



# TECHNICAL REGULATIONS

## HONDA CUP | RACE SERIES



2023-24 Season

## TECHNICAL REGULATIONS 2023-24 Summer Series

Note, Production technical regulations are a stand-alone article with no reference to these regulations.

### 1. General information

- 1.1 This Schedule shall be read in its entirety and shall take precedence over Appendix 2 Schedule A of the 'National Sporting Code' excepting where an item is not specifically covered within Schedule Honda Cup, in which case Appendix 2 Schedule A will apply.
- 1.2 Only vehicles approved by the Honda Cup Register as being compliant to the technical regulations as detailed hereinafter are eligible to compete in the series.
- 1.3 All technical eligibility and/or safety equipment enquiries shall be submitted in writing to the Series Scrutineer/Tech Officer. All enquiries should reference the article in question and clearly specify the subject matter. A written reply will be given to a written enquiry. On matters of technical eligibility and/or safety compliance, a verbal statement will have no validity. Where a competitor is found to knowingly or unknowingly fail to comply with the requirements of these regulations, they shall be omitted from collecting any points until the car meets the regulations contained herein.
- 1.4 It shall at all times remain the competitor's responsibility to prove eligibility of any components used.

### 2. Definitions

Definition of terms used within this Schedule shall be referenced from the National Sporting Code, Appendix Two Schedule A and as detailed below:

**'Long block'** means the engine cylinder head, including valve train and engine block assembly including crankshaft, conrods and pistons together as one component. Does not include and not limited to cams, sump or manifolds.

**'Non-standard'** means those components which are not 'standard' fitment.

**'OE or OEM'** means original equipment as manufactured by Honda Motor Co.

**'Original'** means the manufacturer specification, as supplied when new and without modification in accordance with the reference Honda motor co. parts manual.

**'Race trim'** means the condition in which the car competes, and shall include all fluids, ballast, driver and their safety apparel.

**'Race weight'** means the minimum weight of the competing car in Race trim, including driver. It may be measured at any time during the qualifying sessions and/or races, on the official scales of the meeting.

**'Space-frame'** means a tubular structure with a lightweight body where the stresses are absorbed by the tubular chassis and none by the body.

**'Standard'** means the component/s as originally optioned or fitted to the make, model and type of car by the original manufacturer at the time of the initial sale.

**'Stock Unibody'** means the vehicle manufacturer's assembly or structure to which all suspension sub frames and mechanical components attach.

**'Undertray'** means a device fitted under the vehicle that can play a role in the vehicle's aerodynamics.

### 3. Eligible vehicles

- 3.1 All vehicles must be a Honda production vehicle of 'closed vehicle' unitary construction and produced since 1989 (More specifically but not limited to, EF, EG, EK, DA, DC2, DC5, EP, ES, FD, FK, CRZ, AP, CL, GD, GK).
- 3.2 Any Honda engine from D, B, F, H, K series may be used.
- 3.3 Modified K24 engines as per 4.4 may only be run in a chassis factory fitted with a K series engine. More specifically but not limited to, DC5, EP3, FD2, FN2 or CL7/9.
- 3.4 All cars are to be naturally aspirated with no turbo charging, supercharging or other forms of forced induction allowed unless fitted as OEM standard.

### 4. Race classes

- 4.1 The Honda Cup Racing Series has classes as follows:

H2 - 0 to 1800CC

H3 - 1801 to 2000CC

H4 - 2001 to 2400CC – Including K24 stock long block

H5 - 2200 to 2400CC – Including K24 modified (refer. 4.4) and other engines over the 2400CC capacity limit.

HU - Prototype (Honda cars not eligible to run in Honda Cup but authorised to run by the Honda Cup Committee for the purpose of testing and evaluation. These cars are not eligible for overall series points or prizes, Race weights will be determined by the Honda Cup Committee).

