9.1.4. SUPER TOURING CATEGORY

These specifications are a part of the SCCA GCR and all automobiles shall confirm with GCR section 9.

A. Purpose

Vehicles used in the series must be identifiable with the vehicles offered for sale to the public and available through the manufacturer's normal distribution channels in the US. The intent of these rules is to allow older World Challenge cars to compete in Club Racing with minimal modifications and allow new cars to be built to the same spec as well. No model years older than *1985* will be permitted. The STO (World Challenge GT based) target performance is 450hp. The STU (World Challenge Touring based) target performance is 250hp. The SCCA does not guarantee the competitiveness of any car.

Vehicle modifications will be limited to those required to meet SAFETY SPECIFICATIONS and AUTHORIZED MODIFICATIONS listed herein. Unless a particular modification, or part, is approved in these rules, the vehicle and all of its relevant parts and assemblies shall be stock for the correct make and model of car.

B. Eligibility

Vehicles meeting one of the following criterion may compete in the Super Touring category;

- Cars built specifically under these ST rules
- *1990 and newer* World Challenge cars, using the vehicle's most recent VTS sheet, (GT cars in STO and Touring cars in STU.)

Note: Competitors are responsible for providing the up-to-date VTS. *Only those current and ex-World Challenge cars that can produce a Pro Racing VTS sheet are eligible under these preparation rules.*

- GCR listed IT cars, *1985* and newer, under the current IT specifications.

Note: While IT cars may not be competitive in the ST category, competition within the category will allow regional competitors to experience a national event.

- Cars eligible for the SCCA Pro Racing MX-5 Cup series, using the current set of Pro Racing Rules, except that any DOT tire is permitted provided it does not exceed 225/45/17, the claim rule will not be in effect, fuel per IT specs, and a head and neck restraint is optional.

Competitors must have a copy of the current rules in their possession.

C. Bodywork

1. Standard body appearance must be strictly maintained. Standard body appearance is considered to include the OEM grille and badge. A photographic replica is not sufficient. Teams choosing not to utilize the OEM grille opening for airflow may mount a close-out panel behind the grille. OEM spoilers and wings, and aftermarket wings and spoilers are permitted. OEM side skirts may be used if they were available on the car from the dealer provided they meet the minimum ride height rule. Aftermarket side skirts may be used provided that they meet the minimum ride height, have no openings/ducts in them other than for jacking insert(s), are no wider than the approved fascias, do not extend any higher than the bottom of the door and do not reinforce the chassis.

2. Body and frame seams, and joints, may be welded, but additional reinforcing material/brackets are not permitted. The OEM radiator supports may be replaced, or reinforced, in order to make repairs easier. The radiator supports shall not reinforce the rest of the chassis, or diminish the OEM crush zones.

3. Bumper brackets may be modified, but bumpers must remain in OEM locations.

4. Non-essential body items and trim may be removed including attaching brackets and supporting structure. Any holes in bodywork exposed by the removal of these items shall be covered up, or filled in.

5. All of vehicle's doors must be able to be opened from both inside and outside of the vehicle. Latches and hinges for the doors may be modified, but must remain in working order. Aftermarket latches and hinges may be used but shall not protrude beyond outer surface of bodywork. Latches and hinges for the hood and trunk/decklid are not required to be used. If latches and hinges are not used on the hood, or trunk/decklid, a minimum of four (4) pins shall be used to secure the body panel(s).

6. Two (2) hood pins, equally spaced across front of hood, are required within 24" of the leading edge of the hood.

7. Openings in the bodywork may be temporarily covered, wholly or partially, with tape for purpose of regulating airflow. Bodywork openings may be more permanently closed-off using close-out panels mounted behind body opening. Bodywork seams may not be taped at all. Bodywork may only be taped to temporarily secure it after contact.

8. All bodywork and windows shall be sufficiently rigid, adequately supported, and properly secured such that it does not noticeably flutter, move, or deform while vehicle is in motion.

D. Chassis

1. All cars shall have the OEM rear package shelf and/or rear seat back support structure installed if applicable. As an alternative, a metallic close out panel may be installed that would simulate the rear package shelf and/or the rear seat back support structure if applicable. If a close out panel is used to clean up the appearance of the rear package shelf and/or rear seat bulkhead in conjunction with the OEM structure, the close out panel material is free.

2. Cables, wiring and lines may be replaced, rerouted, and/or protected.

3. When applicable, two (2) steel, 360-degree loops of sufficient strength must be located as close as possible to the front and rear universal joints to prevent the driveshaft from dropping in case of failure of either universal joint. Floor materials and cross members may also be utilized to provide this protection.

4. It is permitted to attach a plate, or pad, under the car to provide for jacking of the car, provided it serves no other purpose. It is prohibited to install any kind of device, which protrudes from the rocker panel or side of the car. However, tubes may be attached to the roll cage, or chassis, and extend to the inner surface of the rocker panel, or bodywork, and act as a receptacle for a jacking fixture. Air jacks are permitted, but no air source may be carried on board.

5. Minimum ride height is three inches 76.2mm (3"). Ride height will be measured from the lowest part, or component, of the car,

excluding suspension, and complete wheels.

