

# KONI CHALLENGE REGULATIONS

2009 Rule Book

As of 1/13/09

Additions/Deletions to the Rule book are denoted by a Tech Bulletin and are in Red.  
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## KONI CHALLENGE REGULATIONS

### SECTION 1 - PURPOSE

**1-1 Purpose** - This category is designed to encourage race competition of standard volume-produced cars and components, to demonstrate the quality and reliability of various makes and models, and to promote the performance of drivers, manufacturers and other participants.

### SECTION 2 - DEFINITIONS

**2-1 Definitions** – “Automobile” or “car” is used throughout the Grand-Am Rule Book to mean the Grand-Am approved engine block/crankcase and body shell/chassis combination. During a race neither the body shell/chassis nor the engine block may be replaced.

### SECTION 3 - ELIGIBILITY

**3-1 Eligibility** – All automobiles, chassis, bodywork and/or engines presented for competition to Grand-Am must be approved by Grand-Am and conform to the rules, regulations and specifications for the various classes published in this rulebook.

3-1.1 Grand-Am will determine and publish a list of specific eligible makes and models of automobiles.

Eligible cars will ordinarily be those described in manufacturer’s catalogs, produced at a minimum rate of 500 units per year, and available for purchase through normal dealer outlets 30 days or more prior to competing in an event. Exemption from minimum production requirements must be approved by Grand-Am.

3-1.2 Equipment will not be considered as having been approved by reason of having passed through inspection unobserved.

#### 3-2 Classes

3-2.1 Grand-Am will recognize two classes of eligible makes and models - Grand Sport (GS) and Street Tuner (ST).

3-2.2 Grand-Am may at its own discretion reclassify, add or delete specific makes and models, or change specifications.

3-2.3 Cars will remain eligible for competition for five years after the last model goes out of production.

#### 3-3 Recognition/Configuration

3-3.1 Grand-Am may use any legitimate forms, publications, original components and vehicles describing the production OEM (original equipment manufacturer) specifications of the eligible makes and models in order to verify compliance with these regulations.

Grand-Am may require a competitor to furnish factory specifications prior to competing.

3-3.2 Grand-Am may establish specifications that are not per the original manufacturer specification.

3-3.3 Each car must conform to the standard configuration as delivered to U.S. consumers by the manufacturer except where these regulations allow or require modifications.

3-3.4 Grand-Am may require competitors to exchange or replace parts with those of another competitor; manufacturer's replacement part or as otherwise stipulated by Grand-Am.

3-3.5 Grand-Am will publish the required tire sizes for each eligible make and model on the vehicle eligibility list.

3-3.6 ABS and Traction Control, if used, may only be OEM for the car unless specified in Section 8. These systems, if used, must be used in conjunction with the as delivered OEM management systems. Aftermarket ABS and Traction Control systems and/or aftermarket ABS and Traction Control management systems and/or processors are not permitted. Grand-Am may specify an aftermarket ABS unit.

3-3.7 Data Acquisition Systems may be used. A separate, visible and traceable wiring harness must be used for all data acquisition equipment. If used data acquisition systems must as a minimum monitor engine RPM, speed in MPH, physical track map position and boost pressure (PSIG, on turbo cars). The system may include engine monitoring functions, (including oil pressure and temperature, water temperature, etc.) Additional inputs may only include one longitudinal and one lateral g load sensor, front and rear brake pressures, four wheel speed sensors, steering input, gear selected, throttle position, gps mapping and beacon hit.

(Note: This specifically does not mention chassis parameters like shock travel, load cells, tire temp., brake temp., ride height sensors and other higher order functions as these are beyond the scope of the expectations for a Koni data acquisition system as determined by the sanctioning body.)

#### **SECTION 4 - CHASSIS/BODYWORK REGULATIONS**

##### **4-1 Drive and Steering -**

- 4-1.1 The automobiles must have four wheels not in line.
- 4-1.2 Four-wheel steering is prohibited.

##### **4-2 Added car weight -**

- 4-2.1 All ballast must be carried in a ballast box constructed of metal with a minimum thickness of .100 and utilize the passenger seat mounts for anchoring. The box must fully enclose the ballast with a top that bolts in place. The ballast must also be secured inside the ballast box.
- 4-2.2 It is prohibited to add or remove weight or change to a lighter component during the race.
- 4-2.3 Grand-Am reserves the right to check vehicle weight at any time during an event.
- 4-2.4 Grand-Am reserves the right to adjust minimum weights.

#### **SECTION 5 - FUEL CELLS**

##### **5-1 Fuel Tank/Cell -**

- 5-1.1 Fuel tanks must remain OEM unless an approved fuel cell is used.
- 5-1.2 Safety fuel cell foam is permitted in the OEM fuel tank.
- 5-1.3 Fuel cell installation must be approved by technical department.

##### **5-2 Fuel Fillers/Vents -**

- 5-2.1 Fueling systems must conform to Grand-Am General Automobile Regulations. Single dry break rigs must use 1 1/2 inch hose.
- 5-2.2 Cars may be fueled using single or double dry break fueling systems. When using the dry break system, both the filler and the air vent must be equipped with a leak proof probe dry break coupling complying with the dead man principle. The couplings must not incorporate any retaining device when in an open position. If dual dry break is used the receptacle must be accessed by opening the trunk, hatch or OEM fuel door.
- 5-2.3 Modifications necessary for a dry break fuel system installation are permitted. OEM fuel doors must be operational.
- 5-2.4 Fuel Sample Ports - Competitors must install a fuel sampling port at or just before the injector rails.

