

US Touring Car Championship Rules

A NASA Sanctioned Professional Series for Late Model Sports Coupes and Sedans

1. INTRODUCTION

The following is a listing of allowed and required modifications. These rules, the NASA CCR and the Vehicle Specification Sheets (VSS) specify the only modifications allowed. If not specifically allowed, any other modification is prohibited. Occasionally, rules may be generically specified which are not legal for some cars. Refer to the specific VSS for restrictions or additional allowances.

2. INTENT

The US Touring Car Championship (USTCC) is a national championship series utilizing tracks in North America. The intent of the USTCC series is to provide a professional venue for drivers and manufacturers alike to test their skills and products in high exposure competitions. The series is designed to keep costs in control by allowing limited drive train modifications. The series allows heavy suspension modifications that result in fast vehicles for a reasonable cost, close competition and involve design improvements involving aftermarket companies. Competitiveness of a particular make or model is not guaranteed, although the series may make adjustments as necessary. Minimum weights, restrictor plates and allowable modifications have been adjusted to account for any potential performance aspect of the car.

3. ELIGIBLE MODELS

Vehicles eligible to compete in the USTCC can be found on the series website (www.ustcc.com). Other makes and models may be eligible to compete provided that the series administration has approved them in writing before the competition. In general a "Touring Car" is defined as having capacity for four or more occupants and has an engine with six or less cylinders. All vehicles must be or have been available for sale to the general public.

4. SAFETY

4.1. Safety Requirements

All vehicles and drivers safety equipment must conform to NASA's *Club Codes and Regulations* (CCR). If the USTCC competes under another sanctioning body on a particular weekend, those rules may supersede the NASA requirements. The Chief Scrutineer may exclude any car for any item that is deemed to be unsafe. The Race Director may exclude any car for any illegal or unsafe modifications.

4.2. Roll Cage

All minimum cage requirements found in the CCR must be met. The following is permitted in addition to those requirements:

4.2.1. Any number of mounting points and/or tubes may be used. Tubes may be welded at any contact point, or be "seam welded" to the body structure. Two (2) forward cage braces per side (total of four) may pass through the firewall and connect at no more than two points in the engine compartment (i.e. strut tower or frame).

4.2.2. Side door bars may extend to the outer sheet metal (i.e. NASCAR style) per the CCR. If this door bar design is used, the factory side-impact beams may be modified or removed. This section applies to both the driver's front door and passenger's front door.

Note: Substandard tubing, welding, design, and/or installation of tubes that could present a hazard to the driver, should the tube(s) in question break loose and impale or crush the driver is prohibited.

4.3. Fuel Cell

A fuel cell no larger than 22 gallons meeting the specifications of the CCR may be installed. If a fuel cell is installed, the OEM tank may be removed.

4.4. Master Switch

An electrical master switch shall be installed per the CCR.

4.5. Drive shaft loops

All rear drive and AWD vehicles must use drive shaft loops to hold the drive shaft in case of a U joint failure.

4.6. Sunroofs

Sunroofs may be removed and replaced with a sheet metal piece securely covering the opening. Removal of the associated hardware is permitted.

4.7. Air bags

Air bags must be disabled or removed.

4.8. Drivers Seat

A driver seat suitable for competition and meeting the requirements of the CCR shall be used.

4.9. Passenger Safety

It is recommended that all vehicles have a passenger seat and seat belts available to install in a minimal amount of time to carry passengers safely. OEM equipment is permitted, but safety equipment similar to the driver's is recommended. Passengers will be allowed only during certain non-competition sessions, for promotional purposes only.

5. SERIES RULES and PROCEDURES

5.1. Cheating

Cheating and/or liberal interpretation of the rules is subject to harsh penalties. Typical penalties include, but no limited to, the following: At first offense, there will be a one-race disqualification. At second offense, there will be a two-race disqualification for the previous two races and a one-race suspension. A third offense will result in permanent ejection from the series including a loss of all points and prizes.

5.2. Non conforming equipment

Any equipment that does not conform to the rules must have prior approval. For consideration, a waiver must be made, in writing, 30 days prior to date of competition. It is the intention of the class not to allow any modifications that would increase the cost of competition. Any illegal, or illegally modified, part(s) will become the property of the series.