6. The OEM firewall between the cockpit and engine compartment shall be intact to prevent the passage of flames from the engine compartment to the cockpit. Any holes in the firewall must be of the minimum size for the passage of controls and wires, and must be completely sealed.

7. Both front windows, driver's and passenger's, shall be down (preferably removed) whenever the vehicle is on track. The OEM window opening on the front doors shall not be filled in with any material, other than the material required to mount a NACA-duct for driver cooling. If used, the NACA-duct shall be mounted in the front, lower, corner of the window opening. The area closed off to mount the NACA-duct shall not exceed 50 square-inches. In rain conditions, a quarter window larger than 50 square-inches may be used in the area normally used to mount the permitted NACA-duct, in an attempt to minimize the amount of water entering the cockpit. Enough open area for the driver to exit through in an emergency shall remain open at all times.

8. All vehicles must use a stock, uncracked, OEM equivalent, safety glass windshield, or 6mm (1/4") minimum thickness Lexan replacement, mounted in the stock location, at the stock angle and maintaining the stock profile.

9. Windshield clips, per GCR section 9.3.53 are permitted and recommended.

10. Side windows, not including the front door windows, and rear windows may be replaced by clear Lexan-type plastic material having a minimum thickness of 3mm (1/8"), but must retain the same shape, size, and location as the original glass. NACA-ducts may be mounted in the side windows. The rear window must be secured by two (2) additional straps (25mm wide x 3mm thick), bolted or riveted to the body at both the top and bottom of the rear window. If a Lexan rear window is mounted with multiple, evenly spaced, screws around each side of its perimeter, safety straps are not required. If a DOT spec glass rear window is used in conjunction with the OEM method of mounting, safety straps are recommended, but not required.

11. Windows may be mounted and sealed with silicone. Any silicone used to bridge the gap between the perimeter of the window and the chassis shall be neat in appearance and uniform in thickness. Tape may only be used to seal the windows during wet track sessions for the purpose of reducing the amount of water entering the cockpit.

12. OEM side window framework shall be intact.

13. Acrylic, or glass, removable/moveable roof panels may be replaced with the same material as the surrounding roof. All brackets, mounts, and moldings must be removed. Fabric tops are not permitted, and shall be removed along with all associated hardware. It may be replaced with an OEM hardtop if one is available.

14. Unused mounting tabs and brackets that are non-structural, excluding the rear seat back support and package tray, may be removed.

15. The OEM "rain gutter/tray" at base of the windshield shall be intact and in the OEM location.

16. The floor pan may be modified to provide clearance for the exhaust system routing.

E. Engine

1. Alternate engines may be used, given that the manufacturer of the vehicle and engine are the same (e.g. Acura engine installed into a Honda auto).
2. The crankshaft shall be a stock OEM part for the specific engine, but may be tooled enough to achieve balance. The standard weight reduction allowance for balancing of the crankshaft is 0.5 lbs. The standard weight reduction allowance for the balancing of the reciprocating assembly is 15 grams. Alternate connecting rods are permitted.
3. Blocks may be sleeved to repair cylinder walls. *Engines may be bored to a maximum of .040 inch over standard bore size.*
4. Rocker arms, lifters, followers, pushrods, valve springs, keepers, retainers, guides, seats, and valves are free, TITANIUM is NOT permitted, except for the retainers. The head may be machined to fit valvetrain components.
5. Valve lift is limited to .600". Camshafts and timing is free.
6. Cars produced with an electronic throttle body may use the OEM electronic throttle body. The OEM electronic throttle body may be converted to manual actuation and the actuation cam on a manual throttle body may be changed to alter the opening/closing rate of the butterfly
7. The ignition system components may be replaced freely provided that the type of ignition remains the same as stock.
8. Engine calibration (spark and fuel) is free. A programmable ECU is permitted. The RPM limit set within the engine management system shall be the same for all gears (i.e. 1st gear shall not have a lower RPM limit than 2nd-6th gears).
9. Fuel injector(s) and fuel rail(s) must maintain the original number and mounting location(s), but are otherwise free. Fuel pumps and fuel filters are free in type, size and number.
10. The location and type of the fuel pressure regulator(s) are free provided they are mounted within the engine compartment.
11. The ring gear diameter must be the same as the production flywheel. Flywheels shall be ferrous metal, or aluminum, but are otherwise free. Titanium flywheels are not permitted. Clutch and pressure plate design is free.
12. Oil pan and oil pickup may be baffled, modified, or replaced to prevent surge. OEM oil pump may be modified, or replaced with an OEM-style oil pump. Cars using a wet-sump oil system shall safety wire the oil drain plug, or in some other way secure the oil drain plug, to prevent the plug from accidentally coming out.
13. Vents, breathers, and oil filters may be added, or substituted. All emission control devices may be removed and the resulting holes plugged.
14. Replacement gaskets and seals are free, including head gaskets. Replacement gaskets and seals must be made out of material(s) designed to seal the parts of an engine. Replacement gaskets and seals may not perform any other functions. Head gaskets may be

used to adjust compression ratio.

15. The intake and exhaust ports may be ported *unless otherwise noted*. The valve guide may be machined as part of this porting. *The intake manifold may be port matched to the head(s), provided no material is removed further than one inch in from the manifold to head mounting surface(s).*

16. Variable cam timing (VTEC, VANOS, etc.) and variable length intake manifolds may be partially, or wholly, disabled. Variable cam timing systems that use multiple cam lobes for each valve(s) may remove lobes from the camshaft(s) that are not being used.

