MiDiv SCCA Time Trials Championship Series

1. *PURPOSE:*

When you're ready to race against the clock, Time Trials is ready for you. The next level above Track Events, Time Trials builds on the instruction you received during Track Events and allowing drivers their first chance at competing against the clock. Competition classes are formed with both street and fully prepared race cars with winners being decided by fastest time around the course. Time Trials is your first real taste of track competition. SCCA Midwest Division Time Trials (herein after-MiDiv TT) are intended to provide a competitive environment for novice to advanced level drivers. It is a "point by" passing environment with scoring based on the lowest single lap time recorded in each session. Awards will be presented at each event and for the season.

2. *EVENT STAFF/DUTIES:*

2.1. Event Lead

2.1.1. The Event Lead organizes and oversees the event, making sure all positions are filled and duties are performed as assigned, the event facility is prepared, and all requirements between the SCCA and the event host are met. Whenever possible, the Event Lead should be the "face" of the event by leading meetings.

2.2. Competition Director

2.2.1. The Competition Director is responsible for the general conduct of the event in accordance with the MiDiv TT Rules and event Supplementary Regulations.

2.3. Driver Coach

2.3.1. The Driver Coach is responsible for guidance of Intermediate and Advanced level drivers.

2.3.2. Driver Coach duties include:

2.3.2.1. Observe and work with the Competition Director and/or control worker to ensure on-track driving within Time Trials Rules.

2.3.2.2. Speak to advanced and intermediate level drivers who have been black-flagged or need to come in for on-track violations.

2.3.2.3. Lead any Advanced- or Intermediate-specific meetings or session debriefs.

2.3.2.4. Direct drivers onto track if no grid worker is present.

2.3.2.5. Completes any required driver evaluations after the event.

2.4. Divisional Administrator

2.4.1. The MiDiv TT Divisional Administrator is responsible for the overall management of the MiDiv TT program, including, but not limited to, scheduling events, assigning Event Leads, Competition Directors and Driver Coaches.

MiDiv SCCA Time Trials Championship Series

3. *DRIVER ELIGIBILITY:*

3.1. **The SCCA TT license application is available at the following link**- SCCA time trials driver eligibility and Time trials license information.

3.2. The MiDiv TT Championship Series accepts Intermediate, Advanced and PRO Time Trials licenses. Those with a Novice license will need to email the event registrar requesting a variance for licensing.

3.3. Drivers may compete under a weekend membership as long as a Time Trials license application is completed, and they are approved for competition by the Event Lead.

3.4. The weekend membership option is available for ONLY two events attended during the season.

3.5. Time Trials license applications can be completed and approved at registration on the day of the event. However, it is encouraged to get the license process completed before the event. *We cannot guarantee participation for those who do not have proper licenses or a prior approved variance*

3.6. Licenses from organizations that do not issue license cards (e.g. WRL, Champ car) may be accepted on a case-by-case basis at the discretion of the Event Lead. Holders of these licenses are required to be a member in good standing and apply for an SCCA Time Trials or Full Competition License.

3.7. All drivers aged 16 to 17 must contact event officials before the event. A completed Annual Parental Consent, Release and Waiver of Liability, Assumption of Risk and Indemnity Agreement and a completed Minor's Assumption of Risk Acknowledgment is required (note: forms vary by state and witnessing method). Current SCCA membership is required.

4. *HELMET AND EQUIPMENT:*

4.1. Helmets meeting at least one of the following standards must be worn while on track-

4.1.1. All helmets meeting the latest or two immediately preceding Snell Foundation standards SA2020, SAH2020, SA2015, SAH2015

4.1.2. SFI standards 31.1

4.1.3. FIA standards 8860-2004 or later

4.1.4. British spec BS6658-85 type A/FR are acceptable.

4.2. Face shield, goggles, or similar face protection (conventional eyeglasses are not sufficient) shall be worn while competing in any vehicle with less than the standard-size windshield.

4.3. For maximum protection, helmets must fit securely and should provide adequate peripheral vision. The chin strap must be securely fastened.

4.4. There is a considerable gap between a minimum standard and the best protection that current technology can provide. It is recommended that seats, restraint systems, roll bars, and helmets meet the highest safety standards possible.