##### **5-3 Fuel Lines -**

- 5-3.1 Standard fuel hoses and lines may be replaced by armored lines maintaining standard I.D. and routing.
- 5-3.2 When flexible, all lines must have threaded connectors and have armored braid.

##### **5-4 Fuel Capacity -**

- 5-4.1 Any device, system, procedure, construction or design, the purpose and/or effect of which is any increase whatsoever, even temporarily, of the total fuel storage capacity beyond the maximum is prohibited.
- 5-4.2 Grand-Am reserves the right to adjust the fuel capacity.

#### **SECTION 6 - MANDATORY SAFETY EQUIPMENT/MODIFICATIONS**

**6-1 Roll Cage -** All cars must be equipped with a roll cage made from a minimum of 1.750 x .090 DOM seamless steel tubing and constructed per normal industry standard on any car built after 2001. The roll cage must include a horizontal bar between the main hoop upright, at shoulder height, to facilitate seat bracing/mounting. The roll cage structure may not extend forward beyond the firewall. KONI Challenge cars present a variety of different scenarios when it comes to roll cage construction. Please feel free to call our office for clarification.

- 6-1.1 For KONI Challenge roadsters, the roll cage specification is per sections 10-3.1, 10-3.1-1.1, and 10-3.1-1.2 except for bars #16A, #4A and #8. Bar #6 is optional.

See General Automobile Regulations: Ref. Section 10-3.

In addition to the driver's side window net in KONI Challenge roadsters, driver arm restraints

must be worn by the driver in such a fashion that the driver cannot reach within 6 inches of the top of the roll cage.

6-1.2 Accepted FIA-spec cars may use 40.0 mm X 2.0 mm tubing.

**6-2 Glass** - The driver and passenger door glass must be removed. All other greenhouse glass must remain as standard. All headlight, taillight, side marker and turn signal lenses must remain as standard unless otherwise allowed to be removed. Windshield and rear glass supplemental clips or straps may be added. Tinted glass is not permitted.

### **6-3 Other Safety Modifications**

6-3.1 Hubcaps, wheel trim, spare wheel, jack and any tools must be removed.

6-3.2 Air bags and related components must be removed. Steering wheel locks must be removed.

6-3.3 Wheel lugs may be lengthened up to two inches in order to accommodate thicker wheels. The lug type is free. i.e. bolt vs. stud. The lug nut assembly may not protrude more than two inches from the mounting face or protrude beyond the outer plane of the wheel.

6-3.4 Catalytic converters must be removed.

## **SECTION 7 - AUTHORIZED MODIFICATIONS**

**7-1 Standard Components** - The following authorized modifications may be made but are not required. The standard OEM components may be used at all times.

### **7-2 Brakes**

7-2.1 Grand-Am may allow a brake upgrade for specific models. If allowed, only one two-piece (split into two halves) caliper of aluminum alloy with a maximum of four pistons and two pads per wheel permitted.

7-2.2 The emergency brake system may be removed. ABS brake components and system may be deactivated and/or removed. ABS, if used, may only be OEM system for car unless noted in Options for each car. Aftermarket ABS systems will be limited to either (Tevis) system as authorized on 20004 BMW M3, Nissan 350Z and Porsche 997. Bosch system as authorized on new cars by specification line.

7-2.3 Backing plates and dust shields may be modified or removed.

7-2.4 Fluid or fan cooling of the brakes is prohibited.

7-2.5 Brake pads, brake lines and hoses are free provided standard I.D. and routing are maintained. Quick couple brake line connectors are prohibited. Friction material and backing plate dimensions must maintain industry standards. Brake pad backing plates must be steel.

7-2.6 Replacement brake rotors may be used provided the replacement is of the same material and is within five-percent of the OEM rotor dimension. If Grand-Am specifies a rotor size it may not be changed. One-piece rotors may be replaced with two-piece design (hat and disc).

7-2.7 Air ducting to the front brakes is permitted either through the front OEM parking or fog light openings or the underside of the front bumper. Maximum two brakes ducts front and rear are allowed.

7-2.8 Cars are allowed cockpit brake fluid bias adjustment.

### **7-3 Shocks, Springs, Suspension**

7-3.1 No modifications to suspension components are allowed unless otherwise approved per vehicle make and model.

7-3.2 Springs may be replaced with commercially available aftermarket or OEM units provided they are used without modification to any other components. Coil-over shocks may be used provided OEM pick up points are utilized. KONI 2800 series shocks are mandatory on all KONI Challenge Series cars beginning 01/01/09. The external **unmodified** and internal KONI components must be maintained. **(This is to clarify that no internal parts may be modified by machining of any kind. Parts must be used as supplied by KONI in any combination.) All KONI Sports Car Challenge Series cars may use only unmodified parts from the posted parts list. Parts list will be posted on the Grand-Am website.**

7-3.3 Caster and camber adjustments may be made with approved fitting of camber plates to an allowable limit of negative 3 degrees or as specified by Grand-Am.

7-3.4 Front and rear sway bars may be added or replaced with aftermarket bolt on sway bars affixed to the OEM sway bar mounting points.

Welded in sway bars are not permitted unless OEM in which case no modification is allowed. Cockpit/driver adjustable sway bars are not permitted.

- 7-3.5 Any suspension bushing, sub-frame bushing, engine mount, transmission mount or differential mount may be replaced with non metallic substitutes of the same dimensions that do not require modification to any other component. The replacement bushing cannot change / offset the location of any component.
- 7-3.6 No spherical rod ends or similar applications are permitted with the exception of shock and sway bar ends.
- 7-3.7 Offset ball joints may be used for camber adjustment.

