

## **GTO & GTU REGULATIONS**

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### General Class Explanation and Purpose

Grand American GTO and GTU unibody cars must be of production origin and construction. The following specifications are based on a combination of 1998 FIA International GT2, and the Grand American Road Racing Association regulations. Eligible cars must be in production for road use, and for sale to the public in a regular dealer offering.

Grand American GTO and GTU Tube-Frame cars must conform to all standard safety and construction minimums.

Production recognizable racing cars competing in a series of races to determine a driver, owner and manufacturers champion.

### SECTION 1 – APPROVED MODELS

#### 1-1 Approved Models as Selected by Grand-Am (Grand-Am)

- A. GTO
  1. Chevrolet Corvette
  2. Dodge Viper
  3. Saleen Mustang SR
  4. Porsche 911 Twin Turbo
  5. Marcos LM600
  6. Porsche 944/968
  7. Mosler Intruder
  8. Mazda RX7-95-000 Turbo
  9. Lister Storm
- B. GTU – Maximum displacement 4 liters and no turbocharged engines
  1. Porsche GT 3 R
  2. Porsche 911 RSR
  3. Ferrari F 355/348/360
  4. BMW M3
  5. Acura NSX
  6. Mazda RX7-95-000
  7. Nissan 240 SX

1-2 Other cars/models submitted will be considered for approval by Grand-Am.

### SECTION 2 – GENERAL CAR BODY REQUIREMENTS

2-1 **Bodywork** - All entirely sprung part of the car in contact with the external air system, except the parts definitely associated with the mechanical functioning of the engine, transmission and running gear. Any air intake shall be considered to be part of the bodywork.

- A. The external shape and recognizable features of the body must not be changed, original roofline and front and back window angle and shape must be maintained. All bodywork must be approved by Grand-Am.
- B. The front spoiler must not confuse the identity of the car.
  1. Minimum ground clearance. No part of the car may touch the ground when both tires on one side are deflated.
- C. Front and rear overhang, and wheelbase must remain original.
- D. Doors – unibody cars the dimensions and functions of the doors must remain original. The door hinges may be replaced.
- E. Windows –
  1. Windshield may be replaced with a standard reproduction at least .187 inch thick, hard coated polycarbonate replacement. Five (5) metal safety clips must be installed, to retain the windshield. At least three metal reinforced braces inside the windshield are required.
  2. Rear and rear quarter windows may be replaced with a standard reproduction at least .125 inch thick polycarbonate. Window must be secured with at least two straps one inch wide by .125 inch thick.
  3. Door windows not permitted.

2-2 **GTO Unibody Cars** - Between the front and rear wheel center lines all bodywork visible from directly beneath the car, with the exception of wheel arches and exhaust tunnels, must lie on one plane. All these parts must produce a uniform, solid, hard, continuous, rigid (no degree of freedom in relation to the body/chassis unit), impervious surface, under all circumstances. The periphery of the surface formed by these parts may be curved upwards with a maximum radius of 25 mm.

To help overcome any possible manufacturing problems, a tolerance of +/- 5 mm is permissible across this surface. No sprung part of the car is permitted below the flat bottom. No air may pass above this surface. However, two circular openings of not more than 200 mm in diameter in the flat bottom for the purpose of cooling, as well as minimum openings allowing the use of air jacks.

It is permitted to add an inclined, perfectly flat panel with no openings: between the rear edge of the flat bottom and the vertical plane formed by the rearmost vertical panel of the bodywork: between the vertical planes formed by the inside faces of the rear wheels.

No point of this inclined panel is permitted more than 150 mm above the flat bottom. Vertical fins are allowed provided, they remain parallel to the longitudinal centerline of the car, they exert no aerodynamic influence, no air passes above this surface.