4.5. All participants shall wear long sleeve shirts, pants, socks and shoes which fully cover the foot at least to the ankle while on course. Clothes should be made of cotton or other flame-resistant material. No materials will be allowed that can readily catch fire or melt such as polyester or nylon. It is recommended that an SFI rated fire suit be worn with cars that have roll cages or other devices that limit your ability to exit the car quickly.

4.6. Hand protection is **required**. If SFI fire rated retardant gloves are not available, then leather gloves without liners or with liners that will not readily catch fire or melt may be used. Cloth gloves of any type will not be allowed.

4.7. Any car/equipment that fully complies with the current SCCA Road Race GCR safety rules is deemed to have satisfied these safety rules.

5. *VEHICLE PREPARATION AND INSPECTION:*

5.1. The entrant is responsible for ensuring that the vehicle being used is properly prepared for operation under elevated acceleration, braking and cornering forces. Have a tech inspection sheet completed and available to present to the SCCA tech inspector.

5.2. It is recommended that each vehicle should have a hand-held fire extinguisher that meets the following requirements. A hand-held fire extinguisher or permanent fire protection system is **required** for caged vehicles or other vehicles with limited egress and must meet the following requirements-

5.2.1. Halon 1301, 1211 or Dupont FE-36, two (2) pound minimum capacity by weight.

5.2.2. Dry chemical, two (2) pound minimum with a positive indicator showing charge.

5.2.3. Chemical: Underwriters Laboratory rating, potassium bicarbonate (Purple K) recommended, 1A10BC Underwriters Laboratory rating multipurpose, ammonium phosphate and barium sulfate or Monnex.

5.2.4. AFFF (aqueous film forming foam) or equivalent surfactant foam material, 2.25-liter minimum capacity (by volume). All AFFF fire bottles shall incorporate a functional pressure gauge.

5.3. The fire extinguisher shall be securely mounted in the cockpit. All mounting brackets shall be of the quick release type.

6. *SEATS/RESTRAINT SYSTEMS:*

6.1. The driver and any passenger must utilize OEM seatbelts including shoulder restraint or a restraint system as outlined in section 5 while on the track.

6.2. OEM seats with OEM restraints

6.2.1. OEM seat and restraint systems are acceptable assuming the belts and hardware are in good condition without damage or excessive wear.

6.3. OEM seat with aftermarket restraints

6.3.1. Only allowed with vehicle specific harness bearing the following designations-

6.3.1.1. "FIA B-XXX.T/98 certification or carry a designation that meets Federal Motor Vehicle Safety Standard (FMVSS) 209

6.4. Aftermarket seat with OEM restraints

6.4.1. This will be allowed ONLY on a conditional basis if approved by the Event Lead. Get confirmation from a MiDiv TT Director before the competition weekend to ensure compliance.

6.4.2. The aftermarket seat must not inhibit the restraints' ability to function as intended from the OEM.

6.5. Aftermarket seat with aftermarket restraints

6.5.1. Must have a properly installed roll bar meeting the specifications in Appendix A

6.5.2. 4-, 5-, 6- or 7-point restraint harness shall meet the following requirements-

6.5.2.1.1. Shoulder straps shall be separate.

6.5.2.1.2. Two-inch shoulder straps shall only be used when accompanied with head and neck restraint devices.

6.5.3. All harnesses shall bear labels with either of the following SFI or FIA certifications-

6.5.3.1.1. SFI specification 16.1 or 16.5

6.5.3.1.2. FIA specifications 8853/98,8853-2016 and 8854/98.

6.5.3.1.3. The only approved four-point belt shall carry the "FIA B-XXX.T/98 certification or carry a designation that meets Federal Motor Vehicle Safety Standard (FMVSS) 209 and were designated for the specific vehicle.

6.5.4. SFI and FIA harnesses are not subject to an expiration date, but shall be in good condition (no cuts, abrasions, abnormal wear, etc.).

6.5.5. Shoulder harnesses shall be mounted behind the driver and supported above a line drawn downward from the shoulder point at an angle of twenty (20) degrees with the horizontal. The seat itself, or anything added only to the seat shall not be considered a suitable guide. Guides must be a part of the roll bar, roll cage, or a part of the car structure.

6.5.6. The single anti-submarine strap of the five-point system shall be attached to the floor structure and have a metal-to-metal connection with the single release common to the seat belt and shoulder harness.

