

## 2018 ARMS Pro Stock Category Specifications (Rev1)

The following rules are intended to allow competitors to use proven stockcar technology to compete in ARMS road racing events at a reasonable cost. The philosophy of ARMS Pro Stock is to provide opportunities to build a car from readily available stock-car parts from the region (MPST Tour cars).

### I. General Specifications

- A. All cars competing in this class must meet all ARMS safety requirements for GT category automobiles found in Section 5 thru 8 of the GT Sedan Class Regulations unless otherwise specified herein. Car number and class designations must meet ARMS specifications. The class designation is "APS".
- B. All weights and ride height measurements shall be as raced.
- C. The maximum rear weight bias at any point during the competition is 52.5%.
- D. Weight (ballast) shifting devices of any type are prohibited.
- E. No titanium components are allowed for any purpose.

### II. Chassis Specifications

- A. Any commercially available, mild steel stock car chassis with a minimum wheelbase of 102" and a maximum wheelbase of 110" may be used.
- B. Chrome alloy chassis are not allowed.
- C. The maximum track for any chassis is 66.0 inches.
- D. The minimum overall body height of any chassis (measured 10 inches behind the top of the windshield) is 46.5 inches
- E. The base minimum weight for a car is **2700** (~~2800~~) pounds.
  - The GM crate Engine P/N 88958604 must weigh a minimum **2650** (~~2750~~) lbs.
  - The Ford crate D347SR engine must weigh a minimum **2675** (~~2775~~) lbs.
  - The Dodge crate ASA75360 engine must weigh a minimum of **2675** (~~2775~~) lbs and 1.5 rocker arm ratio must be used.
  - **50 lbs may be removed from base minimum weight for 2 speed transmission.**
- F. The minimum ground clearance for any part of the chassis or bodywork rearward of the front tires is 3.5 inches.
- G. The minimum ground clearance for the front air dam or splitter is 2.5 inches.
- H. The maximum overall width is 80.0 inches.
- I. A minimum of 10 inches, measured from the center of the crankshaft bolt to the ground, must be maintained at all times.

### III. Body Specifications

A. All cars in this class must use 1997 through current-year commercially available stock car bodywork. The types of bodies allowed are:

1. Cadillac CTS
2. Chevrolet Camaro (2010+)
3. Chevrolet Impala
4. Chevrolet Malibu
5. Chevrolet Monte Carlo
6. Dodge Challenger (2010+)
7. Dodge Charger
8. Dodge Intrepid
9. Ford Fusion
10. Ford Mustang (2010+)
11. Ford Taurus
12. Ford Thunderbird
13. Lincoln MKS
14. Oldsmobile Cutlass
15. Pontiac G8
16. Pontiac Grand Prix
17. Toyota Camry

**Name Brand on the car is open (i.e. Honda, Fiat, BMW, VW, etc)**

B. All body components must be used in an as-produced, unmodified form and must retain all manufacturer identifying markings. No “one-off” or “high downforce” body packages are allowed.

C. Absolutely no additional holes, vents, modifications, etc., will be permitted on the body panels except as provided herein.

D. Unless damaged by an accident during the racing weekend, all body panels must remain in their standard orientation when the car is at speed (i.e. - no flexing or cocking of body panels to vent air from underneath or inside the car is allowed).

E. The bottom of the car must not be “belly-panned” or flush paneled. Panning may not extend rearward of the trailing edge of the radiator. Other than ductwork that serves no other purpose than to direct cooling air to the brakes, fuel/air metering device (carburetor or throttle body), and/or driver, no fixed or moveable air-directing devices are permitted underneath or inside the car.

F. Installation of air ducts to direct air to cool the driver is permitted. Air ducts to direct air to cool the driver can be installed behind the a-pillar. Duct and mount cannot exceed 8 inches in height by 12 inches in length. A maximum

of three vents may be added to each rear side window to exhaust hot air from the driver's compartment.

