

## Solo

### NATIONAL APPEALS COMMITTEE | April 14th

On Wednesday April 14<sup>th</sup> 2021 the National Appeals Committee held a conference call to consider the appeal filed by Eric Stoltz. The appeal concerned disqualification of Mr. Stoltz' Saturday runs by event officials during the Las Vegas National Tour. Present on the call were NAC members Jeff Cashmore, Steve Hudson and Doug Wille. During the course of the call the NAC heard testimony from Event Chief Steward Paul Brown, SCCA Solo Event Lead Robert Christmas and Mr. Stoltz.

**The decision of the NAC is to deny the appeal and uphold the decision of event officials. The DSQ of Saturday runs for Mr. Stoltz and for Chris Vreeland is upheld.**

Both competitors were observed after competition hours testing their competition cars relative acceleration on Las Vegas Blvd. in front of the event site. While speeds may not have been excessive, the optics of helmeted drivers in stickered up race cars doing side by side second gear pulls is at best poor. Both drivers are commended for their contrition after the fact.

High quality event sites are in short supply around the country. We have to continue to work together to keep them. Competitors are reminded of Section 1.3.2 L. of the 2021 Solo Rules. "Unsportsmanlike Conduct: Any driver who drives unsafely at/near the event location or displays unsportsmanlike conduct shall be disqualified." Let's keep our racing on the course!

### SOLO EVENTS BOARD | March 24th

The Solo Events Board met by conference call March 24th. Attending were SEB members Mark Labbanz, Nick Dunlap, Bob Davis, Zack Barnes, Keith Brown, Mark Scroggs, and Marshall Grice; Charlie Davis, Arnie Coleman, and Lyn Hodges Watts of the BOD; Brian Harmer of the National Staff. These minutes are presented in topical order rather than the order discussed. Comments regarding items published herein should be directed via the website [www.soloeventsboard.com](http://www.soloeventsboard.com).

### Recommended Items

The following subjects will be referred to the Board of Directors for approval. Address all comments, both for and against, to the Solo Events Board. Member input is suggested and encouraged. Please send your comments via the form at [www.soloeventsboard.com](http://www.soloeventsboard.com).

### Modified Category

#28954 Proposal for changes to DM and EM

The MAC is recommending the following change and would like to thank the many members of the Modified community who provided information and input towards these changes:

Section 18, 18.0, 18.1 changes:

#### 18. MODIFIED CATEGORY

##### Category Objectives

- Provide a competitive outlet for the highest level of allowed modifications.
- Accommodate competitors with purpose built competition vehicles, with allowances for a wide variety of designs and origins.

##### Category Values

- Maximum speed and handling for given car parameters.

- Rules stability to protect member investment and encourage commitment.
- Highest levels of drivetrain and suspension development (varies among the individual classes).
- Custom design and fabrication.
- Maximum tire adhesion with minimum constraint (varies among the individual classes).

#### **Core Modifications**

- Chassis and suspension customization.
- Unconstrained automotive-based powertrain (varies among the individual classes).
- Minimum weights generally based on displacement.

#### **Classes**

- A Modified (AM) – Least restricted class with significant aero allowances and unlimited drivetrain.
- B Modified (BM) – GCR-based formula cars and sports racers with a high power/weight and aero allowances.
- C Modified (CM) – GCR-based formula cars and sports racers with medium power/weight and restricted aero allowances.
- D Modified (DM) – Highly modified very lightweight production-based or approved kit cars with a maximum equivalent displacement of 2 liters and lower weights than EM.
- E Modified (EM) – Highly modified lightweight production-based or approved kit cars with no limit on displacement and higher weights than DM.
- F Modified (FM) – Small, very agile, GCR-based formula cars.

Sports cars and sedans altered in excess of Prepared Category, sports racing and two-seat specials, Formula cars, single-seat specials, dune buggies, and kit cars may compete in Modified Classes A through F (AM through FM).

Rules for Anti-lock Braking Systems (ABS), Traction Control Systems (TCS) and Stability Control Systems (SCS) in CM and FM are as dictated for those cars by the Club Racing General Competition Rules (GCR). ABS is explicitly prohibited in all other Modified classes with the exception of AM, *DM, and EM*, where ABS specifically is allowed. RPM ramp rate limits, tuning of engine output using rpm based boost limits and similar systems that do not use wheel speed sensors, GPS, accelerometers, or other measures of car motion are excepted from limits on TCS and are allowed in classes AM, BM, DM and EM. The use of full TCS and SCS is permitted in DM and EM, with weight additions as shown in Appendix A, but is prohibited in AM and BM. ~~Additionally, in DM and EM, a Stock Tub car (18.1.C.1) may use any ABS, TCS, and/or SCS with no weight adjustment as long as it was a standard option on the car and the original unmodified control unit and programming are used.~~ Engine RPM limiting devices (rev limiters) and cooling fans are allowed in all Modified classes. Data acquisition systems are allowed in all Modified classes unless specifically prohibited by the applicable section(s).

Modified Category cars are divided into classes based on potential Solo® performance. They need not be licensed for or capable of street use. The Solo® Rules shall take preference over the Club Racing GCR concerning safety requirements for vehicles in this Category. Aerodynamic devices must be securely mounted on the entirely sprung part of the car and must not be movable when the car is in motion. The use of any moving device (e.g. a fan, propeller, turbine) or hinged wing to create downforce is prohibited. Movable side skirts are not permitted except where noted herein or in Appendix A, Modified Category.