17. In order to increase the compression ratio, the bottom of the head may be machined. Alternate pistons are permitted and/or the pistons may be machined. Compression is limited to 12.0:1.

18. Cars utilizing forced induction may not have a boost controller within reach of the driver. A car must enter pit lane to have the boost level changed by the crew if necessary. Teams must be prepared to demonstrate the boost adjustment process to officials.

    Unless otherwise noted, the follow restrictions apply to turbochargers. Turbocharging is permitted only with a factory turbo/engine combination. The inlet restrictor (if required) shall be positioned in the compressor inlet housing. Turbochargers may not be added to engines that did not originally come equipped with one. Swapping of turbochargers between engine makes and models is prohibited. Supercharged cars may be approved on a case-by-case basis. Contact the Club Racing Technical Office for details.

F. Cooling Systems

1. Water Cooling

Provided that the stock method of cooling is retained, the cooling system is free, including cooling fans, but the water radiator must remain in the approximate OEM location. The mounting angle may be changed.

2. Engine Oil Cooling

Coolers for the engine oil are free in number, type and location.

3. Intake Air Cooling

Cars utilizing forced induction may install intercoolers. *The number, type, and location of intercoolers are free.*

4. Water Spray Systems

Water may not be sprayed on any intercoolers, radiators, etc. Water spray systems may only be used to inject water into the brake ducts.

G. Exhaust System

The exhaust system may be modified, or replaced. Outlets must be located rearward of the midpoint of the wheelbase. The exhaust pipe may not protrude more than 76.2mm (3") at the point where it exits the bodywork. If the exhaust pipe(s) exit the bodywork at the widest part of the body such that any extension of the exhaust pipe(s) beyond the body would make pipe(s) the widest point, the exhaust pipe(s) must be trimmed flush (+/- 0.5") with the bodywork at the point that they exit the body. Minor body modifications are permitted to allow for exhaust systems. Modifications shall serve no other purpose. The underbody rocker panels may be modified for the installation of the exhaust system, but these modifications may only serve to provide clearance for the exhaust system. The exhaust system must be adequately isolated from the driver's compartment. If the exhaust system is routed in such a way that damage to it could cause hot exhaust to contact any part of the fuel system, there shall be a metallic heat shield protecting the fuel system components.

This heat shield shall be located at least 76.2mm (3") away from the exhaust system, and there shall be at least 76.2mm (3") between the heat shield and the fuel system components.

H. Drivetrain

1. Alternate differential housings are permitted from the same model of vehicle. Differential may be open, locked, or of a limited-slip type. The internals of limited-slip type differentials may be modified to change the amount of slip limiting. Differentials with external, or electric, adjustability are prohibited. Driveshaft and half-shafts may be aftermarket, but shall be the OEM-type and use the same types of materials as stock.

2. Vent and/or breather lines may be added to transmission and/or differential. One (1) transmission and one (1) differential cooler is permitted.

3. Cars with sequential shift transmissions shall increase the required minimum weight by 100 lbs.

I. Fluid Piping & Fuel Tank

1. Fuel Cells/Tanks

The use of a fuel cell is required unless the stock fuel tank is located between the axle centerlines and within the main chassis structure (i.e. frame rails, etc.). Additional straps and/or protection may be required. All fuel cells MUST comply with GCR 9.3.26. Proper bracing to protect the fuel cell in the event of a rear-end crash is required. If a fuel cell is installed in the rear hatch/rear trunk area, the OEM floorpan in that area may be replaced with metal in order to make it easier to mount the fuel cell and close out the area around the fuel cell.

2. There must be a metal bulkhead completely separating the cockpit from the compartment containing the fuel cell. This does not negate the requirement that the fuel cell bladder be contained in a metal container.

3. No line containing engine coolant may pass through the cockpit. No hydraulic fluid lines may have removable connectors inside the cockpit.

4. Coolant catch tanks are required.

5. All fluid hoses, lines, reservoirs, and tanks that are in the cockpit, or cargo area that is open to the driver, shall be separated from the driver by rigid metallic and/or non-metallic enclosures and/or deflection shields to prevent fluid from spraying on the driver in case of a leak. Magnesium is prohibited. Waterproof flexible wraps may also be used to prevent fluid from spraying on the driver. The floor of these enclosures, or the area under the deflection shields, shall be designed to prevent the accumulation of fluids.

6. Cooling of fuel is prohibited. This applies equally, whether the fuel is in the car, or not.

J. Oil System

1. If oil storage tanks are not located in the original position they must be surrounded by a 10 mm thick crushable structure. Provided that the oil tank is not located in close proximity to the outer surface of the bodywork, and there is some of the structure of the vehicle between the oil tank and the bodywork, the car's structure will meet the 10mm crushable structure rule.

2. If the oil tank is located in the cockpit area, or a trunk area that is open to the driver, it must be separated from the driver by a metal

enclosure made up of .036" steel, or .059" aluminum. This is in addition to the 10mm thick crushable structure that is required in section 9.1.4.I.2. The floor of the enclosure must be designed to prevent accumulation of fluids.