- G. The hood must have a minimum of four (4) positive locating pins on the leading edge of the hood and must be securely fastened by either pins or hinges at the rear. Cars using Late Model hoods may install the Five Star hood hold down (part #570-3700 or part #660-3700) to stabilize the front of the hood.
- H. If used, a cowl opening shall be located at the rear edge of the hood at the base of the windshield and have a maximum opening of 2.5" deep by 20.0 inches wide. Fresh air boxes to the fuel/air metering device (carburetor or throttle body) are allowed as long as that ductwork serves no other purpose.
- I. The single-plane rear blade spoiler must be mounted at an angle from 55 to 90 degrees (perpendicular to the ground being 90 degrees) and may not extend beyond the rear bumper when viewed from directly above the rear bumper. Spoilers must be a minimum of .063 aluminum or Lexan and may vary in overall height to match the contours of the bodywork. The rear spoiler dimensions shall not exceed 60.0 inches wide by 5.0 inches in height, or 300.0 square inches total surface area. Braces to prevent spoiler deflection are allowed, but may not serve any other purpose.
- J. A full, stock-dimension molded front windshield is mandatory and must be constructed from 1/8" (minimum) Lexan. Three (3) 1-inch by 1/8" thickness internal windshield support braces should be spaced at least on five-inch centers and roughly centered on the windshield. The windshield must be secured to the body by bolts and/or rivets to prevent the windshield from popping out under internal pressure such as a spin.
- K. A full, stock dimension molded rear "glass" constructed of minimum .090" thickness Lexan is required. It must be held securely in place by a minimum of two (2) 1.0" wide external straps as well as bolts and/or rivets mounting the "glass" to the rear bodywork around the perimeter of the opening. Back "glass" must also be securely braced internally to prevent significant bowing or distortion under racing conditions.
- L. Side windows (driver and passenger side) must remain as produced in dimensions. Models with rear quarter or opera windows must have the stock opening covered with clear, securely mounted .090" thick Lexan. All window net installations must meet ARMS specifications.
- M. All cars must have complete bodies, fenders, hoods, grills, and bumpers. Cockpit floors must be steel and complete with no tunnels and/or air ducts allowed. No streamlining will be allowed, such as windshields, underpans, radiator grills or headlights. Taping of hood and/or body seams is not allowed. Headlight decals and taillight decals or the model's original taillights are required at all times. Two functioning brake lights in the approximate location of the stock units are required.

N. Late model bodies may use “vent windows” to stabilize the A-post at high speeds. The maximum dimension along the top of the door will be nine (9) inches, and the trailing edge must be ninety degrees from the top of the door to the A-post. No vent windows may be added to the existing panels of the flange-fit bodies.

#### IV. Suspension/Shock Absorber Specifications

- A. Springs are open, with one per wheel. Shocks are open but most have a retail price less than \$250 per shock. Driver adjustable shock absorbers are not allowed.
- B. Only steel rod ends of aircraft quality are allowed, no aluminum rod ends
- C. The steering wheel must be mechanically coupled to the front wheels and activate only those wheels (no “steer by wire” or “four-wheel steering”). Power assist is allowed and may be driven off the differential.
- D. A collapsible steering column, either by layout design or column construction, is required.
- E. Front lower control arms must be made of steel. Upper control arms, strut arms and upper pivot shafts may be aluminum.
- F. Front spindles/uprights must be steel, designed for racing applications, and be readily available to all competitors. No one-off, “center cooled” or Riley style spindles/uprights/hubs are permitted. Zero-scrub geometry is not permitted.
- G. Independent front suspension with articulated upper and lower control arms is mandatory.
- H. Major steering components including steering arms, tie rods, idlers, etc., must be fabricated from approved ferrous or non-ferrous alloys. All spherical bearings must be of aircraft quality.
- I. Sway (anti-roll) bars must be made of steel. Sway bar arms must be made of steel or aluminum. Spherical bearings are allowed to be attached to the lower control arm(s) and/or rear end. Driver adjustable sway bars are not allowed.
- J. The longitudinal linking system for the rear of the chassis may not exceed four locations and may not include a “torque tube” of any design. Spring-loaded and/or cushioned (torque absorbing) links are permitted only on upper link(s)
- K. Only a panhard bar may be used to locate the rear axle laterally.
- L. Independent rear suspensions are not allowed.

#### V. Rear End Specifications

- A. Ford 9” or Quick Change units only. No “rear drive” or modified driven Quick Change rear ends are allowed.
- B. The maximum rear camber per wheel is +/- 1.5 degrees.