#### **18.0.A. Sound Control Modifications**

If a formula car or sports racer is restricted by a GCR-stated exhaust length or vehicle length and therefore prohibited from installing the necessary exhaust devices to quiet the car to meet local dB limits, the following shall apply:

The vehicle exhaust system length may be extended to allow for the installation of noise suppression devices. This allowance is provided solely to reduce the exhaust noise emanating from these cars by allowing the installation of (a) noise limiting device(s) and in so doing keep the total exhaust length to a minimum for safety reasons. The installation and the noise limiting device(s) shall serve no other purpose than that stated and this allowance only applies to an extension of the exhaust system, not the vehicle bodywork or frame.

#### **18.0.B. Engine Classifications**

1. Four-stroke cycle and two-stroke cycle, naturally aspirated, internal combustion engines will be classified on the basis of actual piston displacement.
2. Rotary Engines (Wankel) – These units will be classified on the basis of a piston displacement equivalent to 1.6 times (1.6 ×) the volume determined by the difference between the maximum and minimum capacity of the working chamber, times the number of rotors.
3. Turbocharged or supercharged versions of the above engines will be classified on a basis of 1.4 times (1.4 ×) the computed displacement.

#### **18.0.C. Aerodynamics**

The area of a wing shall be computed by multiplying the width and depth of the wing assembly (top view) without regard to the curvature and/ or inclination of the wing or number of elements. Any airfoil shadowed by another airfoil with more than six inches between them will have its own projected area added to the wing area calculation. Any diffuser-type aerodynamic device under the car which is used in downforce generation is not included in the wing area calculation. This specification supersedes Section 12, Wing Area Computation, for these classes.

#### **18.0.D. Tires**

Any tire (including recaps) meeting the applicable portions of Section 3.3 is allowed.

#### **18.0.E. Safety Requirements**

The following shall be required in all Modified Category vehicles:

1. Scattershields/Chain Guard: The installation of scattershields or explosion-proof bell housings shall be required on all cars where the failure of the clutch, flywheel, or torque converter could create a hazard to the driver or passengers. Chain drive cars shall be fitted with a protective case/shield to retain the chain in case of failure.

The following material requirements apply to scattershields/explosion-proof bell housings:

- ½ in. (0.125"; 3.18 mm) SAE 4130 alloy steel
  - ¼ in. (0.250"; 6.35 mm) mild steel plate
  - ¼ in. (0.250"; 6.35 mm) aluminum alloy
  - SFI or NHRA approved flexible shields
2. Master Switch: All cars shall be equipped with a master switch easily accessible from outside the car. Club Racing Spec Racer Ford vehicles shall be wired per RFSRII. The master switch shall be installed directly in either battery cable and shall cut all electrical circuits but not an on-board fire system if so equipped. It shall be clearly marked by the international marking of a spark in a blue triangle and mounted in a standard location. OFF position shall be clearly indicated at the master switch location. The standard locations shall be as follows:
    - a. Formula and Sports Racing Cars: In proximity to the right-hand member of the roll bar but in a location so that it cannot be operated accidentally. It can be mounted on a bracket welded to the inside of the upright member or mounted so that the operating lever or knob is outside of the body panel immediately inboard of the upright member.

- b. Closed Sports Racing Cars, Production Cars, and GT Cars: In front of the windshield on either the cowl or on top of the fender, but close enough to the windshield to be accessible if the car is overturned. Alternatively, it may be mounted below the center of the rear window or on a bracket welded, clamped or bolted to the roll cage or dash, easily accessible through the open window. (Drilling of holes in roll cage to attach the bracket is prohibited.)
  - c. Open Production and GT Cars: May exercise a choice among the above locations.
3. Driveshaft Hoop: RWD DM and EM vehicles shall have a drive-shaft hoop capable of preventing the shaft from entering the driver's compartment or damaging any fluid or electrical lines in the event of joint or shaft breakage. All cars in competition using open driveshafts must have a retainer loop with 360° of enclosure, ¼ in. (0.250"; 6.35 mm) minimum thickness and 2.0 in. (50.8 mm) wide, or ⅞ in. (0.875") x 0.065" (22.23 mm x 1.65 mm) welded steel tubing, securely mounted and located so as to support and contain the driveshaft in event of U-joint failure. Vehicles that have a closed "tunnel" or other such structure which the driveshaft passes through such as the vehicle's frame, may be considered for an exemption from the SEB if that structure meets the criteria stated above.

Note: DM and EM vehicles are exempt from the scattershield, drive-shaft hoop, and Master Switch requirements if they are using DOT-approved tires.
4. The roll bar structure must meet the requirements of either Appendix C or the Club Racing GCR required by class rules. Roll cages are strongly recommended.

Specials are required to have the roll bar extend at least 2.0" (50.8 mm) above the driver's helmet in the normal seated position and a head restraint keeping the driver's head from going under or behind the roll bar. It is strongly recommended that all cars adhere to this specification.
5. Firewalls and floors shall prevent the passage of flame and debris to the driver's compartment. For cars having fluid lines in a non-standard routing over the belly pan, the belly pan shall have drain holes to prevent the accumulation of fluids.
6. No fuel shall be added after the exhaust valve on a piston engine, or after the beginning of the exhaust port of a rotary engine.
7. FSAE cars using electronic throttle control must be able to demonstrate throttle closure to zero when power is cut via kill switch.
8. Ballast may be added to obtain minimum weight requirements. However, it must be attached and secured in a safe manner.
9. Club Racing GCR specific items and/or equipment not required in Modified Category are as follows:
  - a. Fuel cells
  - b. Windscreens, side mirrors and tail/stop lights.
  - c. Headlight covers, lenses, and bulbs.
  - d. Log books.
  - e. Fire retardant driver's suits.
  - f. Homologation.
  - g. Fuel test ports.
  - h. Production-based dune buggies need not meet door requirements.
  - i. Running lights.
  - j. Deformable structures as defined by the GCR Formula Atlantic rules.
  - k. On-board fire systems.