**7-4 Lights**

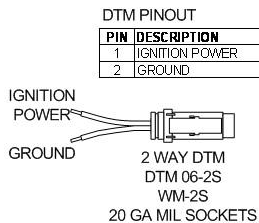
- 7-4.1 Standard headlights and parking lights may be removed and replaced with a plate of identical shape and size of the lens - for daytime racing only. OEM headlights must be used when lights are required.
- 7-4.2 Standard headlight beams may be replaced with aftermarket units of equal dimension.
- 7-4.3 For nighttime events a maximum of two front auxiliary lights may be added in the grill area on the front of the car.
- 7-4.4 Daytime running lights and back up lights may be disconnected.
- 7-4.5 Brake lights must be operational.

**7-5 Exhaust System**

- 7-5.1 All catalytic converters must be removed unless otherwise stated.
- 7-5.2 Exhaust pipes must exit behind the driver; extend to the perimeter of the bodywork and direct exhaust gases on a minimum of 45 degrees down.
- 7-5.3 The exhaust system on naturally aspirated cars is free beyond the OEM exhaust manifold except as noted in 7-5.2.

**7-6 Turbocharging/Supercharging**

- 7-6.1 All eligible turbocharged/supercharged cars must compete using the standard OEM production intake and exhaust system excluding the catalytic converters and mufflers. Once removed, a replacement pipe of the OEM diameter must be installed in place of the catalytic converters and mufflers.
- 7-6.2 Cars will be required to use a Grand-Am-supplied data logger and/or provide access to their data logger (if used).
- 7-6.3 Supercharged cars must use OEM pulleys
- 7-6.4 Any device that controls boost levels other than the production parts are not permitted unless mandated by Grand-Am.
- 7-6.5 Grand-Am may mandate a mechanical boost control.
- 7-6.6 Grand-Am may establish alternate boost parameters for turbocharged and supercharged cars at specific race events.
- 7-6.7 Teams must provide a Tee hose connection for manifold pressure/manifold/airbox vacuum sensor. This port must be in the engine compartment in a relatively cool location, there must be access for a cable from the pressure sensor to the data recorder.
- 7-6.8 Teams must provide a mounting for the recorder box. The recorder must be mounted in the cockpit in a location accessible for download during pit stops.
- 7-6.9 Teams must supply an electrical connector and wiring for the data recorder. There must be a power supply plug #DTM 06-2S, WM-2S socket. Ignition positive to Pin 1, battery negative to Pin 2.



## **7-7 Other Items Which May Be Substituted**

- 7-7.1 Spark plugs, wires, distributors, ignition wiring and batteries. Batteries must be of the same dimensions as OEM battery.
- 7-7.2 Filters, fluids, lubricants
- 7-7.3 Belts, pulleys, hoses, wiper blades
- 7-7.4 Inside mirrors, fittings, nuts, bolts and fasteners
- 7-7.5 Gaskets, bearings, piston rings. Replacement head gasket must be OEM thickness.
- 7-7.6 Fuel pressure regulators and fuel injectors
- 7-7.7 Radiators – Standard ducting must be retained with no additions or changes.

## **7-8 Engine**

- 7-8.1 Engine management systems may be replaced with non-OEM systems with Grand-Am approval. Effective 01/01/08 all GS and 05/01/08 all ST KONI Challenge cars that choose to use an aftermarket ECU must use the Grand-Am specified ECU and wiring harness. Spec ECU and wiring harnesses cannot be modified in any way.
- 7-8.2 The following components may be tooled enough for balancing only - pistons, rods, crankshaft, harmonic balancer, flywheel and clutch.
- 7-8.3 The lightest rod and piston must remain unaltered.
- 7-8.4 The crankshaft and harmonic balancer may weigh no less than the OEM specification.
- 7-8.5 Aftermarket pistons may be used provided they remain identical in weight, dimension and form.
- 7-8.6 Allowed to overbore block up to .030 maximum.
- 7-8.7 The oil pan and oil pick up may be modified (not the pump)
- 7-8.8 Engine oil Accu-sump system and valve is permitted.
- 7-8.9 All pushrod engines may use aftermarket blueprinted or adjustable length pushrods, provided they are of the same material and configuration of the original.
- 7-8.10 Other items that may be replaced include cam gears, sprockets and chains.
- 7-8.11 The airbox and air filter are free on normally aspirated cars unless otherwise specified by Grand-Am. Ram air induction is not permitted.
- 7-8.12 Grand-Am will provide restrictors when required. Teams will be responsible for gaskets and bolts to attach the restrictors. Return of the restrictors is mandatory following each event or fines will be imposed.

## **7-9 Steering Wheel/Steering System**

- 7-9.1 The steering wheel may be replaced with any non-wood steering wheel.
- 7-9.2 Steering wheel locks must be removed.
- 7-9.3 All air bags must be removed.
- 7-9.4 Power steering must be retained, if so equipped.
- 7-9.5 Quick release steering wheel adapters are allowed with technical department approval.