6.5.7. The double leg straps of the six-point or seven-point system may be attached to the floor as above for the five-point system or be attached to the seat belt so that the driver sits on them, passing them up between his or her legs and attaching either to the single release common to the seat belt and shoulder harness or attaching to the shoulder harness straps. It is also permissible for the leg straps to be secured at a point common to the seat belt attachment to the structure, passing under the driver and up between his or her legs to the seat belt release or shoulder harness straps.

6.5.8. All straps shall be free to run through intermediate loops or clamps/buckles.

6.5.9. Each seat (lap) and shoulder belt of the harness (5, 6, or 7 points) shall have an individual mounting point (i.e. 2 for seat belt and 2 for shoulder belt minimum). Six or seven point system anti-submarine straps may share a mounting point with one or both seat (lap) belt(s). The minimum acceptable fastener used in the mounting of all belts and harnesses is SAE Grade 5/ Metric 8.8. Where possible, seat belt, shoulder harness, and anti-submarine strap(s) should be mounted to the roll structure or frame of the car. Where this is not possible, large diameter mounting washers or equivalent should be used to spread the load. Bolting through aluminum floor panels, etc., is not acceptable.

7. *ELIGIBILITY OF VEHICLES:*

7.1. Closed wheel vehicles that are in compliance with current general competition rules or National time trial rules are allowable.

7.2. Convertible vehicles operating with an SCCA approved factory roll over protection system are allowable. (NA and NB Miata hard tops are approved)

7.3. Other convertibles shall have a 4-point roll bar.

7.4. Drivers of open / targa top vehicles are required run with arm restraints or with the top up.

7.5. Others may be allowed on a conditional basis if approved by the Event Lead. Get confirmation from the MiDiv TT Divisional Administrator before the competition weekend to ensure compliance.

8. *VEHICLE NUMBERING/STICKERING:*

8.1. All numbers shall be 1, 2 or 3 digit.

8.2. Numbers shall be displayed on the driver and passenger sides of the vehicle. Numbers shall be a minimum of 8” tall with 1 ¼” stroke on a **contrasting** background.

8.3. Class letters shall be a minimum of 4” with ¾” stroke on a **contrasting** background and displayed on the driver and passenger sides of the vehicle.

8.4. Series and series sponsors stickers are required for competition and will be provided by series. We need to support those that support our sport!

9. *GENERAL RULES OF THE ROAD:*

9.1. Any driver or crew member who has consumed alcohol on the day of an event, other than following the conclusion of their on track activities, shall not participate and may be excluded from the balance of the event and penalized. Alcohol may not be consumed until after the conclusion of the competitors on track sessions. Performance impairing substances are prohibited at all times.

9.2. Unless specifically authorized by the Event Lead, passengers are not allowed in a vehicle unless an instructor is driving.

9.3. The SCCA provides event liability and participant accident coverage for those who are properly registered (including waivers and credentials if necessary). Access to some areas requires SCCA membership (weekend memberships are available).

9.4. Everyone in attendance must properly follow applicable rules and regulations of the event.

10. *ON TRACK CONDUCT:*

10.1. Drivers shall be in control of their vehicle at all times. Any 4-wheel off situation caused by driver's failure to maintain control will result in black flag and require a pass-through penalty.

10.2. A second 4-wheel off situation will result in a black flag with required pass through penalty. It is then at the discretion of the Competition Director or designee as to whether all lap times for the session will be forfeited.

10.3. Mechanical failures resulting in a 4-wheel off situation are not considered as a driver's failure to maintain control.

10.4. Penalties shall be enforced by the Event Lead. If a driver has a protest, a ruling should be issued by the Event Lead, which may be appealed to the Competition Director or designee whose decision is final.

10.5. Only the Event Lead may disqualify or exclude a competitor. In the event of an appeal of exclusion or disqualification, the Competition Director or designee may hear the appeal.

10.6. Passing is allowed anywhere on the course unless otherwise specified in the event supplemental regulations

10.7. The driver being passed is required to provide a point-by indicating the side to complete the pass on. Initiating a pass without a point-by is prohibited. Once initiated, passes must not be contested.

10.8. Both drivers are responsible for giving each other adequate space to complete the pass as safely as possible. Half a car width between cars is recommended.