3. An Oil catch tank is required per GCR section 9.3.37
4. Accusump-type systems may be used.
5. Dry-sump systems are permitted provided:
   a. STO: The dry-sump system is limited to five (5) stages. It shall consist of one (1) pressure stage and a maximum of four (4) scavenge stages. If the OEM-style pressure pump is used it shall count as the one permitted pressure stage. There may be a maximum of two (2) two-port scavenge stages, or a maximum of four (4) single-port scavenge stages, or any combination such that oil is not being scavenged from more than a maximum of four locations.

   b. STU: The dry-sump system is limited to three (3) stages. It shall consist of one (1) pressure stage and a maximum of two (2) scavenge stages. If the OEM-style pressure pump is used it shall count as the one permitted pressure stage. There may be a maximum of one (1) two-port scavenge stage, or a maximum of two (2) single-port scavenge stages, such that oil is not being scavenged from more than a maximum of two locations.

K. Electrical System

1. The electrical system is free provided that:
   a. The battery may be replaced with any equivalent battery of the same type. Battery may be relocated, but must be secured by a tie-down bracket and positive terminal must be covered to prevent accidental sparking.

   b. If located in the cockpit, the battery must be placed behind the front seats, or in the passenger seat area, and the protection box must include an air vent that exits outside the cockpit.

   c. All cars, except cars with pop-up headlights, shall have clear OEM headlight assemblies in place in the stock headlight positions. If headlight assemblies are used, they may be the clear OEM assemblies for any country that the car is sold in. Additionally, the headlight assembly may consist of a replica bucket and the OEM lens. There shall be an operational light bulb within both the low and high beam placements. The operational light bulbs need not be of OEM origin, but must produce approximately the same light output as the OEM low beams. Cars produced with pop-up headlights may have an alternate light configuration.

   d. Fog/driving lights, parking lights and associated attaching hardware may be removed. The resulting openings may be used to duct air, or be filled/covered. Any ducting may not extend beyond the outer surface of the bodywork.

   e. Whenever the track surface is wet, thereby causing spray, all cars on the track shall turn on their headlights and tail/rain lights." The brake lights must continue to be functional whenever the tail/rain lights are used. The tail/rain lights must be dimmer than the brake lights are when they come on.

   f. Each car must be fitted with at least one effective windshield wiper motor, which must be in working order throughout the

event. Wiper blades, arms and associated hardware may be substituted freely, or removed.

g. Each car must have an effective defogging/demisting system that is capable of keeping the windshield clear during wet sessions. Anti-fog films meet this requirement.

L. Suspension and Steering

1. The use of active suspension is forbidden. All suspension members must be made from a metallic material(s). Chromium plating of suspension members is forbidden.
2. Original suspension pick-up points below the upper line of the wheel rim must be used within a tolerance of 25 mm; however, the body/frame around the pick-up points may be reinforced. This reinforcement shall be limited to a radius of six inches (6″). The 25mm tolerance applies to pick-up points on chassis only.
3. Suspension mounting points above the upper line of the wheel rim must be retained within a tolerance of 75 mm, however, the body/frame around the pick-up points may be reinforced. This reinforcement shall be limited to a radius of six inches (6″). The 75mm tolerance applies to pick-up points on chassis only.
4. Suspension springs are free. Coil-over units may be added to supplement, or replace, OEM springs. Attaching points may be reinforced. It is permitted to use threaded spring seats for adjustability.
5. Shock absorbers and struts are free. Driver adjustable systems, or electronically controlled shocks, are not permitted. If a reservoir/adjustment canister is used, only one may be used per shock. The shocks at each individual wheel may not be connected in any way.
6. Stabilizer bars are free, and may be added, removed, or substituted. Driver adjustable stabilizer bars are not permitted. Adjustment controls for stabilizer bars may be located within the cockpit, but must be out of the reach of the driver. Adjustments to sway bars during practice, qualifying and race must be done by a crewmember in pit lane.
7. Suspension components shall be the stock OEM pieces, but they may be reinforced. Heim joints are permitted on suspension components. Standard suspension bushings may be replaced with solid, or spherical, bushings.
8. Alternate control arms permitted.
9. Cars that come with a solid rear axle, or trailing arm suspension are permitted an aftermarket or fabricated rear suspension. *Cars with live axle RWD may reduce the minimum weight by 50 lbs.*
10. Slotted plates may be added over original shock mounts on front and rear shock towers for camber/caster adjustment. One bolt-in brace may connect the front strut towers, and one bolt-in brace may connect the rear strut towers.
11. The spindle and/or outer joint on the a-arm and/or strut may be moved in order to correct bump steer caused by changing the vehicle ride height. These components are not limited to the 25mm of movement that applies to the suspension pick-up points located on the chassis.
12. All steering components, with the exception of the steering wheel, column and tie-rods/toe-links, must be original equipment supplied

by the manufacturer. These parts may be strengthened provided the original part can still be identified.

13. The steering wheel may be replaced with an aftermarket, or racing steering wheel. Wood-rimmed steering wheels are not allowed. An all-metal quick release coupling on the steering wheel may be added.

14. A collapsible steering column shall be used. Most current OEM steering columns have at least two (2) universal joints in them that would allow the steering column to fold on impact. This type of design (at least one (1) universal joint) must also be used in any steering column extension(s) that may be used to reach the driver's competition seating position.