## **7-10 Doors/Hood/Body Shell**

- 7-10.1 Seam welding is permitted provided no metal is added.
- 7-10.2 Jacking points are permitted. Four plates not exceeding 30 square inches may be added. Air jacks may not be used at any time.
- 7-10.3 Hood and trunk pins must be installed with a cable attaching the pin to the car. Original hood and trunk latches must be removed. There must be a minimum of two pins or latches on hood and trunk.
- 7-10.4 Original door latches must function as originally installed.
- 7-10.5 Doors must remain unlocked at all times. The standard door locks must be removed.
- 7-10.6 A metal panel of equal size and shape must replace the transparent portion of a factory-installed sunroof. Sunroof slide mechanism may be removed.
- 7-10.7 It is permitted to install a removable strut between the opposite strut tower points, front or rear, (all classes) and permissible to run two symmetrical rearward running struts from the shock towers to the center of the front firewall.
- 7-10.8 It is permitted to remove inside bracing and panels from the doors.

## **7-11 Ride Height/Track -**

- 7-11.1 Minimum ride height is 3.5 inches measured anywhere on the car.
- 7-11.2 Tires and wheels must be inside the bodywork from axle centerline up as viewed from

above.

### 7-12 Items That May Be Removed

- 7-12.1 Air conditioners, compressors, hoses, condenser, cruise control and related components may be removed.
- 7-12.2 Radios, antennas, and stereo system components may be removed provided a metal plate covers the remaining hole.
- 7-12.3 Inner fender liners may be removed.
- 7-12.4 Sun visors may be removed. Interior headliners, carpeting, passenger and rear seats, trim panels, center consoles, inner front door panels and door winding mechanisms may be removed.

### 7-13 Gearbox, Differential, Drive train

- 7-13.1 Driveshaft - On front-engine rear-wheel drive vehicles, a sturdy metal strap must be mounted to the chassis to prevent the drive shaft from leaving the vehicle in the event of drive shaft coupling failure.
- 7-13.2 Grand-Am will approve an aftermarket manual transmission for makes and models available only with an automatic transmission.
- 7-13.3 Only manual transmissions are allowed.
- 7-13.4 Grand-Am will specify any alternate gear ratios for cars on the vehicle eligibility chart.
- 7-13.5 Limited slip or posi-traction differentials are permitted.
- 7-13.6 On manual transmission models, the clutch may be replaced with an aftermarket clutch that is interchangeable (using the same mounting holes) and the same dimension of the OEM component.
- 7-13.7 Original flywheel/clutch assembly may be replaced with an aftermarket assembly provided it is within eighty percent of the weight of the original and utilizes the OEM starter motor.
- 7-13.8 Installation of a ballistic flywheel/transmission blanket is recommended.

### 7-14 Tires

- 7-14.1 Official Tire - The official tire is the Hoosier KONI Challenge performance radial tire. No other tire may be used. Contact: Hoosier Racing Tire 574-784-3152.

**TIRES MUST BE ORDERED TWO WEEKS PRIOR TO THE EVENT.**

## SECTION 8 - VEHICLE ELIGIBILITY AND NOTES

**8-1** New model or vehicle eligibility requests may be made directly to Grand-Am at anytime. New approvals will not be eligible for competition until such time as Grand-Am publishes a bulletin listing any new additions.

**8-2** Grand-Am will approve cars for competition based on findings that determine a cars capability to be competitive.

### 8-2 Grand Sport (GS)

Car	Final Dr	Fuel Cap	GAC Wt	Options
BMW M3 E92 2008-	3.85:1	20	3200	Tire size 275/35/18. Allowed alternate engine oiling system. If dry-sump is used, dry-sump tank to be located behind rear-seat floor area. Front brake upgrade allowed. Battery to be relocated to a position over rear axle. Must use complete unmodified OEM air intake system. Must use Bosch ECU. <b>OS Giken TR2CD Clutch Kit; PM#BM533-BF6. Rear toe link Kinetic #408-2001 permitted.</b>
BMW M3 Coupe (3.2) 2001-2004	3:91.1	19.0	3075	Tire size: 245 /45/17 front, 275/40/17 rear. Rear aero# 10 046 133. Allowed alternative engine oiling system. Front brake upgrade allowed. Must use OEM air intake. If dry sump is used the battery may be relocated to a position over the rear axle. May use aftermarket ECU. Turner lower camber arm TSU9940B77 permitted.
BMW M Coupe (3.2) 2002	3.73:1	19.0	3100	Tire size: 245/45/17 front, 275/40/17 rear. Front brake upgrade allowed. May use aftermarket ECU
BMW Z4 M Coupe (3.2) 2007	3:91.1	19.0	2900	Tire size: 245/45/17 front, 275/40/17 rear. Allowed alternative engine oiling system. Front brake upgrade allowed. Must use OEM air intake, Must use OEM ECU. If dry sump is used the battery may be relocated to a position over the rear axle. Rear floor area may be modified for dry sump tank installation. May use aftermarket ECU at 3150 minimum weight. Rear spoiler #52 71 0 414 770. Turner lower camber arm TSU9940B77 permitted.

