Which Class Should I Choose?

AN OVERVIEW – updated January 2016

This document is an overview of some of NASA's premier road racing classes intended to help drivers choose a series. Nothing in this informal summary should be construed as a published rulebook or other enforcement document. The accuracy of the information in this document is not guaranteed as rule changes may have been put into effect after the publication of this guide. Car builders should thoroughly read all applicable rules and contact the NASA National office with any questions. More series descriptions will be added to this summary as they become available and as new classes develop. For more information about all classes please visit drivenasa.com.

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Spec Iron / American Iron / American Iron Extreme (SI / AI / AIX)

This is a classic battle of American muscle cars. The premise is simple: choose an American made sedan and start modifying it. Spec Iron offers racers running 2005-2010 Mustang GT's an affordable "spec" build with direct support from Ford Racing. The American Iron class is limited by a power-to-weight ratio and other important factors to keep the cars on an even playing field despite including nearly every pony car that has been produced in the United States since 1960. The American Iron Extreme class is more "gonzo" with big horsepower, true racing slick tires, and much more liberal build rules that make the cars wide open from the green flag.

Rules Summary:

- All 1960 and newer American made sedans for AI/AIX and 2005-2010 GT's for SI.
- Production chassis, no tube frames
- Minimum weight for SI is 3350lbs, AI/AIX is 2700lbs for V8 and 2400lbs for 4/6cyl
- Power to weight ratio for SI/AI while AIX is unlimited power
- SI/AI cars run on Toyo Proxes RR/RA-1 275mm tires while AIX is open to any tire
- Aerodynamics are fairly open in AIX with some restrictions in AI and not permitted in SI
- Air cooled, iron rotor, multi piston caliper brake setups
- Anti-lock brakes are permitted but traction control is not allowed
- SI runs the OE manual transmission, AI most any synchromesh-type, AIX most anything
- SI/AI cars are required to get a dyno certification

HPD Honda Challenge (HC)

There are three classes within this series (HC1, HC2, and HC4) that cover a wide range of models and a broad spectrum of modifications. Since there is such a wide variety of modification permitted in the different classes, the rulebook is the best source to determine where a particular car fits. This series is well suited for Honda enthusiasts that want to modify their favorite Honda model.

Rules Summary:

- Cage is nearly wide open providing that the minimums are met
- Minimum weight varies depending on model and modifications
- Ballast not to exceed 200 pounds
- Nitrous, forced induction, dry sumps and traction control are prohibited
- Engine balancing, blueprinting and limited over-boring is allowed
- Port-matching is allowed
- Head porting is only allowed in HC1
- Flywheel is open providing OEM diameter minimum is kept
- Limited slip differential is allowed, but only in stock housing
- Any clutch and pressure plate
- AC, smog and heater core may be removed
- Minimum ride height is 4”
- Springs, shocks and sway bars are open but see rules for specifics
- Body kits and aerodynamic devices generally allowed with some restrictions
- Brake pads, fluid and bias valves are unrestricted
- Brake rotors are limited to OEM or replacement in HC4
- Big brake kits generally allowed in HC1 and HC2 with some restrictions
- Gutting of interior, except dash pad, is allowed
- Dash pad may be removed in HC1
- Any wheel diameter allowed
- HC2 and HC4 wheel width is 7” maximum, HC1 wheels are unlimited in width
- Toyo Proxes RR spec dry tire & RA-1 spec rain tire

Spec Miata (SM)/Showroom Spec Miata (SSM)

This class is widely popular mainly because it is inexpensive to run and the cars are a blast to drive. The engine is mild and the suspension components are specified, thus keeping construction cost low as well. Someone can construct a competitive car for about $8,000 - $9,000. Eligible models are 1990 – 2005. The 1.8L cars run a restrictor plate and have to weigh more in order to level the playing field.

Rules Summary:

- Stock engines
- Weight for the 1.6L models is 2300 pounds
- Weight for the 1.8L models is 2400 pounds
- Balancing and lightening of engine parts is not permitted
- 1.8L cars must run a restrictor plate at the throttle body
- Stock downpipe must be used but the rest of the exhaust is open
- Specified limited slip permitted
- Shocks, coilovers, and sway bars are all spec parts
- Any ride height so long as no metal part of the car touches the ground
- Any 15” rims with 7” width maximum. Rims must weigh 13 pounds.
- Toyo RR spec tires
- Any brake pads

Camaro Mustang Challenge (CMC)

This class is for production American pony cars. Modifications are be limited to those necessary to promote safety, close competition, and flexibility to enable drivers to learn and experiment with the principles of race car setup within boundaries intended to limit expenses, thereby providing the drivers with fun, exciting, and challenging yet approachable racing. CMC features 1982-2002 F-body General Motors car (Camaro and Firebird) and Ford Mustangs from 1979-2010. CMC cars are tightly controlled as to allowed modifications which makes this a true "driver's class" where skill behind the wheel is more important than skill in the workshop.

