CATERHAM

ICSCC CC4 CLASS RULE SPECIFICATION

A CATERHAM SEVEN SINGLE-MARQUE RACE CLASS

BJB
Provisional Rules - 2022

1. General

1.1. Intent

The intention of the CC4 class is to create a single-marque formula centered on the performance profile of a Caterham Seven 420R racecar (210HP), as configured by Caterham for the *Caterham Seven Championship UK*, sanctioned and administered by the BRSCC. The UK championship is the top-tier of the Caterham Academy system, reflecting a performance level that resonates with many Caterham racers in the USA.

CC4 intends to enforce this performance profile through a list of specific eligible models, and an additional mechanism through which "over-spec" Caterham Seven racecars will be handicapped, effectively through the use of a throttle limiter. All cars will have a minimum class weight. As the first Caterham Seven series in the USA, CC4 will initially focus on participation and inclusion, rather than creating a rule-set that attempts to completely eliminate vehicle performance as a competitive variable. The unique aerodynamic characteristics of the Caterham Seven mitigate a surprising amount of vehicle performance disparity.

The following rules are not intended as guidelines for the class, *but an actual list of allowable modifications*. Unless specifically listed here, any other modifications are prohibited.

1.2. Vehicle Eligibility

The following Caterham Seven models, utilizing the SV (wide) chassis, are eligible for participation in CC4 as *Primary Eligible Models*:

- **420R, CSR 420** – as originally manufactured and configured with the 210HP/2L Duratec engine. 420 road cars (eg. S-pack) may be converted to R-spec.
- **G7 factory racecar** – as originally manufactured and configured with the 200HP/2.3L Duratec engine. Conversion to G7 engine spec with other models is not allowed.
- **270R/310R/360R** – as originally manufactured and configured with factory-spec engines for the particular model.
- **R300/R400** – as originally manufactured and configured with factory-spec engines for the particular model

Any other Caterham Seven SV (wide)-chassis model is also eligible for competition, as an *Additional Eligible Model*. Examples include earlier Zetec and Crossflow models, as well as 485, CSR260, CSR200, and 620R. For models originally manufactured and configured with more than 210HP, or modified to exceed 210HP (including Primary Eligible Models), a balance of performance adjustment to a specified maximum rear wheel horsepower through the use of a throttle limiter will be required.

CC4 Entrants who have completed a race prior to the 2026 season with S3 (narrow) chassis models, at the discretion of Beachman Racing LLC, will be allowed to compete, subject to any balance-of-performance adjustments specified in writing and inspected by Beachman Racing LLC, at any point during the 2026 race season. Any non-compliance with the balance-of-performance adjustment(s) will result in disqualification.

1.3. Balance of Performance

APPROACH

CC4 targets a performance profile that assumes 210 maximum flywheel horsepower. For all eligible models, either modified to, or originally equipped to exceed 210HP, the use of a throttle limiter is required. All entrants with a vehicle in this category will complete dynamometer testing, and complete a signed Dyno Certification Form described later in this rule-set. Once the correct maximum throttle opening to achieve no more **than the CC4 class maximum of 180 rear wheel horsepower** is determined on the dynamometer, a throttle-stop will be installed/adjusted to prevent the throttle from opening beyond this maximum value. The maximum throttle opening value will also be recorded on the Dyno Certfication Form.

METHOD

The opening distance, at the throttle blade/barrel, will be noted on the Dyno Certification Form. For traditional butterfly-style throttle bodies, this is the maximum perpendicular distance between the inner bore of the throttle body, and the tip of the throttle plate. This distance is measured in the plane described by the cross section of the throttle body bore that includes the tip of the throttle butterfly, and perpendicular to the centerline of the throttle bore.

For roller-barrel intake systems, the maximum opening distance is defined as the diameter of the largest circle that can be contained within the roller barrel opening. Usually, this measurement is determined through the use of cylindrical drill-rod or equivalent. Any multi-valve throttle system (e.g. roller barrels), must record the smallest throttle opening distance found across all valves on the Dyno Certification Form. Alternatively, each valve maximum distance may be numbered (by cylinder/valve) and recorded.

COMPLIANCE

For purposes of compliance, a maximum throttle opening tolerance of +2mm is allowed.

