



2018 American Iron National Champion Michael LaPaglia

## ***American Iron Racing Series*** **2019 EDITION**

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## 1. Introduction

The American Iron Series is a series with 3 classes: Spec Iron (SI), American Iron (AI) and American Iron Extreme (AIX). The American Iron Class was created to meet the needs of domestic sedan racers looking for a series specifically tailored to accommodate modified vehicles that are currently relegated to racing in Unlimited or Spec-limited classes. This class is designed to field a large high-profile group of American Musclecars and will unify fields of cars that currently race in other sanctioning organizations. With this in mind, a variety of other sanctioning organization formats (such as standing starts and flying starts) may be employed during the regional racing season and at the National Championship. This large field/open modification concept will provide racers and vendors access to a promotional racing venue containing similarly prepared and appearing cars that can run nearly unlimited configurations.

## 2. Intent

The American Iron Series Rules encourage each competitor to create an aftermarket-sourced configuration that will make their car perform at an optimum level. The intent of the rules is to allow competitors to use a combination of parts that will increase the performance and competitiveness of the vehicle and create promotional exposure for vendors. It is the intent of the series to serve as a “showcase” for aftermarket tuners and manufacturers and to create tremendous exposure for their products and services while providing a friendly, accommodating, and challenging environment for the series drivers. This approach is intended to create a reciprocal relationship that will encourage the aftermarket tuners to give their full support and attention to the competitors in the series.

Good sportsmanship is valued more than finishing position. This means clean, well-executed passing is to be a trademark of the series. Punting another competitor, or leaning on them to gain a position will not be tolerated. Car to car contact including bump drafting can result in an investigation and possible sanctions. Manipulating the race start, yellow flags or race results in an unsportsmanlike manner is also unacceptable and will result in possible sanctions.

### **3. Sanctioning Body**

The American Iron Series is supported and sanctioned by the National Auto Sport Association (NASA). All race events are governed by the rules set forth by the American Iron Series Directors and NASA officials. All competitors agree to also abide by the rules set forth in NASA's current Club Codes and Regulations (NASA CCR) and any supplemental rules issued by the American Iron Series Directors.

### **4. Eligible Manufacturers/Models/Configurations**

- a) All 1960 through present, American-made sedan vehicles/body styles certified by the United States Department of Transportation for street use at their date of manufacture. (OEM and aftermarket "Body in White" type vehicle shells are allowed provided the body style is the same as original DOT manufacture.)
- b) 100-inch wheel base minimum.
- c) Front engine.
- d) Rear wheel drive
- e) Solid rear axle or OEM independent rear suspension (IRS)\* \* *See Rule 6.1.3*
- f) No full tube frame chassis conversions will be allowed.\* \* *See Rule 7.3.3*
- g) Vehicle must retain its stock front clip, floorpan, and subframe, but certain modifications are allowed per the rules.
- h) "OEM" for purposes of these rules is defined as Ford Motor Company, General Motors, or Chrysler Group LLC. OEM also includes tuner/racer package cars such as Shelby, Roush, Saleen, Hennessey, FR500 and others provided the vehicle body meets the rules herein OEM does not include small volume specialty manufacturers such as Short Wheelbase (SWB) Thunderbirds where base vehicle bodies dimensionally differ from the final OEM product.

### **5. Safety**

#### **5.1 Safety Requirements**

All safety requirements will follow NASA standards as detailed in the NASA CCR. Where the American Iron Series Rules and the NASA CCR's differ, the American Iron Series Rules will supersede the NASA CCR. All vehicles and competitors must be outfitted with proper NASA CCR-compliant safety gear including, but not limited to: legal roll cages, fire suppression systems, harnesses, window nets, safety switches, and proper driver attire. Regardless of vehicle weight, the use of 1.75 inch x .120 inch DOM roll cage material is highly recommended.

#### **5.2 Class Safety**

The NASA Chief Scrutineer or American Iron Series Directors may exclude any car from competition for any items that the Directors or Scrutineer deems to be unsafe. The Event Director may also exclude any car for modifications the Event Director deems to be illegal or unsafe.

#### **5.3 Steering Wheel Lock**

Steering wheel locks must be removed.

#### **5.4 Air Bags**

All cars equipped with air bags must either have the systems disabled or removed. Only an American Iron Series Director can make an exception to this rule.

#### **5.5 Sunroofs/Moonroofs**

Sunroofs or Moonroofs made of glass must be either:

- a) removed from the vehicle during competition; or

b) replaced by an acceptable covering such as sheet metal, composite or carbon fiber that is securely attached to the vehicle covering the opening. Metal sunroofs may be retained if additional fasteners are used to secure them to the vehicle.

## **5.6 Drive Shaft/Torque Arm Safety Loops**

A drive shaft safety loop is required to retain the front end of the drive shaft in the event of a universal joint failure. A suitable torque arm safety loop is also highly recommended to retain the torque arm in the event of a torque arm mount failure.

## **5.7 Scatter shield**

The installation of a scatter shield or explosion-proof bell housing is not required but is highly recommended.

