch, brake, mechanical mechanisms, radio transmissions, sensing of wheel speed, inertia, laser device, or transmission of track position or location, must be activated by separate switch.

G. Transmission of Data gathered or processed by Data Recorder, to the driver or any remote location while on the track is strictly PROHIBITED! Data (print out, replay, etc.) may only be reviewed at the completion of a Race, after the vehicle has stopped. DISCOVERY OF A DEVICE WHICH DISPLAYS OR TRANSMITS "ON TRACK" OR "TRACK LOCATION" TYPE DATA WILL BE GROUNDS FOR IMMEDIATE DISQUALIFICATION FROM THE EVENT, LOSS OF ALL AMCA POINTS FOR THE SEASON, AND OR SUSPENSION FROM ALL AMCA EVENTS FOR THE REMAINDER OF THE SEASON. ADDITIONAL PENALTIES MAY BE IMPOSED AT THE DISCRETION OF THE BOARD OF DIRECTORS.

H. Transponders are required by all AMCA cars for scoring purposes and shall be mounted behind the driver's seat in the trunk compartment unless otherwise directed by an AMCA official.

15.BRAKES

- A. Must have at least three (3) brakes controlling 3 wheels. 1 per wheel.
- B. Brake shutoff devices are allowed on right front only (must have 4 working brakes to use).
- C. The only devices allowed within the reach of the driver are a mechanical brake bias valve and electric brake shut off valve for the right front only.

16.SAFETY

- A. All inside suspension mounts must be shrouded from drive compartment. No sharp edges or protruding objects which could endanger driver shall be inside driver's compartment. All cut and free-standing edges must be folded, molded or filed smooth (i.e. window and door edges).
- B. All cars must have an approved 5-point racing harness, equipped with a quick release buckle.
 - B.1. Both ends of harness must be attached to the frame of the car with, not less than 3/8" grade 8 bolts.
 - B.2. All seat belts will be installed at a 45-degree angle to the driver's hips.
 - B.3. Shoulder harness comes from behind the driver and mounted below the top of the driver's shoulder and will go over both shoulders so that they will be held securely in the seat. (All safety restraint harnesses will be installed in accordance with manufacturers guidelines).
 - B.4. **AMCA requires belt replacement or recertify every 2 years.**
- C. Approved racing type helmet with current snell rating are to be used. (SA-2010).
- D. All cars will have a production made quick-release, removable steering wheel.

- E. All cars are required to have an on-board fire system. Must be a minimum 5 lb. system with 2 nozzles installed. It is highly recommended that nozzles be installed in the engine compartment, driver's compartment, and in the trunk compartment.
- E.1 All pits must have a minimum of a 2 lbs. fire extinguisher accessible in their pits.
- F. All drivers must wear an approved driving / fire retardant race suit. Single layer fire suit is a minimum.
- F.1. Fire proof gloves are required.
- G. All drivers must wear an approved racing neck brace. It is strongly recommended to use a head restraint device. These devices may become mandatory by the tracks in the future.
- H. All door latches must be a positive locking device, so as not to open from vibration or upset, and not to jam if door is damaged.
- I. All hoods must be securely fastened by, spring latch, nuts and bolts or dzus fasteners (no screws).
- J. All trunks must be securely fastened by dzus fasteners with butterfly attachments to allow track safety crews quick access to fuel tank in case of fire.
- K. No glass of any kind will be permitted.
- L. A 1/2" mesh windscreen is required. A rock guard grill made of a minimum three (3)-1/4" steel rods evenly spaced across the windscreen opening, one centered and the other two evenly spaced and centered between the remaining openings. A rock guard grill with more than three (3) bars is highly recommended. Cars running on asphalt tracks may use plexiglass windscreens.
- M. No listening or transmitting devices, with the acceptance of racecivers operated by AMCA official or track officials. **Racecivers are required by all drivers** at all events unless the track does not have a system for them. This is a safety device.
- N. **No rearview mirror of any type is permitted on either dirt or asphalt.**
- O. No radiator or oil cooler will be mounted in the driver's compartment, or on the rear deck.

17. NUMBERS

- A. All cars must have numbers in five (5) locations:

- A.1. Numbers on right & left door and roof must be a minimum of 12" high, and the width must be 2/3 of the height, except for the number #1.
 - A.2. On the roof, it should be as large as possible and orientated to the right side of the car for official scoring and identification.
 - A.3. The number on the rear of the car must be a minimum of 6" and located above the bumper so to be viewed by the driver behind.
 - A.4. A minimum 2" number and letter must be displayed on the left front upper corner of the windshield.
 - A.5. The assigned association letter must be a minimum of 6" high on the roof and the doors and 2" high on the rear of the car. All numbers must be permanent (ie: vinyl or painted).
- B. No Roman numerals, or Gold leaf.