- 2-3 GTU Unibody Cars** - Must use original floor pan. No flat add on floor or rear disusers allowed.
- 2-4** With the exception of the lower half of the complete wheels, the bodywork must cover all mechanical components in vertical projection seen from above.
- 2-5** Any air intake higher than the highest point of the windshield must not be forward of that point.
- 2-6** Any part of the bodywork, including any part having an aerodynamic influence, must be rigidly secured to the entirely sprung part of the car (chassis/body unit), must not have any degree of freedom, must be securely fixed and remain immobile in relation to this part while the car is in motion.
- 2-7** Any device or construction that is designed to bridge the gap between the sprung part of the car and the ground is prohibited under all circumstances.
- 2-8** Material used for replacement parts, hood, deck lid, doors, roof, fenders, and wings is free, but where a panel is replaced, it must be attached in a way, which is as strong as the original method.  
  
There must be at least two safety fasteners securing hood and deck lid, both of which are clearly marked by red (or contrasting color) arrows. It must be possible to remove or open them without the use of tools.
- 2-9** All bodywork joints in the vicinity of the refueling connections must be designed in such a way as to prevent any leakage of fuel into the engine compartment or cockpit during refueling.
- 2-10** No part of the car may touch the ground when both tires on one side are deflated. This test will be on a flat surface, in race trim, with the driver on board.
- 2-11 Windshield Wiper** - Motor, position, blades and mechanism are free.
- 2-12 Weight** -
  - A. See weight table, and restrictor chart in Section 17 and Section 18.
  - B. Minimum weight will be less fuel and driver, race ready. Grand American Road Racing Association reserves the right to adjust the weight of any car to equalize performance.
- 2-13 Ballast** - Provision must be made to secure ballast such that tools are required for its removal and to allow the fixing of seals by the Grand-Am official. The adding to the car of any material or the replacement during the race of any part with another, which is heavier, is forbidden.

### SECTION 3 – BODYWORK MODIFICATIONS

- 3-1** Strengthening of the unibody chassis and bodywork is allowed provided that the material used follows the original shape and is in direct contact with it. Furthermore, reinforcement bars may be fitted on the suspension mounting points to the bodyshell of the same axle, on each side of the car's longitudinal axis.
- 3-2** The width of the bodywork across the front and rear wheel arches may be increased by a maximum of 10 cm. In all cases, the total width of the car modified in this way must not exceed 2 m 10 cm. These modifications must result in the panel being as close to the original as possible in appearance.
- 3-3** A rear wing may be mounted. It may replace an existing wing but not be added to it. The whole of the wing must not exceed the perimeter of the bodywork when viewed from above the car, and none of its part must constitute the highest point of the bodywork. It must not include more than one wing section with a single flap. No air may circulate between the wing section and the flap.

The rear wing must be contained within a parallelogram of 520 x 150 mm with a wing section chord of a maximum of 400 mm. The maximum width of the rear wing including the supports and end plates is 2 m. The maximum authorized dimensions for the end plates are 150 mm in height, 520 mm in length.

If the original wing is fitted, it must not, in any circumstances, exceed the perimeter of the bodywork when seen from above, and none of its parts must constitute the highest point of the bodywork.

Also allowed are Crawford MC300W (250mm curved wing) and CC605W (300mm straight wing).

- 3-4 Bodywork may be modified below the horizontal plane of the front wheel axis and forward of the complete front wheels provided that, it does not exceed the width of the bodywork across the front wheel arches, and bodywork up to 180 mm from the ground does not extend beyond 80 mm horizontally in relation to the maximum perimeter of the part of the original bodywork of the car situated more than 180 mm above the ground.
- 3-5 Bodywork may be added between the front and rear wheel arches provided it is below the lowest wheel centerline and that it is not visible from above the car.
- 3-6 Internal wheel arches may be modified to accommodate larger wheels but must be as least as strong as the original. The fallen edges of the wheel arches may be cut in order to accommodate larger wheels.
- 3-7 Any parts following the external contour of the bodywork and less than 25 mm high will be considered as decorative strips and may be removed.
- 3-8 **Air Inlets** - must have a single, precise function, cooling, ventilation, not protrude beyond the outline of the car when viewed from above, and not extend beyond the surface of the bodywork. However, air inlets may protrude beyond the roof (the surface limited by the top of the windshield, the side windows and the rear window) provided that, they do not protrude forward of the highest point of the windshield, and they do not exceed the highest point of the roof of the car. " Snorkel type" air intakes are not permitted

Air extraction louvres are authorized on the rear vertical panel of the car provided that they do not allow the mechanical parts and the wheels to be seen from the rear, and that they do not extend more than 20 mm beyond the surface of the bodywork.