Cadillac CTS V 2004	3:73:1	20	3150	Tire size: 275/35/18, 5.7 liter, 6 speed, engine RPM limit: 6,500. Allowed: GM Performance Parts body kit part numbers CTS-0552 thru CTS-0570 (these are light weight replicas of OEM bodywork), two stage external oil scavenge system, 5 stud Z06 corvette hubs, modified rear trailing arm for tire fitment. Must use complete unmodified OEM air intake system. Inlet restrictor size - 68 mm. Must use OEM ECU
Chevrolet Camaro	3.45	22	3325	As submitted by Chevrolet, built by Riley Technologies. Tire size 275/35/18. Stock, unmodified, LS-3 engine (permitted to install dry sump pan available from Riley Technologies and replace rod bolts) with external two stage, scavenge dry sump. No other internal modifications are permitted, Koni Regulations 7-8.2 through 7-8.11 are not applicable to this listing. Must use complete unmodified OEM air intake system. May use Bosch ECU. May use alternate ABS controller. Battery relocation to right rear of trunk. May use single piece drive shaft. Front brake upgrade allowed. Light weight doors, hood and deck lid. Rear toe link offset bushing permitted.
Dodge Challenger	3.73:1	22	3425	Tire size 275/35/18. Front brake upgrade allowed. Allowed fabricated upper control arm for camber adjustment. Must use complete unmodified OEM air intake system. Must use air inlet restrictor as supplied by Grand-Am. Permitted engine block casting P5153896 with 6.1L block machining P5153897. Light weight hood and deck lid.
Ford Mustang Cobra (5.0) 2005	3.55:1	20.0	3075	Tire size: 275/40/17. Engine: 11mm lift motorsports cam, sleeve or change block to 94mm bore. Exhaust headers part no. JBA 66255 allowed. Maximum exhaust size 2.5 inches. Allowed Steeda #307-0099 hood and #307-0005 rear spoiler. Front brake upgrade allowed. Must use OEM ECU
Ford Mustang GT (5.0) 2005	3:55 :1	20.0	3225	Tire size: 275/35/18. 5.0 liter engine # M6007-R50P with fixed runner length at 3 and 4 inches. Must use ECU and exhaust manifold as supplied with engine. M-7003 T56-RP transmission pkg. M-4602-J one pc. Driveshaft. M-3075-R front control arm. M-3130R front outer tie rod. M-5649-R rear control arm. 355 mm front rotor with caliper upgrade per rule book. Fuel cell mounted behind rear axle. 307-0011 Steeda Hood and 307-0009 Steeda rear wing allowed Must use Grand-Am air restrictor as supplied. Steeda rear Panhard bar #555-2551 allowed. Engine must be sealed as presented by Multimatic Motorsports Inc. All rebuilds must be performed by Multimatic Motorsports Inc. May use ABS unit #7R33-2C353-AB as alternate to the original.
Hyundai Genesis				Specifications TBD
Nissan 350Z (3.5) 2003 - 2006	3.53:1	19.0	2900	287 HP Track option model allowed. Tire size: 245/40/17 front, 275/40/17 rear. NISMO Aero package #G2010-RNZ30 allowed. Allowed 2008 NISMO Z body with Grand-Am specified modifications to rear bumper. Exhaust headers allowed. Allowed fabricated front upper control arm with sliding ball joint mount for camber adjustment. Allowed 7 1/2 inch lightweight clutch/flywheel assembly. Allowed Nismo cam kit part #99996-RSKK. Aftermarket front caliper upgrade as per rules. May use aftermarket ECU.
Pontiac GTO 2004 ( 5,7) 2005	3:73:1	20	3050	Tire size: 275/30/18, allowed front caliper upgrade, exhaust headers, Crane cams # 144HR000085 allowed, aftermarket stub axels, and half shafts and one piece driveshaft allowed, allowed two stage external dry sump. Alternative front sway bar mounts allowed, Wheel to Wheel #1049-1001-01 and 02 front fenders allowed. GTO-C-017L&R front hubs are allowed. Must use OEM ECU.
Porsche 996 Coupe (3.6) 2003	3.44:1	19.0	3000	Tire size: 245/45/17 front, 275/40/17 rear. Dealer aero package # 000-044-801-02, OEM two-piece lower control arms allowed. Allowed GT3 adjustable rear toe link. Must use OEM ECU.
Porsche 997 (3.6) 2005 -2007	3.44:1	19.0	3050	Tire size: 245/45/17 front, 275/40/17 rear. OEM two-piece lower control arms allowed.- May use rear wing from kit # 997-044-802-00. Allowed GT3 adjustable inside rear toe link. May use alternate ABS controller. May use aftermarket ECU. Maximum RPM 7300
Porsche 997 (3.6) 2005 -2007	3.44:1	19.0	3025	Tire size: 245/45/17 front, 275/40/17 rear. OEM two-piece lower control arms allowed. Must use OEM ECU with factory rev-limit. May use rear wing from kit # 997-044-802-00. Allowed GT3 adjustable inside rear toe link. May use alternate ABS controller Must use OEM ECU. Maximum RPM 7300

Porsche Cayman S 2009 3.4 L		17.5	2700	Tire size 245/45/17 front, 275/40/17 rear. OEM two-piece lower control arms allowed.
Subaru WRX STi 2009	3.9	21	3100	Tire size 275/40/17. Permitted piston #S2 STI CP (Crawford Performance) Front brake upgrade allowed. AEM Air inlet box #AP-GH-111. Agency Power rear control arm # AP-GH-200. Subaru lower chassis brace # SOA8431120. Rear toe adjuster # Phoenix 09-STI-001. Exhaust part #Phoenix 09-STI-002. May use Bosch ECU. Maximum boost 17.5 psi.