- l. Reverse gear in BM and FM vehicles.
- m. A front impact attenuation device (GCR Section 9.4.5.G) is not required in Solo® Modified Category vehicles.
- n. Driver restraint system aging requirements (GCR Section 9.3.19) do not apply.

The 180° vision rule is recommended.

Note: If any conflict exists between the Club Racing GCR and the Solo® Rules, the Solo® Rules shall take precedence.

See Sections 3.8 and 8.3.1 for documentation requirements.

Refer to Appendix A for additional class-specific vehicle preparation rules.

Refer to Appendix F for past clarifications of these rules.

The following types of cars are assigned to the Modified Category:

### 18.1 MODIFIED PRODUCTION-BASED CARS

#### A. Eligibility

Modified classes D (DM) and E (EM) contain production-based cars which are permitted additional modifications beyond those allowed in Prepared classes XP through FP. Models must meet the requirements of Section 13 (first paragraph), be specifically listed in Appendix A, meet the specifications below, or be otherwise recognized by the SEB.

##### 1. Kit Cars

Kit cars, which were originally designed, constructed, and licensable for street use, may participate in DM and EM if they are approved by the SEB. Members desiring approval of a particular kit car should provide the SEB with detailed information regarding the kit model and contact info, if available, for the OE manufacturer. For obsolete kit cars, the member will be expected to provide construction specifications, dimensions, and photographs for the SEB to examine and keep on file. The SCCA® will evaluate each submitted kit model individually and the evaluation will ensure that the specific model:

- a. Follows current DM and EM allowances regarding minimum floor pan dimensions (see Section 18.1.C.1).
- b. Has no unusually advantageous aerodynamic features.
- c. Has no exceptionally low center of gravity.
- d. Has no exceptionally high strength-to-weight ratio.
- e. Has no other unique features that would upset the competitive balance in DM and EM.
- f. Has independently-verifiable evidence of at least 10 examples which meet the approved specification produced. Extremely limited production sports racer-type efforts are discouraged.

Constructed examples of approved kits are subject to the following:

~~g. They will automatically take the Modified Tub weight penalty (see Appendix A).~~

~~h. They will have the same weight displacement scales and weight bias penalties as production-based cars.~~

- i. They will be allowed all, but no more than, the modifications that production-based cars are permitted, with the exception that minimum width for all kit cars shall be no less than 65" (165.1 cm) as measured at the narrower end of the car at the tire outer sidewalls with a minimum 14 psi of tire pressure.
- j. They are subject to the same engine and transmission restrictions as production-based cars.

- k. They must meet the same safety requirements as production-based cars.
- l. They must compete with full standard bodywork and that body must remain recognizable as that of the approved make and model. For these purposes, the chassis of exoskeleton type cars is considered part of the bodywork.
- ~~m. Functional wings are not permitted even if they are part of the original kit manufacturer's specification and/or components. If present, they must meet section 18.1.F.6.~~

A newly-added model is not eligible for the current year's Solo® National Championships unless its listing was published no later than the July issue of the official SCCA® publication.

The list of currently approved models is as follows:

- Exomotive Exocet
- Factory Five Racing 818 (S & R)
- Sylvia Sports Cars J15

## 2. Clones

Clones/replicas of SCCA®-recognized production cars are permitted to compete in DM and EM provided they comply with the following requirements:

- a. They are substantially similar to and recognizable as the original manufactured vehicle on which they are based.
- b. Their specifications do not violate any rule stated herein.
- c. A clone shall not benefit from kit car manufacturer "running changes" unless those changes have also been submitted and approved.

## 3. Other Models

The Panoz Roadster and Porsche 550 Spyder are eligible for competition in DM and EM. ~~as a modified production-based car using the Modified Tub minimum weights.~~

## 4. Specifications

Weight and displacement specifications are as shown in Appendix A.

## B. Bodywork

1. Respecting Section 18.1.F: Aerodynamic Aids, bodywork may be modified beyond the allowances of Section 17.2; however, the shape of the body must remain recognizable as that of the approved make and model. The body must be made of a fire resistant material. Doors, hoods, trunk lids, sunroofs, hatchbacks, etc. need not function as originally designed. Bumpers, grilles, lights, glass, and trim may be removed. Side mirrors and tail/stop lights are not required.
2. Firewalls and floors shall prevent the passage of flame and debris to the driver compartment. For cars having fluid lines in a non-standard routing over the belly pan, the belly pan shall have drain holes to prevent the accumulation of fluids.
3. The driver must be provided with clear and unobstructed access to the driver's compartment.
4. Interiors may be gutted. The driver's seat must be securely mounted. Steering and driver seating must be completely to the left or right of the vehicle longitudinal centerline. The seat must be mounted such that no part of the driver's body below the waist may cross the longitudinal centerline of the car.
5. Body panels may be altered and air ducting installed to accommodate the installation of the water radiator. If the radiator encroaches into the driver compartment, it must be separated from the driver by a metal bulkhead or enclosing container.
6. Hoods may be altered to allow for induction system changes without restriction. Such alterations shall serve no other purpose.