5.3. Shop Manual

Each competitor is required to have in their possession a factory shop manual for their entered vehicle. Any competitor that is using an approved engine/transmission swap must have a factory shop manual for both the vehicle model as raced, and a manual for the "donor" vehicle. The manual

may be in electronic form (i.e. on CD-Rom), but the competitor is responsible for providing a means of reading such media at the event. The manual must be in English.

5.4. Performance Monitoring

5.4.1. The series reserves the right to install performance-monitoring equipment at any time for the purposes of equalizing the competition.

5.4.2. Turbo charged vehicles must have an approved telltale boost gauge installed (MaxQData System with pressure sensor).

5.5. Points/Teammates

5.5.1. A driver submitting a usable MiniDV tape(s) from the race will earn 5 bonus points for that weekend. Only 5 points per weekend will be granted regardless of number of races and number of tapes.

5.5.2. Fun Runs – Any competitor who is competing, as a “fun run” shall not be eligible for points, contingencies or other prizes. The Race Director reserves the right to place all “fun-runs” at the back of the starting grid.

5.5.3. Any or all of the USTCC events held during the season may be entered, however only 7 weekends will count for points. The driver/team must declare in advance of the event weekend if they will or will not be running for points. By declaring that they are not running for points on a particular weekend, that driver shall be listed as a “fun-run” in the results.

5.5.4. Any driver/team taking the green flag of the East/West Challenge event shall earn double points for that event.

5.5.5. Finishing Points

Points will be calculated per the CCR except in the following circumstances.

If there are less than 10 cars that start the race, the points will be the following: 1st – 80, 2nd – 70, 3rd – 65, 4th – 64, 5th – 63, 6th – 62, 7th – 61, 8th – 60, 9th – 59

If there are less than 3 cars that start the race, the points will be the following: 1st – 60, 2nd – 50

5.5.6. Rookie Points. A driver must apply with the Series Director if they desire to participate in the Rookie Points Championship. Any competitor who has competed in more than 4 UST events is not eligible to apply. In general,

only competitors who have less than 2 years of racing experience will be considered.

5.5.7. Every driver may elect to have a teammate and that teammate may be declared at any point in the season. A teammate must be declared to the Race Director or Coordinator before the first session of the weekend. The teammate may not have run on any other team and will not be able to run on a different team later in the year. Either driver may practice, qualify or race the car, however both drivers must be registered for that event. Once the team is declared, the two drivers shall have their points tallied together. If both teammates are driving in the same race, only the lowest finishing position shall earn points and prizes unless the Race Director has granted an exception.

5.6. Entry procedures

There will be a one time \$350 series entry fee at the driver's first event. This pays for stickers, car numbers, registration, mailings, etc. All entry forms must be received at least 10 days prior to each race to avoid a \$50 late fee. A bounced check charge of \$100 will be applied for any checks returned for insufficient funds.

5.7. Appearance requirements

5.7.1. All vehicles must have the required number panels and numbers on the front edge of the driver/passenger doors and 4 inch (minimum) tall numbers on the front of the car and on 4 inch (minimum) tall numbers on the rear of the vehicle. If the series does not supply the competitor with a number panel, numbers meeting the CCR must be used on the sides.

5.7.2. All decals required by the organizers, sanctioning body and sponsors must be displayed in their appropriate positions. No decals from any company, organization, or manufacturer may be displayed that conflicts with any series sponsors or NASA. Vehicles may be painted any color or combination thereof.

5.7.3. Vehicles must appear at the event with virtually no visible body damage or primer and look professional.

5.7.4. All vehicles must display the manufacturer's name on each side of the car.

5.7.5. The driver's last name must appear on the side of the car. It is suggested, but not required that it be on the lower corner of the windshield as well. White block letters at least 2" tall should be used.

6. MODIFICATIONS

6.1. General

Other than those items specifically allowed by the rules, no other part or component may be modified, removed, or disabled. If there are any “questionable” or “gray” area modifications, the competitor should contact the series office for clarification before competition.