Bodywork may be modified to incorporate louvres above the engine compartments and coolers, for the sole purpose of extracting heat. These louvres must be located aft of the complete rear wheels, they must neither protrude over the original bodywork as viewed from the side, nor alter the original external appearance, nor permit a mechanical part to be visible from above or from the side.

Aft of the front and rear wheels, the openings made in the bodywork in order to extract air, must not exert an aerodynamic effect below the plane passing through the wheel centerline, and must be fitted with a sufficiently fine wire mesh or with louvres to prevent the tires from being seen from the rear.

If the louvres are not used, the only visible mechanical parts are those belonging to the series-produced vehicle.

- 3-9 Modifications required to fit additional lighting and refueling connectors is permitted.
- 3-10 A maximum of one or two volumes, of a minimum total volume of 150 dm<sup>3</sup> is (are) obligatory for cars of new construction. The boot may consist of the space located behind the front seats in their rearmost position and up to the base of the rear window. In all cases, the remaining volume of the cockpit must comply with the Group B capacity and visibility dimensions.
- 3-11 **Pneumatic Jack** - In order to allow the installation of pneumatic jacks it is possible to make holes with a maximum diameter of 95 mm in the flat bottom.
- 3-12 **Detailed Car Body Requirements** - Identification and Markings.
  - A. Numbers will be assigned by Grand-Am.
    - 1. Numbers at least 14 inches high must be on both sides of the car in the center of the door. A number 28 inches high must be on the roof reading from the driver's side. Block type numbers as large as possible also on right side front and rear panel are required.
  - B. Decals and Advertising -
    - 1. Grand-Am may refuse to permit, or it may restrict or assign the size or placement of decals, identification, and advertising of any kind on a car for any reason. All Grand-Am members agree to accept Grand-Am's decision in this regard.
    - 2. Grand-Am may refuse to permit a competitor to participate in an Event if Grand-Am determines that any advertising, sponsorship or similar agreement to which the competitor (or a car owner, driver or crew member related to the competitor) is or will be a party to, is detrimental to the sport, to Grand-Am, or to the Promoter for any reason, including without limitation the public image of the sport.
    - 3. All decals or adhesive-backed emblems supplied by manufacturers for advertising or identification on the racecars are limited in size to the area of a 32 square inch rectangle. Decal sizes will be determined by multiplying the full width and full length of any decal, regardless of the decal shape. Only decals of participating manufacturers will be permitted.
    - 4. Advertising slogans and designs are subject to approval by Grand-Am.
    - 5. Decals, advertising or identification may not be placed on the front of each door and/or each front fender (between the front of the car and the front of the door) other than (a) decals, advertising or identification of series sponsors, (b) decals, advertising or identification of contingency program sponsors, or (c) such other decals, advertising or identification as Grand-Am may in its sole discretion permit or require.
    - 6. Only Grand-Am required signage is permitted on the windshield.

- 3-13 Car Body Measurements** - Grand-Am templates may be used to check any cars that have questionable body dimensions or configuration. Decision of the Grand-Am officials will be final.

#### **SECTION 4 – GENERAL ENGINE REQUIREMENTS**

- 4-1 General Engine Eligibility -**  
A. The eligible engines will be determined, selected, and approved by Grand-Am. It is mandatory that all major components and parts be for sale to the public in a regular product offering. All engines and component parts must be approved by Grand-Am prior to their being used in competition. The use of magnesium is not permitted unless it is used in the original engine. The use of any ceramic component is forbidden. The use of carbon or composite materials is restricted to clutches and non-stressed covers or ducts. Only a direct mechanical linkage between the throttle pedal and the engine is permitted.
- 4-2** The following characteristics must be identical with the production engine as approved by Grand-Am.  
A. Cylinder Block: number and angle of cylinders, material, number of main bearings and type, location of camshaft, overall configuration, cylinder bore centerline.  
B. Cylinder Head: number of valves per cylinder, arrangement, location, angle, and type of actuation, and spring type. Combustion chamber, location and orientation of spark plug, number of intake and exhaust ports, shape of ports at mating faces of manifolds, angle of port face relative to mating face of head to block.