15. Power steering may be disconnected, an OEM manual steering rack for that model may be fitted, an electric power steering pump may be fitted, or an OEM electric-assisted steering rack may be used.

16. Front wheel drive cars may reduce their minimum weight by 50 lbs. Front wheel drive cars with a strut type front suspension may reduce their minimum weight by an additional 50 lbs.

M. Brakes

1. Brake lines may be relocated, and rubber lines may be replaced with armored brake lines. Original equipment master cylinders and pedals may be replaced. Hand brakes may be removed. Aftermarket brake proportioning valves are allowed. Non-pressurized brake fluid lines and master cylinders need not be metal, metal shielded, or bulkheaded. Pressurized brake fluid lines must be metal, metal shielded, or bulkheaded.

2. Brake pad friction material is free.

3. Backing plates and dust shields may be modified, ventilated, or removed.

4. Brake duct inlets incorporated in the front spoiler as standard, or light openings, other than headlights, may be used to duct air to the front brakes. Additionally, brake ducts may be fitted into intermediate mounting surface of allowed splitter.

5. Water spray cooling systems are permitted. The amount of water carried for injection into the brake duct is free. Water-cooled calipers are forbidden.

6. Wheel fans are not permitted.

7. Power assisted braking systems are permitted.

8. The balance of braking forces between the two wheels on an axle shall be equal and non-adjustable.

9. The balance of braking forces between the front and rear axles may only be adjusted by the driver through:

   a. Direct intervention on the position of the center of the joint, on the linkage lever of the hydraulic pumps of the front and rear circuits.

   b. Direct intervention on a proportional valve, in which the intake pressure is adjusted through a pre-loaded spring.

10. Brake calipers, whether OEM or aftermarket, shall be mounted in stock location.

11. Titanium piston inserts are permitted.

N. Tires & Wheels

1. Tires
   a. All cars will use a D.O.T. approved tire of radial ply construction with a molded tread pattern. Retread tires will NOT be allowed.

   b. Tire size is free.

   c. The only modification allowed to tires is having the tread "shaved."

   d. Filing, buffing, or any other disguising of tire sidewall is prohibited. Chemical treatments, or any means to artificially enhance tire performance is prohibited.

2. Wheels / Hubs
   a. The standard wheels may be replaced with direct, bolt-on racing/aftermarket wheels under the following provisions:

      1. Loose wheel spacers of any type are not recommended.

      2. All cars must run the same size wheel on the same axle.

      3. Lug nuts and/or wheel studs are free as long as at least two (2) threads of the wheel studs are visible and the outside edge of the nuts and studs are inside the wheel rim when properly mounted.

      4. As viewed from above at the centerline of the wheel; the fender shall completely cover the "tread" portion of the tire. Only the tire sidewalls may be visible.

      5. The wheel material is free, but they must be constructed of metallic material(s). No modifications (including grinding) are allowed on a vendor-supplied wheel.

      6. Valve stems and caps are free.

3. Wheel Attachment
   a. Center-locking type hubs and wheels may be used if vehicle is supplied with them from the manufacturer. If vehicle is not supplied with center-locking type wheels they may be used in conjunction with an adapter that bolts onto the OEM, or approved, hub.

   b. If a single wheel nut is used, a safety spring must be in place on the nut whenever the car is running and must be replaced after each wheel change. These springs must be painted Day-Glo red or orange. Alternatively, another method of retaining the wheels may be used provided it has been approved by FIA.

O. Cockpit

1. In-car cameras must be securely mounted to the roll cage or vehicle structure.

2. The following items must be removed from the cockpit:
Tool kit, spare tire, supplemental restraint systems (SRS) and passive restraint systems.

3. The following items may also be removed:
Headliner, sun visor, carpeting, carpet pad and/or insulation, soundproofing, OEM seats, all trim except the dashboard, heating and air conditioning systems, window winding mechanisms, central locking systems, audio system, and any other systems fitted to the original car solely for the comfort of the driver and/or passengers.

4. The following items may be installed in the cockpit:
Safety equipment/structures, seat, controls necessary for driving, instrumentation, electronic equipment, radio, camera, battery, driver cooling system, driver ventilation system, replacement door panels/ interior trim, anti-sway bar controls (not within reach of driver). None of the above items may hinder cockpit exit.

5. The above components shall be attached/contained to the chassis in such a way as to be able to withstand 25-g deceleration. Any sharp edges shall be covered, padded, protected, etc. to prevent injury to driver, crew, course workers, and officials.

6. Seat Location – The chassis shall not be modified to make additional clearance for the driver's seat. The driver's seat shall be located in the same lateral location as the OEM seat. The driver's seat shall be located longitudinally so that the seat back, at the driver's shoulders, does not break an imaginary vertical plane located at the front of the rear seat platform. On 2-seat vehicles the seat back may go back to the OEM rear bulkhead, package tray, etc. It is recommended that the floor be reinforced in the areas where the seat is mounted to the chassis. Vehicles with a non-metallic floor shall add tubing elements, with a minimum wall thickness of .090", connecting metallic parts of the chassis, or within the cage structure, to mount the seat to.