- 4.2 Overbore allowance for class capacity calculations:

- 4.2.1 B series Honda engines shall be allowed a maximum overbore allowance of 0.5 mm from the standard bore diameter when running a standard crankshaft with standard stroke for that engine. This rule is to allow B16A and B16B engines to remain in the 1600CC class and B18C engines to remain in the 1800CC weight category.

- B16- 1615cc,
- B18 – 1820cc,
- B20 – 2021cc

- 4.2.2 K-series engines shall be allowed a maximum overbore allowance of 0.5mm from the standard bore diameter when running a standard crankshaft with standard stroke for that engine. This rule is to allow the K20 engine to remain in the under 2000CC class after being rebuilt.

- K20 series – 2021cc.
- K24 series – 2384cc

- 4.2.3 Overbore allowance for other engines not listed above shall be considered by the Tech officer on receipt of a written request.

- 4.3 In cars that were produced OEM with a non-K engine, the K24 engine must be used in stock long block format with OEM K series pistons and rods and with an unmodified OEM K24 head and OEM K series cams and will run at the stock long block minimum race weight.

- 4.4 The K24 engine may only be modified in cars that were produced OEM with a K24 or K20 engine as per the K20 engine with a maximum throttle body size of 74mm in diameter and will run at the modified K24 minimum race weight. More specifically but not limited to, DC5, EP3, FD2, FN2 or CL7/9.

## 5. Race weights - Controls and penalties

Honda Cup minimum race weights, including driver at any time when requested to weigh are as follows:

Class	Minimum weight
H2 <sup>2</sup> 1600cc	955kg
H2 <sup>2</sup> 1800cc	1005kg
H3 <sup>2</sup>	1060kg
H4	1090kg
H5 <sup>2</sup>	1140kg

Note 1: Please refer to Appendix #1 for any weight modifier relative to tyre type used

Note 2: +20kg for >74mm single throttle body or multiple throttle bodies

- 5.1 Minimum race weights will be the weight as the car is being raced, including driver and can be checked at any time before, during and immediately following competition by the Series Tech Officer or their assistant on the series official scales of the day.
- 5.2 Minimum race weights are based on actual engine capacity and tyre type as declared on the official Honda Cup entry form. If a competitor's engine capacity and/or tyre type changes during the race season it is the sole responsibility of the competitor to advise the series Tech Officer at least seven days prior to the commencement of the round.
- 5.3 Minimum race weights shall be observed at all times during competition including official qualifying and racing. Minimum race weight is the lowest weight of the driver and race car weighed prior or post-race. Competitors who run their cars below the minimum weight will be penalised. Cars are weighed when required by the Tech Officer and their assistants. Refusing to be weighed when requested will result in an immediate exclusion from the meeting and loss of any points awarded at that meeting. If a competitor cannot comply with the Honda Cup minimum race weight rules throughout the weekend they will be excluded from the results and may be excluded from racing that event.
  - (1) Competitor weighing up to 5kgs below the minimum race weight will receive an official warning and be required to rectify the weight and will be rechecked at the Tech Officer's discretion. A subsequent breach at the same race meeting will result in the competitor being moved back five places on the grid for the next race competed in.
  - (2) Competitor weighing over 5kgs and up to 10kgs below the minimum race weight will result in the competitor being moved back five places on the grid for the next race competed in. A subsequent breach at the same race meeting will result in the competitor being moved back 10 places on the grid for the next race competed in.
  - (3) Competitor weighing over 10kgs below the minimum race weight will result in the competitor being moved back ten spots on the grid for the next race competed in. A subsequent breach at the same event will result in a pit lane start for the next race competed in or exclusion at the Tech Officer's discretion.
- 5.4 If after completing tech. inspection and documentation competitors wish to change tyre size, they must nominate and race at the weight calculated with the largest tyre size. No adjustment will be made to the minimum calculated race weight if a change is made to a smaller tyre size unless the change is to be permanent. The decision to issue a new race weight will be at the discretion of the Tech Officer. Application to make a change of race weight must be made prior to the event official closing date and must be in writing to the Tech Officer.
- 5.5 Success ballast will be awarded to the top three overall highest points scoring competitors, as calculated from the official results for each round by the Series Coordinator, Tech Officer or their assistants. Success Ballast will apply at the publication of each rounds' official results. Success ballast penalties will be removed then reapplied as per 5.3 at the publication of each rounds' official results.