- ~~7. Standard bumpers may be retained, removed, or replaced with alternate materials. The bumper, if retained, will contribute its contour to the top view outline of the car for measurement purposes. Bumpers made of alternate materials shall retain the shape and size of the original.~~
- ~~8. Doors may be replaced with ones of alternate materials. No other part of the original outside bodywork between the original passenger compartment fore and aft bulkheads, such as rocker panels, floor pan, or frame, shall have reduced thickness or be replaced with light or material.~~

### C. Body and Frame

#### ~~1. Stock Tub~~

- ~~a. No part of the original outside bodywork between the original passenger compartment fore and aft bulkheads, such as rocker panels, floor pan, or frame, shall have reduced thickness or be replaced with lighter material.~~
- ~~b. A bulkhead is defined as a transverse panel that is a separator or step between the driver's compartment and the engine or main luggage area.~~
- ~~c. In cars where a rear luggage compartment is not totally closed off from the passenger compartment, the base of the floor pan step or base of a part height panel that would limit rearward travel of the rearmost of seat bottoms is the rear bulkhead point. If there are built-in seat track catches or stops, they are assumed disabled for this definition of travel.~~
- ~~d. Heavier gauge material repairs or heavier replacement sections are all allowed as long as they closely resemble the original.~~
- ~~e. No removal of the interior sides of the pillars or tub to leave just an outer shell.~~
- ~~f. Interior storage compartment doors, luggage/trunk compartment panels, parcel shelves may be modified or removed.~~
- ~~g. Wheel wells and bulkheads are open to modification as long as the driver is protected from fire and debris.~~
- ~~h. Floor pan width must match or exceed that between the insides of the original rockers. Length must be matched between the original passenger compartment bulkhead locations. Floor pan is defined in Section 12, Floor Pan. Longitudinal structure such as rockers may not cover or overlap the floor pan width. The full standard floor pan width or greater must be visible when viewed from directly above for at least the length of the door openings. The floor pan may only be cut for drivetrain / exhaust / tire / suspension clearance.~~
- ~~i. Tunnels and other vertical floor pan features, as defined in Section 12, Floor Pan, are included as part of the floor pan of a Stock Tub and shall be at least the original size. They can be longer, wider, and taller.~~
- ~~j. No car of any sort with a floor pan less than 37" (94.0 cm) wide for front engine cars or less than 42" (106.7 cm) wide for mid and rear engine cars shall be allowed in DM or EM.~~
- ~~k. A Stock Tub car over 93" (236.2 cm) in wheelbase may change its wheelbase and remain a Stock Tub car if the stock rear bulkhead location and floor pan length are retained.~~

~~No weight adjustment.~~

#### ~~2. Modified Tub~~

- ~~a. All attributes of a Stock Tub must be maintained in this category except as explicitly allowed below. There is a weight adjustment associated with a modified tub.~~
- ~~b. A modified tub is one that mainly achieves a lower CG and improved strength to weight ratio.~~
- ~~c. Lightweight replacement body panels, a thinned-down standard fiberglass body, or a lift-off lightweight shell attached to the main body structure are examples of a modified tub when done in the bulkhead to bulkhead region.~~

- d. Vertical features above the bottom floor pan plane do not have to satisfy original minimum size or shape. Note that the original width and length of the floor pan still have to meet the original dimensions. Drivetrain tunnels and seat mounting platforms may be made smaller than standard ~~with a Modified Tub weight adjustment~~. A flat floor pan is legal.
- e. Floor pan material, thickness, and method of attachment are open ~~under Modified Tub allowances~~.
- f. Rear passenger doors, if present, may be replaced with non-functional panels. Front and rear doors and door openings may be altered to accommodate compliant wheelbase changes.
- g. All other cars, ~~Stock or Modified Tub~~, whose factory wheelbase are less than 93" (236.2 cm) may still change their wheelbase, but it must be done without violating the floor pan length as determined by both front and rear factory bulkhead locations.
- ~~h. All series of Lotus 7, 7A, Super 7 and their clone or kit forms (such as Birkin, Westfield, Locost) are automatically classified as Modified Tubs. This also applies to the Shelby Cobra and its clones.~~
- ~~i. Tube frame cars are included in this modified tub category.~~

### 3. Materials ~~(all tubs)~~

- a. Except as specifically authorized, ferrous metal (containing iron) must be used for all primary load-bearing structures of the car. The primary load bearing structure is the main tub or chassis and its connections to the suspension. No aluminum cages or roll bars are allowed. Any ferrous or aluminum alloy is permitted for suspension arms, location links, and uprights/spindles. Beryllium and beryllium alloys are not allowed anywhere on the car.
- b. The exceptions to the above are parts of the donor production cars that were originally non-metal. In all cases, replacement of these parts or addition of more load bearing structure must be by metal. ~~Lighter replacement sections may not be used between bulkheads in a Stock Tub without it becoming a Modified Tub.~~
- c. Except as specifically authorized, lightweight substitute materials such as carbon fiber are permitted only so long as they are clearly not load bearing in the primary structure or the suspension. For example, outer body panels in the central tub region must be attached in a flexible manner such as with Dzus® fasteners if non-standard material composition or non-standard material thicknesses are to be used.
- ~~d. Cars that have been approved for DM and EM as clones do not have the freedom to use better strength per weight structural materials than those originally used in the corresponding places in the originals. The only exception is the use of high carbon or chromoly steel in place of mild steel.~~