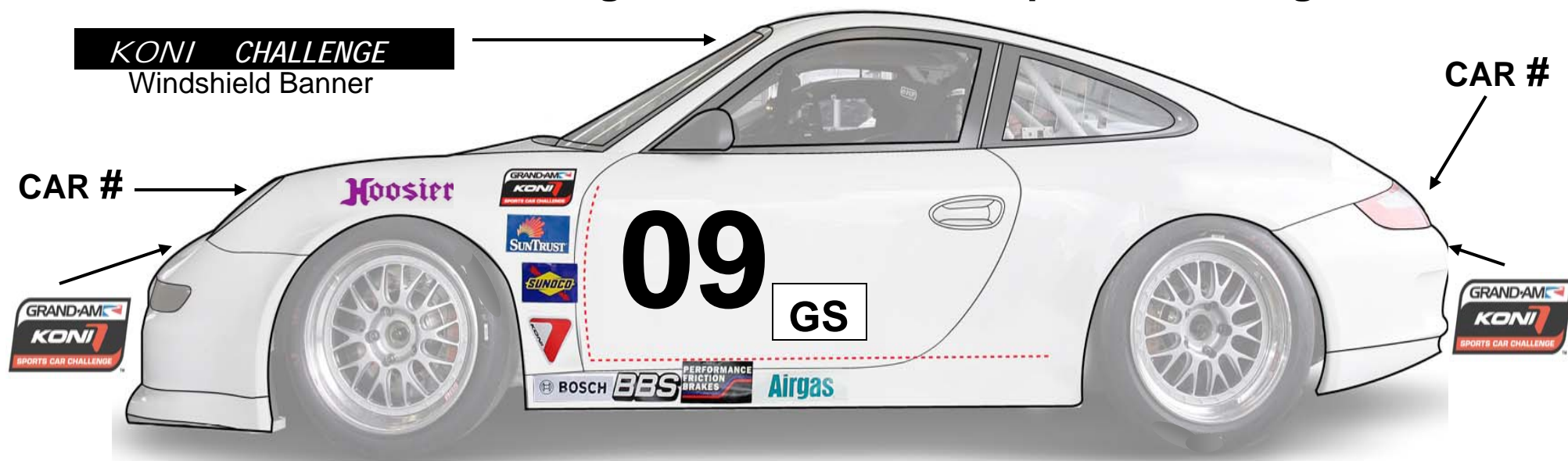
### 8-3 Street Tuner (ST)

Car	Final Dr	Fuel Cap	GAC Wt	Options
Acura RSX Type S (2.0) 2004	4.7:1	17.0	2500	Tire size: 225/45/17. Allowed engine type is the K20A. Allowed rear wing P/N 71700-S6M-2012. Must use OEM ECU.
Audi TT 2003-2005 1.8 L turbo	4.22:1	17.0	2650	Tire size 225/45/17. Allowed; 3.2 Audi TT brakes ,replace stock intercooler with Forge # FMIC intercooler. May use 3" exhaust from turbo back. Optional Audi front bumper and rear spoiler lip. MUST use OEM ECU <b>Front wheel drive.</b>
Acura TSX 2.4 I 2005	5.02:1	17.0	2600	225/45/17 tire size. Allowed: light weight hood, modified rear center links for adjustment, and exhaust header, #17400-PPA-A11-PN throttle body.. Must use OEM ECU.
BMW E46 330 (2000-2001)	3.38:1	18.0	2800	Tire size: 225/45/17. Front and rear fascia and wing OEM upgrades allowed. May use aftermarket ECU. Turner lower camber arm TSU9940B77 permitted.
BMW E46 330 2004	3.46:1	18.0	2800	Tire size: 225/45/17. 3.0 liter, 225 hp, 6-speed. Allowed factory front bumper 51 11 7 893 328. May use aftermarket ECU. Turner lower camber arm TSU9940B77 permitted.
BMW 328i (E90)	3.73:1	18.0	2750	Tire size 225/45/17, allowed front bumper 51 11 7 140 859, rear bumper 51 12 7 141 053, rear spoiler 51 71 0 411 575, 330 brakes. Alternate hood p/n HD0507BMWE904D-OE and alternate decklid p/n TL0507BMWV904D may be used. May use Bosch ECU.
BMW Z4 (3.0) 2004	3.46:1	17.0	2775	Tire size: 225/45/17. May use aftermarket ECU May use brakes from E46 330 BMW. Turner lower camber arm TSU9940B77 permitted.
Chevrolet Cobalt SS (2.0) 2008	4.45:1	17.0	2725	Tire size: 225/45/17. Allowed: modify rear sway bar mount for adjustment, relocate lower rear shock mount ½ inch forward for wheel clearance, HHR power steering unit, #CCS609 hood, #CCS610 deck lid, #CCS611 spoiler, #CCS608 fascia, front knuckle conversion #CCC606, Spherical end for lower control arm included in kit, spherical bearings on rear axle, bolt-on caliper bracket, rear wheel bearing conversion. Maximum RPM 6700. Must use OEM ECU. Maximum boost 13.0 psi. Must use 2006 OEM brakes, calipers and rotors. May use front brake caliper part numbers 13502236 LH and 13502237 RH. Must use air inlet restrictor as supplied by Grand-Am.
Dodge SRT4	3:53 :1	17.0	2600	Tire size: 225/45/17. 215 hp 5 speed. 15 psi boost. Allowed to use OEM Chrysler 300 front calipers. Allowed to use #P4510870 rear control arm. Must use OEM ECU.
Honda Accord 2005 (3.0)	3.285:1	17.0	2725	225/45/17 tire size. Allowed Acura 45210 (230) SPO-EO1 and front calipers. Must use OEM ECU.
Honda Civic SI 2006 (2.0)	4:764:1	17.0	2400	Tire Size 225/45/17 Allowed aftermarket exhaust header. Must use OEM ECU