#### **SECTION 5 – DETAILED ENGINE REQUIREMENTS**

- 5-1** Changes from the Grand-Am approved standard production engine or component parts will not be permitted except as specified in the following rules.
- 5-2 Engine Location** - Engine must be located the same as the production car.
- 5-3 Pistons/Rods -**  
A. Any round aluminum piston may be used.  
B. Only solid magnetic steel connecting rods permitted.  
A. No titanium or stainless steel rods, unless it is used in the original engine.
- 5-4 Oil Pan and Oil Coolers -**  
A. Engine oil coolers must not be mounted in the driver compartment.
- 5-5 Cylinder Heads -**  
A. Only Grand-Am approved cylinder head.  
B. Only steel or titanium valves.  
C. Only magnetic steel valve springs.
- 5-6 Crankshaft/Harmonic Balancer -**  
A. Only magnetic steel crankshafts are permitted.  
B. Stock production angles of the crank throws must be retained.
- 5-7 Camshaft, Valve Lifter, and Rocker Arms -**  
A. Camshaft is free.  
B. Valve lifters are free.  
C. Only magnetic steel push rods, if used.  
D. Rocker arms are free.  
E. Variable valve timing is permitted only if standard on the production car, and the stock production parts may only be used.
- 5-8 Intake Manifold -**  
A. Intake manifolds and system must be Grand-Am approved and available for sale to anyone.  
B. Variable length inlet systems are not permitted.  
C. Normally aspirated engines:  
1. The engine air intake system must be fitted with one or two air restrictors 3 mm long with maximum diameters laid out in Appendix 1.  
2. All the air feeding the engine must pass through these restrictors, which must be made of metal or metal alloy. When the intake systems are blocked off, the engine must stop.  
3. The entire intake system including manifolds, injectors, airbox and restrictors must be capable of fitting into a box 100 cm long x 50 cm wide x 50 cm high or into an equivalent volume. System may be tested and will have to meet a maximum level of leakage.  
4. The right is reserved, by the Grand-American Road Racing Association, to adjust the size of these air restrictors to equalize performance.  
D. Turbocharged engines:  
1. Turbochargers may only be used if fitted to the FIA homologated road car. Turbocharged cars are only allowed in the GTO class. The maximum capacity of the turbocharged engine is 4000 cc.  
2. All restrictors must be placed no further than 50 mm from the forward face of the compressor wheel blades.

3. All the air feeding the engine must pass through these restrictors, which must be made of metal or metal alloy.
  4. Grand-American Road Racing Association reserved the right to adjust the size of these air restrictors to equalize performance.
  5. Turbocharged cars must not be equipped with any device, which allows the boost pressure, to be adjusted while the car is in motion.
  6. Variable diameter inlets and adjustable internal vanes on turbochargers are forbidden.
  7. Maximum (absolute) supercharging pressure: see Section 17-2.
- E. Temperature of the charge:
1. With the exception of location, intercoolers are free. However, any modifications to accommodate a different intercooler must not alter the structural integrity of the car.

Apart from intercoolers, any device, system, procedure, construction or design the purpose and/or effect of which is any decrease whatsoever of the temperature of the intake air and/or of the charge (air and/or fuel) of the engine is forbidden.

The pipes between the supercharging device, the intercooler and the manifold are free, but their only function must be to channel air.

2. Internal and/or external spraying or injection of water or any substance whatsoever is forbidden (other than fuel for the normal purpose of combustion in the engine).
- F. Only a direct mechanical linkage between the throttle pedal and the engine is permitted.