- 5.6 A success ballast weight handicap will be applied to competitors finishing in each round according to the following scale: First, 40Kgs. Second, 30Kgs. Third, 20Kgs. Fourth or lower, or non-participant, 0Kgs and will be applied on top of the competitor's regulated minimum, race weight.
- 5.7 All competitors required to add or adjust success ballast shall be given a minimum of ten days advance notice as part of the Honda Cup Series official points tables for each round.
- 5.8 Any ballast shall at all times be securely mounted inside the vehicle and on the passengers' side floor between the transverse rails that the passengers' seat attaches. It will be the sole responsibility of the competitor to supply and install this ballast in a safe manner in accordance with Schedule A.
- 5.9 There will be no accumulation of success ballast.
- 5.10 The race results of any guest driver will be disregarded for the purpose of determining success ballast weight.
- 5.11 The applied success ballast will be effective for any official practice sessions, qualifying and races for the following meeting.
- 5.12 Should two or more drivers be tied on points, they will be awarded equal round success ballast equivalent to that of the lowest penalised position that has been removed due to the tie.
- 5.13 There will be no success ballast applied in the first round of the season as no round precedes it.

## 6. Safety requirements

The following safety equipment shall be fitted to the competing vehicle

- 6.1 A roll cage installed in full compliance with Schedule A requirements.
- 6.2 A safety harness and a fire extinguisher shall be installed, in full compliance with Schedule A.
- 6.3 All drivers must wear approved fire-resistant protective clothing in full compliance with Schedule A at all times during competition.
- 6.4 Any driver wishing to race with the driver's side window down shall have an approved window net fitted and in place.
- 6.5 No tow hooks or other sharp objects shall protrude further forward or backwards more than the bumper.
- 6.6 Safety equipment as may be required by round organizer.
- 6.7 Onboard Cameras: It is highly recommended all competitors carry an onboard in car camera with a wide-angle lens that records to an SD card at a minimum resolution of 720P. Footage from the cameras may be used where there is an incident which is subsequently brought before the Clerk of the Course for investigation. The decision to review any such video footage is at the discretion of the Clerk of the Course, the Stewards of the Meeting or the Driving Standards Officer. It is the competitor's sole responsibility to ensure safe installation and effective operation of the camera equipment. At all times cameras must be fitted in accordance with Schedule A regulations and be approved by the Chief Scrutineer. Cameras must be mounted in a central to left position with the steering wheel and front windscreen in clear view.