10.9. For recognized flags see Appendix B

11. *TIMING AND SCORING:*

11.1. All cars shall have a working AMB/MyLaps compatible transponder.

11.2. It is the **driver's** responsibility to ensure the transponder is functioning properly

11.3. A limited number of rental transponders may be available. Transponders may be reserved during online registration.

11.4. All timed laps will be scored using the race facilities' timing system. In the event of failure of the race facilities' timing system, laps will be scored using the race host's official back up timing system, whatever that may be. No personal data logging or in car timing will be used for official lap time results.

11.5. Times will be made available via print-out and /or via host's live timing system. Live timing is not official.

12. *SERIES POINTS SYSTEM:*

12.1. Only competitors registered in a **Production Class** will be eligible for MiDiv TT Series Championship points (herein after – Series Points) (see 16.1 for eligible classes)

12.2. Competitors will submit a dyno sheet during Tech Inspection. The Event Lead will review it before the 1st scored session of the weekend and contact competitors with questions as needed. All competitors will have until the completion of the last event for the weekend to provide answers as requested or they will not receive Series Points.

12.3. Series Points will be awarded on a **session** basis. An event will include 2-4 timed sessions depending on the venue.

12.4. Series Points will be awarded to competitors who finish at least 1 lap in any timed session(s).

12.5. A competitor's fastest lap time of the session will be used to determine the session finishing position for each class.

12.6. A competitor must participate in a minimum number of events to receive Series Points as described below. In the situation of a single day competition or mechanical failure not allowing you to continue in competition, it shall be considered as 2 events for the purpose of qualification for Series Points

16 scheduled events = 10 events to qualify
14 scheduled events = 10 events to qualify
12 scheduled events = 8 events to qualify
10 scheduled events = 8 events to qualify
8 Scheduled events = 6 events to qualify
< 8 scheduled events = ALL scheduled events to qualify

12.7. The MiDiv TT Divisional Administrator may assign one weekend during the season as double points weekend. This shall be announced before the season opener and can only change in the event of a cancellation.

12.8. Series Points will be distributed for each session as follows:

12.8.1. 1st- 50, 2nd- 40, 3rd- 35, 4th- 30, 5th- 25, 6th- 24, 7th- 23, 8th- 22, 9th- 21, 10th- 20...and so on, subtracting one (1) point for each position after 10th.

12.8.2. In the event that two competitors end a session with the same exact fast lap time, a tie will be declared, and both competitors will get the same number of points for the session. The next closest competitor will get points for the position two places down from the tied pair.

12.9. In the event of a tie for season points, the winner will be decided using the following criteria in the order listed, until the tie is broken:

Most 1st places
Most 2nd places
Most 3rd places
Most 4th places, etc.

12.10. Season Championship awards will be given to the top 3 positions in each class after the completion of all events.

12.11. Any protest of weekend results must be filed within 30 minutes of the end of competition to the Event Lead. Event Lead's and/or Competition Director's ruling is final regarding weekend results.

12.12. Each competitor has the option to protest Series Points within 7 days after the results are posted. Protests should be communicated to the Event Lead. The Event Lead will rule on the protest and provide the results of the ruling to all parties involved. There will be a 7-day period for the parties to file an appeal to the Event Lead and MiDiv TT Divisional Administrator. The Divisional Administrator rulings are final.

13. *DECLARING A CLASS:*

13.1. Competitors should use the provided class calculation spreadsheet sheet to aid in selecting the correct class for your specific vehicle. It will be required to provide a classing verification when requested by the Event Lead. The spreadsheet is an easy tool to communicate how a class was selected.

13.2. Competitors must declare the class they are competing in at the time of registration or before any competition begins. This can be accomplished by pre-registering in the correct class or by announcing a change in the listed class during registration. Switching classes or late registration after the meeting is only permitted with the specific approval of the Event Lead. A driver may choose to compete or accrue points in any class that is equal to or higher than the vehicle's classification. For all classes, the appropriate TT Classification Form must be filled out completely, scored, and show the appropriate final vehicle classification. The competitor may then declare on the form if the car will be competing in a higher class. Points will accrue only in the class declared by the competitor prior to competition. The competitor may switch classes, using the same vehicle on another event day, provided the above rule is followed and a new declaration is made to the Event Lead prior to competition. Points will then begin accruing in the new class. There will be no retroactive declarations after-the-fact. A competitor may switch back and forth between classes multiple times on different days, provided that appropriate class letters are displayed on the vehicle, Timing and Scoring is notified of the change in class and a declaration is made to the Event Lead. (Note: This rule will allow competitors who are planning on mid-season modification that will change class to declare a higher class. The competitor may predict the class that the vehicle will eventually be modified to and begin accruing points in that class from the start of the season, even though the vehicle may not be as competitive early in the season.)