Rules Summary:

- Driveline modifications only to enhance durability and reduce maintenance
- Dyno certification ensures engine power equalization
- Suspension and brakes modifications limited
- Full safety requirements to ensure the safest possible amateur level racing
- Minimum weight varies from 3100-3500 depending on year and model
- Spec Toyo tires on max 17x9.5” wheels

Factory Five Challenge (FFR)

NASA and Factory Five Racing (FFR) formed a partnership to create a unique class based on the widely popular Factory Five Racing Mk4 Roadster platform. A truly affordable, fun and competitive spec racing series. Factory Five Racing has built a purpose-built spec racer, which is based upon their FFR 65 Roadster with the addition of an integrated roll cage. The Factory Five Challenge Series racer uses Mustang 5.0-liter running gear, and provides the perfect combination of performance, safety, affordability and good looks. Although this car is built for race competition, it remains completely street legal. This is the ideal class for the person who has always wanted to own and experience the feel of one of America's most famous sports cars! Drivers can purchase a kit for about $15,000. A 5.0L Mustang donor car is needed for the drive train components. The cost of a donor car can vary, but a competitive racer should cost about $23,000 by the time everything is finished. The kit is assembled per the instructions and most parts are specified.

Rules Summary:

- Donor drive train from 1987-1993 5.0L Mustang
- Trick Flow Factory Five Top End Kit with Twisted Wedge 170 Cylinder Heads
- Horsepower/Torque/Weight Table determines minimum weight
- ECU and Mass Air Sensor part numbers specified.
- Max overbore is 0.060” for rebuilds
- Ride height no lower than the lowest part of the wheel rims.
- Front sway bar part number specified
- Optional front air dam
- Any headers with use of the Factory Five provided J-Pipe
- Smog may be removed
- Any OEM T-5 transmission from eligible donor car. Stock ratios.
- Optional Tremec 3550 transmission may be used with specific ratios
- Stock 8.8” rear end with either 2.73:1, 3.08:1, or 3.27:1 gears required
- Rims must be at least 20 pounds and 17” x 9” max
- Toyo Proxes RR or RA-1 255/40/17 spec tires
- Adjustable brake biasing valve allowed
- 13” 1994-1998 Cobra Mustang front rotors and calipers, 10.5” Mustang 5.0 rear calipers
- Any spring rate
- Shocks are spec and supplied with kit
- Minimum weight is 2400 pounds

Performance Touring (PT)

Performance Touring is a unique series that classifies over 1000 model groups of cars into one of five classes. Once the base class is identified, participants then add Modification Points for each specific modification made to the vehicle. The total number of Modification Points determines the final competition class. In additional to the points-based classing, there is a final check on vehicles to help maintain class parity using NASA's Adjusted Wt/HP Ratio formula. The lowest permitted ratio in the Performance Touring series is 10.5:1 in the PTB class. Any vehicle with an Adjusted Wt/HP Ratio lower than 10.5:1 moves up to the Super Touring series. The vehicle can be modified throughout the season, such as changes to tire size and type, with Modification Points being added or subtracted.

The PT classing formula not only allows classification of most preexisting race cars, but it can also accommodate almost all production vehicles. The classing for PT also is mirrored by NASA's Time Trial series, which provides an easy transition from Time Trial competition to racing.

Super Touring (ST)

Super Touring is NASA's premiere open marque racing series and an extension of the Performance Touring series, catering to more powerful and exotic cars. ST uses an Adjusted Weight to Power Ratio that starts with the vehicle competition weight and the chassis dynamometer horsepower numbers, and is modified and adjusted using ST Modification Factors. There are currently three ST classes, ST1, ST2, and ST3, with a fourth class, ST4, planned for 2017. ST encourages a wide range of builds and modifications within the power-to-weight confines to provide builders, tuners, and racers a showcase for their talent and imagination.

Super Unlimited (SU)

Super Unlimited is the class available for any four (closed) wheel vehicles that have weight to power ratios or modifications over and above those permitted in Super Touring as well as those that do not fit in any other NASA class and are heavily prepared for serious speed. Performance modifications are unlimited, and the only restrictions are those pertaining to safety.

German Touring Series (GTS)

GTS is comprised of six classes of German cars organized strictly based on power-to-weight ratios. This simple formula provides broad flexibility in both vehicle choice and in the modifications allowed (which include just about anything). The result is a broad range of modifications and extraordinarily close racing. GTS classes range from GTS1 (with the highest power-to-weight ratio) all the way up to GTS5, and the unlimited GTSU which has no mandated limits. Most GTS cars tend to be either Porsches or BMWs but GTS fields include vehicles from Audi, Volkswagen, Mercedes-Benz, and even the new MINI. GTS has rules in place to discourage body contact and encourage good sportsmanship. Because of the wide variety of eligible cars, cost to build a competitive car could range from $10,000 to almost anything.

