



***2011 AIX National
Champion
Chris Griswold***

***2011 AI National
Champion
Dean Martin***



American Iron Racing Series

2012 EDITION

THIS BOOK IS AN OFFICIAL PUBLICATION OF THE NATIONAL AUTO SPORT ASSOCIATION.
COPYRIGHT ©2011 ALL RIGHTS RESERVED
THE CONTENTS OF THIS BOOK ARE THE SOLE PROPERTY OF THE NATIONAL AUTO SPORT ASSOCIATION. NO PORTION OF THIS BOOK MAY BE REPRODUCED IN ANY MANNER, ELECTRONICALLY TRANSMITTED, POSTED ON THE INTERNET, RECORDED BY ANY MEANS, OR STORED ON ANY MAGNETIC / ELECTROMAGNETIC STORAGE SYSTEM(S) WITHOUT THE EXPRESS WRITTEN CONSENT FROM THE NATIONAL EXECUTIVE DIRECTOR OF THE NATIONAL AUTO SPORT ASSOCIATION.

National Auto Sport Association, Inc.
National Office
P.O. Box 21555
Richmond, CA 94820
<http://www.nasaproracing.com>
510-232-NASA
510-412-0549 FAX

American Iron Racing Series

Copyright, National Auto Sport Association

Official Rules Rules Subject To Change

2012 Rules and Classifications

1. Introduction

The American Iron Series is a series with 2 classes: American Iron (AI) and American Iron Extreme (AIX). The American Iron Series 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. Any decision made by the American Iron Series Directors regarding the status of American Iron competitors or their vehicles is final.

3.1 Governance

3.2 Selection

To support and promote the intent of American Iron Racing, a formal Board of Directors will be selected. This Leadership Team shall consist of a Chief Director and other American Iron Series directors to cover the various NASA regions. If for any reason a director resigns their position, the Chief Director shall appoint a replacement director. If for any reason the Chief Director resigns the full board shall select a replacement Chief Director with NASA approval. The NASA Executive Director will maintain oversight of the series as required by the NASA CCR.

3.3 Procedures/Goals

The American Iron Directors may appoint one or more Regional Coordinators to manage day to day American Iron activities in the different NASA regions. Day to day American Iron activities include recruiting, promoting, determining event procedures as necessary, enforcing series rules, and forming

Incident Review Boards to assist in determining infractions and driver penalties. All requests for clarifications or interpretations of rules shall be made via email to an AI Director. The Directors will return official clarifications to the competitor via email. Rules clarifications will be used as the basis for re-writing rules at the end of the year, as necessary, and will be made public on Nasaforums.com in the form of Technical Bulletins as appropriate. The Directors and Coordinators, collectively called American Iron Officials, shall make all efforts to be available to help answer questions and make new (and current) American Iron competitors feel welcome to the series. The American Iron Official's goals are to keep American Iron weekends and the series as a whole running smoothly, fulfilling the intent of the series.

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 approved independent rear suspension (IRS)*
* See Rule 6.1.3 and Rule 6.2.3
- 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 Scattershield

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

5.8 Masterswitch

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.

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 this ratios must race in the American Iron Extreme (AIX) class (Section 6.2). The absolute minimum weight for a V8 (and larger) powered AI car is 2700 pounds with driver. The absolute minimum weight for 4 or 6 cylinder powered AI cars is 2400 pounds with driver.

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

Table 6.1

<u>ABS TYPE</u>	<u>POWER LEVEL</u>
<u>None</u>	<u>9.00:1 HP / 8.50:1 TQ ratio</u>
<u>Any OEM ABS (except 2005+ Ford)</u>	<u>9.25:1 HP / 8.75:1 TQ ratio</u>
<u>2005+ Ford ABS Only</u>	<u>9.50:1 HP / 9.00:1 TQ ratio</u>