The signed Dyno Certification Form will be reviewed by the Race Steward, who will then record maximum throttle opening (mm), engine displacement, and rear wheel horsepower in the vehicle log-book. If a throttle-limit check is performed after a race (e.g. protest), and the distance exceeds the recorded limit in the logbook beyond the tolerance detailed above, it will result in disqualification. Note that Primary Eligible Models do not utilize a throttle-limiter, and are not subject to this balance-of-performance mechanism. These models are only subject to a horsepower protest.

Alternatively, if the vehicle is protested for exceeding the rear wheel horsepower limit, then dynamometer protest procedures described later in this rule-set will be followed. For Additional Eligible Models, a throttle-limit protest must always precede a horsepower protest.

1.4. Safety

All cars must comply with SCCA GCR and SCCA IT safety rules. Per the SCCA GCR, the Caterham-provided, unmodified “Superlight” roll-cage with the MSA/FIA certification label is legal for competition.

2. Allowable Modifications

2.1. General

The fitment of aluminum boot and cockpit covers (hard tonneau) is highly recommended.

It is permitted to use Caterham half-door part number 76072RC (unshaped) or 76528A (shaped) or 30V086A (shaped, carbon-effect), but no other alternatives. The shaped half-doors were not designed for use with the Seven Superlight roll cage and must be modified to suit if used.

Windscreens are not permitted. Wind deflectors are free, but may not be taller than the standard Caterham Perspex wind deflector (part number 53330L).

Under-trays are not permitted.

2.2. Chassis

Fitment of Caterham lowered drivers floor pan (part numbers 30P044B or 30P228A, or for left hand drive 30P229A) is permitted using steel rivets vertically and aluminium rivets horizontally but cockpit floor bracing tubes must be retained. Painting or powder coating of the lowered floor is permitted, but rivets must not be painted so they can be inspected.

2.3. Interior

It may be necessary to trim, cut away, or augment small sections of material from the pedal box to allow full clearance for pedals when adjusted to a driver's preference. This is acceptable.

Within the limits of the safety regulations, the driver seat is unrestricted. The passenger seat may be removed.

2.4. Exterior

Plastic screws (Caterham part number BM5x25) may be used to retain the rear wings. Flare rivets may also be used, provided the mounting of the wing remains equally as secure as if bolted.

It is highly recommended to fit locking bonnet catches in place of the standard over-center items on the rear bonnet mount. This ensures the integrity of the seal between the airbox and the bonnet intake hole, as well as preventing the bonnet from unintentionally releasing.

The front wings must be either bolted or bonded in position as designed by Caterham; or securely riveted following a repair. *The leading edge of the wing to the forward-most edge of the wingstay must be no more than 80mm*. The wingstay must not be modified in any way, such as bending the legs or mounting in a non-standard way that would lead to the wing being out of its factory standard position.

The cycle wings, rear wings and nosecone must remain in GRP or carbon fiber as standard and be original Caterham supplied parts.

With the exception of nosecone canards ("Whiskers"), Caterham nosecone chin splitter, and filler panels for the triangular sections of the roll-cage halo, no other aerodynamic aids are permitted. This includes front/rear wing elements, under-trays, roll-cage tube extensions, or any modifications to the front/rear fenders or bodywork. Ducting is permitted for the sole purpose of driver cooling, either directly or by feeding a blower fan and cool-suit system.

2.5. Weight and Ballast

A minimum weight for cars with driver will be maintained at all times. Ballast is allowed, but must be located on the passenger floor, aft of the firewall and forward of the rear bulkhead. Ballast shall be in segments no heavier than 50-lbs, and removable. Ballast must be secured with fasteners of minimal grade 10.9/SAE grade 8, and total fastener cross sectional area must exceed 265mm^2. Where a fastener penetrates either the passenger floor-pan or rear bulkhead, a steel washer of at least 50mm/2-inch diameter must be used. In all cases, ballast must be completely immovable when installed/inspected.

CC4 minimum class weight, including driver, is 1475lbs.

2.6. Engine

As described in the Vehicle Eligibility section, Primary Eligible Models must maintain Caterham factory-stock specification engines, as originally configured from the factory.

Any re-build/refresh of the engine for these models must retain the **original** camshaft specification, engine compression ratio, engine displacement and cylinder head specification. Cylinder head specification includes, but is not limited to valve sizes, combustion chamber volume, and intake/exhaust port volume/shape. Cylinder head porting of **any** kind is prohibited. For purposes of these rules, "originally configured from the factory" is inclusive of component material – eg. a steel connecting rod may only be replaced with a steel connecting rod. As a reminder, these rules constitute the comprehensive list of modifications. For Primary Eligible Models, any modifications beyond factory-stock specification, as originally configured at the Caterham factory, and not specifically allowed in this rule-set, are prohibited. For example, configuring an engine without an alternator is prohibited. As an additional example, Titanium valve retainers are prohibited. As a final example, the engine management system must remain original, as originally configured from the factory, for the model.