13.3. Run groups will be set by class. If the run group car counts are not well balanced, every effort will be made to keep all cars of the same class in the same run group. Final determination of the run groups will be decided by the Event Lead in consultation with the event host.

14. *TEAMS:*

14.1. While MiDiv TT is primarily a competition between individual drivers in a given class, there are legitimate reasons for drivers to choose to compete as a team. Some of these reasons include: lack of funding, inability to attend an entire season's events, pooled resources for doing repairs/maintenance/vehicle storage/travel, team sponsorships, expectation of a driver moving up to TT mid-season and others. Teams are legal in MiDiv TT, provided that specific guidelines are followed. While individual competitors will get recognition for their achievements using their full names, teams will be recognized only by their team names. Track records made by a member of a team will be recorded with the team name, not the individuals. Championship trophies, if engraved, will have the team name on them, and website results will list the team name.

14.2. A team is composed of two to a maximum of four drivers. A driver may only be on one (1) team per MiDiv TT class. The team must have a designated team captain. A team will be recognized by their team name and the MiDiv TT Divisional Administrator must approve all chosen names. The team must declare their driver list to the event registrar before they will begin to accrue points as a team. Prior points earned by either driver will not be carried over to the newly formed team. Once the team is declared, the team drivers shall have their future points tallied together. A driver may collect points for himself/herself, independent of their declared team, if they notify the Event Lead before the first competition session of the day. A team may not run more than one vehicle in the same class during a run session.

14.3. If a team splits up mid-season, the team captain will retain rights to the team name and the team's points, and may use any of the team drivers on the original roster to continue to compete; however, all recognition for wins, track records, championship placing, etc. will still go to the team, not any individual.

15. *SHARED VEHICLES:*

15.1. Shared vehicle is defined as one vehicle that is driven by 2 drivers in the same or 2 different classes.

15.2. Each driver shall register and pay the associated fee. During registration each driver will be encouraged to choose a class that will allow for the shared vehicle to be run in separate run groups. Should the typical run groups be adjusted due to car count, every effort will be made to allow each car in a class to compete in the same run group. If this is not possible, the Event Lead has the option to allow a driver to compete in a different run group.

16. *FUEL REQUIREMENTS:*

16.1. It is strongly recommended that pump gas, diesel or gasoline/alcohol mixtures up to E85 be used in competition vehicles. Race specific and other exotic fuels/additives can have components that cause very irritating fumes affecting our workers / competitors. Drivers will be required to declare their race specific fuel at the time of registration and will be advised of possible risks. Any vehicle that causes unusual irritation may be disqualified. This rule is for the safety of our workers / competitors and will therefore be strictly enforced.

17. *COMPETITION CLASSES:*

17.1. Classing for MiDiv TT shall be based on the actual competition weight to power ratio of the car per section 17.6. Additional classes outside of prototype , production and weekend may be allowed at the discretion of the divisional administrator.

17.2. The following weight to power-based ratios will be used for classing. It is the responsibility of the competitor to maintain the ratio for your declared class.

Prototype 1 = less than 10.0
Prototype 2 = greater than 10.0
Production A (PA) / Weekend A (WA) = greater than 19.0 lb./hp.
Production B (PB) / Weekend B (WB) = greater than 15.0 to 19.0
Production C (PC) / Weekend C (WC) = greater than 11.0 to 15.0
Production D (PD) / Weekend D (WD) = greater than 7.0 to 11.0
Production E (PE) / Weekend E (WE) = greater than 4.0 to 7.0
Production F (PF) / Weekend F (WF) = 4.0 or less

17.3. The following apply to **Prototype** classes:

17.3.1. Prototype cars are comprised of purpose-built tube frame or monocoque race cars. Spec racer Ford and other sports racer cars fall into this category. No closed wheel production-based cars are eligible for these classes

17.4. The following apply to **Production** classes

17.4.1. Horsepower for Production classes will be determined by dynamometer. All engine/ECU modifications are unrestricted

17.4.2. Each competitor wishing to compete in Production classes shall provide wheel horsepower as measured as described below.