## **7. Body shell, vehicle exterior and sub-frames.**

- 7.1** Bodywork may be manufactured from lightweight materials. Front doors shall remain OEM with steel outer skin but can be modified, composite doors are not permitted.
- 7.2** The vehicle's side profile shall remain standard except for the front spoiler, rear spoiler, side skirts and wing. Roof chopping and /or body channelling is not permitted. Rear bumpers are to remain complete with modification to the rear for aerodynamic purposes only (no removing of lower half allowed, modification for diffuser or holes for air flow only).
- 7.3** Front and rear spoilers/wings are permitted. Front spoilers may include the front bumper. Rear spoiler or wing must be contained in an area no higher than 100mm from a horizontal line from the highest point of the roof. A vertical line from the widest point of the rear guard and a vertical line from the rear most point of an original OEM rear bumper and comply with MSNZ Schedule A requirements.
- 7.4** Front and rear under trays are permitted. Front under trays may extend back to the front suspension cross member in line with the front axle centreline. Rear under trays may extend from the rear forward to the rear axle centreline. All under trays may only be secured to the vehicle by means of bolts or rivets only. No attaching of the tray by means of welding to the body of the vehicle.  
Under trays must at all times remain compliant with MSNZ Schedule A in regard to ground clearance and safety. At no time during competition shall the front spoiler, side skirt or any appendage under the car come in contact with the racetrack surface.
- 7.5** Wheel arch rolling/flaring not exceeding 10 mm width per side in any direction is allowed for the purpose of tyre clearance only. The measurement is to be taken from a standard guard attached in the OEM position. Bolt on or weld on flares are not permitted. Any rolling or flaring shall be blended to the original OEM shape.
- 7.6** Side skirt panels may be fitted but must at all times remain compliant with MSNZ Schedule A in regards to ground clearance and safety.
- 7.7** All non-standard parts should be able to be easily removed from the front and rear of the vehicle, must have the same dimensions as standard and a similar visual appearance.
- 7.8** Vehicles with a Standard transverse engine orientation must remain in that location. Vehicles with a standard north south engine orientation must remain in that location.
- 7.9** Ducting for the purpose of the flow of cooling air for brakes and radiators is free, provided that such ducting does not alter the profile of the vehicle. Ducting of radiator air through opening/holes in the bonnet is permitted.
- 7.10** Windows other than front windscreens are free provided Schedule A compliance is maintained. Front windscreen must remain as laminated safety glass. Plastic glazing fitted to both front doors must have a hole to grip through to allow for easy removal in case of an emergency.

## **8. Vehicle interior**

- 8.1** A driver's seat shall be installed offset from the centre line of the vehicle. All other interior fittings are free provided compliance with Schedule A is maintained.

## **9. Chassis**

- 9.1** Honda Cup vehicles must use an approved stock uni-body chassis, which may be modified provided that no space framing is part of the construction, other than a roll cage complying with Schedule A. This assembly/structure must consist of at least the following sheet steel pressings welded together in their standard position, door pillars, sills, front and rear inner guards, front bulkhead, chassis rails, radiator support and floor pan.
- 9.2** Inner steel Guards must remain standard.
- 9.3** Chassis rails and floor pan must remain standard in standard position.
- 9.4** The floor pan rearward of the front of the rear seat riser may be modified and/or replaced with a different material.
- 9.5** The firewall must remain standard in the standard position however filling of holes or adding holes is permitted.
- 9.6** The gearbox/exhaust tunnel must remain unmodified in the standard position to the front of the rear seat riser.

## 10. Engine Specifications

### 10.1 Class engine maximum capacities:

- H2 - B16 = 1615cc, B18 = 1820cc
- H3 - 2021cc. Refer 4.2.1 and 4.2.2
- H4 and H5 - 2384cc. Refer 4.2.2

### 10.2 Type and manufacturer: Honda, B, D, F, H, K series engines.

### 10.3 Cylinder block: free but must be OEM casting.

### 10.4 B series, K20 and modified K24 engines cylinder head is free but must be OEM casting.

### 10.5 K24 stock long block engines must run an OEM K24 type RBB cast cylinder head. Type R cast cylinder heads are not permitted in this format.

### 10.6 The engine placement shall remain as per standard location forward of the vehicle's wheelbase centre line.

### 10.7 B series, K20 and modified K24 lubrication systems are free provided that a catch tank in compliance with Schedule A is installed. Dry sump systems are not permitted.

### 10.8 K24 stock long block engines lubrication system must run an OEM Honda oil pump and oil pick up only. A catch tank in compliance with schedule A is permitted. Dry sumps are not permitted.

### 10.9 Aftermarket oil cooler and filter relocation kit is permitted with cooler mounted in front of radiator and filter on left hand side of bulkhead.