Spec E30 / Spec 3 (SE30 / S3)

These are racing series devoted to non-M BMW E30 and E36 325 models. The goal for Spec E30 and Spec 3 is to create high levels of competition between similarly prepared E30's and E36's at a reasonable cost. Purchase and preparation of a car for these series should be less than $15,000. Both are great for HPDE and Time Trial duty while being built.

Rules Summary:

- Limited to non-motorsport E30 and E36 models
- Stock engine
- Stock transmission
- Specified shocks
- Specified anti-sway bars
- Specified springs
- Removal of interior allowed
- Stock exhaust manifold and down-pipe must be used
- Any 14x 6" or 15x7" rims. Must weigh 13 pounds.
- Toyo RR or RA-1 spec tires

Spec E46 (SE46)

Spec E46 is the newest and fastest growing class in NASA. Based on the popular and widely available 2001-2005 BMW E46 330 it combines the competitiveness and affordability of series like Spec E30 with the high performance and adjustability of classes such as GTS. A competitive car can be built for around $25k including donor car and cage, and large fields already exist in many parts of the country.

Rules Summary:

- Stock engine and transmission to keep costs in check
- Custom spec ECU and exhaust to maximize power, reliability, and parity
- One vehicle weight, one power output
- High quality spec springs and MCS shocks
- Fully adjustable suspension
- Custom 3.46 LSD differential replaces the stock 2.93 open diff
- Emphasis on low weight (2850 pounds with driver)
- Easy integration with modern data acquisition systems
- No wings, splitters, etc
- Excellent contingency awards from series sponsors
- Spec tires are 255.40.17 Toyo RR and 235.40.17 Toyo RA1

944 Spec (944S)

This class is based on the variants of the lightweight and inexpensive Porsche 924 and 944. Competitive cars can be built or bought for a total cost of $6,000 - $10,000. This class is focused on giving drivers affordable, EVEN racing where you won't have to worry about buying the newest hot part every year. Data sharing and inter-class coaching is a staple of 944Spec. Racing modifications are limited to specific limited suspension upgrades, stickier race tires and better brakes.

Rules Summary:

- Eligible models: '83-'88 944 NA 2479cc engine, '87-'88 924S NA 2479cc engine
- 2,600 lbs minimum (with driver), interiors may be gutted
- Stock engines (hp & torque capped and dyno-verifed to avoid expensive engine builds)
- Stock transmissions (factory or aftermarket LSD allowed)
- Limited suspension mods: spec shocks, front coil-overs, any sway bars & springs, camber plates
- Limited brake mods: stock calipers & rotors, any hose/fluid/pad allowde (Hawk contingency)
- Any exhaust/muffler allowed (stock header mandatory)
- Stock wheels, 225/50-15 Toyo RA1 tires (great Toyo contingency)

Spec Z (SZ)

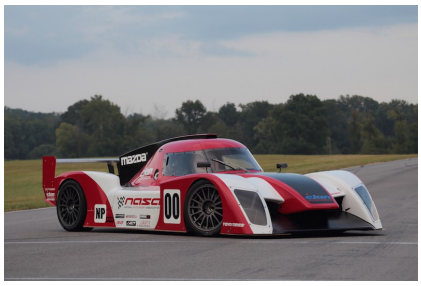
Spec Z features the popular Nissan 350Z in a tightly controlled spec racing series. 350Z's from 2003-2008 are allowed and a complete parts package is available from Nissan's competition parts program alongside a generous contingency package.

Rules Summary:

- 2003-2008 350Z eligible
- 3100-3325 pound minimum weights depending on engine choice
- Exhaust may be modified and catalytic converters may be removed
- Factory ECU must be retained but reflashes allowed
- Nissan Motorsports flywheel and LSD may be used
- Suspension must be Nissan Motorsports Spec 350Z kit
- Any 18x10 inch rim with 18.5 lb minimum weight
- Spec tires are Toyo RR 275/35-18 for dry and 275/35-18 RA1 for wet
- Any OEM exterior body components (including NISMO) are permitted
- OEM Brembo calipers and rotors from the "track" sub-model are permitted

NASA Prototype (NP)

The NASA Prototype Series is a new classification to NASA, expanding our history of affordable local racing into purpose built prototype style cars. The NP01 is built around the new NASA Prototype Èlan NP01 chassis which was designed from the ground up to be fast and great looking but more importantly, safe, fun, reliable and inexpensive to run. Offering competitive fields of identical cars at over 150 events nationwide, there is no shortage of opportunity to run these cars. Designed from the start to run HPDE, Time Trials, Sprint and Endurance Road Races, the NP01 offers an unparalleled number of competition opportunities across the country.



for more information and class rules please visit www.drivenasa.com

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