## **5.8 Master switch**

The installation of an electrical cutoff (Master Switch) is required and the switch must conform to the specifications set forth in the NASA CCR.

## **5.9 Fuel Safety Cell**

The installation of a fuel safety cell is not required but is highly recommended. If a fuel cell is installed, it must be installed and maintained in accordance with the rules set forth in the NASA CCR.

## **5.10 Fire Extinguisher/Fire System**

All cars must have a NASA CCR-compliant fire extinguisher installed in a manner that meets the requirements of the NASA CCR. The installation of an onboard fire system meeting the NASA CCR is not required but is strongly recommended

## **5.11 Convertible/T-top Cars**

Convertible/T-top cars are allowed to compete in the series. Convertible cars must have an additional support bar added to the roof halo of the roll cage either running from front to back following the centerline of the car or diagonally from the front driver side to rear passenger side.. This bar is not required but is recommended for T-top cars. Convertible/T-top cars must also employ arm restraints as required by the NASA CCR unless permanently fixed roof panels have been installed per 5.5(b). Convertible cars must run with the top down during competition and provide suitable means to prevent the top from deploying in the event of a rollover. Convertible cars may remove the entire top assembly and mechanism and T-top cars must remove the T-tops during competition unless they are securely and permanently attached.

## **5.12 Roll Cage**

The roll cage must comply with the roll cage standards of the NASA CCR. However, a roll cage may also provide additional chassis stiffening through the use of alternative mounting points. As such, the roll cage mounting points are unrestricted. The roll cage may also pass through the firewall and attach to the front shock towers. Additional bracing may also be welded to the front of the shock tower and extend forward and down to the forward most part of the original frame rail. This bracing may not pass through the shock tower and must not form the upper mounting point for an aftermarket SLA system as the SLA must still remain within the original shock tower. The mounting plate material must conform to the specification in the NASA CCR but the plate size and design is unrestricted. Interior body panels and sheet metal may be bent or altered to accommodate the roll bar design.

## **5.13 Door Safety Bars**

All vehicles must meet the door safety bar requirements found in the NASA CCR at Section 15.6.12 but gutting of the door beyond what is solely necessary to fit cage bars is allowed.

## 5.14 Seats

Seats must be of a fixed-back competition type. No reclining seats are allowed.  
 Seats must be of a fixed-back competition type. No reclining seats are allowed.

## 6. Car Classifications

In order to maintain a fair and competitive racing field, all cars must conform to specific class rules. Vehicle measurements will be taken post-race with driver. No addition of any fluids, removal of equipment, adjustments or other activity that could modify the vehicle is allowed prior to impound. Also, no other adjustments that could adjust weight or power figures may be made to the vehicle from the time it enters the track for competition or qualifying until the time it is released from impound by an official.  
 (See Section 8.1 Dyno Certification.)

### 6.1 American Iron(Power)

The “American Iron” (AI) class has a strict 9.5:1 (9.5 pounds of vehicle weight per each horsepower) power to weight ratio maximum and 9:1 (9 pounds of vehicle weight per each foot-pound) torque to weight ratio maximum as measured at the rear wheels. All vehicles that compete in this class may have less than the specified amount but may not exceed the 9.5:1 and 9:1 HP & TQ ratios, unless specified in the Table 6.1 below, . Vehicles that exceed these ratios must race in the American Iron Extreme (AIX) class (Section 6.2). The absolute minimum weight for an AI car is 2900 pounds with driver.

NOTE – See Section 7.8 (Brakes) for power rating adjustments per the following table

**Table6.1**

ABS type	Power Level
none	9.00:1hp/8.50:1tq ratio
Any OEM ABS (except 2005+ ford)	9.25:1hp/8.75:1tq ratio
2005+ ford ABS only	9.50:1hp/9.00:1tq ratio

#### 6.1.1TrackWidth&Wheelbase

Vehicle	MaximumWheelbase	MaxTrackWidth
'79-'04Mustang	103.00"	76.5"
'05-'14Mustang	109.00"	76.5"
'15-upMustangw/IRS	109.00"	76.5"
rd	103.50"	76.5"
'82-'923GenCamaro	103.50"	76.5"
th	113.00"	76.5"
'93-'024GenCamaro	113.00"	76.5"
th	113.00"	76.5"
'10-up5GenCamaro	113.00"	76.5"
'04-upPontiacGTO	113.00"	76.5"
'08-upDodgeChallenger	116.00"	76.5"
'78-'87GrandNational	110.50"	76.5"
AllOtherAIVehicles	Within2.5"ofOEM	76.5"

Vehicles are allowed a maximum track width as noted in the table above. Track width is measured with driver and is measured at the outside edge of the tires. The track width measurement will be taken at a point three inches from the ground by using two metal plates similar to the Longacre #7950 toe plates. The measurement used for compliance will be the average of the front of the tire and rear of the tire width measurements at the three inch height after accounting for the width of the plates. The plates will be placed flush against the tire and

not perpendicular to the ground for the measurements. All vehicles other than those listed here competing will also have to meet wheelbase and track limits.