### 10.10 B series, K20 and modified K24 engines camshafts are free.

### 10.11 K24 stock long block engines may only run OEM K series cams.

### 10.12 B series, K20 and modified K24 cam gears and variable cam phasing controls are free.

### 10.13 K24 stock long block cam gears and variable cam phasing controls must remain OEM and operational.

### 10.14 Cooling system: Radiator must remain mounted in standard position but may be an aftermarket unit. K24 stock long block engine must retain operational OEM water pump.

### 10.15 Exhaust system is free but must exit outside the vehicle behind the B-pillar.

### 10.16 ECUs are free.

### 10.17 Head gaskets are free.

### 10.18 B series, K20 and modified K24 engines with a single throttle body over 74mm or multiple throttle bodies will run an additional 20 kg over their minimum weight. E.g. H3 = 1060 plus 20 is 1080kg.

### 10.19 K24 stock block engine intake manifold is free but a single throttle body must be used no greater than 74mm diameter.

### 10.20 All engines must have the provision to be sealed by means of a numbered wire tag securing the rocker cover to the cylinder head as per corresponding picture in Appendix 2 before any official event begins.

### 10.21 Tags may only be removed under the supervision or authorisation of a Honda Cup series official or their nominated counterpart, which must be gained in writing prior their removal. Non authorised removal of sealing tags will result in forfeiture of any points accumulated during the period of which the applicable tag was fitted.

## 11. Fuel systems

### 11.1 Fuel system modifications are free. Fuel tanks must be mounted outside the vehicle's cockpit under the floor pan.

### 11.2 The only fuel used at any round of the series is unleaded 95 or 98 octane (RON) petrol, E10 98 octane (10% ethanol blend) petrol as commercially available from retail service station forecourt pumps throughout New Zealand and comply with the Fuel Specification Chart detailed in Schedule A Part 2 of the current MotorSport Manual. Special racing fuels, Av Gas and/or blended fuels are not permitted.

### 11.3 All Competitors upon entering the Series agree to fuel samples being taken for compliance purposes.

## **12. Transmissions**

- 12.1** The transmission must comprise a working clutch and gearbox assembly, having a minimum of four forward and one reverse gear. The placement shall remain, as per standard manufacturer, forward of the vehicle's wheelbase centre line.
- 12.2** Transmission casing must remain standard but may be modified for fitment of coolers.
- 12.3** Sequential shifting gearboxes are not permitted.
- 12.4** Transmissions ratios may be altered provided they fit inside standard housing without modifications to the housing.
- 12.5** Any final drive ratio may be used provided it fits inside the stock differential housing without modifications to the housing.
- 12.6** Any commercially available LSD is permitted provide it fits in the standard housing.
- 12.7** Gearbox coolers are permitted.

## **13. Electrical systems**

- 13.1** Free, provided that two operational rear brake lights are installed in their standard locations and one additional high-level brake light is installed and compliant with Schedule A.
- 13.2** Minimum of one high level rain light must be installed in compliance with Schedule A and used when directed by the Clerk of course.
- 13.3** Headlights or other forward-facing lights can only be used at times of darkness or when lapping another vehicle. No flashing forward facing lights are permitted.
- 13.4** No rear facing flashing lights shall be used in dry conditions.
- 13.5** Fuse box or boxes may be relocated.
- 13.6** Pit to car radios are not permitted except for during an endurance event if run as part of the normal points season.
- 13.7** All competitors must run a transponder (hired or owned). If no transponder is run or transponder failure occurs, then that competitor will not be eligible for fastest lap points for that race/qualifying and be required to rectify the issue before the next race. The series officials have the right to assess a suitable lap time for a competitor that has not recorded a time for use when calculating the grid for race 3 (Handicap reverse grid).