### **SECTION 6 – ELECTRICAL SYSTEM**

**6-1 Electrical System** - Provided the regulations in the section are complied with, the electrical system is free except:

- A. Ignition System -
1. All ignition systems must be approved by Grand-Am.
  2. Magnetos are not permitted.
  3. The distributor must mount in the stock location and maintain the standard firing order.
- B. Battery -
1. Only 12-volt systems, securely mounted, sealed and insulated.
  2. A master electrical disconnect switch is required.
- C. Accessories -
1. Engine/chassis data acquisition system having a separate wiring system with visible wire tracing ability will be allowed.
  2. Only one two-way voice radio permitted.
  3. Timing and scoring transponder required.
  4. Telemetry is prohibited.
  5. Electronic or digital dash is permitted.
  6. Traction control is not permitted.
  7. Headlights are required for night races.

### **SECTION 7 – ENGINE COOLING SYSTEM**

**7-1 Engine Cooling System** - Provided the method of cooling is retained, the cooling system is free except:

- A. Water Pump - Only mechanical driven water pumps are permitted.
- B. Fan - Only electric radiator cooling fans permitted.
- C. Radiator -
1. The water radiator must remain in the original position.
  2. Expansion tank in engine compartment is permitted.

### **SECTION 8 – ENGINE LUBRICATION/DRY SUMP SYSTEM**

**8-1 Engine Lubrication/Dry Sump System** - is free except:

- A. Oil reservoir tank must be mounted within the main chassis framework.
- B. Not permitted in cockpit.
- C. The pump must be Grand-Am approved.
- D. All oil lines must be metal braided with AN type coupling.

### **SECTION 9 – ENGINE EXHAUST SYSTEM**

**9-1 Engine Exhaust System** - Headers, tailpipes, and mufflers are free except exhaust must exit the car aft of the wheel base centerline. Maximum sound 110 dba.

### **SECTION 10 – DRIVE TRAIN**

**10-1 Drive Train** - Provided the regulations in this article are complied with, the transmission system is free except:

- A. Transmission to the wheels -
1. Four wheel drive is not permitted.

2. The position of the gearbox is free provided the location and orientation remains original. The gearbox may have a maximum of 6 forward ratios and a reverse gear. The interior dimensions of the cockpit must remain original if the gearbox is re-positioned.
  3. Viscous differentials are not considered to have hydraulic slip control, provided outside control is not possible when the car is in motion.
  4. The transmission must be designed in such a way that should the car be stopped and the engine stalled, it is possible to push or tow it.
  5. All cars must have a working reverse gear, which can be selected while the engine is running and used by the driver when seated normally.
  6. Sequential transmissions are not allowed.
- B. Wheel and Tires -
1. All four wheels must be the same diameter, 18 inch maximum.
  2. Method of attachment is free, except only Hex lug nuts allowed.
  3. GTU- Single-piece or carbon fiber wheels are not permitted.
  4. GTO - maximum complete wheel and tire diameter is 28 inches with a maximum cross section of 14 inches, carbon fiber wheels are not permitted.
  5. Tire air pressure control valves are not permitted.
  6. GTU – maximum complete wheel and tire diameter is 28 inches with a maximum cross section of 12 inches.
    - a. Sixteen (16) inch diameter wheels may have a complete wheel and tire cross section width of 13.5 inches.

## **SECTION 11 – FRAMES/ROLL CAGE**

### **11-1 Frames/Roll Cage -**

- A. All frame/roll cage components must be made of magnetic steel and welded. The chassis must incorporate a full roll cage per normal industry standards, including NASCAR style drivers side door bars, of at least three horizontal side bars and three equally spaced upright bars. Door bars minimum, diameter 1.5 inches by .083 wall thickness.
- B. Carbon fiber as a structural component is not permitted.
- C. Door bars may be approved by Grand-Am.

## **SECTION 12 – SUSPENSION AND STEERING**

### **12-1 Suspension -**

- A. Sprung suspension - Cars must be fitted with sprung suspension. The springing medium must not consist solely of bolts located through flexible bushes or mountings. There must be movement of the wheels to give suspension travel in excess of any flexibility in the attachments.
- B. Tube frame front engine cars must use basic coil over suspension, double wishbone front, and live solid rear axle.