6.2. Replacement Parts

All vehicles, engines and required OEM parts must have been offered for sale to the general public by the manufacturer and be available through normal distribution channels. Unless otherwise specified by these rules, replacement parts must be OEM or others matching the OEM configuration.

6.3. Repairs (other than body panels)

Any part of the car may be repaired provided that the repair is done so that the part or structure is restored to the factory specifications. Any “repair” that serves more than the intended purpose may be deemed illegal.

6.4. Allowed components

Limited production components and/or prototypes are not allowed unless specifically allowed by these rules.

6.5. Body

6.5.1. Fender lips may be modified for tire clearance by rolling. Plastic interior wheel opening panels may be removed.

6.5.2. A front spoiler (air dam) may be added, modified or replaced. There is no minimum clearance for the front spoiler. A flat splitter plate may be installed provided it protrudes no further forward than 4 inches past the front bumper when viewed from the top. In addition, the plate may not extend rearward past the centerline of the front tires. The plate, spoiler or attachments may not be wider than the body of the vehicle.

6.5.3. The stock engine under-tray may be removed.

6.5.4. A rear spoiler/wing may be installed provided it is not wider than the width of the car, not including the mirrors. The wing/spoiler may not extend

further rearward than 6" from the back of the rear bumper. Side skirts, rear diffusers and alternate rear facias are allowed.

6.5.5. Making openings through the body below the bumper and/or through the air dam is permitted for the purposes of ducting air to the brakes, radiator or oil cooler. Ducting for the purposes of cooling is unrestricted providing that it does not violate any applicable rules or feed the intake system.

6.5.6. Windshield clips and rear window straps are allowed and recommended.

6.5.7. Hood and trunk pins may be fitted. Stock hood latches and/or hinges may be replaced with clips. The car must be run with hood, doors, and trunk completely closed and securely latched.

6.5.8. All chassis and structure repair must be done as close as possible to the factory specifications AND match the original configuration. Body repairs must maintain stock contours. Chassis may be seam welded.

6.5.9. Undercoating may be removed.

6.5.10. The hood and trunk lids' inside reinforcements may be removed.

6.5.11. The front door internal assemblies (i.e. windows, window mechanisms, door skins, etc) may be removed. The passenger door skins and oem side impact beams may be removed. No sharp edges may be left behind as a result.

6.5.12. Body panels may be replaced with alternate materials provided they meet the stock appearance of the replaced body panel. The panels must be available to the public through normal distribution channels and be approved through the series office.

6.6. Glass

6.6.1. The front windshield may be replaced with Lexan. The minimum thickness is 3/16" and shall be properly supported from the inside.

6.6.2. All other window glass may be replaced with Lexan. A maximum of six round vents total, no larger than 2.5" in diameter (each) may be located in these windows.

6.6.3. No tinted windows allowed other than factory OEM tints. Clear film may be used for the purpose of retaining broken glass in the event of an impact.

6.7. Interior

6.7.1. Any steering wheel or gearshift knob may be used.

6.7.2. The gas, brake, and/or clutch pedals may be modified for comfort or added control. Heel stops and dead pedals may be added or modified.

6.7.3. Gauges may be replaced or added.

6.7.4. Any interior or exterior mirrors may be used.

6.7.5. Other than the dash pad, the remaining trim pieces in the interior may be removed including the rear and passenger seat. No sheet metal shall be removed or deformed (except door panels) unless specified in the CCR, these rules, and any addendums. All holes resulting from removing the dash components (i.e. heater controls) must be covered by panel made of sheet metal, carbon fiber, or other similar material in good appearance. The dashboard pad must remain intact or may be replaced with a "stock appearing replacement part."

6.7.6. The headlights and taillights must work as originally intended, and be operable by the driver while properly belted into the driver's seat.

6.7.7. Electrical switches may be added, modified, or removed provided they do not perform an illegal function.

6.8. Ballast

Ballast is allowed anywhere in the car but must be securely fastened.