### D. Drivetrain

- 1. Engines must be derived from production automobiles available in the US or elsewhere. Complete race engines derived from production automobile block designs such as the Pontiac® Super Duty 4 and the Cosworth® 16-valve series are allowed. Motorcycle, *UTV, ATV, side-by-side*, snowmobile, marine, or any other initially non-automobile design is not allowed even if it was also made available in an automobile. Non-automobile engines are prohibited. 4-stroke automobile motors shall not be converted to 2-stroke.
- 2. Engine and/or drivetrain changes are permitted within the following limitations:
  - a. Original front-engine design must remain a front-engine design (i.e., no part of the engine block or cylinder head may extend rear-ward of the midpoint of the wheelbase).
  - b. Original rear- or mid-engine designs may be interchanged with each other, but no part of the engine block or cylinder head may extend forward of the midpoint of the wheelbase.
- 3. Non-automobile CVTs are prohibited. Automobile-based CVTs are only allowed with their matching factory engine.
- 4. Internal and external components of the engine, transmission, and rear differential are unrestricted. Any shifting mechanism or pattern is permitted. Driveshafts may be made of any material deemed

safe. Supercharging and turbocharging are permitted without restriction but shall require the displacement specifics of Section 18.0.B.3.

~~5. For weight designations in EM, Mazda rotary engines are compared to the piston engines listed (i.e., 3.2L OHC vs. 4.5L OHV) calculations as follows:~~

~~• 13B 2-rotor normally aspirated engine (1308 cc × 1.6 = 2093 cc)~~

~~• 13B 2-rotor forced induction engine (1308 cc × 1.6 × 1.4 = 2930 cc)~~

~~• 20B 3-rotor normally aspirated engine (1962 cc × 1.6 = 3139 cc)~~

~~• 20B 3-rotor forced induction engine (1962 cc × 1.6 × 1.4 = 4395 cc)~~

5. Supercharging and turbocharging are permitted for all engines subject to the displacement factor of 18.B. In DM, such induction systems must have a restrictor on the inlet side of the turbo/supercharger. All inducted air must pass through this restrictor which must be constructed of metallic material. The minimum orifice (choke) of the restrictor shall be no greater than 33 mm (1.3"). The restrictor pas-sage may be shaped fore and aft of the choke region. The restrictor choke region must be made of one piece without moving parts.

#### E. Minimum Weights

Minimum weights for cars in DM and EM and all adjustments to these weights are shown in Appendix A.

#### F. Aerodynamic Aids

1. These classes are restricted downforce classes. No aerodynamic tunnels, wings, or sealing skirts may be added. No bargeboards, ramps, vanes, wickerbills, or other aerodynamic devices are allowed except as specified herein or as part of an SCCA®-approved GT-1 bodywork package for the specific make and model.

2. The hood, tub, roof, rear fenders, and rear deck are not permitted to be reshaped to achieve downforce. The front of the car may be reshaped to accommodate the construction of spoilers, air dams, and splitters, and may be widened to rear body width as specified in Section 18.1.E.3.c below. Ramps joining the front fender flares to the splitter/spoiler/airdam assembly which are included as part of a SCCA®-approved GT-1 front bodywork package are allowed.

#### 3. Front Aero

a. The standard OE or a non-standard front spoiler or air dam may be used. A non-standard front spoiler is not permitted to protrude forward beyond the overall outline of the car as viewed from above or aft of the forward most part of the front fender opening and shall not be mounted more than 4.0" (101.6 mm) above the horizontal centerline of the front wheel hubs.

b. The spoiler may cover the normal grille opening at the front of the car. Cooling duct openings are permitted. If the front radiator is removed or relocated, no aerodynamic use of the unobstructed front radiator pathway may be made. The front spoiler may be attached to the original bodywork or it may replace the bodywork it would otherwise cover.

c. The front spoiler may not be wider than either the front or rear bodywork, measured as the maximum distance between the outside edges of the wheel well openings or fender flares at axle height. The total fore-to-aft curvature or deviation of the rear spoiler, measured at the trailing edge, shall not exceed 10.0" (254.0 mm) as viewed from above. The front spoiler must be connected to bodywork above the spoiler across its full width. New bodywork may be added to close the gaps between the fenders, nose, and spoiler/splitter/airdam assembly on cars with open or irregular front bodywork such as the Ford® Model T, MG® TD, Morgan®, and Lotus® 7. When these or similar vehicles use a full-width front spoiler, the car's spoiler/airdam is required to be vertical (between 80-100°) for the lower 8.0" (20.3 cm) of its ex-tent. The change in top view outline caused by these bodywork changes is allowed.

d. Front splitters are allowed but must be installed parallel to the ground within  $\pm 1.0$ " ( $\pm 25.4$  mm) fore to aft. The splitter trailing edge must be fully sealed to the front bodywork/fender flair/ spoiler and the splitter may not get wider as it extends forward. From each point on its trailing edge the splitter can extend no more than 8.0" (15.2 cm) directly forward of the top-view outline of the car. The splitter must be a single plane with the top and bottom surfaces parallel, with an overall height of 1.0" (24.5 mm) or less. The leading edge of the splitter may be rounded (the radius area may extend backwards no more than the splitter thickness). The bottom of the splitter may attach to the belly pan but is not required to do so.