6.1.1 Track Width & Wheelbase (AI)

Vehicle	Maximum Wheelbase	Toyo RA-1 Max Track Width
'79-'04 Mustang	<u>103.00</u> 102.75 “	73.0” <u>74.5</u>
'05-up S197 Mustang	110.00 “	74.5”
'82-'92 3 rd Gen Camaro	103.50 “	<u>76.5</u> 75.5”
'93-'02 4 th Gen Camaro	103.50 “	<u>76.5</u> 75.5”
'10-up 5 th Gen Camaro	113.00 “	76.5”
'04-up Pontiac GTO	<u>113.00</u> 112.25 “	<u>76.5”</u> 76.0”
'08-up Dodge Challenger	<u>116.00”</u>	<u>76.5”</u>
All other AI Vehicles	Within 2.5” of OEM	<u>76.5”</u> 75.5”

~~1979-2004 Fox and SN95 Mustangs are allowed a maximum wheelbase of 102.75 inches. The maximum wheelbase for all other AI vehicles shall remain within two and one half (2.5) of the original factory configuration as determined from OEM factory specifications as listed above.~~

Vehicles are allowed a maximum track width as noted in the table above. Track width is measured “as raced” 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 in AI will also have to meet wheelbase and track limits. Such limits will be defined in technical bulletins as cars enter the series.

6.1.2 Ride Height (AI)

Minimum ride height is five (5) inches, to be measured with driver as raced. 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. Ride height will be measured with a handheld “calibrated stick” held vertical like a feeler gauge. 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 (AI)

6.1.3a 1999-current Mustang Cobra with factory IRS is allowed and updating of 1979-current live axle Fox Body or SN95 cars to factory IRS is allowed.

6.1.3b Other IRS cars allowed are MN12 chassis Ford Thunderbirds/Mercury Cougars, Cadillac CTS, and 2004-up Pontiac GTO's with factory IRS.

6.1.3c 2008 – current Dodge Challenger with factory IRS is allowed.

6.1.3d 2010 – current Chevy Camaro with 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.

6.2 American Iron Extreme (AIX)

The “American Iron Extreme” [AIX] class has no HP or TQ limit and does not require a dyno certification per Section 8.1. AIX also includes all cars that have a power to weight ratio (measured at rear wheels) less than 9.5:1 (9.5 pounds of vehicle weight per each horsepower)-as the AI rules in Section 6.1. The minimum weight for an AIX car is 2700 pounds with driver in full race dress. The minimum weight for 4 or 6 cylinder powered AIX cars is 2400 pounds with driver in full race dress.

6.2.1 Track Width & Wheelbase (AIX)

All AIX cars will have a maximum allowable track width of 78.0 inches (measured at the outside edge of the tires). The track width measurement will be taken with driver as raced 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. AIX wheelbase requirements are the same as AI wheelbase requirements listed in Section 6.1.1.

6.2.2 Ride Height (AIX)

Minimum ride height is 4 inches, to be measured with driver as raced. 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. Ride height will be measured with a handheld calibrated “stick” held vertical like a feeler gauge. Rocker panels may not be modified from OEM. Isolated rocker panel damage may be corrected to prevent erroneous ride height readings. See Appendix for measured area by vehicle type.

6.2.3 Independent Rear Suspension – IRS (AIX)

IRS suspensions may be added to AIX vehicles without limitation meaning cradle configuration, pickup points, control arms, bushings, and differential housings are all unrestricted. AIX cars may also “notch” the rear frame rails for suspension clearance.

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. Alcohol or methanol injection is NOT allowed. American Iron Extreme cars are unrestricted in all performance modifications with the exception of using Nitrous Oxide power adder systems. Use of Nitrous Oxide power adder systems is specifically outlawed. ~~NOTE – Effective 2012,~~ V8 (and larger) engine AI cars must be naturally

aspirated and may not use turbochargers or superchargers. AIX & 4/6 cylinder cars ~~will remain are~~ unrestricted with regards to power adders per this section.

7.2 Tires/Wheels

American Iron- The Toyo Tire RA-1 will be the Spec tire for American Iron. 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)

American Iron Extreme- Any size readily available commercially sold tire is allowed (racing slicks or DOT tire.) However, AIX competitors may only use a maximum 18-inch diameter wheel with a maximum width of 13 inches. Tire shaving, tire grooving and tire treatment is allowed.