6.9. Wheel studs

Wheel studs and lug nuts are unrestricted, but must be made of steel. They may not be smaller than the stock diameter. Studs shall not protrude beyond the plane of the wheel thereby creating a hazard.

6.10. Alternators

The alternator must be working and must be charging according to the manufacturer's specifications. Any modifications, or additions made to the electrical system that causes the alternator to function improperly are illegal.

6.11. Update / Backdate

Vehicles may update / backdate components provided the component comes from an allowed model in the same VSS.

6.12. Weight

6.12.1. Each vehicle's minimum weight is listed in the vehicle's spec sheet and any current waivers. All weight measurements will be made with driver and must meet this weight at all times during qualifying and races.

6.12.2. The starting minimum weight is calculated using manufacturer published horsepower and torque. The formula is: $(HP + Torque / 2) * 13.5$ lbs. All calculated weights are rounded to the nearest 10 lbs. The published minimum weight may be changed to keep the competition fair between models.

6.13. Engine

6.13.1. The engines used must have been available for sale in that body style, year, make, and model by that manufacturer. Certain exceptions to the engine / transmission / body combination rule may be allowed, and will be documented in the vehicle's VSS.

6.13.2. No internal engine modifications of any kind are allowed, unless specified by these rules or that vehicle's spec sheet.

6.13.3. No porting or polishing, port matching, or machining of the manifolds of any kind is allowed, unless specified by these rules or that vehicle's spec sheet.

6.13.4. Engine rebuilding is allowed, however all parts must remain as stock, excluding the piston diameter, rod and crank bearing thickness, and the respective bearing journals. For rebuilding purposes, all crank bearing surfaces may be machined to 0.020 inches undersize, and the appropriate OEM (or exact equivalent) bearings must be used.

6.13.5. Engines may be bored to the first oversize piston diameter as documented by the manufacturer (per the shop manual). No head or block shaving (resurfacing) is allowed outside of the factory service limits.

6.13.6. Balancing is permitted. No component may be lighter than the specifications in the vehicle's spec sheet. Any lightening of parts beyond what is normally required to balance is prohibited.

6.14. Engine Mounts

Rubber engine mounts may be replaced with any other material.

6.15. Belt Pulleys

Aftermarket pulleys of any material and/or diameter may be used for engine accessories such as power steering, water pump, a/c, alternator, crankshaft, etc. This rule does not apply to any pulleys affecting engine internals such as cam timing sprockets or supercharger.

6.16. Lubrication

Oil pans, windage trays, oil lines, and filters are unrestricted. A pressure accumulator such as an Accusump may be used. Any lines that pass through the passenger compartment must be metal or metal braided. All lines must be securely fastened and safely routed. No dry sump systems may be used unless OEM. Any engine oil components must be separated from the driver by a non-flammable bulkhead (Accusumps and Gauges are exempt).

6.17. Induction

6.17.1. The mass airflow sensor may not be altered or replaced.

6.17.2. The stock induction system must be used with no modifications, except as provided by these rules.

6.17.2.1. The throttle body may be modified or replaced with any other throttle body provided that its basic method of operation and functioning remains the same. The new or modified throttle body must not serve any other purpose than that of its original intent and it contains no additional parts (or function) over the original part for the engine being used, whether the part or function in question is being utilized or not.

6.17.2.2. No type of system that cools the air passing through the throttle body may be used, unless it is identical to the OEM system (if equipped) and its fluid type, fluid path, and overall function is identical to that of the original. This includes intercoolers on forced induction vehicles, which must remain stock unless otherwise allowed in the VSS. Alternatively, the system may be removed and/or permanently sealed off with welds, block off plates, etc.

6.17.2.3. The intake manifold may be port matched to the mating surface of the throttle body opening. No intake manifold material may be modified or removed from any area measuring a distance greater than 1.0 inch from the throttle body housing. This specification has an allowed tolerance of one-eighth inch (0.125 inches).

6.18. Fuel system

6.18.1. Only 100% petroleum based pump gas of 104 maximum octane rating is allowed. No other fuel additives are allowed.

6.18.2. Fuel pumps, fuel delivery rails, fuel pressure regulators, filters, and lines and hoses are unrestricted. Any fuel lines that pass through the interior must be metal or metal braided. Fuel pumps may not be mounted inside the passenger compartment. All lines must be securely fastened and safely routed.

