



## 2019 FWD RULES

### GENERAL RULES:

Can be found on AMS Website. [www.raceangola.com](http://www.raceangola.com)

### COMPETITION RULES:

All cars must have a clean, complete, and professional appearance. All body panels must be on the car including bumper covers, fenders, deck lid, hood, and rear deck lid/hatchback at the start of the racing event. Cars must have clearly legible numbers (no spray paint) that are visible by race control and score keepers, on the left door, right door, and roof. All cars must have a clearly legible, minimum 5" tall, number on the upper right (passenger side) of the windshield. Cars must have the driver's name above the window openings on each side.

### ELIGIBLE CARS:

Four or six cylinder, front wheel drive COMPACT CARS ONLY. No full-size cars allowed. No wagons, SUVs, cross-overs, pickups, or vans permitted. Wheelbase must be between 93 – 107 inches. No convertibles allowed. No all wheel drive allowed. No all wheel steering allowed. No rear engine allowed. No mid-engine allowed. No turbochargers allowed. No superchargers allowed. No chemical power adders of any kind (nitrous oxide, benzene, etc.) allowed. Four cylinder engines may be pushrod, SOHC, or DOHC. OEM stock variable cam timing is allowed on four cylinders displacing 2.4 liters or less only. Six cylinder engines must be SOHC or pushrod only, automatic transmission. Maximum displacement for V6 engine is 3.5 liters.

### SAFETY EQUIPMENT:

Safety Inspections will be conducted for each car on a weekly/yearly basis. Roll cage must be 4 or 6 point design, constructed of 1.75" or 1.5" (minimum) .095" steel tubing. Tubing must be roll cage tubing (HREW, CREW, or DOM). All tubing connections, seams, bracing, etc. must be fully welded (no "tack welds" permitted). Cage must be sufficiently attached to the floor/unit frame of the vehicle by welding to the rocker rail or to ¼" minimum thickness sandwich plates bolted through the floor. Reinforcing plate, tubing, or steel angle on the inside of the rocker rails is required. Main hoop of cage must include a diagonal reinforcing bar. Roll cage must include a minimum of 3 door bars per side, connected with spacing bars between each door bar. Driver's side bars must be arched away from the driver's seat area. Driver's door bars must be connected by tubing, or bracing, to the rocker rail to reduce inward bending on impact. Driver's door bars must be covered with steel plate on the outside (minimum 1/8" thickness). Roll cage design must include a minimum of 5 bars extending side to side (top of main hoop, front of halo, dash bar, middle of main hoop, and bottom of main hoop). An additional bar connecting the left and right side door bars behind the driver's seat is permitted. Bars extending through the firewall to the front uni-rail(s) are permitted, but may not extend forward of the strut towers. Diagonal bracing from the a-pillar bars (front uprights) to the dash bar is strongly encouraged. Diagonal support bars extending from the main hoop to the rear are encouraged, and may extend to a distance no closer than 10" from the rear bumper. Only bars to protect fuel cell and accessories will be permitted in the most rear portion of car, this does not mean your diagonals may continue to rear bumper area. Teams are encouraged to include as much additional bracing within the roll cage as they deem necessary. Any roll cage that does not meet the approval of AMS Officials will not be allowed on the racetrack.

Safety padding on the driver's door roll cage bars is required. Safety padding on any roll cage bar that a driver's limbs or body may contact is also required.

Core supports may be reinforced or replaced with tubing. Core support structure may not extend rearward beyond the strut towers. Tubing directly connecting the core support to the roll cage is not permitted.

An aluminum racing seat is required. **Full containment style seat is encouraged.** Seat must be mounted to the roll cage using 1" minimum diameter tubing or material with equivalent or better strength, and bolted with a minimum of six 3/8" or larger (grade 5 or better) bolts with washers to prevent "pull through". **Use of seat "halo type" head restraints and shoulder supports are strongly encouraged.** \* **AMS HIGHLY RECOMMENDS SFI APPROVED HANS, NECKSGEN ZAMP, OR SIMILAR DEVICE, BUT WILL ALLOW HORSESHOE NECK RESTRAINT** \* We have had much discussion in our safety forums and would encourage our drivers to equip their racing seats with head wing(s) to prevent additional injury from side to side head movements, of course, any safety equipment additions should be certified racing equipment.