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. For AIX only, plumbing shall include intercooler or intake piping, but all air intakes must be mounted outside the cockpit.
- c) To facilitate transmission fitment or access.
- d) For installation of a fuel cell or fuel tank access. S197 chassis Mustangs may relocate the fuel tank from the rear seat stock location to the trunk area behind the rear axle.
- 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 4th 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 a hole being cut in the floorpan to allow the "third link" to pass through the floorpan to the attachment point in the cockpit. All components that intrude into the cockpit must be covered.
- h) Rear frame rails may be "notched" for suspension clearance in AIX only.
- i) AIX vehicles may have the rear floorpan between the frame rails removed from the roll cage main hoop rearward, but the frame rails must remain intact and a suitable covering must be in place to provide a bulkhead between the driver compartment and the ground.

7.3.1 Radiator core supports may be removed or modified but frame rails must remain intact. Note-frame rails inside the engine compartment (behind the radiator core support) must remain in tact. Frame rails and/or front bumper supports (in front of the radiator core support) may be removed or modified.

7.3.2 Shock Towers (AI) ~~AI~~ cars must have OEM front and rear shock towers in the same location as stock. AI 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 pre-1974 cars are unrestricted for rear shock mounting points.

7.3.2.1 Shock Towers (AIX) ~~AIX cars must have OEM shock towers in place and resemble the factory build, but attachment points are free.~~ The shock towers may be modified or removed (i.e. SLA, etc) in AIX. Rear shock mounting points are unrestricted.

7.3.3 The following aftermarket bolt-in front subframe assemblies are legal in AIX for the 1967-1981 GM F-body platforms. Provided these bolt in subframe assemblies are utilized, forward roll cage/chassis stiffeners may be attached to the assembly (as would be the case of cars equipped with shock towers.)

Jakes Rod Shop

67-69 Apex front subframe PN1006769

70-81 Apex front subframe PN1007081

Chris Alston's Chassis Works

#7701

Other aftermarket suppliers may submit similar weight & dimensional designs to the National Series Director listed at the end of the rules for possible inclusion herein.

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 American Iron Extreme cars are unrestricted in all body panel material and modification. AIX cars are allowed to remove rear inner fender metal structures to facilitate tire fitment ("mini-tub"), but an alternative structure must be put in place to cover the tire and seal the tub assembly.
- 7.4.3 Only OEM (or the equivalent replacement of same type and material) body panels may be used in the American Iron Class except as noted in Sections 7.4.4 and 7.4.7.
- 7.4.4 Composite hoods, hatchbacks, trunk lids, front fenders, fender flares, and bumper covers (fiberglass/carbon fiber, etc.) are allowed within the power to weight ratio constraints of the American Iron Class. Note- 7.4.3 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.
- 7.4.5 Acid dipping or body panel lightening is not allowed in the American Iron Class.
- 7.4.6 AIX vehicles may modify front fenders and rear quarters for any purpose, but when viewed from above the scrubbed contact area of the tire must not be visible. AIX vehicles may use composite or other materials for the entire fender or quarter panel.
- 7.4.7 AI 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. Composite (fiberglass/carbon fiber, etc) front fenders and rear fenders are allowed. Fenders must resemble OEM parts but are free as to venting, louvers, and other modifications.
- 7.4.8 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. AI vehicles are required to have a dashboard in the OEM location for a neat/clean appearance. Dashboards shall 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 rollcage downtubes. Dashboards should extend to the windshield horizontally and have a vertical section of 3 inches or more. Dashboards are not required in AIX.
- 7.4.9 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. Lexan or other material windows are not allowed on either the driver or passenger front doors but are allowed in all other positions.
- 7.4.10 Spoilers, wings and air dams must be fixed for competition. Front splitters, air dams or dive planes shall not extend frontward or sideways more than 5" beyond the outline of the nose of the car as viewed from above. Front wings and roof wings are not allowed. Rear wings or rear spoilers installed on AI cars must not extend rearward more than 1.5 inches beyond the outline of the rear bumper and may not have an airfoil width not to include endplates or bolts greater than 72 inches.