7. Stock dash/instrument panel cover (dash pad) must be used. Original instruments/gauges may be replaced, or supplemented, with additional engine monitoring gauges. Accessories, lights and switches may be added or removed. Box-type extensions from the dash pad may be used to mount switches and controls, in the areas where the OEM insert panels were mounted, so that they more easily accessible to the driver. Audio and video systems may be removed.

8. Vertical bulkheads, and enclosures, within the cockpit shall not be any higher than the bottom of the side windows, and shall not extend more than 457mm (18") above the floorpan. No bulkhead(s) shall cover the rear footwells.

    a. Sedan Body (4-door) & Hatchback Body (3-door) - Any bulkheads positioned in front of the plane determined by the OEM rear seat back shall not extend laterally from one side of the chassis to the other, but rather shall only be large enough to cover the individual components necessary.

    b. Coupe Body (2-door) - Any bulkheads positioned in front of the plane determined by the OEM rear seat back, if applicable, may extend laterally from one side of the chassis to the other.

9. DASH PAD MODIFICATION – It is permitted to modify the dash pad in order to run the roll cage tubes through the dash area as long as the dash pad is modified only enough for roll cage fitment. If necessary, the dash pad may be parted to ease installation around roll cage. Any such parting shall be done in such a way as to minimize the appearance that they have been separated once pieces of dash pad are installed.

10. If the pedal box is not mounted rearward of any angle of the floorpan/firewall, there shall be one (1) brace extending from each of the front down tubes to protect the driver's legs. They must be integrated into the frame, or chassis, to provide substantial support for the front hoop.

P. Aerodynamics

1. When the wing and splitter are measured, there will be a 6mm (1/4") variance permitted to account for flexure of the fascias, off-course excursions and any light body contact. There will be no variance greater than 6mm (1/4") permitted unless the car has severe body damage that would affect the measuring of the wing and/or splitter.

2. The splitter protrusion will generally be measured at five (5) key points. Those five (5) key points will consist of the centerline of the car, the approximate center of each front corner, and each end of the splitter in front of the front tire. This does not allow for the areas of the splitter between the key points to stick-out more than specified in section 9.1.4.1. or 9.1.4.2.

9.1.4.1. STO SPECIFIC TECHNICAL REGULATIONS

A. STO Body/Chassis

1. Aerodynamics

a. A front splitter may be added that does not extend more than 2.0 inches past the original, or approved, bodywork as viewed from above for the entire profile of the splitter. Splitters shall not extend laterally any further than the widest point of the outside sidewall of the front tires with the wheels pointed straight ahead, and the "dry" set-up on the car. Additionally, the splitters may not extend more than 50.8mm (2.0") beyond the bodywork, regardless of where the outside edges of the front tires are. The splitter shall consist of a single flat plane. The splitter shall have no vertical deviations, fences, etc., unless they are part of the production bodywork for street use. Splitter designs may incorporate openings for brake ducts provided it does not affect the standard body appearance. The allowed splitter may close out the underbody from the leading edge of the approved bodywork, back to the centerline of the front axle. The splitter may be mounted to the front fascia via a vertical intermediate mounting surface. Additionally, a maximum of four (4) rods, or cables, may be used to support the front, and/or sides, of the splitter. No other material(s) may be used external to the body to support the splitter. Single-plane vertical close-out panel(s) may be used to bridge gap between front fascia and splitter.

b. A rear wing may be added. Each wing shall be mounted to trunk/deck lid with two (2) mounting brackets. The wing, and the portion of the mounting brackets located externally to the trunk/deck lid, may only be reinforced by a diagonal strut having no aerodynamic effect, and/or by affixing the external parts of the brackets to internal parts of the brackets within the trunk/cargo area. The internal parts of the brackets may protrude through the trunk/deck lid to allow for the two parts of each bracket to be fastened together. The rear wing, including any wicker bill, shall be mounted level with, or below, the peak of the roof. The trailing edge of the rear wing may be mounted no further rearward than the rear, center-point of the approved bodywork. The wing and endplates shall not be any wider than the widest part of the bodywork, not including mirrors and fender flares/lips. The rear wing is limited to a single element with a chord length of 12" and a width no wider than the widest part of the car, not including fender flares and mirrors,

or a max width of 72", whichever is the lesser. A wicker may be added provided it does not cause the wing/wicker assembly to exceed the stated maximum dimensions.

2. Exterior Bodywork
   a. OEM non-metallic composite body panels (i.e. plastic fascias, fiberglass hoods, etc.) may be replaced with panels of any type composite, provided that the panel maintains the OEM profiles. All cars may replace the hood, trunk/deck lid and doors with non-metallic composite parts. Hoods may have heat exhaust vents installed in it. The hood vents are limited to 2 vents with a max total plan area of 144 square inches. The vents shall not expose the mechanical components of the car when looking down from above. The permitted transmission and differential coolers may vent through rear license plate frame. There shall be a screen, painted the same color as the surrounding bodywork, covering the vent opening. Any OEM non-functional, decorative vents/ducts may be made to be functional provided the exterior body appearance is not modified.