### **6.1.2 RideHeight**

Minimum ride height is five (5) inches to be measured with driver. Measurement to be taken at the lowest point of the rocker panel, but not to include welded seams or fasteners. This does not include splitters, exhaust, torque arms, side skirts or other components. Rocker panels may not be modified from OEM. Isolated rocker panel damage may be corrected to prevent erroneous ride height readings. Ground effects should have an access hole near the front footwell for purposes of checking this measurement. Without a suitable means of checking ride height, ground effects may have to be removed to enforce this rule.

### **6.1.3 Independent Rear Suspension–IRS**

6.1.4 Factory IRS is permitted. Updating or backdating of an IRS is not permitted except as Specifically listed herein.

6.1.5 Updating of the 1979-2004 live axle mustangs to the 1999-2004 factory IRS is allowed.

“Factory IRS” is defined as: (a) the unmodified OEM installed rear IRS cradle that attaches to the chassis and serves as a mount for the center differential and uprights; (b) uprights; and (c) differential housing. Control arms and bushing material are unrestricted, but the location of the cradle cannot be changed in relation to the OEM mounting point. The OEM brackets must remain in place and the IRS cradle must mount to the chassis using those points in the OEM location. Bushing material for the brackets and mounts is free (Aluminum, Delrin, etc.) but the mounts must remain as stock.

## **7. Modifications**

### **7.1 Performance**

Any performance modification is allowed provided the car meets the class power to weight ratio rule and complies with the class configuration specifications defined in Section 4. Primary fuels permitted are any grade commercially available unmodified gasoline or ethanol blends such as E85. Secondary fuels such as Alcohol or methanol injection is NOT allowed. Use of Nitrous Oxide power adder systems is specifically outlawed. V8 (and larger) engine AI cars must be naturally aspirated and may not use turbochargers or superchargers.

### **7.2 Tires/Wheels**

The Toyo Tire RR and RA1 are the only tires permitted. The maximum tire width is 275mm. (according to manufacturer specifications). The maximum wheel diameter is 18 inches. The maximum wheel width is 9 1/2". Rain tires must also be the allowed Toyo tires in the allowed sizes. Tire shaving is allowed. No other tire modifications are permitted. (i.e. - no tire grooving or chemical tire traction treatments)

### **7.3 Frame**

The entire tub, floorpan, firewall, and frame assemblies including the cowl and windshield frame must remain in the stock position and cannot be relocated. “Cowl” is defined as the metal structure installed by the factory between the firewall and base of the windshield. “Frame” and “frame rail” are defined as the parallel boxed metal rails running the length of the car that form the basis of the unibody or frame. “Floorpan” is defined as the sheet metal forming the floor and trunk floor of the car. Cars may not be “channeled” to raise the floor within the body or lower the body below the frame rails. The only modifications to these structures allowed will be in the following instances and no secondary purpose for a modification is allowed (i.e. electrical cable passage facilitating suspension clearance). If a modification is not listed below it is specifically not allowed.

- a) To facilitate the addition of safety equipment such as subframe connectors and roll cage bracing (i.e. roll cage may extend through the firewall to strut towers);
- b) To facilitate plumbing or electrical access.
- c) To facilitate transmission fitment or access.
- d) For installation of a fuel cell or fuel tank access. OEM fuel tanks must remain in their original location. Fuel cell location is unrestricted but must comply with the Nasa CCR.

- e) For exhaust clearance. This does not allow exhaust components to be run through the firewall, which is not allowed.
- f) To facilitate installation of and access to ignition and induction components in 4<sup>th</sup> generation F-body GM vehicles. Allowed modification is restricted to removal or clearancing of the cowl/wiper bucket area. The cowl and firewall must remain otherwise intact.
- g) The floorpan may be modified for the purpose of facilitating the installation of a three-link type suspension. Such modification is limited to the minimum amount of material removed to allow clearance for the "third link". The 'third link' can be a single upper control arm connected on both ends, a single torque arm connected on both ends, or two decoupled links that serve the purpose of a single coupled link. ie a decoupled torque arm or decoupled three link. All components that intrude into the cockpit must be covered.
- h) Rear frame rails may NOT be "notched" for suspension clearance.

7.3.1 Radiator core supports may be removed or modified but frame rails must remain intact. Noteframe rails inside the engine compartment (behind the radiator core support) must remain intact. Frame rails and/or front bumper supports (in front of the radiator core support) may be removed or modified. 7.3.2 Shock Towers- vehicles must have OEM front and rear shock towers in the same location as stock. All cars must utilize the OEM rear shock towers for rear shock attachment. Attachment of camber or caster adjusting devices is unrestricted. The OEM rear shock tower must be intact and the shock mount must pass through the original hole in the tower. The tower may be modified to install shock mounts, reinforcements, or spacers but the OEM assembly must remain in place. However, - Pre-1974 cars may modify or remove front shock towers (if applicable) and are unrestricted for rear shock mounting points. 82-92 F body cars may remove a triangular portion of the front part of the strut tower for tire clearance, this portion starts at the fender mounting area and extends down vertically, then inboard to the frame rail and back to the fender mounting area, a minimum of 50 square inches must remain.