- C. Only spool or locker style differentials allowed
- D. Electronic and/or electronic/hydraulic traction control devices are not allowed. Competitors found with any type of traction control device on the vehicle, whether operational or not, will be disqualified from the class for twelve (12) months.

## VI. Transmission, Clutch, Flywheel, Bell housing, and Driveshaft Specifications

- A. Transmissions must be of readily available stockcar-style technology with four forward gears and an operating, driver-engaged reverse gear. No five-speed, semi-automatic or automatic transmissions are allowed. Manual “H-style” shift linkage is required. No sequential shift mechanisms are allowed. Ceramic bearings are not allowed.
- B. The clutch is limited to no more than three steel disks and floater plates with a minimum clutch diameter of 5.25 inches. No carbon parts or carbon clutches are allowed. Bell housings must be Quarter Master, Tilton or OEM. Transmissions must bolt directly to the rear bell housing surface (i.e. - the 10” spacers common in GT-1 are not allowed).
- C. The driveshaft must be one piece and made of steel.
- D. A minimum of two steel 360-degree driveshaft hoops shall be installed of sufficient strength to contain the driveshaft in case of u-joint or driveshaft failure. Said hoops shall be located within twelve (12) inches of the front of the shaft and as close as practical to the rear u-joint.

## VII. Wheel and Tire Specifications

- A. Rims must be 15” diameter steel stock car rims of a one piece construction specifically designed for racing. Wheel backspacing must be a minimum of 3.00 inches and a maximum of 7.00 inches (i.e. - zero-scrub front suspension is not allowed). Maximum wheel width is 10”.
- B. Tires will be specified by manufacturer and part number. Allowed Tires are Hoosier 10170 dry, Hoosier 44307 rain.
- C. Soaking or chemical treating of the tires is prohibited.
- D. When the vendor changes the specified tire model because a tire is no longer being manufactured, both the previous model and current model for that manufacturer may be used the next season, but the obsolete tire cannot be used after July 1.

## VIII. Brake Specifications

- A. All vehicles must use dual master cylinder, 4-wheel disc brake systems.
- B. Driver adjustable brake bias is allowed.
- C. Brake rotors must be iron.

- D. Brake re-circulators are allowed.
- E. Any brake calipers may be used that fit within the specified Wheels, as long as they are steel or aluminum, maximum 4 pistons per caliper.
- F. Inline blowers may be used in the brake cooling ducts, but water cooling of the brakes is not allowed.
- G. Electronically controlled anti-lock braking systems are not allowed.
- H. Brake pad materials are open.

## IX. Engine Specifications

- A. Engine must be 360 cubic inch (Mopar 372 with 360 (A) 9.5" block and crank, 360(R) 9" block, GM 350, 9" block and crank, Ford 302 or 351 block) or less cast iron blocks, with a maximum compression of 10.99. The lead cylinder head must touch a string line between stock location grease fittings of upper ball joints. The minimum crankshaft height is 10" (except "crate engines"). Ford and Mopar are allowed a dished piston. No external oil pumps allowed except dry sump.
- B. Mopar engine with 360 (A) block can be bored .040. Mopar with shorter (R) block (9") and casting #P4532693 W2 heads will be no more than 360 cu. in. and must meet conditions listed in section 6.3 below.
- C. Heads must be of cast iron. No exotic heads allowed. Approved heads include Chevrolet (23°) SB Bowtie, Vortec, Dart Iron Eagle 180, 200, 215 or 230; World Product SR Torquer, Sportsman 11, Motown 220; Ford (20°) GT40, Windsor, Windsor Jr.; Mopar W2 (old- style 18°).
- D. The bowl and short turn on the intake side, below the valve seat, may be reworked in as far as the head bolt. Maximum volume of any intake runner is plus 5cc. from manufacturers listed specifications for that head. Bowl blending below the valve seat on the exhaust side is limited to one- inch. Port matching allowed in maximum 1/2". Multi angle valve jobs accepted.
- E. Ford M6049-N351 head and Mopar W2 (casting # P4532693) heads are permitted under the following conditions. Head must remain as produced except gasket matching which is allowed 1/2" in on the intake ports only. Bowl blending is allowed on intake and exhaust to a maximum of 1/2" below the valve seat. No port matching allowed on exhaust ports. Intake runners must not exceed manufacturers' listed specifications. Multi angle valve jobs accepted.
- F. No head other than those listed is approved. No 14° (or less) heads.
- G. Roller rockers are allowed with a flat tappet camshaft only. No mushroom lifters, no aluminum rods permitted.
- H. Radiator: Any radiator allowed (only one permitted and must be ahead of the engine). Only water is to be used as a coolant. No antifreeze or cooling products allowed.