3. Chassis
   a. Fasteners are free. Fasteners may be replaced with adhesives.

   b. Rounded coverings may be used at the rear of the front window openings to bridge gap between the leading edge of b-pillar and inner edge of main roll hoop. The material and design of these coverings is free, but shall be neat in appearance and securely fastened.

   c. A third (3rd) tube on each side may extend through the firewall to the chassis in the engine compartment. These tubes shall not extend forward of the shock towers.

   d. Inner fender panels may be modified or replaced for tire clearance and/or permitted suspension modifications. OEM production-type appearance shall be maintained.

   e. An underbody close-out panel(s) may be used in the area behind the rear axle. These panels shall not alter the external appearance of the car when looking from the rear and sides of the car (i.e. we want to have to lay on the ground to see them). If the production car uses underbody trim pieces, the OEM trim pieces may be removed or replaced, but any close-out panel(s) used may not visually hide any more of the mechanical components, when looking from the rear and sides of the car, than the OEM trim pieces do. The close-out panels shall not completely bridge the gap between the rear floor pan area and the rear axle centerline. On rear engine cars, any close-out panels shall not extend any further forward than the rear axle centerline. Cars with a fuel cell, engine, etc. that extend down into external visual range shall fit the close-out panel(s) around the component in such a way that it does not alter the external appearance of the car.

4. Convertible Tops

Convertibles model cars may compete with a hardtop or as an open car.

B. Engine/Drivetrain

1. *Intake Requirements: All cars shall use the stock or approved air metering device (e.g., carburetor, throttle body, etc.) and intake manifold for the installed engine, unless noted otherwise.*

2. Carbon clutches are permitted.

3. The crankshaft may be equivalent aftermarket part (same material, weight, and dimensions as OEM part), but may be tooled enough to achieve balance.

4. Engine may be lowered 38mm vertically from OEM location.

5. Transmissions and Ratios are free. Forward gears are limited to six speeds. Cadillac CTS-V (Mid Valley spacer) and Pontiac GTO (Tilton spacer) are allowed to space the transmission 8 inches back with the designated spacer.

6. Cars may modify, or replace, motor and gearbox mounts provided that the engine is located in the specified location. This includes the use of "torque plates". All engines will be mounted in the stock position unless otherwise specified.

   Engine Setback Allowance:

   1. Cadillac CTS-V and Pontiac GTO - 214mm from stock location (78mm from firewall)

   2. Ford Mustang (99-04) 4" from stock location

   3. Ford Mustang (05-06) 8" from stock location

   4. GM F-Body (93-02) 4" from stock location

7. Traction Control/Launch Control is permitted, but must operate solely through the engine managements system (i.e. spark and fuel control), and may not interface with, or affect, the braking system or throttle control.

C. Brakes

1. Rotors

One (1) or two (2) piece ferrous rotors may not exceed 355mm diameter by 33mm thick (355x33mm).

2. Permitted Calipers

The standard production calipers or any caliper with six or less pistons may be used. 4-piston calipers may use a maximum of four (4) pads per caliper. 6-piston calipers are limited to two (2) pads per caliper.

3. Anti-Lock Braking Systems (ABS) are permitted on cars utilizing the OEM brake components as supplied.

4. Brake duct water spray cooling systems are approved.

D. Cockpit

1. The required dash pad and center console may be made of any material. The dash pad shall maintain the stock profile.

2. Bulkheads

   a. 2-Seat Vehicles:

   There shall be a vertical bulkhead in the OEM position if applicable. It may extend upward to the bottom of the side windows, and then extend horizontally rearward to close-off the area behind the cockpit. The bulkhead may be a non-metallic material if all fluid lines, hoses, reservoirs and tanks that would otherwise be open to the driver are contained in proper metallic enclosures.

   b. 2-Door, 4-Seat Vehicles:

   No bulkheads shall cover the rear floorboard area. The bulkhead used in front of the rear seat back support may extend laterally from one side of the chassis to the other, but must be below the bottom of the side windows.

E. Wheels

1. Wheels may not exceed 18x13 rear and 18x11front.

F. *The following car and engine combinations are approved in STO. Contact the Club Racing Technical Office to add additional cars.*

STO	Engine Displacement (cc)	Min. Weight (lbs)	Restrictor	Notes
Cadillac CTSV	6000	3300		
Chevrolet Corvette	5700	3135		
Chevrolet Corvette	6000	3300		
Chevrolet Camaro	5700	3135		
Chevrolet Camaro	5000	2750		
Dodge Viper	8000	3135	60mm flat plate	
Dodge Viper	8300	3300	60mm flat plate	
Dodge Neon SRT-4	2400	3000		Alt. Turbo permitted
Ford Mustang	5800	3190		
Ford Mustang	5400	2970		
Ford Mustang	5000	2750		
Ford Mustang	4600	2530		
Mistubishi/ DSM	2000	3000		Alt. Turbo permitted
Mitsubishi/ DSM	2400	3000		Alt. Turbo permitted
Pontiac GTO	6000	3300		
Pontiac GTO	5700	3135		
Pontiac Solstice	2000	3000		Alt. Turbo permitted
Porsche 996	3600	2808		
Porsche 997	3600	2808		
Saleen SR	5800	3190		