For any other Caterham Seven model, or, models in the above list with engine modifications, a throttle-limiter will be utilized to constrain maximum rear wheel horsepower as separately described. For those entrants/vehicles, engine modifications are unrestricted, inclusive of the engine management system. However, turbocharging and supercharging is prohibited.

2.7. Fuel System

Fuel pumps, pressure regulating valves, filters, lines, and hoses are unrestricted. Fuel lines, or any fuel-carrying component may not be located in the cockpit. Fuel coolers are prohibited.

A fuel cell is highly recommended, must be located in the boot, and mounted in the stock location. Any fuel cell must be constructed and certified in accordance with FIA FT-3 or higher specification. All fuel cells must be installed in a fully surrounding metal container of appropriate thickness (Aluminum: 0.059"; Steel: 0.036").

2.8. Battery

The battery may be replaced with any size and relocated. Only AGM batteries may be located in the cockpit.

2.9. Cooling

Both water and oil cooling systems are free, as long as they serve no other purpose. All coolers must be located within the engine compartment and contained within unmodified Caterham factory bodywork. Closing off portions of the nosecone grill opening to optimize fluid temperatures is permitted, as long as the material used is securely fastened, and located behind the nosecone front opening.

2.10. Drivetrain

The following gearboxes/gearbox-architectures are approved for CC4:

- Ford T9 5-speed
- Caterham 6-speed
- Caterham Mazda-based 5-speed
- Quaife G60
- Sadev SCL 82-17

Gearbox components, including case and gearing are unrestricted. Original number of forward gears must be maintained. Any pneumatic and/or electrical partial or complete gear-change assist system(s), not originally equipped and configured at the Caterham factory, are prohibited.

Differential gear ratio, as well as manufacturer and type of limited-slip unit are unrestricted. Electronically and/or pneumatically controlled differentials are prohibited.

2.11. Wheel Studs

Wheel studs and lug-nuts are unrestricted, but must be made of carbon steel. Aluminum lug-nuts, thus, are prohibited.

Wheel spacers are permitted. If a wheel spacer is installed, the lug nut threads must engage the threaded portion of the wheel stud to a minimum distance of 12mm. If wheel spacers are thicker than 6mm, they must be bolt-on (to wheel or hub), and must index into the center bore of the wheel and hub.

2.12. Wheels and Tires

The CC4 class tire is the Bridgestone Potenza RE71-RS and Bridgestone Potenza RE71-RZ. These are the only tires allowed for competition in class.

For CC4 Primary Eligible Models, the following tire/wheel sizes may be used:

- **Caterham G7** – 205/50/15 on any 15” wheel with a maximum width of 6” at both front and rear
- **Caterham Seven 270R/310R/360R/420R** – 205/50/15 on any 15” wheel with a maximum width of 6” at both front and rear
- **Caterham CSR 420**
    - Front fitment – 205/50/15 on 15” x 7” wheel

  - Rear fitment – 205/50/15 on 15” x 7” wheel
- **Caterham R300/R400** – same fitment as Caterham 420R

2.13. Brakes

Brake components are unrestricted. Anti-lock brake systems are prohibited. If a brake proportioning valve is installed, it must be a manual (rotary or lever-style) valve, and installation to control the front brake hydraulic circuit is prohibited.

2.14. Suspension

Suspension springs must be made of steel, but are otherwise unrestricted. Rear tender springs may be installed.

Anti-roll bar(s) may be added or substituted.

Shock absorbers (dampers) are unrestricted. Active, or cockpit adjustable dampers are prohibited.

Suspension bushing material is unrestricted. Suspension pivot point bushings and ball-joints may be replaced with spherical bearing assemblies.

3. Dynamometer Procedures

3.1. Dynamometer Equipment

Entrants are encouraged to use a Dynojet facility for dynamometer testing and completion of the Dyno Certification Form, but any dynamometer may be used. Dynamometer tests must be conducted in a commercial facility that offers dynamometer testing as part of their business and is open to the public.

All post race and protest dynamometer testing shall be done on a Dynojet 248, 224 or 424 dynamometer. SAE Correction shall be used for all dynamometer testing. Smoothing factor 4 or higher shall be used. Some versions of dyno software may not have more than three different smoothing factors, in such cases; the highest available factor shall be used. Post race and protest dynamometer results override the results of record.