- I. Carburetor/fuel pump/plumbing: Any 2 or 4 barrel intake of cast iron or aluminum is allowed. Carburetor allowed is the Holley 4412 500 CFM. Only the choke flap may be removed. Jets and power valves may be changed. Throttle shaft can be spot welded to linkage. No other modifications allowed. Air entering the combustion chamber must be through the carburetor only. No air passages below the venturi. A four-barrel to two-barrel adapter may be used. Must have two return springs on separate brackets. No electric fuel pumps. Must run air breather. No carbon fiber valve covers or breathers. No nitrous oxide or nitrous plumbing allowed. Fuel cell must have a Maximum 22 U.S. gallons capacity, must be in a steel box, and have at least 8" ground clearance. There must be steel tubing in trunk area. Fuel cell must be fully contained and secured with steel tubing or flat strap. Mandatory SFI approved fuel cell only.
- J. Exhaust: No stainless steel or carbon fiber headers, mufflers, pipes, etc are permitted. If exhaust pipes exit along the body they may not extend out past body panels and must be flanged. The bottoms of exhaust pipes are not to exceed ten inches from ground at exit. Maximum exhaust pipe beyond the muffler is one 5" Outside Diameter (OD) (maximum) or two 3.5" OD (maximum) pipes. Exhaust must exit behind driver and in front of the rear wheels. If exhaust exits under car, exit must point toward ground.
- K. Maximum RPM is 7400

### Crate Engines

- L. Crate engines must remain in original "sealed" specification.
- M. General Motors "crate engine" P/N 88958604 is allowed, complete with a Holly 650 carburetor 4150HP # 80541.
- Carburetor will bolt directly to the intake using a maximum .065" gasket only. No spacer plate is allowed.
  - Carburetors may not be modified
  - The fuel pump pushrod may be replaced with a COMP CAM P/N 4607.
  - Original timing cover and harmonic balancer must remain as produced.
  - Headers must be a 1 5/8" OD to a 1 3/4" OD stepped header with a 3" OD collector.
  - Maximum RPM is 6400.
- N. Ford sealed "crate engine" D347SR is allowed, complete with Holly carburetor model 4150HP # 80541.
- Carburetor will bolt directly to the intake using a maximum .065" gasket only. No spacer plate is allowed.
  - Carburetors may not be modified

- Headers must be 1 5/8" OD to a 1 3/4" OD stepped header with a 3" OD collector.
  - Maximum RPM is 6400.
- O. MOPAR ASA75360 sealed "crate engine" (wet sump only permitted) with a Holly Carburetor model 45150HP # 8054 is allowed.
- Carburetor will bolt directly to the intake using a maximum .065" gasket only. No spacer plate is allowed.
  - Carburetors may not be modified
  - Headers must be 1 5/8" OD to a 1 3/4" OD stepped header with a 3" OD collector.
  - Maximum RPM is 6400.
- P. Sealed "crate engine" combinations could be subject to weight penalties. Combinations (e.g. "crate engine" lower RPM) could be subject to weight variations to ensure fair competition.
- Q. "Crate engines" will maintain a minimum crank height of 11".

#### X. Ignition System Specifications

- A. MSD ignitions only. No HEI ignitions. No magnetos. Only one ignition box is allowed. It is suggested the coil (only one allowed) accompany the box on the same bracket, or in the same area.
- B. Box must be one of the following: MSD analog 6-series (6T, 6TN, 6AL, 6ALN) 6400, 6401, 6420, 6430, or GM 10037378. No digital or externally programmable boxes will be allowed regardless of series number.
- C. MSD Rev limiters (chip type only) must be used. External rev limiters must be MSD part number 8738 or GM 10037379 (6400, 6401 and GM 10037378) only. Units must be placed out of reach of the driver.