6.18.3. Fuel injectors must be stock factory unless permitted in the VSS. The flow rate for those injectors may be increased over stock specifications (for the currently installed engine) by a maximum of 33%.

6.19. Electronics

6.19.1. Engine management computers may be modified or replaced provided that only the original (or "update/backdate rule" compliant), or OEM equivalent parts are used, including circuitry, circuit board, IC chips, resistors, transistors, etc. All stock removable EPROM chips may be reprogrammed or replaced with an aftermarket chip. Sensor values being fed to the OEM computer may be altered by external means.

6.19.2. Electronically controlled traction control devices are prohibited and must be disabled by removing components and/or sensors that will absolutely defeat the system under any condition. Electronic stability programs (ESP) are prohibited and must be disabled by removing components and/or sensors that will absolutely defeat the system under any condition.

6.20. Smog equipment

All smog equipment may be removed including the catalytic converter(s). Any equipment not removed must either be disabled or left to function as originally intended by the manufacturer. All disconnected ports and holes must be plugged.

6.21. Air filter

The air filter housing, intake tract and element are unrestricted upstream of the throttle body on normally aspirated vehicles. Forced induction vehicles may use any filter element but must retain the OEM filter housing and intake tract.

6.22. Ignition

Any spark plugs and ignition wires may be used. All other ignition components must be stock. Ignition timing is unrestricted.

6.23. Battery

The battery must be a lead/acid type car battery capable of starting the car at all times. The battery may be relocated to anywhere in the car provided it is in a marine type case. Regardless of location, the battery must be securely held with a metal hold down. The positive battery terminal shall be covered. The positive terminal on the starter solenoid shall be covered.

6.24. Exhaust

Any exhaust may be installed provided the exhaust exits behind the driver, directed away from the car. A muffler may be required to meet sound regulations. A header may be installed. Exhaust heat shields may be added or removed.

Forced induction vehicles, unless otherwise specifically allowed, may not modify any exhaust components (including the turbo) forward of the first catalytic converter.

6.25. Engine Cooling

Any radiator may be used provided it fits in the stock location and requires no body modifications to install. Radiator fans may be removed or added. Thermostats are optional and unrestricted. A/C systems may be removed. Oil coolers may be added. The heater core may be bypassed or removed.

6.26. Clutch

Any clutch disc and/or pressure plate of the stock diameter may be used. Multiple disc clutches are prohibited.

6.27. Flywheel

Any flywheel may be used. If an OEM flywheel is modified or if an aftermarket flywheel that does not have SFI certification is used, a scatter shield must be incorporated to protect the driver should there be a failure of the flywheel.

6.28. Transmission

The transmission gear ratios may not be altered. The transmission used must be the same as delivered by the manufacturer with that engine combination. Shift linkages may be modified for the purpose of installing

short throw shifters and/or installing different material bushings.
Transmission coolers are unrestricted.

6.29. Differential/ Final Drive

All vehicles may use any limited slip or welded differential provided it fits in the OEM stock housing. The final drive ratio (ring and pinion) must be approved and listed in the VSS. Differential coolers are unrestricted. The center differential for AWD models may not be changed or modified.

6.30. Wheels/Tires

6.30.1. Wheel spacers may be used.

6.30.2. The required wheel diameter is seventeen (17) inches with a maximum width of eight (8) inches.

6.30.3. The top of the tire may not protrude beyond the fender when viewed from above.

6.30.4. All USTCC vehicles must run the approved spec tires. The spec tire can be found in the Tech Bulletin on the series web site.

6.30.5. When a session is declared a "wet session" by the Race Director, any approved tire between 15 inches in diameter to 17 inches in diameter and a maximum width of 8" may be used. The approved rain tires can be found in the Tech Bulletin on the series web site.

6.30.6. Tires used for the main race event must be the same set used for all qualifying sessions unless otherwise permitted by the race director.