## 7.4 Body/Interior

7.4.1 Cars must have neat and clean appearances. All panels must fit properly and be free of sharp edges. All panels must be painted. No vehicle will be able to compete in more than one event with obvious body damage or unpainted body panels.

7.4.2 Only OEM (or the equivalent replacement of same type and material) body panels may used in the American Iron Class except as noted in Sections 7.4.3 and 7.4.7.

7.4.3 Composite roofs, hoods, hatchbacks, trunk lids, front fenders, rear fenders, fender flares, doors, and bumper covers (fiberglass/carbon fiber, etc.) are allowed within the power to weight ratio constraints of the American Iron Class but must resemble OEM parts. OEM Composite roofs may be replaced with composite roofs, however, OEM metal roofs may not be replaced with composite roofs. Examples of composite include fiberglass, plastic, carbon fiber or similar. Glass roofs as found as optional equipment on 2009+ Mustang are not allowed.

7.4.4 Acid dipping or body panel lightening is not allowed in the American Iron Class.

7.4.5 All vehicles may modify wheel openings for the purpose of tire clearance only but when viewed from above the scrubbed contact area of the tire must not be visible.

7.4.6 All interior modifications (including removal of the factory dashboard and wiring) are allowed provided that the modifications do not conflict with any other rules contained herein or the NASA CCR. (NOTE - Series Directors have sole discretion if CCR 18.1.3 (car condition) and CCR 18.9 (exposed wires) are violated.) All AI vehicles are highly encouraged to have a dashboard in the OEM location for a neat/clean appearance.

Dashboards may be constructed of solid material such as aluminum, steel, carbon fiber or similar composite and firmly secured. Examples of composite include fiberglass, plastic, carbon fiber or similar. At a minimum, the dashboard should extend from driver side to passenger side and be adjacent to the front left and front right A-pillar roll cage down tubes.

7.4.7 Lexan or polycarbonate material may replace windshield, rear glass and side windows provided it is installed in accordance with the NASA CCR. Center bracing must be installed in the inside to support the windshield if Lexan is installed. Driver and passenger door windows must be removed or in the 'down position'.

7.4.8 All holes in floors and firewalls must be sealed according to NASA CCR.

7.4.9 All vehicles must start with a minimum of two functioning brake lights.

7.4.10 A minimum of two (2) hood pins are required. Rear deck pins are recommended to secure the trunk lid, or hatchback.

## 7.5 Aerodynamic Device

7.5.1 All aerodynamic devices must be fixed for competition and shall be made from any material.

7.5.2 Venting, louvers, ducting, etc is permitted anywhere on the car.

7.5.3 Front aerodynamic devices are limited to a splitter, air dam, and a maximum of 4 front dive planes/canards and shall not extend frontward more than 5" beyond the outline of the OEM stock bumper/cover and shall not extend sideways more than 1.5" on each side beyond the maximum allowed track width. Front aerodynamic devices shall not extend further rearward than the front axle centerline. Front wings are not permitted.

7.5.4 Only side skirts and vortex generators shall be used between the front and rear axle centerlines. No other aero devices shall be used in the center of the vehicle. Roof wings, under trays, door dive planes, etc. are not permitted. Side skirts must be mounted to the rocker panel area and shall not extend inboard of the inside edges of the tires when the wheels are pointed straight ahead and shall not extend sideways more than 1.5" on each side beyond the maximum allowed track width. Vortex generators shall be mounted on the rear area of the roof only.

7.5.5 Rear aerodynamic devices are limited to a wing, spoiler, diffuser and a maximum of 4 dive planes/canards and shall not extend rearward more than 1.5" of the rear most point of the OEM stock bumper/cover location and sideways more than 1.5" on each side beyond the maximum allowed track width. Rear aerodynamic devices shall not extend further forward than the rear axle centerline. Wings shall have a maximum airfoil width/span of 72" not to include endplates or hardware and a maximum chord depth of 15" for single element wings including gurney flaps, wickers etc. Multi-element wings shall have a maximum total cord depth of 12" measured as the sum of all chords. Wings may overhang the maximum allowed track width beyond 1.5" on each side so long as the span is 72" or less. Wing measurements shall be in a flat plane, not curved around surfaces.

## 7.6 Ballast

Ballast can be added in order to meet the power to weight ratio of the American Iron class. Ballast may be placed in any location provided it is securely fastened per CCR 15.20 and approved by NASA tech and safety officials. Any ballast mounted inside the vehicle may not be taller than three inches or stacked higher than three inches. No more than **300 lbs.** of ballast may be added to the vehicle. Ballast shall be defined as material that serves no other purpose than adding weight. The weight of the ballast shall be clearly marked on the ballast itself.