17.4.2.1. 3 dyno runs must be produced on a Dyno-Jet chassis dynamometer. All readings will be corrected to SAE J1349 Rev JUN90 (29.23 in/hg, 77F, zero humidity) and the dyno's smoothing function must be set to 5.

17.4.2.2. Dyno sheets must be from the current engine configuration and not more than 12 months old unless approved by the MiDiv TT Divisional Administrator.

17.4.2.3. If a Dyno-Jet brand dynamometer is not available in your area, sheets from other brands may be evaluated on a case by case basis.

17.5. The following apply to **Weekend** classes

17.5.1. Horsepower for weekend classes shall be determined by the stock factory rated specification (SAE HP) converted to rear wheel horsepower. The conversion to estimated rear wheel horsepower is based on the following:

17.5.1.1. Estimated rear wheel drive WHP = SAE Crank HP * 0.84

17.5.1.2. Estimated front wheel drive WHP = SAE Crank HP * 0.88

17.5.1.3. Estimated all-wheel drive WHP = SAE Crank HP * 0.79

Note: Estimates used for conversion from crank HP to WHP are taken from Society of Automobile Engineering publications

17.6. The following applies to **ALL** classes

17.6.1. A car's pre-competition weight shall be verified at the beginning of the event. The Weight/HP ratio will be modified per section 17.10

17.6.2. All competitors are required to declare their minimum competition weight, which is the lowest weight to still be within the declared class.

17.6.3. Actual competition weight will be the 'as taken on track condition' and includes: the vehicle, driver, driver gear, fuel and fluids, etc.

17.6.4. The actual competition weight will be determined using the scales that are available at the event. All competitors will be required to be at or above their minimum competition weight using the events scales.

17.6.5. Up to 150 lbs. of ballast may be added to all cars as required, to meet minimum weight, provided it is securely mounted within the bodywork and serves no other purpose.

17.6.6. Cars may be required to weigh at the end of the competition session for verification. If the car is under its minimum competition weight (including modifiers), the competitor may be subject to re-classification or other penalties at the discretion of the Event Lead.

*For example, a car was classed using the pre-competition weight of 2120 lbs. and a crank HP. of 162. The estimated RWD WHP is 162 HP * 0.84 or 136 HP with -1.5 in modifiers it will be classed at 14.08 lbs./hp. or Prod B. After the competition session, the car is weighted and now weighs 2100 lbs. due to fuel consumption. The car will now be at a Weight/hp. ratio of 13.86 and re-classed to Prod C.*

17.7. Cars equipped with standard features or options from the factory that are covered in the modifiers are **not exempt**. For example, a vehicle that has a multi plane wing, dynamically adjusted from the factory will be required to claim the appropriate modifier as listed.

17.8. If a car receives lap times that are significantly lower than the next closest competitor in class, the Event Lead, in consultation with at least 2 other designated officials, has the authority to re-class the vehicle to a more appropriate class. Should re-classing be required, the lap times for the session will be applied to the new class and points awarded accordingly.

17.9. The following are considered open (no modifier)

17.9.1. Engine

17.9.1.1. Intake up to the throttle body or carburetor is unrestricted

17.9.1.2. Exhaust downstream of the header is unrestricted so long as the exhaust exits in the OEM location or behind the driver to a safe location.

17.9.2. Suspension

17.9.2.1. Bushings and sway bars may be modified or replaced.

17.9.2.2. Non-adjustable after-market dampers are unrestricted.

17.9.2.3. Additional bracing (e.g. strut tower bars) is allowed and unrestricted.

17.9.3. Brakes

17.9.3.1. Brake pad material is unrestricted.

17.9.3.2. Big brake kits with 4 or less pistons are allowed.

17.9.3.3. Brake discs may be slotted or drilled.

17.9.3.4. Braided/stainless brake lines are allowed.

17.9.4. Drive train

17.9.4.1. Gear ratio for the differential and transmission are unrestricted.

17.9.4.2. Open or Limited slip type differentials are unrestricted.

17.9.5. Interior

Removal of interior pieces is unrestricted providing it does not impact safety equipment.