- 7.4.11 All holes in floors and firewalls must be sealed according to NASA CCR.
- 7.4.12 All vehicles must start a race with a minimum of two functioning brake lights.
- 7.4.13 A minimum of two (2) hood pins are required. Hood and rear-Rear deck pins are recommended to secure the ~~hood~~; trunk lid, or hatchback. ~~NOTE - EFFECTIVE 2012, a minimum of 2 hood pins will be required.~~
- 7.4.14 Aerodynamic devices including but not limited to under trays, side skirts and diffuser tunnels may not be mounted between the inside edges of the tires between the front and rear axle centerlines. Flat bottoms are expressly prohibited and all splitters must end at the front axle centerline and rear diffuser structures must end within one and one half (1.5) inch rearward of the rear bumper silhouette as viewed from above at the most rearward dimension.

7.5 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 (i.e.- at least one grade five 3/8' diameter bolt per 10 lbs of ballast) 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~~ **150 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.

7.6 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.

7.7 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.

7.8 Brakes

- 7.8.1 Water cooling or other liquid cooling of brakes is not allowed. Air cooling is both allowed and recommended.
- 7.8.2 Brake rotor friction surfaces must be iron with a maximum diameter of 14 inches.
- 7.8.3 Calipers are unrestricted.

7.8.4 Anti-Lock Braking Systems (ABS)

- 7.8.4 Any OEM Anti-lock brake system (ABS) is allowed which includes ABS valve body and electronics as delivered from the factory.
- 7.8.5 **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.**
- 7.8.6 **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.**
- 7.8.7 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.
- 7.8.8 AIX anti-lock brake systems (ABS) are unrestricted but must use units from an OEM or OEM equivalent. Please consult with your local series director if you have questions.
- 7.8.9 Non-OEM ABS units or ABS units not available for public commercial sale are prohibited.
- 7.8.10 Use of a proportioning valve in conjunction with ABS is allowed.
All 2005+ Ford ABS systems are treated equally, since FR500 and stock can not be differentiated.

7.9 Drivetrain

- 7.9.1 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. AIX axle housing materials are unrestricted.
- 7.9.2 AI cars must use synchromesh-type transmissions with synchros as delivered from the vendor on all forward gears. Transmissions must be available to the public, ~~for under \$6000 suggested racer net as raced, excluding the shifter mechanism~~. Non-synchro transmissions such as Jericos are not allowed in AI.
- 7.9.3 AIX cars may use any manually shifted, mechanical clutch transmission that is available to the public, ~~for under \$6000 suggested racer net as raced, excluding the shifter mechanism~~. Sequential, electronic, hydraulic, pneumatic, paddle shifters and other "exotic" transmissions are illegal.

7.10 Electronics

- 7.10.1 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.
- 7.10.2 All data acquisition devices are allowed.
- 7.10.3 Two-way radio communication in the cars is encouraged and recommended.
- 7.10.4 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.

7.11 Engine

- 7.11.1 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. ~~NOTE - EFFECTIVE 2012~~, 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.
- 7.11.2 AIX engine blocks are unrestricted but must use engines from any OEM or OEM equivalent (i.e. no 3-rotor Mazdas, Formula 1 BMW's, or Rolls Royce turbines allowed). Please consult with your local series director if you have questions.
- 7.11.3 AI vehicles may not use dry-sump oiling systems.

7.12 Suspension

- 7.12.1 Control arm mounting points are unrestricted on all cars but may not violate any rules herein (i.e. frame modification or IRS rules).
- 7.12.2 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.
- 7.12.3 AIX cars are unrestricted in shock/strut attachment points but may not violate section 7.3.2. 1

8. Rules/Procedures

8.1 Dynamometer Certification

All American Iron (AI only) participants who wish to compile season points must have a dynamometer certification report prior to the start of the race or make arrangements to have a dyno test performed immediately after the race. (Note that one certification can be valid for an entire season provided that no performance modifications are performed to the car). 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 Sheet 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

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 re-certification 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 re-certification.