### **12-2 All unibody suspension components, with the exception of parts specifically mentioned, must be original equipment supplied by the manufacturer or homologated. These parts may be strengthened provided the original part can still be identified.**

- A. The position of the suspension mounting points on the chassis can be changed by homologation, while respecting their number and the original type of the suspension.
- B. Rubber joints may be replaced by unibal joints.
- C. The addition of an anti roll bar is permitted.
- D. The material, number and dimensions of the springs are free. Driver adjustable, springs, shock absorbers and rollbars from the cockpit is prohibited.
- E. Shock absorbers are free provided their number remains original.

### **12-3 Chromium Plating - Chromium plating of steel suspension parts is forbidden.**

### **12-4 Suspension Parts - All suspension parts must be made from homogeneous metallic materials.**

### **12-5 Steering -**

- A. Unibody cars all steering components, except the steering ratio, must be original equipment supplied by the manufacturer. These parts may be strengthened provided the original part can still be identified.
- B. Tube frame cars steering is free.
- C. A magnetic steel collapsible steering shaft and a quick release metal steering wheel coupling are required.

### **12-6 Power Steering - Power steering is free.**

### **12-7 Four Wheel Steering - The use of four wheel steering is forbidden.**

## **SECTION 13 – BRAKES**

### **13-1 Brakes - Brakes and brake cooling must meet the following requirements.**

- A. Only magnetic cast iron or cast steel rotors.

1. Maximum diameter 380 mm.
- B. Dual master cylinder system.
- C. Only one brake caliper per wheel.
- D. No quick disconnect fittings allowed.
- E. A.B.S. not permitted unless standard on the approved production model.
  1. For the 2001 season A.B.S. will not be permitted.

**13-2 Brake Cooling System** - must meet the following requirements.

- A. All brake cooling component parts and installation must be acceptable to Grand-Am officials.
- B. Liquid and/or gas cooling of the brakes are not permitted.
- C. Brake fluid recirculating system is allowed.
  1. Traction control is not permitted.

**SECTION 14 – FUEL**

**14-1 Fuel** - Grand-Am reserves the right to require use of an official fuel.

- A. The fuel shall be automotive gasoline only.
- B. Official fuel must be used exactly as supplied.
- C. Grand-Am has the right to sample a competitor's fuel at any time.
- D. Only air may be mixed with the gasoline as an oxidant.

**SECTION 15 – FUEL SYSTEM, PLUMBING, PUMPS AND FUEL CELL**

**15-1 Fuel System, Plumbing, Pumps and Fuel Cell** - Grand-Am officials will reject any fuel cell, containers, or check valves, which appear to be damaged, defective, or do not function properly.

**15-2 Fuel Tanks** -

- A. The fuel tank must be placed in the luggage compartment or in the original location and must be separated from the driver and engine compartment by a firewall. Should a fuel tank be housed in the luggage compartment, it must be situated no more than 675 mm from the central axis of the car.
- B. All fuel tanks must be rubber bladders conforming to or exceeding the specification of FIA/FT3.
- C. All rubber bladders must be made by manufacturers homologated by the FIA. A list of approved manufacturers is available from FIA.
- D. All rubber bladders shall have printed the name of the manufacture, the specifications manufactured to and the date of manufacture.
- E. No rubber bladders shall be used more than 5 years after the date of manufacture, unless inspected and recertified by the manufacturer for another 2 years.

**15-3 Fittings and Piping** -

- A. All fittings which constitute the walls of the tank (including air vents, inlets, outlets, tank fillers, inter tank connectors and access openings) must be metal fittings bonded into the fuel tank.
- B. All fuel lines between the fuel tank and the engine must have a self-sealing breakaway valve. This valve must separate at less than 50% of the load required to break the fuel line fitting or to pull it out of the fuel tank.
- C. No lines containing fuel, cooling water or lubricating oil may pass through the cockpit.
- D. All lines must be fitted in such a way that any leakage cannot result in accumulation of fluid in the cockpit.
- E. When flexible, all lines must have threaded connectors and an outer braid which is resistant to abrasion and flame.
- F. All fuel and lubricating oil lines must have a minimum burst pressure of 41 bar at the maximum operating temperature of 135°C.
- G. All hydraulic fluid lines which are not subjected to abrupt changes in pressure, with the exception of lines under gravity head, must have a minimum burst pressure of 408 bar at the maximum operating temperature of 204°C when used with steel connectors and 135°C when used with aluminum connectors.
- H. All hydraulic fluid lines subjected to abrupt changes in pressure must have a minimum burst pressure of 816 bar at the maximum operating temperature of 204°C.
- I. No hydraulic fluid lines may have removable connectors inside the cockpit.