A minimum of a three inch wide, five (or six) point safety harness is required, and must be attached with grade 8 hardware (or better) to the roll cage and/or seat mount. Belts must have a certification date no earlier than 2013, and must have certification tags still attached. Seat belts must be used and securely latched for all events, and at any time the car is on the race track.

A **Snell SA approved helmet SA2010** certification is required and must be worn at all times when on the race track. Helmet must have permanent factory Snell SA certification mark to be approved. No Snell M rated (motorcycle) or dirt bike helmets will be allowed.

Drivers are required to wear a flame retardant SFI rated driving suit, in clean and sound condition with no tears present. Flame retardant gloves and shoes are also required.

A SFI approved driver's side window net is required, and must be securely mounted with the latching device at the top. Window net must remain latched whenever the car is on the race track.

A battery main shut-off switch is required. A fuel pump shut off switch is also required, and must be mounted at the left front (driver's side) of the interior, in a location that can be reached easily by both the driver and track safety personnel, and the switch must be clearly labeled. **Battery may be relocated to the area behind the driver. Battery must be mounted inside a covered battery box and securely bolted to the car. Any car that has a trunk mounted battery AND a trunk mounted fuel cell MUST have the battery completely enclosed in a SEALED battery box or battery compartment.**

**FUEL CELL - OPTIONAL: \*AMS HIGHLY RECOMMENDS A FUEL CELL & A WAIVER MUST BE SIGNED BY ANY DRIVER NOT RUNNING ONE \***

Fuel cells must be mounted in the trunk area. The maximum fuel cell capacity permitted is 15 gallons. Fuel cells must be true, made for racing fuel cells, no marine (boat) tanks or portable gas containers (gas cans, jerry cans) allowed. Protective bars for the fuel cell are required. Any fuel cell mounted exposed to the underside of the car must be enclosed by a protective steel can, and also be protected with a fuel cell safety cage or impact bar. Fuel cells must be equipped with anti-rollover valves and vented to the outside of the trunk at the left rear. Fuel cells must have a securely latching fill cap. Fuel cell must be mounted with a minimum 1/8" thick, 1" wide straps or 1" tubing. All cars with fuel cells must have a metal firewall completely sealing the trunk area and rear deck from the driver's compartment. Fuel pumps, filters, and fuel lines must be securely mounted, so that they cannot become dislodged or disconnected during a collision. Proper high-pressure fuel line and fittings must be used. Any fuel system deemed unsafe by AMS officials will not be allowed on the track until the problem is corrected.

## **BODY:**

All exterior trim, including lights, body moldings, mirrors, etc. must be removed. All cars are required to have a front bumper cover, hood, both front fenders, windshield, all doors (2 or 4 depending on model), both quarter panels, deck lid (must enclose trunk area), and a rear bumper cover. **Stock or stock appearing body panels must be used. No flat-sided fabricated bodies or aluminum sheeting or fiberglass body panels. Stock appearing bumpers and bumper covers, including made for oval racing or aftermarket covers, may be used if the shape, size, or style resembles the factory parts. Downforce, shovel, or dirt late model bumper covers are not allowed.** Doors must be bolted or welded shut. Doors may be skinned. Interior may be skinned to allow room for roll cage and safety equipment. **No "gutting" of rails or roof pillars will be permitted.** Skirting on the front and sides is permitted, but must not extend greater than 1/2"

beyond the outside width of the tires, and must not have sharp protruding edges or ends. No splitters are allowed. No rear air diffusers allowed. No venting of interior, floor, hood, fenders, roof, quarter panels, doors, or trunk panels (except for fuel cell and driver ventilation systems) is allowed. No aftermarket hood scoops. Brake cooling ducts or vents, connected to the front bumper cover, are permitted. All body panels must be securely attached to the car at the beginning of the racing event. Any body panel, wheel opening, or body attachment that is deemed illegal or unsafe, must be corrected at the direction of AMS officials before the car will be permitted onto the race track.