Honda Civic Si 2008 2DR and 4DR	5.02:1	16.0	2600	Tire size 225/45/17. Allowed K20A JDM engine, exhaust header, TSX brakes. Must use OEM ECU.
2006 Hyundai Tiburon (2.7)	4.42:1	17.0	2500	Tire size: 225/45/17. Exhaust headers, camshafts 24100, 24900, 24200, 24700-37201R), OEM calipers (58180 and 58190-39A30) and OEM rotors (51712-39910) are allowed. Front control arm allowed 1 rear rod end. Allowed spherical rod ends in rear trailing links. Must use OEM ECU.
Lexus IS 300 (3.0) 2004 Sedan and Sport Wagon	3.9:1	17.9	2800	Tire Size; 225/45/17 .OE cams 13501-46030, 13502-46021 to replace VVT, TRD exhaust manifold #00602-IS300-081, TRD brake package # 00602-GS400-982, TRD body kit 00644-52503- PO1,PO2 , PO3 , PO4, OE trans #33030-OW212, Front and rear control arm and rear toe link modification for rod end adjustability allowed. HKS clutch assembly (part # HKS 2604-RT005) allowed. May use aftermarket ECU.
Mazda 3	4.187 3.526	17.0	2800	Tire size 225/45/17. Maximum boost t.b.d. psi. Must use air inlet restrictor as supplied by Grand-Am.
Mazda MX 5 Miata 2006	4.875 :1	17.0	2380	Tire size: 225/45/17. Allowed #0000-06-5150-KT air intake, #0000-06-5407 header. Must use #NFY2-R1-82XE-XX hardtop. May use aftermarket ECU. Camshaft is free. Mazda Speed # 0000-01-5207 piston kit. Throttle pedal #C19-09-07A
Mazda 6 (3.0)	4.105:1	16.9	2600	Tire size: 225/45/17. May use exhaust header. Allowed front rotor #GP9Y-33-25X and GP9A-33-71XA, 61XA front calipers. Must use OEM ECU.
Mazda RX8 2004	5.12:1	18.5	2600	Tire size: 225/45/17. RPM limit TBD. MAZDASPEED aero #QSEA-50-020-X1, QSEA-51-96Z and QSEA-70-900-X1 are allowed. Allowed exhaust header. Allowed oil cooler vent in trunk. May use aftermarket ECU. Throttle pedal must be converted to manual actuation for installation of aftermarket ECU. 2009 R3 body panels, 2009 6 speed transmission.
Mini Cooper S 2003 -06	2.74:1	19.5	2300	Tire size: 225/45/15. 15 psi max boost. Allowed #51 11 7 182 621 front bumper trim, #51 12 7 192 764 rear bumper trim, #51 75 7 182 688 & 687 lower sill, #51 62 7 182 676 rear spoiler, Minimania rear control arm kit # NMS5010. Allowed JCW R53 package. Must use OEM ECU. Permitted RMW header. Allowed Camshaft p/n RMW/ST 1/264272, Head p/n RMW/ST1/IE1823.
Nissan Sentra Spec V (2.4) 2003-04	4.133:1	17.0	2300	Tire size 225/45/17, Allowed Nismo piston/rod # 99996-QRRSP, valve spring# 99996-RNB55, cam# 13020-RNB55,header# 14002-RNB55, rear spoiler# 96030-RNB50,Front spoiler# 96010-RND50. Must use OEM ECU.
Porsche Boxster 2700 ("986" based) 2004	3.44:1	16.9	2600	Tire size; front 225/45/17 rear 245/40/17 OEM six speed transmission allowed. 996 front calipers and rotors allowed. Exhaust header allowed. (986 body) eligibility extended for an additional 2 year period. OEM two-piece lower control arms.
Scion TC	4.235:1	17.0	2500	Tire size 225/45/17. Allowed: TRD Supercharger kit, exhaust header #DC-SHR4402, lightweight hatch, lightweight hood #SC04BMN1SCFH, replacement roof #KO60660FC, Camry brakes. Must use OEM ECU with AEM #30-1050 supercharger controller. Maximum boost 12 psi.
Subaru Legacy Wagon/Sedan 2005 (2.5)	4.11:1	20.0	3100	Tire size 225/45/17. Must run stock exhaust with muffler, stock air box with stock air filter, stock boost and stock RPM Unit. Must use OEM ECU. Maximum RPM 6500, Maximum boost 13.0 psi. Must use Grand-Am supplied air inlet restrictor. Piston #S2 STI CP.
Subaru Legacy Spec B Sedan 2007 (2.5) 6 speed	4.11:1	20.0	3100	Tire size 225/45/17. Must run stock exhaust with muffler, stock air box with stock air filter, stock boost and stock RPM Unit. Must use OEM ECU. Maximum RPM 6500, Maximum boost 13.0 psi. May use 2008 fascias. Must use Grand-Am supplied air inlet restrictor. Piston #S2 STI CP.