6.31. Brakes

6.31.1. Brake pads, linings, and fluid are unrestricted. Brake lines may be replaced with metal braided lines. Backing plates may be removed or modified.

6.31.2. An adjustable proportioning valve may be used to limit pressure.

6.31.3. Parking brakes may be removed along with the accompanying mechanisms.

6.31.4. Air ducts may be directed at the brakes. Liquid cooling and/or electric fans are prohibited.

6.31.5. The master brake cylinder, clutch cylinder, pedals and bias adjust may be replaced with an aftermarket assembly. If this modification is undertaken a 50lb weight penalty shall apply.

6.31.6. Brake rotors may be replaced with steel rotors of any size. Rotors may be modified by slotting or cross drilling. Any brake caliper up to a 4-piston design may be used. Wheels may not be modified or machined to allow fitment of alternate components.

6.31.7. Cars with rear drums may convert to a rotor and caliper system.

6.31.8. ABS braking systems (if originally equipped for that make/model) may be retained and operational provided the brake rotors and calipers are stock for that vehicle. If the vehicle is / was ABS equipped, but the vehicle is not using ABS, at least one front wheel sensor must be removed; otherwise it will be assumed that ABS is operational.

6.32. Suspension

6.32.1. Camber/caster adjustment plates may be installed provided that the stationary plate is mounted to the existing sheet metal, in the stock location, and serves no other purpose than to allow the adjustment of caster and/or camber. Material may be removed from the top of the strut tower for installation of camber plates. All vehicles may adjust camber and/or caster by eccentric bushings and/or shims. Rear camber compensator kits may be installed on the rear suspension for the sole purpose of allowing camber adjustment. Vehicles may use either slotted ball joints or slotted upper control arms for the purpose of camber/caster adjustment provided their installation is solely for the adjustment of camber/caster. The above mentioned replacement components must be commercially and readily available.

6.32.2. Upper shock mounts may be replaced with other units.

6.32.3. Any springs may be used provided they mount in the original location and the number and type (i.e. coil, leaf) remains the same as stock. Coil over type struts or shock absorbers, where a threaded sleeve is attached or machined into to a housing are permitted. Spring spacers are allowed. Non-MacPherson strut type vehicles may install adjustable spring perches, provided that they serve no other purpose than to allow ride height adjustment. Bump stops are unrestricted.

6.32.4. Any shocks, including remote reservoir, may be used provided they attach to the original mounting points and the number remains the same as stock. Reinforcement of the stock shock mounting brackets is permitted. Struts may be modified to fit any legal shock insert.

6.32.5. Any sway bar(s) may be used. The mounts for these may be welded or bolted to the structure of the vehicle. "Heim joint" type rod ends (spherical bearings) and any bushing material is allowed.

6.32.6. Stress bars may be added between any of the following areas:

- a) Between the inner lower control arm mounting locations.
- b) Between the rear upper strut (or shock) towers.
- c) Between the front upper strut (or shock) towers and one point on the firewall.

6.32.7. Suspension mounting holes may be slotted, within the bounds of the original bracket/mounting point, for purposes of camber adjustment only. Additionally, slotted holes may be reinforced by "overlying" metal and/or welding the original hole closed.

6.32.8. There is no minimum ride height. No part of the car may touch the ground at anytime during operation except the front spoiler (air dam), side skirts, and tires.

6.32.9. Other than those modifications specified by these rules and any series "Updates" and "Supplements" no other relocation or reinforcement of any suspension component or mounting point is allowed.

6.32.10. Parts that function for the sole purpose of steering may be reinforced independently. The steering rack must be OEM as delivered except that you may convert between manual and power steering.

6.32.11. Suspension bushing material is unrestricted. "Heim joint" type spherical bearings may be used as replacements for bushings provided that they serve no other function or purpose and install directly into or onto the existing legal suspension component.

6.32.12. Spacers may be added to correct for bump steering problems, providing that they serve no other purpose.

6.33. Fasteners and Gaskets

Fasteners are unrestricted provided they serve the same function as originally intended. Gaskets other than head gaskets are unrestricted. Any gasket must serve its original purpose only and may not provide a competitive advantage.