Cars must have stock frame, stock firewall, and stock floor pans, complete and un-modified. All openings in floor and firewall must be covered. Trunk floor may be modified to allow for fuel cell installation. Hood and deck lid must be secured with a minimum of two hood pins each. All glass must be removed from the vehicle except for the front windshield. All flammable interior trim and sharp trim brackets must be removed from the interior and trunk areas. All air bags must be removed.

Front windshield may be replaced with lexan (polycarbonate) or dirt screen. If using a lexan windshield, a center brace supporting the lexan is required. If using a dirt screen, 3 safety bars in front of the driver are required, plus a full face helmet with eye protection is required.

Side windows must be lexan, and may extend no further back than 12" from the front of the window opening and must go straight up at a 90 degree angle from the door. Windows limiting the ability of the driver to exit the car are prohibited.

**Lexan quarter windows are permitted. Lexan windows must be see-through, and not tinted or painted over in any way. Rear windows are considered optional and must be lexan if used.**

Rear deck spoilers are allowed. Maximum spoiler size is 5" tall and 50" wide. Maximum height of spoiler may not exceed 6" above the deck lid surface. Fabricated spoilers must be see through (lexan) or, metal may be substituted if the spoiler does not limit visibility, so hand gestures and signals may be clearly seen. Any spoiler deemed unsafe by VCTS officials must be removed before the car will be permitted on the race track. No verticals, shark fins, billboards, or similar devices allowed. The front edge of the spoiler must be within 4" of the rear edge of the deck lid, measured horizontally. Spoilers may not extend more than 3" beyond the rear edge of the deck lid, measured horizontally. No roof mounted spoilers are allowed. No window mounted spoilers or any other window mounted aerodynamic devices are permitted. Window mounted NACA ducts for driver ventilation systems are permitted.

No brake lights, strobe lights, under-car mounted lights, or headlamps are allowed.

Ballast must be securely attached to the car (welded or bolted) in a manner that will not allow it to become detached during an impact. All ballast must be painted white and have the car number clearly marked on it. No ballast is permitted inside the driver's compartment.

#### **WEIGHT RULE:**

In an effort to maintain healthy competition,

For safety we are setting a minimum weight rule for ALL competition cars with driver to be at least **2250 lbs.**

***\*AMS REQUIRES 55.0% LEFT SIDE WEIGHT, NO EXCEPTIONS \****

ALL ballast(steel) solid mass), (ball bearings, steel shot, or sandbags similar NOT ALLOWED) additional weights must be painted white, clearly marked with car number/name for easy identification and MUST be securely fastened to vehicle, bolted, welded, etc.

ANY weights lost during competition whether or not involved in collision, will result in immediate disqualification and suspension from further participation of that event and will be subject to thorough inspection before returning to any remaining competition events.

#### **TIRES AND WHEELS:**

Hoosier 790 will be the specified tire for AMS.

Racing Wheels must be the same diameter at all four corners. ***\*AMS REQUIRES RIGHT SIDE WHEELS BE RACING WHEELS. AMS HIGHLY RECOMMENDS LEFT SIDE RACING WHEELS, BUT WILL PERMIT OTHER \****

Tires may be staggered a total of one "size" (a "size" is defined as 23.5" vs. 24.5", or 26.5" vs. 27" for Hoosier 790 tires).