**15-4 Fuel Tank Fillers** -

- A. All cars must be fitted with fuel tank fillers and vents, which may be combined, or single units installed on both sides of the car. Both fillers and air vents must be equipped with leakproof dry break couplings complying with the dead man principle.
- B. The tank fillers, vents and caps must not protrude beyond the bodywork. The fillers may be situated in the rear windows, if so they must be separated from the driver and engine compartment by a firewall. Fillers located over a wheel are not permitted.
- C. The tank fillers, vents and breathers must be placed where they would not be vulnerable in the event of an accident.
- D. Unless the tank fillers are connected directly to the tank, there must be a valve, supplied by the tank manufacturer, at the top of the tank, which seals in the event of the filler being knocked off.
- E. Any breather pipe connecting the tank to atmosphere must exit on the outside of the bodywork, and be fitted with a non return valve and be designed in such a way as to avoid any liquid leakage when the car is running or upside down.

- F. Cars must be fitted with a self-sealing connector, used to obtain a fuel sample. This connector must be fitted immediately before the injectors.
- G. The vent lines must be fitted with a gravity activated rollover valve.

**15-5 Fuel Capacity -**

- A. The maximum fuel, which may be carried on board, is 100 liters. Any device, system, procedure, construction or design, the purpose and/or effect of which is to increase whatsoever, even temporarily, the total fuel storage capacity beyond the maximum of 100 liters is forbidden.
- B. The right is reserved, by the Grand-American Road Racing Association, to adjust the size of the fuel tank to equalize performance.
- C. Fuel pumps are free except:
  - 1. May not be mounted in driver/passenger compartment.
  - 2. Fuel pumps may only operate when the engine is running, except during the starting process.

**SECTION 16 – EQUIPMENT AND GENERAL ACCESSORIES**

**16-1 Equipment and General Accessories -**

- A. Artificial heating of transmission, rear end assembly or tires and wheels is not permitted.
- B. Racecars are not allowed on the racetrack until they have completed and passed official inspection.
- C. Passengers will not be permitted to ride in/on the racecar at any time.
- D. Telemetry is not permitted.

**16-2 Driver Safety Equipment - must be worn/used during all on track activity.**

- A. Helmet of recognized high quality, approved by Snell Foundation.
- B. Nomex or equivalent fire resistant driving suit, minimum two layers, and full-length underwear of similar material.
- C. Gloves, shoes, and socks made of fire resistant material.
- D. A six point driver restraint system, lap belt, and shoulder harness minimum 3 inches wide.
  - 1. System must be dated by the manufacturer and must not be used beyond three (3) years after that date.
- E. Drivers side window net.
- F. A high quality racing type bucket seat and head rest.

**16-3 Fire Control -**

- A. It is mandatory that all racecars, within the driver's reach have built in fire extinguishing equipment Halon 1211, or equivalent minimum capacity 10 pounds, with discharge nozzles at the cockpit, fuel cell, and engine compartment.
- B. All teams must have in their garage and/or pit area a fully charged 10-pound minimum dry chemical fire extinguisher.

**SECTION 17 – WEIGHT TABLES/RESTRICTORS SIZES**

**17-1 GTO Unibody Adjustments per Listed Vehicle -**

- A. Dodge Viper Minimum weight 2650 pounds with two 33.8 mm restrictors. FIA hood louvres and front splitter allowed.
- B. Porsche 911 Twin Turbo Minimum weight 2425 pounds with two 36.0 mm restrictors, or 2350 pounds with two 34.7 mm restrictors.
- C. Corvette with stock appearing LS1 engine, Minimum weigh 2450 pounds, and no engine restrictions required.