## 7.7 Catch Tanks

All engine breathers and coolant overflow lines must vent to a catch tank of adequate capacity to hold any potential overflow. Catch tanks may not be mounted in the driver's compartment with the exception of rear differential catch tanks.

## 7.8 Engine Coolant

Adding antifreeze to cooling systems is not allowed. The only engine coolant used in the radiator shall be water. Water additives such as Redline Water Wetter may also be used. The intent of this rule is to avoid slick track conditions produced by spilled antifreeze.

## 7.9 Brakes

7.9.1 Water cooling or other liquid cooling of brakes is not allowed. Air cooling is both allowed and recommended.

7.9.2 Brake rotor friction surfaces must be iron with a maximum diameter of 14 15 inches.

7.9.3 Calipers are unrestricted.

7.9.4 Any OEM Anti-lock brake system (ABS) is allowed which includes ABS valve body and electronics as delivered from the factory .

7.9.5 See Section 6.1 for power adjustments for different ABS equipment. Vehicle and ABS model year are determining factors in the required power to weight ratio.

7.9.6 The Hydraulic Control Unit (HCU) is the determining factor for ABS system identification.

Vehicles with an HCU will be considered to have ABS provided the unit is wired/plugged in.

Vehicles without an HCU or an unwired/unplugged HCU will be considered to not have ABS.

Note- removing a fuse to disable ABS is not a consideration for purposes of this rule.

7.9.7 For AI, Updating and backdating of factory ABS systems into newer and older cars within the vehicle's parent company is allowed. (i.e. – Mustangs may use any Ford produced ABS unit such as FR500. Camaros may use any GM produced ABS unit such as Corvette Z06 etc.

7.9.8 Non-OEM ABS units or ABS units not available for public commercial sale are prohibited.

7.9.9 Use of a proportioning valve in conjunction with ABS is allowed.

7.9.10 All 2005+ Ford ABS systems are treated equally, since FR500 and stock can not be differentiated.

## 7.10 Drivetrain

7.10.1 Rear axle assemblies may be modified in any manner, however for AI only the center section of axle housing and gear carrier on solid axle cars must be of ferrous material.

7.10.2 AI cars must use mechanical clutch synchromesh-type manual shift transmissions with synchros as delivered from the vendor on all forward gears. Transmissions must be available to the public. Non-synchro transmissions such as Jericos are not allowed in AI.

## 7.11 Electronics

7.11.1 Traction control devices are expressly prohibited. Factory installed units must be disabled. See section 8.8 - Burden of proof that unit is disabled lies with the competitor. i.e.- switch disabled, computer indication, etc.

7.11.2 All data acquisition devices are allowed.

7.11.3 Two-way radio communication in the cars is encouraged and recommended.

7.11.4 Any device installed in AI vehicles which is capable of modifying engine ignition timing, fuel delivery, air flow, boost, or other parameters that can modify engine performance (HP and/or TQ beyond the dyno certification) must be non-adjustable during competition.

## 7.12 Engine

7.12.1 All iron blocks for AI cars must be OEM or OEM equivalent (i.e. Dart, Ford Motorsport, GM Performance Parts, etc.). AI cars may not use non-OEM aluminum engine blocks but OEM aluminum blocks are allowed. Examples of excluded aluminum engine blocks would be the World Products or Ford Motorsport aluminum blocks. Examples of allowed aluminum engine blocks would be the Ford 4.6 or GM LS1. Later model engines may be installed into earlier model cars and vice versa. , AI vehicles must be fitted with engines from their parent company. i.e.- Ford engines may not be installed in GM vehicles and vice-versa.

7.12.2 AI vehicles may NOT use dry-sump oiling systems.

7.12.3 The only devices permitted to restrict engine power are the following: Electronic tuning, restrictor plates or throttle stops. Any other restrictor must be approved per section 8.7 non-conforming equipment. All restriction devices must be documented on the dynamometer specification sheet as to their software file name,

size, shape and/or settings. Taping up air boxes or air filters is not permitted. 7.12.4 Turbochargers and superchargers must be mounted in the engine compartment. Intercoolers must be mounted forward of the front axle centerline.

## **7.13 Suspension**

7.13.1 Control arm mounting points are unrestricted on all cars but may not violate any rules herein (i.e. frame modification or IRS rules).

7.13.2 AI cars must utilize upper rear OEM shock/strut attachment points. Any shock attachment mount may be utilized in order to fit to the OEM shock attachment point. Note section 7.3.2 for exceptions to this rule.

## **8. Rules/Procedures**

### **8.1 Dynamometer Certification**

All American Iron participants must have a dynamometer certification report(s) prior to the start of the race or make arrangements to have a dyno test performed immediately after the race. Certification reports can be valid for an entire season provided that NO PERFORMANCE MODIFICATIONS are performed to the car. If more than one tune/setup is used each will require its own dynamometer certification report.

Dyno test must be performed prior to first race entered for the season and after the last race entered from the previous season. Any AI competitor wishing to race without a Dyno Certification will be required to compete in American Iron Extreme (AIX).