9.1.4.2. STU SPECIFIC TECHNICAL REGULATIONS

A. Body/Chassis

1. Aerodynamics
   a. Front Splitter: A front splitter may be added that is a flat, single-plane, with an exposed top surface of not more than 3", that does not extend more than 1.5" past the approved bodywork as viewed from above for the entire profile of the front fascia. The 3" exposed top surface of splitter will be measured from the point on the approved bodywork that sticks

out the furthest in the area directly above any point on the splitter and defined by the top surface of the splitter and a point 1" vertically from the splitter top surface. Splitters in TC shall not extend laterally any further than the widest point of the outside sidewall of the front tires with the wheels pointed straight ahead, and the "dry" set-up on the car. Additionally, the splitters may not extend more than 1.5" beyond the bodywork, regardless of where the outside edges of the front tires are. The splitter shall have no vertical deviations. The allowed splitter may close out the underbody from the leading edge of the approved bodywork, back to the centerline of the front axle. The splitter may be mounted to the front fascia via a vertical intermediate mounting surface. If the vertical mounting surface overlaps the front fascia, it may not overlap more than 2". Additionally, a maximum of four (4) rods, or cables, may be used to support the front, and/or sides, of the splitter. No other material(s) may be used external to the body to support the splitter. A single-plane vertical close-out panel(s) may be used to bridge gap between front fascia and splitter. Splitter designs may incorporate openings for brake ducts provided it does not affect the standard body appearance.

b. Rear Wing: Each wing shall be mounted to trunk/deck lid with two (2) mounting brackets. Each mounting bracket shall attach to wing at a point that is at least two inches (2") inboard of endplates. The wing, and the portion of the mounting brackets located externally to the trunk/deck lid, may only be reinforced by a diagonal strut having no aerodynamic effect, and/or by affixing the external parts of the brackets to internal parts of the brackets within the trunk/cargo area. The internal parts of the brackets may protrude through the trunk/deck lid to allow for the two parts of each bracket to be fastened together. The rear wing shall be mounted a min. of 6.0" below the peak of the roof. Cars with a wagon-style body (i.e. Protege 5, Civic Type R, etc.) competing in STU may have the rear wing mounted a maximum of 4.0" above the roofline. The mounting position will be measured between the highest points of the roof and wing. The trailing edge of the rear wing may be mounted no further rearward than the rear, center-point of the approved bodywork. Removable OEM spoilers and wings are not permitted. Wings shall be a single element with a max chord length of 10.75" and max element width of 48". A wicker may be added provided it does not cause the wing/wicker assembly to exceed the stated maximum dimensions.

2. Exterior Body Panels
   a. All cars may replace the hood and trunk/deck lid with non-metallic composite parts. The OEM profiles shall be maintained on the part. All other body panels shall be OEM parts.

   b. The OEM front and rear fascias shall maintain the OEM crushable structure/support. The OEM crushable structure/support may be lightened as long as it is still recognizable as being the OEM crushable structure/support. The bumper shock absorbers may be removed. The OEM front and rear fascias shall be attached at the stock locations, but fasteners are free.

   c. Fasteners are free provided they are of the same material family, and diameter as the fastener it is replacing.

3. Chassis
   a. Inner fender panels may be modified, but not replaced, for tire

clearance and/or permitted suspension modifications. OEM production-type appearance shall be maintained.

b. Convertibles model cars may compete with a hardtop or as an open car.

B. Engine/Intake and Weight Requirements

1. *Engines up to six cylinders and 3000 cubic centimeters factory displacement are permitted.*

2. *Intake requirements. All cars shall use the installed engine's stock air metering device (e.g. throttle body) and intake manifold, unless noted otherwise.*

3. *Minimum weights for cars with normally aspirated piston engines will be determined by 1.1 lbs/cc displacement for the installed engine (see following table). Displacement is determined by the factory displacement for the installed engine. For weight assignment purposes engine displacement will be rounded to the nearest 100cc (e.g. 2150cc = 2200cc or 2149cc = 2100cc).*

Factory engine displacement (cc)	Minimum weight (lbs)
1600	1760
1700	1870
1800	1980
1900	2090
2000	2200
2100	2310
2200	2420
2300	2530
2400	2640
2500	2750
2600	2860
2700	2970
2800	3080
2900	3190
3000	3300

4. *The Mazda 13B and Renesis rotary engines are permitted at 2600 lbs. The 13B may be street ported. The Renesis shall remain unported.*

5. *All turbocharged engines shall use a compressor inlet restrictor/ weight combination from the following table.*

Inlet Restrictor (mm)	Minimum Weight (lbs)
33	*2200*
35	*2475*
37	*2770*
39	*3100*

C. Drivetrain

1. Carbon clutches are NOT permitted.
2. Engine and gearbox mounts may be solid.
3. Transmission and Ratios are free. Forward gears are limited to six speeds.

D. Brakes

1. Rotors: One (1), or two (2), piece ferrous rotors not to exceed 328mm diameter by 32mm thick (328x32mm).
2. Permitted Calipers: The standard production calipers or any 4-piston calipers may be used.
3. Anti-Lock Braking Systems: Any car equipped with an OEM ABS system shall completely remove all ABS components.

E. Suspension

1. Alternate suspensions are permitted. Alternate suspensions are limited to the original type. Items such as brake calipers, springs, and shock/struts shall remain located on the alternate suspension in the OEM location.

F. Wheels

1. Wheels may not exceed 17x8.