17.9.6. Wheels are unrestricted

17.9.7. Powertrain cooling is unrestricted

17.9.8. Driver comfort/information – cool suit system, data logging, gauges, etc. – is unrestricted.

17.10. Table of modifiers: The tables below are used to adjust a vehicles class based on modifications. These modifiers are meant to level the playing field while not restricting the participant to the typical “Class Approved” modifications found in other series.

17.10.1.1. Aero Modifiers: ***Assessed per item to a maximum of -0.6***

-0.1	Simple rear spoiler, fixed wing, side skirts, Air Dam, Canards, Vortex Generators
- 0.2	Rear diffuser, flat underbody, Single piece light weight hood and fenders, Splitter, Fender vents, Splitter diffusers
-0.4	Multi-plane fixed wing, Dynamically adjusted wing

17.10.1.2. Brakes Modifiers: ***Assessed per item with no maximum***

-0.1	Aftermarket two - Piece rotors
-0.4	Multi-master cylinder system, ABS reprogram or swap
-0.6	6 or greater piston systems, non-ferrous rotors. race-developed ABS/traction control systems or “Driving Modes”

17.10.1.3. Suspension Modifiers: ***Assessed per item with no maximum***

-0.1	Camber adjustment plates, altered ball joints, offset bushings
-0.2	Non-OEM shocks, re-valving or re-oiling OEM shocks Adjustable shocks, max 2 way adjustable (Standard Koni, Bilstein,etc.)
-0.2	Adjustable perch dampers such as coil overs or weight jacking systems that allow for corner weighting of the vehicle
-0.4	Performance mono-tubes, max 3 way adjustable (MCS, Moton, Penske, etc.)" Non-OEM suspension mounting points
-0.8	Electronic/in-car adjustable shocks

17.10.1.4. Drivetrain Modifiers: ***Assessed per item with no maximum***

-0.2	Electronically controlled differential, Straight cut differential gears
-0.6	Dual Clutch transmission

-0.8	Sequential transmission

17.10.1.5. Engine Modifiers: ***Assessed per item with no maximum***

-0.15	Header or manifold swap or modification
-0.2	Injector/carburetor/Throttle body swap or modification
-0.25	Intake manifold swap or modification
-0.3	Performance cam or regrind
-0.3	Oversize valves
-0.4	Stroke increase
-0.4	Compression ratio increase
-0.4	Overbore (0.060+)
-0.5	Head porting
-0.5	Head swap
-0.75	Programmable, flashed, or chipped ECU on a NA vehicle
-1.0	Programmable, flashed, or chipped ECU on a stock forced induction vehicle including up to 5 PSI boost increase over stock.
Dyno or specific Evaluation	Forced induction added to NA vehicle. Includes Programmable, flashed, or chipped ECU.

17.10.1.6. Tire Width Modifier:

The following table uses the vehicle weight divided by the metric tire width to determine a modifier. For example: A 2500lb. vehicle with 225 mm tires would receive a score of 11.1 which equates to a modifier of 0.0. Vehicles with staggered tire widths shall use the largest width for determining the modifier

-1.2	Less than 8.0 lbs./mm tire width
-0.6	Greater than 8.0 to 11.0
0.0	Greater than 11.0 to 14.0
0.6	Greater than 14.0 to 18.0

1.2	Greater than 18.0

17.10.1.7. Tire Rating Modifier:

UTQG DOT tire with treadwear rating of-

Free	200 or higher
-0.3	200 to 100
-0.7	99 to 40
-1.5	Non-DOT approved or Hoosier A7

17.10.1.8. Electric Drive train: Weight to power ratios will apply to the actual delivered horsepower based on the controller settings (e.g. Ludicrous mode).