The dynamometer certification report will consist of TWO PARTS: a completed AI DYNO SPEC SHEET and DYNO READOUT GRAPHS. These forms must be kept with the vehicle's logbook and be ready to present to any official. The AI Dyno Spec Sheet includes instructions for performing the official dynamometer inspection, which MUST be followed in order for the dyno report to be VALID. Any restriction device placed in the air intake system (or method to restrict power) must be clearly identified as such and marked to indicate its dimensions. The Dyno Spec Sheet is available on the AI website and in the Appendix of the rules. Any AI competitor without a VALID DYNO CERTIFICATION is subject to DISQUALIFICATION or be required to compete in American Iron Extreme (AIX).

### **8.2 Inspection and Testing**

NASA tech inspectors and AI Officials have the right to inspect anything in sight at any time the vehicle is at the track. NASA tech inspectors and AI Officials have the right to request disassembly or any other procedure required to verify vehicle compliance with these rules including a dynamometer verification or be required to run monitoring equipment, such as GPS devices. The AI Official may require that an AI Official or designee be present for any dynamometer verification.

The spirit of this rule is to allow competitors to share information regarding modifications proven to enhance performance, which will drive business to the manufacturers of products that increase performance and increase manufacturer support of the series.

All official American Iron dynamometer tests will be open. All American Iron Series competitors have the option to be present for official chassis dynamometer testing.

Prior to the chassis dynamometer inspection the competitor should top off any fluids, air the rear tires etc to ensure the engine and drivetrain are not damaged during testing and that the car is configured as required by the dynamometer inspection procedure. A NASA Technical Inspector must be present and no other modifications or adjustments may be made to the car.

The competitor is responsible to present the car in 'as raced' condition for all official inspections (Scales, dyno, etc). Failure to present the car for inspection or choosing to not permit an inspection may result in disqualification. Dyno inspection results and electronic monitoring equipment results must be similar to declared dyno results or the competitor may be disqualified. Competitors are responsible for ensuring all dyno tests are performed per class rules.

To ensure fairness, an American Iron Series appointed official or an approved technician will operate any cars being inspected on the chassis dynamometer. 3 consecutive "official" dyno pulls must be performed and the average horsepower and torque value from the 3 measured runs shall be used for power to weight and torque to weight compliance. Should any run result in an erratic or non-repetitive result, series officials may dismiss the result and/or request another dyno pull. The dyno shall use the SAE correction factor for the compliance pulls with a smoothing factor of "5".

Any car exceeding the maximum power to weight ratio for their declared class shall be penalized in accordance with the NASA CCR and these rules.

Dynamometer tests must be conducted on a DynoJet Model in a commercial facility that offers Dynamometer testing as part of their business and is open to the public. Each American Iron Series Director may retain the option to specify which Dyno locations will be the Approved Centers for that particular region. Please check with the Series Director in your area for instructions

Appendix 2 outlines the standard procedure for dynamometer verification procedures to be used during regional events as well as the National Championships. Minor modifications may be made by the regional Series Director based on a specific event's needs.

### **8.2.1 Weight Certification**

All weight measurements are conducted with driver and must be done with American Iron approved weight scales or with specific approval from a series director.

### **8.3 Appearance**

8.3.1 All cars are required to display at least four official NASA racing stickers. One shall be placed on the front, rear, and each side of the vehicle.

8.3.2 Series sponsor or individual race sponsor decals or stickers may be required. Drivers must also display any series required patches and NASA patches on their driving suits.

8.3.3 All cars must display the official "American Iron" windshield banner by class across the top of the windshield unless otherwise directed by series officials. All class cars are shown with blue banner background with red outlined white letters. Banner electronic files or supplies can be ordered from: [www.hyperperformancemotorsports.com](http://www.hyperperformancemotorsports.com) Racers are responsible for having the correct windshield banner for the class they are running.

8.3.4 The driver's last name, or first initial and last name, must be displayed on the bottom right section of the windshield in white block letters between three and five inches in height.

8.3.5 Car numbers and class designation appearance is required per the CCR. All cars must display their assigned car number and class on both sides, front & rear. Side numbers must be at least 10 inches tall and front & rear numbers shall be at least 3 inches tall with a contrasting color. Class identification must be at least 3 inches tall and be located in close proximity to the number. (The series windshield banner satisfies the requirement for a front class designation.)

8.3.6 Car number availability can be obtained by contacting the American Iron Series Directors or NASA Regional Director.

### **8.4 Impound**

All finishing drivers in both classes must proceed to impound immediately after any race or qualifying session unless released by a NASA official. Failure to do so may result in penalties being imposed on the driver. It is purely the driver's responsibility to report to impound with the vehicle and vehicle's logbook at the proper time. If the vehicle is unable to report to impound, the driver must report to impound and remain until released by a NASA official.

### **8.5 Non-compliance/Cheating**

Cheating and non-compliance are not welcome and offenders will receive harsh penalties per the NASA CCR.

### **8.6 Appeals**

Any decision by NASA officials during an event may be appealed per the NASA CCR.