Splitter endplate mounting location may be at the outside lateral end or inboard of the outside lateral end of the splitter. Additional mounting plates or strakes may be added inboard of the endplates but these must be no larger than the endplates.

e. A front splitter and its associated features shall not function as a diffuser.

f. An OE splitter which does not conform to these requirements may be used unmodified on the original make and model.

*g. Canards are allowed and may extend a maximum of 6" (15.24 cm) forward of front bodywork/fascia as viewed from above. No portion of the canard may extend past the widest part of the front bodywork/ fascia as viewed from above. Canard area will be measured in the same manner as wings using Section 12, Definitions. Canard area may not exceed 1.2 sq. ft. (1114.8 cm<sup>2</sup>). The canards may have endplates. The endplates may connect the splitter and the canard. The splitter and canard endplate total surface area is limited to 100 sq. in. (645.2 cm<sup>2</sup>) for each side.*

#### 4. Rear spoilers

a. If a rear spoiler is used, it shall be mounted to the rear hatch, deck, or trunk lid, and mount no further forward than the base of the rear window. The spoiler extension for the entire spoiler is set by one measurement at the lateral midpoint of the car. At that point, the spoiler may not extend more than 10.0" (25.4 cm) from the attachment point out to the outer or free edge. This sets the maximum height above ground at all other locations on the spoiler. The result may be a flat topped rather than contoured spoiler. Alternatively, the spoiler may be mounted at the rear of the roof, or to the rear hatch lid at or near the top of the hatch; in such a configuration the spoiler may extend no more than 7.5" (19.1 cm) from the original bodywork, measured as described above. The spoiler angle of attack is free. The rear spoiler is measured from leading, attached edge to trailing or outermost, free edge. Its measurement is independent of its angle of attack.

b. The spoiler may not be wider than the rear bodywork, measured as the maximum distance between the outside edges of the wheel well openings or fender flares at axle height. The total fore-to-aft curvature or deviation of the rear spoiler, measured at the trailing edge, shall not exceed 10.0" (25.4 cm) as viewed from above.

c. Aerodynamic aids permitted in Section 18.1.F shall not function as wings. Therefore, the spoiler may not overhang the bodywork such that air passes both over and underneath it. If the rear spoiler overhangs the side of the car, the lower edge of the spoiler shall be supported by bodywork that will prevent air from passing underneath the spoiler. This may be accomplished by extending the spoiler to join the bodywork or wheel opening/fender flare beneath the overhang.

5. Diffusers are allowed at the rear of the car only; no part of the rear diffuser shall cross the wheelbase centerline into the front half of the vehicle. The diffuser may protrude rearward beyond the top view outline of the car. The diffuser shall have no more than 25.0" (63.5 cm) front to back of expanding chamber; this 25.0" expansion chamber length is inclusive of all parts/components/body forward and rearward of the diffuser. A diffuser is defined as an expanding chamber between the vehicle and the ground for the purpose of accelerating air ahead of it to develop low pressure. Vanes or strakes are allowed inside the diffuser; sideplates and strakes may extend below the diffuser surface as long they do not attain a definite seal with the ground on level ground. Closed undersides or belly pans (lower surface) are permitted. The entire length of the underbody may be closed off to permit proper airflow to a rear diffuser or to smooth the underside of the car. The belly pan shall be flat within 1.0" (25.4 mm) total deviation. No tunnels or other underbody aerodynamic features are

permitted. Chassis rake is free. Additionally, no side skirt or body side, etc., may extend more than 1.0 cm (0.394") below this lower surface anywhere on the car to the rear of the front axle unless specifically permitted by these rules.

6. If a factory production car or kit car was supplied with tunnels ~~or wings~~, they may remain but they must be blocked in a safe manner to prevent them from functioning to provide downforce. For example, foam or sheet metal may be firmly attached in tunnels ~~or on wings~~ to ruin their shape or to stop airflow.
7. Vanes, strakes, and/or endplates (elements) are permitted on front and rear spoilers. A minimum distance of 6.0" (152.4 mm) must separate adjacent elements. These do not have to be square or rectangular; the side profile shape is open. For each element, the total area may be no more than:
  - 56 sq. in. (362.9 cm<sup>2</sup>) for a roof spoiler;
  - 100 sq. in. (645.16 cm<sup>2</sup>) for a trunk spoiler;
  - 100 sq. in. (645.16 cm<sup>2</sup>) for a front splitter.

*8. Wings may be added, removed, or modified. Non-OE wings may only be attached to the chassis or body behind the centerline of the rear axle. The total combined surface area of all wings shall not exceed 8 sq. ft. (0.7432 m<sup>2</sup>) as calculated per Section 12, Definitions. The number of wing elements is limited to 2. Wings designed to be adjustable while the car is in motion must be locked in a single position. Spoilers under 17.2.P and rear wings are mutually exclusive such that a builder may use one or the other, but not both. Wing endplate surface area is limited to 200 sq. in. (1290.3 cm<sup>2</sup>) each and the number of endplates is limited to a maximum of 2. No part of the wing may extend past the widest part of the car.*

#### G. Brakes

The use of any type brakes, pads, and components are permitted (disc or drum). The location of brake components (inboard vs. outboard) may be changed from original. The original "emergency" or hand brake may be removed.

#### H. Tolerances

A tolerance of  $\pm\frac{1}{2}$ " ( $\pm 12.7$  mm) shall be used when measuring floor pan dimensions from the car's original specifications.