All wheels must be steel racing wheels. Maximum wheel width is 7". Maximum wheel diameter is 15". Permitted backspacing of wheels is 3" or greater. Same wheel backspacing must be used on each side of the car, front and rear (1 inch variance permitted). If wheel spacer is used to clear brake caliper, nothing beyond a ½ inch is permitted. Tires and wheels shall not extend beyond the bodywork in an unsafe manner, fender flairs and rub rails are allowed to accommodate wheels.

Wheel stud threads must meet or exceed the top of the lug nuts. 1" lug nuts are permitted and encouraged.

### **SUSPENSION, DRIVETRAIN, and BRAKES:**

Car must maintain a minimum of 4" ride height. No body panel, skirting, or frame rail lower than 4" above the ground is allowed. No engine or drivetrain component lower than 4" above the ground is allowed.

No made for racing (i.e. Penske, Afco, Pro Shocks, and similar) shocks or struts are allowed. No adjustable struts or shocks are allowed (Any strut or shock with rebound or compression adjustment knobs, rods, bolts, or screws is prohibited). Any spring that fits in the stock mounting location is permitted. Stock or stock style replacement struts or shocks are required. Adjustable sleeves that slide down over the stock strut body are permitted. No shocks or struts using Heims (spherical rod ends) are allowed. Shocks or struts with threads made permanently in their body are not allowed. Stock strut, spring, and shock mounting locations are required.

Stock type front control arms are required. Control arms and mounting locations may be modified for camber and suspension alignment. Strut mounting holes may be modified for camber adjustment. No aftermarket radius rods allowed. No solid metal bushings are permitted.

Rear trailing arms must remain OEM stock. Rear control arms may be replaced with steel tube and Heim ends for safety. Stock rear trailing arms, control arms, and suspension mounting points may be braced for strength.

Stock, aftermarket, and performance sway bars using the stock mounting points are permitted. No made for racing or multi-piece sway bars allowed.

All four brakes must work. ABS sensors must be disconnected or removed. No functioning ABS systems are allowed. Drilled or slotted rotors are not allowed. Stock brake calipers must be used. Brake cooling ducts are allowed on the front brakes only. Parking brake must be disabled, or rendered inaccessible or inoperable by the driver while competing (ZipTied during competition). Stock brake master cylinder is required. A proportioning valve, on the rear brakes only, is permitted if it is not driver adjustable and is mounted in the engine compartment or trunk.

### **ENGINE AND TRANSMISSION:**

***\*AMS WILL REQUIRE RESTRICTORS \*All cars are required to use the intake airflow restrictor specified and provided by AMS officials.*** Intake restrictors must be installed at the track on race day and returned at the end of each event (payout will be withheld until restrictor is returned). Restrictors will be provided to teams by random assignment. ***Any tampering, manipulation, modification, mutilation, or distortion of the intake restrictor will result in automatic and permanent expulsion from the racing series.*** Restrictors must be properly sealed to the throttle body or intake tract and be visible for inspection and within 8" to 10" of the throttle body opening and must pass inspection and test at any given time failure to comply will result in disqualification and loss of points and pay.

Computer tuning devices are strictly prohibited at the track, all tuning should be performed at participants home/garage. Any code checking/clearing must be done with a AMS official in pit before beginning procedure. Anyone found with tuning devices at track, driver/participant will be barred from that days competition and will forfeit all points

and pay obtained for that day. Second offense will result in mandatory 3 race suspension. Any tuning found beyond second offense, suspension for the duration/remainder of season.

Intake manifolds must be stock for the engine make. Throttle body must attach to the intake manifold at the stock location. No aftermarket intake manifolds allowed. No aftermarket or fabricated manifold plenums are allowed. Throttle body EFI or multipoint EFI allowed.