### **8.7 Non-conforming Equipment**

The American Iron Series Directors must approve any equipment that does not conform to the American Iron Series Rules in advance. For consideration, approval must be made in writing thirty (30) days prior to the date of competition. Final technical compliance authority rests with the American Iron Series National Director(s). All technical questions should be addressed to the American Iron Series National Director(s).

### **8.8 Proof of Legality**

It is the responsibility of the competitor to provide proof of legality of their vehicle's modifications or components to AI Officials.

## **8. On Course Conduct**

Per the NASA CCR, any driver displaying rough, negligent, or unsportsmanlike conduct will receive harsh penalties, which may include loss of points, suspension and/or fines at the discretion of NASA officials.

## 9. Points Structure

It is the intent of the American Iron Directors to have at least two qualifying points races per weekend. Because of scheduling and other uncontrollable events, this quantity is subject to change. Please check with your region as to the number of eligible races, which will count for season points.

Points will be awarded as listed in the NASA CCR

## 10. American Iron Directors/Web Page

Any questions concerning the American Iron class should be directed to the Board of Directors or your region's Regional Coordinator.

AIWatson AINationalSeriesDirector alwatson@Drivenasa.com 908-447-5788	
Ted Johnson Central AI Director trj20@cox.net 402-871-5458	Marshall Mosty Texas AI Director Marshallmosty@hotmail.com 940-736-9043
Jason Lakomiak Great Lakes AI Director ai@nasagreatlakes.com 440-867-1808	Jason Lakomiak Midwest AI Director ai@nasagreatlakes.com 440-867-1808
Wesley Dearing MidAtlantic AI Director Wad5122@ahoo.com 540-580-6857	Robert Ames Rocky Mountain AI Director Rwa911@gmail.com 970-846-9070

Ed McGuire Southeast AI Director edmcguire577@gmail.com m 704-562-4910	Patrick Wehmeyer Florida AI Director Patrick.wehmeyer@gmail.com 813-361-1688
Rob Capetz California AI Director rjccorp@aol.com 760-275-7457	AJ Hartman Northeast AI Director AJ@ajhartmanracing.com 609-217-8079

Additional series information, including annual schedule, track records, points race and a public message board may also be found on the American Iron Web page:

**[www.nasaforums.com](http://www.nasaforums.com)**

**[www.ponycars.nasaseries.com](http://www.ponycars.nasaseries.com)**

**[www.facebook.com/americanironracing](http://www.facebook.com/americanironracing)**



# APPENDIX 1

Sample Dyno Test Data Sheet & Instructions

# American Iron

## 2019 Dyno Test Data and Vehicle Specification Sheet

Owner: \_\_\_\_\_ Car#: \_\_\_\_\_ Class: \_\_\_\_\_ Engine CID: \_\_\_\_\_

NASA Log Book # \_\_\_\_\_ Vehicle Year: \_\_\_\_\_ Make and Model: \_\_\_\_\_

Items to be certified (if applicable):

1. Ignition Timing: \_\_\_\_\_ deg. adv. @ idle. \_\_\_\_\_ Not Applicable
2. Idle RPM: \_\_\_\_\_
3. Fuel Pressure: \_\_\_\_\_ psi. (Fuel Injected only)
4. Carb Jet or Rod sizes: \_\_\_\_\_ Primary \_\_\_\_\_ Secondary \_\_\_\_\_ Not Applicable
5. Restrictor size, # of orifices, diameters, thickness: \_\_\_\_\_ Not Applicable
6. Electronic tuning file name \_\_\_\_\_ OEM Tune \_\_\_\_\_ Not Applicable
7. Exhaust Configuration:
  - a. Primary Header pipe size: \_\_\_\_\_ inches or check if stock \_\_\_\_\_  
(Check all that apply)
  - b. \_\_\_ Single \_\_\_ Dual c. \_\_\_ X-pipe \_\_\_ H-pipe \_\_\_ Y-pipe
  - d. Muffler Type: \_\_\_\_\_ Inlet size: \_\_\_\_\_ inches
  - e. Tail Pipe location: \_\_\_\_\_ Outlet size: \_\_\_\_\_ inches
8. List any additional modifications and or parts to bring vehicle to recorded power listed in section 10. (Use reverse side if needed):  
\_\_\_\_\_