#### I. Other

1. At least  $\frac{1}{2}$  the width of each tire must be covered by the fenders when viewed from the top of the fender perpendicular to the ground. No sharp edges are permitted.
2. Suspension systems and wheels are free.
3. The use of a windscreen is not required.
4. Roll bar requirements for cars competing in DM and EM are as specified in Section 3.3.2.

#### Appendix A changes:

##### **MODIFIED CLASS D (DM)**

Modified Production and GT cars with internal combustion engine displacement 2000 cc and under as follows:

- A. The Mazda 12A and 13B Rotary engines are permitted in DM with the following restrictions:
  1. No replacement of cast iron engine case segments with aluminum.
  2. On the 12A engine, only side and rotor housings from 1974-86 engines shall be used.
  3. No replacement of 12A or 13B sections, such as side plates, with those from other series engines (i.e., Renesis-type parts).

4. On 12A engines: no peripheral-porting or J-porting is allowed. Bridge-porting that does not cut into the water O-ring is permitted. On 13B engines, 4- and 6-port: Maximum porting permitted is street-porting. No bridge-porting, J-Porting, or peripheral-porting.

- B. Weight with driver ~~vs. computed displacement~~ (lbs.): 1400
- ~~• Piston engines, normally aspirated up to & including 1800 cc~~ ~~1280~~
  - ~~• 12A rotary engines, normally aspirated w/ porting restriction~~ ~~1280~~
  - ~~• Piston engines, normally aspirated 1801-2000 cc~~ ~~1380~~
  - ~~• 13B rotary engines, normally aspirated w/ porting restriction~~ ~~1380~~
  - ~~• Forced induction w/ displacements per 18.0.B, up to 2000 cc w/ inlet restrictor~~ ~~1380~~
- C. Performance Adjustments (lbs.):
- AWD Add 200
  - Modified Tub ~~Add 40~~
  - TCS/ABS/SCS Add ~~200~~ 100
  - Wings Add 200
  - ~~• ABS and/or SCS (no additional weight adjustment)~~ ~~Add 250~~
- D. Weight Bias Adjustment with driver sitting in the driver's seat (lbs.):
- ~~• RWD with less than 51% weight on drive wheels~~ ~~Deduct 35~~
  - ~~• FWD~~ ~~Deduct 35~~
  - ~~• AWD~~ ~~Not affected~~

## MODIFIED CLASS E (EM)

Modified Production and GT cars as follows:

- A. Weight with driver ~~vs. Displacement~~ (lbs.): 1700
- ~~• Piston engine up to & including 3200 cc OHC~~ ~~1700~~
  - ~~• Piston engine up to & including 4500 cc pushrod/OHV~~ ~~1700~~
  - ~~• 2-rotor rotary engine all configurations~~ ~~1700~~
  - ~~• 3-rotor rotary engine, normally aspirated~~ ~~1700~~
  - ~~• Piston engine, unlimited displacement~~ ~~1800~~
  - ~~• 3-rotor rotary engine, forced induction~~ ~~1800~~
- B. Performance Adjustments (lb.):
- AWD Add 300
  - Modified Tub ~~Add 50~~
  - TCS/ABS/SCS Add ~~300~~ 100
  - Wings Add 200
  - ABS and/or SCS (no additional weight adjustment) Add 375
- C. Weight Bias Adjustment with driver sitting in the driver's seat (lbs.):
- ~~• RWD with less than 51% weight on drive wheels~~ ~~Deduct 50~~
  - ~~• FWD~~ ~~Deduct 50~~

## **Member Advisories**

### **Street Touring Category**

#### #28661 Heat shielding question

Per section 14.10.d, exhaust heat shields may be added, modified or removed within constraints. The STAC views that air intake components that may be modified per 14.10.c.1 may have additional heat shielding added. Components which cannot be changed or modified may not have additional heat shielding applied, such as the intake manifold.

#### #29363 Allow programming for all the things

Thank you for your input. Allowances pertaining to re-programming of specific electronic control units have been added, see sections 14.10.P-Q of the 2021 rulebook. Additionally, allowances regarding engine management have been expanded to permit changes to boost regulation systems, see section 14.10.C.5. The STAC will monitor the impact of these allowance changes before considering any additional changes.

#### #30290 Miata 1.6 engine replacement

There are two rules which could apply in this case because the Street Touring Category rules are derived from the Street Category rules, with additional allowances:

The front content of Section 13 (Street Category), if the replacement part has formally been listed by the manufacturer as the superseding part for a previously discontinued part, or 14.11 which covers when a part is no longer available from a manufacturer for purchase.

In either case, the entrant MUST be able to show documentary proof that the new part is properly listed as the replacement part or is as similar as possible to the original part, respectively for Section 13 or 14.11. The documentation requirements applicable to show proof are contained within sections 3.8 and 8.3.1 of the 2021 Solo Rules. Please note that these rules apply to more than just the crankshaft, so the burden will fall on the competitor to show that all parts of the '93 engine are compliant with the '90 chassis- not just the long nose crankshaft.

## **Change Proposals**

### **Prepared Category**

#### #30487 91-94 Mercury Capri Non Turbo Classing Clarification and Proposal

The PAC would like member feedback on the following proposed set of changes:

In Class DP:

Ford & Mercury

Mustang & Capri (4-cyl non-turbo) (1979-~~93~~ 86)

In Class EP:

Ford & Mercury

*Capri (FWD, 4-cyl non-turbo) (1991-94)*

### **Not Recommended**

#### **Street Category**

##### #30405 V8 Vantage to FS

Thank you for your letter. The SAC believes the Aston Martin V8 Vantage is appropriately classed.