Appendix A: Roll bar specifications

A roll bar is defined as a main hoop and diagonal placed behind the driver and supplemented by two braces. The roll bar must be designed to withstand compression forces resulting from the weight of the car coming down on the roll structure, and to take fore-and-aft loads resulting from the car skidding along the ground on the roll structure. The basic purpose of the roll bar is to protect the driver in case the vehicle rolls over. Roll bars must meet the following criteria:

a) One continuous length of tubing must be used for the hoop member with smooth continuous bends and no evidence of crimping or wall failure.

b) The top of the roll bar must be above the top of the driver's helmet when the driver is in normal driving position.

c) The two (2) vertical members forming the sides of the hoop must be more than 15 inches apart (inside dimension), and it is desirable that it extend the full width of the cockpit.

d) An inspection hole of at least 3/16 inch diameter to facilitate verification of wall thickness may be required. It must be drilled in a non-critical area of a roll bar member at least three inches from any weld or bend.

e) All bolts and nuts shall be SAE Grade 5 / Metric 8.8 or better, 5/16-inch minimum diameter.

f) Braces and portions of the main hoop subject to contact by the driver's or passenger's helmet, as seated normally and restrained by seatbelt and harness, must be padded with a non-resilient material such as Ethafoam® or Ensolite® or other similar material with a minimum thickness of 1/2 inch. Padding meeting SFI spec 45.1 or FIA 8857-2001 is strongly recommended.

g) The size of tubing to be used for the main hoop, braces and diagonals shall be determined on the basis of the weight of the car. The following minimum sizes are required and are based upon the weight of the car without the driver. Dimensions are nominal; 0.010-inch variation in wall thickness is allowed.

h) Vehicle Weight (With driver)		i) **Tubing Size (inches) (outer diameter x wall thickness)**	
j)	Up to 1,000 lbs.	k)	1.00 x 0.060
l)	1,001–1,500 lbs.	m)	1.25 x 0.090
n)	1,501–1,700 lbs.	o)	1.375 x 0.080

p)	1,701–2,699 lbs.	q) r)	1.500 x 0.095 1.625 x 0.080
s)	2,700 lbs. and up	t) u) v)	1.500 x 0.120 1.750 x 0.095 2.000 x 0.080

h) The roll bar hoop and all braces must be of seamless or DOM mild steel tubing (SAE 1010, 1020, 1025) or equivalent, or alloy steel tubing (SAE 4130). For cars log booked before 1/1/16, existing ERW tubing is acceptable.

i) All welding should be of the highest possible quality with full penetration. Craters should be filled to the cross section of the weld and undercut be no more than 0.01 inch deep.

j) All roll bars must be braced in a manner to prevent movement in a fore-and-aft direction with the braces attached within the top third of the roll hoop. At a minimum, two (2) braces must be used, parallel to the sides of the car, and placed at the outer extremities of the roll bar hoop. Such braces should extend to the rear whenever possible. Diagonal lateral bracing must be installed to prevent lateral distortion of the hoop. In most cases, a lateral brace from the bottom corner of the hoop on the side to the top corner of the hoop on the other side is sufficient. Although installing the diagonal lateral brace in the main hoop is the strongest alternative (and hence most preferable), there may be instances where such an installation is not practical. In such situations, the installation of the diagonal brace running from the bottom of the fore/aft brace on one side to the top corner of the hoop on the other side is acceptable. In convertible vehicles with a production line beginning 1990 or later, such as the Mazda Miata, a “V” design, also known as a “double diagonal” used between the rear supports is acceptable.

k) Removable roll bars and braces must be very carefully designed and constructed to be at least as strong as a permanent installation. If one (1) tube fits inside another tube to facilitate removal, the removable portion must fit tightly and must bottom on the permanent mounting, and at least two (2) bolts must be used to secure each telescope section. The telescope section must be at least eight inches in length. One (1) bolt is required if one (1) end is welded to the main hoop.

l) Roll bars and braces must be attached to the frame of the car wherever possible. Mounting plates may be used for this purpose where desired.

m) In the case of cars with unitized or frameless construction, mounting plates may be used to secure the roll bar structure to the car floor. The important consideration is that the load be distributed over as large an area as possible. A backup plate of equal size and thickness must be used on the opposite side of the panel with the plates through-bolted together.

n) Mounting plates bolted to the structure shall not be less than 0.1875 inch thick and the use of a back-up plate of equal size and thickness on the opposite side of the panel with the plates through-bolted together is recommended. A minimum of three (3) bolts per plate is required for bolted mounting plates.

o) Mounting plates welded to the structure shall not be less than 0.080 inch thick. Whenever possible, the mounting plate should extend onto a vertical section of the structure, such as a door pillar.