9. Altitude of dyno shop: \_\_\_\_\_ ft

10. Rear tire pressure set at 30lbs before run? \_\_\_ Yes

11. Hood **closed open** for dyno pull? \_\_\_ Yes

12. Dynojet set to correct to SAE J1349, smoothing 5 \_\_\_ Yes

13. Reading between 165-210 degree water temp: \_\_\_ HP \_\_\_ Torque \* all numbers round to whole

Reading between 165-210 degree water temp: \_\_\_ HP \_\_\_ Torque

Reading between 165-210 degree water temp: \_\_\_ HP \_\_\_ Torque

**Average of three runs above:** \_\_\_\_\_ **HP** \_\_\_\_\_ **Torque**

**ABS system (circle): None (9:1 hp/8.5:1 tq) STD ABS (9.25:1 hp/8.75:1 tq) '05 up Ford ABS (9.5:1 hp/9:1 tq)**

**Minimum Weight as per class rules:** \_\_\_\_\_ **Pounds**

\_\_\_\_\_  
Owner's Signature Date

\_\_\_\_\_  
Dyno Operator's signature Date

\_\_\_\_\_  
Name

## AI Dynamometer Inspection Procedures

1. Only dyno runs on DynoJet brand dynamometers are acceptable.
2. Dyno report(s) may be performed and used for the entire season provided that:
  - a. It is performed after the last event of the prior season and before the first race entered for the season.
  - b. NO PERFORMANCE MODIFICATIONS are made to the car. If more than one tune/setup is used each will require its own dynamometer certification report.
3. All dyno readings must be corrected to SAE J1349 Rev JUN90 (29.23 in/hg, 77F, zero humidity) and the dyno's smoothing function must be set to 5.
4. Car must be in "ready to race" configuration with regards to engine and drivetrain.
  - a. American Iron Class: All engine or drivetrain components that are *adjustable and affect power* (carb jets, timing, restrictors, etc.) must be explicitly allowed by the vehicle's class rules, must be written down in section 1 - 6 of the inspection sheet, and must match at all times. .
5. Rear tires must be set to 30psi prior to the first run.
6. Hood shall be **closed open** for AI dyno test runs.
7. Electric engine fans and or external cooling fans may be used.
8. Dyno pulls will be made in 4th gear or at a 1:1 ratio.
9. Altitude of the dyno shop must be recorded. Dyno runs made at locations with elevation greater than 1,500 feet higher than the track will not count as being valid at that track. Class Officials may decide to waive this requirement for certain circumstances. Check with your local class director ahead of time.
10. Three consecutive runs shall be made under full power. The RPM range shall be consistent for all three runs. Starting RPM shall be clearly below peak torque and no higher than 2500. Ending RPM shall be clearly beyond max horsepower.
11. Dyno runs shall be made with water temperature in the normal operating range of 165F-210F and drivetrain fluids up to a normal running temperature. (A "practice pull" is highly recommended prior to 3 consecutive runs to ensure proper drivetrain temperatures.) Water temperature may be verified using external temperature measurements such as an infrared temp gun at a thermostat housing or a metal tube section of the line returning water to the radiator.
12. The peak horsepower and torque of each run will be noted on the inspection sheet.
13. The average of the three consecutive runs will be calculated and noted on the inspection sheet. This average horsepower and torque number is what must be used to determine the vehicle's required minimum weight, using the car's specific class weight rules.
14. All HP & TQ results will be rounded to whole numbers. In the case where the measurement falls exactly on the halfway point (.50), it shall be rounded down in favor of the competitor i.e.- 260.50 = 260 and 260.51 = 261

# Appendix 2

## 2019 Trackside Procedures for NASA American Iron

1. Each driver presents their declared dyno spec sheet and Dyno read out graph for the season or an updated one if a change has been made as in the Appendix of the rules. This is used to create a window sticker for impound that shows the cars HP/TQ numbers and its calculated minimum weight.
2. Impound process for weight and dyno
  - a. If the car is called into impound it will first be weighed. If there is no dyno at the track it will only be weighed or if there is a dyno at the track and it is not scheduled to go to the dyno it will be weighed only. Other items could also be checked in impound, track width, height, etc.
  - b. If the car's weight is one pound less than its minimum weight on the window sticker the driver will be disqualified. (Please check your cars weight on the scales at the track and don't rely on the weights measured by other scales or the ones at your shop) (if the scales have a variance of 1% that could be a difference of 34 pounds on a 3400 pound car!)
  - c. The car can be weighed consecutively up to 3 times to verify the consistency of the scales.
  - d. If the car weight is above the minimum it heads to the dyno if scheduled. If a car is weighed it does not always go to the Dyno if not scheduled.
3. At the track the Dyno process may be slightly simplified to save time. Any of the vehicle spec items could be checked at any time to compare to the submitted Specification sheet.
4. Follow the Dyno Inspection Procedures for dyno verification.
5. The HP and TQ number from the dyno will be compared to the cars weight as just measured prior to the current dyno run. (An example would be a car that comes across with 2900/305 on its sticker. It weighs in at 2950 so it passes there. Then it heads to the dyno and pulls 309 HP. Now, this is above the "sticker" HP but the car weighed in at 2950 which would allow a 310 HP maximum and it only pulled 309 so the car is legal).
6. The Series director or impound official may calculate these numbers and compare to the windshield sticker.
7. The series official directed Dyno runs are for verification of the declared dyno sheets presented by the driver and NOT for a new recertification unless requested by the racer & allowed by the Series Director. The Dyno test will be a Pass or No Pass. The Dyno test will be open to the drivers and all series competitors per rule 8.2. Only the final result numbers will be shared and the dyno sheet will not be shared but retained by NASA.