**17-2 GTO Unibody Weight Tables / Restrictor Sizes -**

**Normally Aspirated Engines**

**4 Valve Engines**

Minimum weight (Kg)	1100	1150	1200	1250
Maximum cylinder capacity	1 restrictor (mm)			
3500	48.4	49.4	50.5	51.5
4000	47.6	48.7	49.8	50.8
5000	46.7	47.8	48.8	49.8
6000	46.0	47.0	48.1	49.0
7000	45.3	46.3	47.3	48.3
8000	44.5	45.3	46.4	47.4

Minimum weight (Kg)	1100	1150	1200	1250
Maximum cylinder capacity	2 restrictors (mm)			
3500	34.6	35.3	36.1	36.8
4000	34.0	34.8	35.6	36.3
5000	33.4	34.1	34.8	35.6
6000	32.9	33.6	34.4	35.0
7000	32.4	33.1	33.8	34.5
8000	31.8	32.5	33.2	33.9

**Turbocharged Engines**

**Air Restrictor Diameters**

**4 Valve Engines**

Minimum weight (Kg)	1100	1150
1 restrictor (mm)	45.7	46.8
2 restrictors (mm)	32.7	33.4

**2 Valve Engines**

Minimum weight (Kg)	1100	1150
1 restrictor (mm)	48.7	49.9
2 restrictors (mm)	34.8	35.7

**Absolute Boost Pressure**

**4 Valve Engines**

Maximum cylinder capacity	3200	3600	4000
Maximum boost pressure (millibars)	3100	1870	1680

**2 Valve Engines**

Maximum cylinder capacity	3200	3600	4000
Maximum boost pressure (millibars)	2390	2130	1910

**2 Valve Engines:** For two valves per cylinder engines, the following restrictor diameters must be corrected according to the formula:  $D = \{[D-1] \times 1.066\} + 1$ . The result will be rounded up to the nearest decimal.

**17-3 GTU Unibody Adjustments per Listed Vehicle -**

- A. Air-cooled Porsche 911 3800 cc minimum weight 2300 pounds, 14 inch cross section tires, no restrictors required.
- B. BMW M3 3.2 liter 6 speed transmission, minimum weight 2500 pounds, no restrictors required.
- C. Porsche GT3 R minimum weight 2425 pounds with one 43.1 mm restrictor.

**17-4 GTU Unibody Weights and Restrictors -**

**Normally Aspirated Engines**

**4 Valve Engines**

Minimum weight (Kg)	1100	1150	1200
Maximum cylinder capacity	1 restrictor (mm)		
2800	44.7	45.8	46.7
3200	43.8	44.8	45.8
3600	43.1	44.1	45.1
4000	42.5	43.5	44.4

Minimum weight (Kg)	1100	1150	1200
Maximum cylinder capacity	2 restrictors (mm)		
2800	32.0	32.7	33.4
3200	31.3	32.0	32.7
3600	30.8	31.5	32.2
4000	30.4	31.1	31.7

**SECTION 18 – TUBE FRAME VEHICLE WEIGHTS AND ADJUSTMENTS**

**18-1 GTU Vehicle Weights and Adjustments -**

- A. GTU tube frame cars
  - 1. 2 valve engines .75 pounds per cc
  - 2. 4 valve engines (4 cylinders) .75 pounds per cc
  - 3. 4 valve engines .80 pounds per cc
  - 4. Air cooled engines up to 3800 cc .58 pounds per cc
  - 5. Mazda 12 A 1850 pounds
  - 6. Mazda 13 B 1950 pounds
  - 7. Minimum weight for GTU is 1850 pounds.
  - 8. Maximum displacement for air-cooled, rear-engine tube frame Porsche 911 is 3800 cc. Multi-link rear suspensions not allowed. 14-inch maximum cross section tires.
  - 9. Mid-engine, tube-frame Porsche maximum displacement 3600 cc, plus 100 pounds.

**18-2 GTO Vehicle Weights and Adjustments -**

- A. Tube-Frame GTO Corvette's must meet the American GT specifications except:
  - 1. That the fuel cell capacity will be 100 liters.
  - 2. The rear of the car in the license plate area may only be vented 100 square inches maximum.