All post race and protest dynamometer runs must be performed with a dynamometer technician driving the car. No entrant or crewmember can be at the controls of the car while dyno testing takes place. There will be no exceptions to this rule. Failure to comply will result in disqualification.

Dyno testing shall be done in the gear closest to a 1:1 ratio. All Dyno graphs must show decreasing power for 300 rpm from the peak horsepower level, or the car must reach the rev-limiter during the Dyno testing.

3.2. Dynamometer Variance

Due to the multiple factors that can alter dynamometer results, the results of post race and protest dynamometer testing will include a variance exception. Wheel horsepower may not be more than 4% greater than the HP declared on the Dyno Certification Form. The intended purpose is given as a safeguard to entrants that have made every effort to assure their cars' legality.

3.3. Post Race Procedures

When a trackside dynamometer is present: All cars designated for weighing must proceed directly to scales after leaving the track. Failure to do so will result in disqualification. Cars are to be weighed first because 3-6 pounds of fuel can be used on the dynamometer. Scales should be available to entrants during the event for their use, and all entrants are encouraged to verify their weight before the qualifying and race sessions. The dynamometer testing immediately follows the scales. Cars shall be at normal operating temperature when going on the dynamometer. The results of any post race or protest dynamometer testing is the result of record. If any eligible model exceeds CC4 class horsepower, this will result in disqualification. Further the vehicle will not be approved to race until a new Dyno Certification Form is filled-out. For Additional Eligible Models, the logbook will be updated with the new throttle-limit value.

When a trackside dynamometer is NOT present: All cars designated for weighing must proceed directly to the scales after leaving the track. Failure to do so will result in disqualification. Any car not meeting minimum required class weight will be disqualified.

4. Protests

4.1. Visual Inspection

Inspection of the throttle-limiter is conducted in the same manner as any other vehicle preparation compliance protest. The Race Steward will review the maximum throttle opening limit recorded in the vehicle logbook, and then measure the maximum throttle opening distance as described in these rules. Exceeding the limit specified in the vehicle logbook will result in disqualification.

4.2. Horsepower Verification

Any dynamometer testing required for a protest shall be done on a Dynojet 248/224/424 dynamometer at a facility chosen by the Race Steward. Dynamometer testing will be supervised by the Race Steward or a Contest Board member in the area where the testing occurs. If feasible, the facility used for the protest will be different than the facility used for the previous certification. The testing is to be completed in the most timely manner possible. The protested car will be adequately sealed at the course by the Race Steward. This may include the sealing of any or all of the following: hood, kill switch, ignition, other engine management electronics as well as other components at the Steward's discretion. A new Dyno Certification Form must be completed.

An additional bond may be required for any protest requiring a dynamometer test. Payment for the dyno run shall be determined by the outcome of the protest. If the dyno results show the car was at or below the CC4 class horsepower level (including the variance exception), the dyno cost shall be paid by the protesting party. If the dyno results show the car was above the declared number (including the variance exception), the cost shall be paid by the protested competitor.

Due to the expense and effort associated with a horsepower protest, for Additional Eligible Models, a throttle-limit protest must always precede a horsepower protest.

5. Dyno Certification Form

A certified Dyno report consists of three separate, reproducible Dyno tests with SAE correction. All testing must be done with engine at normal race running temperature, SAE Correction and smoothing factor 4 or higher.

Entrants are encouraged to use a Dynojet facility for dynamometer testing and completion of the Dyno Certification Form, but any dynamometer may be used. All post race and protest dynamometer testing shall be done on a Dynojet 248/224/424 dynamometer.

Dynamometer test results are NOT valid if not accompanied by this form signed and dated by the dynamometer operator and the entrant at the time of testing.

Vehicle Year: _____ Make: _____ Model: _____

VIN # (if available): _____

Entrant (Print Name) _____ Car#: _____
Signature_____ Date _____

Dyno Facility: Name_____

Dyno Make and Model: _____
Address_____
City_____ State _____ Zip code_____
Phone_____

Dyno Operator (Print Name) _____
Signature_____Date_____

**** Dyno Sheets from the three runs signed by the dyno operator must be attached. ****

1. Maximum Horsepower of three runs: _____ hp

2. Maximum Torque of three runs: _____ ft/lbs

3. Throttle opening during three runs:_____mm