Volkswagen GTI 2006 2.0 l	3.94:1	18.5	2800	Tires size 225/45/17. Must run stock exhaust with muffler, stock air box with stock air filter, stock boost and stock RPM Unit. Must use OEM ECU. Maximum RPM 6800, Maximum boost 11.5 psi Must use air inlet restrictor as supplied by Grand-Am. Restrictor adjustment.
Volkswagen Jetta GLi	3.94:1	18.5	2800	Tires sizes 225/45/17. Must run stock exhaust with muffler, stock air box with stock air filter, stock boost and stock RPM Unit. Must use OEM ECU. Maximum RPM 6800, Maximum boost 11.5 psi. Must use air inlet restrictor as supplied by Grand-Am. Restrictor Adjustment

# 2009 KONI Challenge GS & ST Decal Requirement Diagram



All KONI Challenge cars must place the required KONI Series, SunTrust, Sunoco, and KONI decals within eight inches of the rear portion of both front wheel arches and stacked in sequence as shown above. The area within eight inches of the rear portion of the front wheel arch from top to bottom is reserved for series required decals only. No other decals may be placed in this area. KONI series decals must be placed on the cars front nose piece and on rear tail light panel area. The required Hoosier decals must be placed above both front wheel arches as shown above. A Grand-Am supplied KONI Challenge windshield banner must be in place on the upper portion of the windshield.

All series contingency decals a team chooses to place on the car, must be placed along a non radius area within six inches from the bottom of the car between the wheel arches as shown above. The area within six inches of the bottom of the car between the wheel arches is where all contingency decals must appear. Additional series contingency decals that will not fit between the wheel arches may be placed behind and along the bottom of the rear wheel arch area and stacked if necessary.

Contingency decals may be reduced in size but must be at least 26 square inches in size. Contingency decals may be altered for a highly visible contrasting color but design must remain as provided by the contingency sponsor.

Car numbers must be in accordance with General Automobile Regulations 14-1.1

12" high with 2" wide stroke on the front door on both sides of the car.

Block style 8" high with 2" wide stroke on or near the vertical area of the nose.

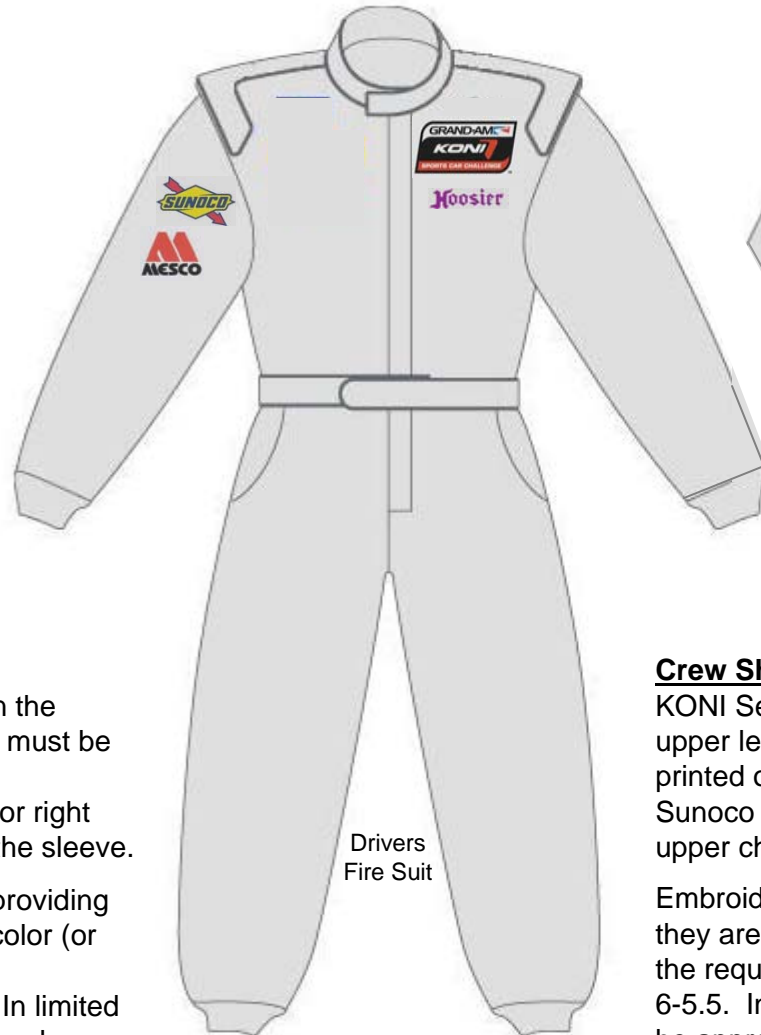
Block style 6" high with 1" wide stroke on or near the rear taillight panel area.

ST or GS class decals must be located adjacent to the lower right of the car number and as provided by Grand-Am.

A larger diagram is available on the Grand-Am web site. [www.grand-am.com](http://www.grand-am.com)

## 2009 KONI ST & GS Required Patch Diagram

### 2009 Required Patches



Drivers  
Fire Suit



Crew Shirt & Crew Fire Suit

### Drivers Suit Requirements:

KONI Series patch must be sewn on the upper left chest area. Hoosier patch must be sewn on the upper chest. Sunoco patch must be sewn on left or right upper chest or above the elbow on the sleeve.

Embroidered logos are acceptable providing they are the exact size, shape and color (or colors) of the required patch and in compliance with rule 6-5.4 & 6-5.5. In limited circumstances, contrasting colors may be approved by Grand-Am. **Contact series manager for approval & information.**

### Crew Shirt & Crew Fire Suit Requirements:

KONI Series patch must be sewn or printed on the upper left chest area. Hoosier patch must be sewn or printed on the upper chest. Sunoco patch must be sewn or printed on left or right upper chest or above the elbow on the sleeve.

Embroidered or printed logos are acceptable providing they are the exact size, shape and color (or colors) of the required patch and in compliance with rule 6-5.4 & 6-5.5. In limited circumstances, contrasting colors may be approved by Grand-Am. **Contact series manager for approval & information.**