#30409 Move narrow body C6 down to BS

Thank you for your letter. The SAC believes the narrow-body C6 currently exceeds the performance potential of B Street.

#30444 Street Category Wheel Proposal

Thank you for the letter. The SAC believes the wheel rules are appropriately written.

**Street Touring Category**

#29370 2016 Audi TTS in STU

The 2016+ Audi TTS Quattro is not classed in Street Touring. The STAC is holding off on adding new cars to STU until the impact of the new allowances (implemented in 2021) is better known. The STAC is also currently evaluating options for additional Street Touring (ST) classes and potential classification of this vehicle will be considered as part of these discussions.

#30048 ST Class for 2016 Audi TTS

Thank you for your input. The 2016+ Audi TTS quattro is not classed in Street Touring. The STAC is holding off on adding new cars to STU until the impact of the new allowances (implemented in 2021) is better known. The STAC is also currently evaluating options for additional Street Touring (ST) classes and potential classification of this vehicle will be considered as part of these discussions.

#30089 Allow 2013-2016 Porsche Boxster S (981) in STU

Thank you for your input. Although some additional models of the Porsche Boxster and Cayman were being considered for STU, the STAC is holding off on adding new cars to this class until the impact of the new allowances (implemented in 2021) is better known. The STAC is also currently evaluating options for additional Street Touring (ST) classes and potential classification of these vehicles will be considered as part of these discussions.

#30161 Looking for ST class for 2016 M2

The 2016 BMW M2 is not currently classed in Street Touring. Although this car was being considered for STU the STAC is holding off on adding new cars to this class until the impact of the new allowances (implemented in 2021) is better known. The STAC is also currently evaluating options for additional Street Touring (ST) classes and potential classification of the 2016+ BMW M2 will be considered as part of these discussions.

#30300 Lotus Evora allowed on Street Touring Ultra category.

Thank you for your input. The STAC is holding off on adding cars to this class until the impact of the new allowances (implemented in 2021) is better known. The STAC is also currently evaluating options for additional Street Touring (ST) classes and potential classification of this vehicle will be considered as part of these discussions.

#30332 STU

Thank you for your input. The STAC does not feel it is necessary for the Street Touring Category ruleset to address the definition of "charge pipe".

#30374 Explicitly allow SSC cars to run in STX

The STAC does not believe it is appropriate to allow SSC cars to compete in STX at this time.

**Prepared Category**

#30305 Class Ultima in XP

Thank you for your inquiry. The PAC believes that this vehicle is not in the spirit of XP.

**Handled Elsewhere**

**Street Category**

#30389 Please classify the 2021 Cayman GT4 in SS

Please see the response to letter # 29672 published in the January 2021 Fastrack.

### Street Touring Category

#29421 Update Traction/Stability control wording w/ STU proposal - 28321

Please see the response to letter 29386 elsewhere herein.

#30346 Takeback suspension bushings

Thank you for your input. The STAC is interested in member feedback for suspension bushing allowances. Please see the response to letter #30319 in the April Fastrack.

### Tech Bulletins

#### Street Category

#30390 Civic Type R Limited Edition to BS

Per the SAC, add the following listing to Appendix A:

BS

*Honda*

*Civic Type-R Limited Edition (2021)*

#### Street Touring Category

#29386 Update ST Stability Control Rules

14.10.B currently states:

"Original equipment traction control systems may be electrically disabled, but not removed or altered in any other way."

Per the STAC, this should be corrected as follows:

"Original equipment traction *and stability control* systems may be electrically disabled, but not removed or altered in any way.

This is a clarification - the STAC believes the definition of traction and stability controls in Section 12 covers both systems and is updating section 14 to align.

#### Prepared Category

#29912 Fix for 17.2.O Prepared Aero Rules Contradiction

Errors and Omissions: Due to editing errors, the content of 17.2.O is corrected as follows:

17.2.O

The standard OE front spoiler or a non-standard front spoiler/splitter may be used. If a non-standard front spoiler/splitter is used it must comply with the following requirements: Shall be installed parallel to the ground (within  $\pm 3^\circ$  fore and aft) and may extend a maximum of 6" (15.24 cm) forward of the front bodywork/fascia as viewed from above. Splitters may not extend rearward past the centerline of the front wheels axles. No portion of the splitter *may be wider than*/extend beyond the widest part of the front ~~bumper as viewed from above~~ *bodywork/fascia from a vertical line drawn at the center of the front axles forward on the vehicle*. The splitter and canards may have endplates. The endplates may connect the splitter and the canard. The splitter and canard endplate total surface area is limited to 100 sq. in. (645.2 cm<sup>2</sup>) for each side. Canards are allowed and may extend a maximum of 6" (15.24 cm) forward of front bodywork/fascia as viewed from above. No portion of the canard may extend past the widest part of the front bodywork/fascia as viewed from above. Canard area will be measured in the same manner as wings using Section 12.10. Canard area may not exceed 1.2 sq. ft. (1114.8 cm<sup>2</sup>). Openings are permitted

for the purpose of ducting air to the brakes, radiator, and/ or oil cooler(s); equal openings may be placed in the standard lower front panel directly behind openings placed in the spoiler/splitter. The spoiler/splitter may not function as a wing. This allows a vertical airdam/spoiler above a horizontal splitter. ~~but splitter fences or longitudinal vertical members that serve to trap air on top of the splitter by preventing it from flowing around the sides of the car are not allowed.~~