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 may top off any fluids needed to ensure the engine and drivetrain are not damaged during testing. The fluids must be added with a NASA Technical Inspector present and no other modifications or adjustments may be made to the car.

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 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.

8.2 Weight Certification

All weight measurements are conducted "as raced" 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. AIX class cars are shown with red banner background [with blue outlined white letters](#). AI class cars are shown with blue banner background [with red outlined white letters](#). (See [2012 Series Rules Cover Page](#)). [Banner design font file can be found on www.nasaponycars.com. Racers are responsible for having the correct windshield banner for the class they are running.](#) Contact your regional series director for [possible](#) supplies.

- 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 to info@americanironracing.com 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.

9 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.

10 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. However, an additional 4 points will be added for each pole position earned. An individual may only accrue pole points for the allowed number of scored events for a given regional series (i.e. if 14 events are scored out of a total of 16 events available, only 14 poles can be tallied).

11. **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.

<p><u>Todd Covini</u> <u>AI National Series Director</u> <u>Todd@Drivenasa.com</u> <u>713-252-3465</u></p>	
<p>Adam Ginsberg California AI Director Adam @ shrackracing.com 214-505-2921</p>	<p><u>Marshall Mosty</u> Texas AI Director <u>Marshallmosty@hotmail.com</u> 940-736-9043</p>
<p>Jay Andrew Great Lakes AI Director ai@nasagreatlakes.com 330-435-4848</p>	<p>Chris Griswold Midwest AI Director Chris.Griswold@gvmachine.com 262-492-5685</p>
<p>Jimmy Bost Mid Atlantic AI Director gojimmybost@gmail.com 703-281-1993</p>	<p><u>Robert Ames</u> Rocky Mountain AI Director <u>Rwa911@gmail.com</u> 970-846-9070</p>
<p>Ed McGuire Southeast AI Director Ed_McGuire@hotmail.com</p>	<p>Patrick Wehmeyer Florida AI Director Patrick.Wehmeyer@verizon.net 813-361-1688</p>
<p><u>Corey Weber</u> -California AI Asst Director <u>Corey@forecast3d.com</u> 760-809-3151</p>	<p>Al Watson Northeast AI Director Al_streetmotorsports@hotmail.com 908-447-5788</p>

Formatted: Font: 12 pt

Formatted: Font: 12 pt

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.Americanironracing.com

www.nasaforums.com

www.nasaponycars.com

www.facebook.com/americanironracing

Formatted: Font: 14 pt

Formatted: Font: 14 pt



APPENDIX

Sample Dyno Test Data Sheet & Instructions

*(See Your Regional Series Director or Technical Bulletins online
for a link to the current Dyno Test Sheet)*

American Iron & Camaro Mustang Challenge
2012 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. 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
7. List any additional modifications and or parts to bring vehicle to recorded power listed in section 10. (Use reverse side if needed):

8. Altitude of dyno shop: _____ ft
9. Rear tire pressure set at 30lbs before run? _____ Yes
10. Hood open for dyno pull? _____ Yes (CMC)NO (AI)
11. Dynojet set to correct to SAE J1349, smoothing 5 _____ Yes
12. Reading between 165-210 degree water temp : _____ HP _____ Torque
 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**

Minimum Weight as per class rules: _____ **Pounds**

Owner's Signature Date

Dyno Operator's signature Date

Name

AI/CMC Dynamometer Inspection Procedures

1. Only dyno runs on DynoJet brand dynamometers are acceptable.
2. One dyno report 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.
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.
 - b. Camaro Mustang Challenge Class: All engine or drivetrain components that are *not stock and affect power or are adjustable* (restrictors, air intakes, timing, 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.
6. Hood shall be open during CMC dyno test runs. ...closed 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 no higher than 2000. 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. One dyno certification may be valid for an entire race season as long as no performance modifications are made to the car.
15. 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