A complete exhaust system, consisting of a single pipe extending from the manifold or header exit to an exit point located on the left or right side, behind the driver's seat, and before the rear wheel is required. Exhaust must be no greater than 2.50" in inner diameter, and must be the same diameter from the header/manifold collector or flange/reducer to the system exit (exhaust tips less than 7" in total length are allowed). The exhaust system exit must extend to the pinch weld under the rocker panel at minimum. No open headers allowed. Exhaust may be welded or bolted, but NO exhaust leaks are permitted the entire length of the exhaust. Loose or leaking exhaust gaskets or exhaust connections will result in disqualification. "Pin-hole" sized leaks may be waived at AMS official's discretion in the interest of fairness. AMS tech officials have the sole discretion in determining what constitutes as a "pin-hole" leak. Exhaust must be routed under the floor pan, and no part of the exhaust system may enter the driver's compartment. No dual exhaust systems are allowed. The maximum combined collector/reducer length permitted for headers is 20".

Cars must use an OEM engine type and brand matching the make and model of car (*Example: Any Honda Civic engine in a Honda Civic is allowed, but an Accord engine in a Civic is not allowed*). No aftermarket blocks allowed. Cylinder heads must be a stock type casting for the engine. For 2017, we have made the allowance for head swaps only, (Example B series to B series; H series to H series). No engine swaps of non-stock engine types from other makes or models of vehicles are allowed (*Example: A V6 truck engine in a Dodge Neon is not allowed*). Intake manifolds must be stock for the engine make. Throttle body must attach to the intake manifold at the stock location. No aftermarket intake manifolds allowed. No aftermarket or fabricated manifold plenums are allowed. Throttle body EFI or multipoint EFI allowed. No carburetors permitted. A maximum of one fuel injector per cylinder is permitted. OEM style starter must be used. INTERNAL ENGINE MODIFICATIONS, such as, but not limited to, porting, polishing, decking, and camshafts ARE ALLOWED.

**All cars will be required to maintain factory motor markings. Any attempt to alter factory markings, hide/mislead/modify engine type will result in disqualification.**

Stock OEM transmissions for the same make and model of car are required. All forward gears must work. Reverse gear must work. No locked differentials.

Fuel is restricted to pump gasoline or racing gasoline. No alcohol (methanol or ethanol) or E85 fuel is permitted. Any car suspected of using alcohol or E85 will be disqualified. No fuel additives (benzene, nitromethane) are allowed. Use of benzene or nitromethane will result in expulsion from the series.

**Just a reminder: ANTI-FREEZE IS PROHIBITED AT ALL TRACKS**

No driver adjustable braking system tuning devices are allowed.

No driver adjustable suspension tuning devices are allowed.

No driver adjustable engine or transmission tuning devices are allowed. Computer tuning devices for 2017 are strictly prohibited at the track, all tuning should be performed at participants home/garage. Anyone found with tuning devices at track, driver/participant will be barred from that days competition and will forfeit all points obtained for that day. Second offense will result in mandatory 3 race suspension. Any tuning found beyond second offense, your suspended for the duration of season.

#### **ADDITIONAL RULES:**

Two-way communication devices are NOT allowed. Any team suspected of using a two-way radio will be disqualified. Drivers are required to use a race-receiver type device to monitor race control during line-ups, practice, qualifying,

racing or any other time the car is on the racing surface. **THE RACECEIVER MUST BE WORN AT ALL TIMES WHEN THE DRIVER/CAR ARE ON RACE TRACK.**

Drivers disqualified from an event will be subject to loss/forfeiture of event championship points, applicable event starting pay, and event purse payout as determined by VCTS and the Race Director. All decisions by AMS Officials on scoring, payout, and penalties are final.

Transponders must be mounted at or behind the rear axle, under the car, using a proper mounting bracket or pouch. Any driver that loses or damages a transponder will be responsible for the full cost of a new replacement transponder. \*  
***AMS REQUIRES TRANSPONDER PLACEMENT INLINE WITH CENTER OF LEFT REAR WHEEL \****

Towing devices are required. A secure towing device (hook, chain, cable, bracket, etc.) MUST be in place both front and rear, securely fastened, labeled and/or painted with a bright color, and located so as not to present a hazard in the event of contact. Please respect those safety crews by fabricating safe, easily accessible and usable tow devices.