## **14. Suspension**

- 14.1** The overall wheelbase must remain standard. Front and rear track measured at the hub face must remain standard but spacers up to a maximum thickness of 10mm per side are permitted.
- 14.2** Only standard suspension pickup points may be used and these shall not be altered, modified or added too. Eccentric bushes, sliding ball joints and threaded spherical joints may be used to adjust camber, castor and wheel alignment.
- 14.3** Aftermarket tension or compression struts (traction bars) mounted to non-standard pickup points are not permitted.
- 14.4** Standard suspension type must be used (i.e. torsion bar must remain torsion bar and coil over must remain coil over).
- 14.5** Front uprights and rear trailing arms must remain standard. Spindle height cannot be modified.
- 14.6** Suspension arms and links are free.
- 14.7** Shock absorbers and spring rates are free but must be mounted in the standard position.

## **15. Brake systems**

- 15.1** Free provided compliance with Schedule A is maintained.
- 15.2** A maximum of one calliper per wheel.
- 15.3** No liquid cooling or fluid recirculation is permitted.
- 15.4** Master cylinder braces are permitted.
- 15.5** All cars must run either one dual-circuit or a pair of single cylinders with balance bar.

## **16. Steering**

- 16.1** Free provided compliance with Schedule A is maintained.
- 16.2** A standard OEM steering rack must be used but power steer racks can be converted to non-power steer and vice versa.



## 17. Wheels and tyres

- 17.1** The maximum wheel size for factory non-K series chassis vehicles, more specifically but not limited to EF, EG, EK, DA, DC1/2, DB shall be 17x8. No other wheel diameter used for competition may be more than 8 inches in width.
- 17.2** The maximum wheel size for factory K series chassis vehicles, more specifically but not limited to DC5, EP3, FD2, FN2 or CL7/9 shall be 17x9. No other wheel diameter used for competition may be more than 9 inches in width.
- 17.3** Only approved dry racing tyres in models as listed in addendum #1 may be used in any Honda Cup official practice, qualifying race or display.
- 17.4** Wet tyres are free, but dimension must not exceed the registered dry race tyre sizing.
- 17.5** Tyre limits.
- 17.5.1** A maximum of 10x dry racing tyres can be used over a season. This will comprise of a maximum of 8x new unused tyres and the option of 2x used rear tyres from a previous season. Tyres will be marked and recorded by the Technical Team before qualifying.
- 17.5.2** Competitors will introduce four tyres at their first round of the season and then may introduce a maximum of two tyres per subsequent round until their full allocation of ten tyres is reached.
- 17.5.3** If a competitor changes class mid-season they are not eligible for four new tyres and must continue in accordance to 17.5.2 for the season.
- 17.5.4** Tyres from previous rounds of the same season that have been marked and that have legible markings may also be used in subsequent rounds. (If markings have rubbed off or are illegible this must be brought to the attention of the Tech Officer for remedying).
- 17.5.5** Used tyres can be introduced instead of new tyres e.g. tyres from last season may be marked at a round if a competitor does not wish to introduce new unused tyres. These tyres will contribute to the maximum tyre allocation.
- 17.5.6** It is the driver's responsibility to ensure all tyres are marked and legible for the duration of competition.
- 17.5.7** If a competitor has a tyre flat spot, puncture or the tyre is damaged, it can be replaced after consulting with the Tech Officer. If the Tech Officer considers the replacement tyre is likely to give a performance advantage, he will mark the replacement tyre and may give the competitor a grid position penalty.
- 17.5.8** If a race or meeting is declared wet and cars must run on wets, a driver can bank their allocation of slicks for the next meeting however they must be mounted on wheel rims and marked at the declared meeting.
- 17.5.9** The use of an unmarked tyre without the approval of a series official during any potential points awarding competition will result in the competitor being moved back ten spaces on the grid or a 10 sec time penalty added to the handicap delayed start time for the next race competed in which may be carried over to the next event and be required to rectify before the next race. Any subsequent breaches at the same event will result in a further ten place grid penalty for the next race or a 10 sec time penalty added to the handicap delayed start time competed in which may be carried over to the next event if occurring in the last race of the event and may be omitted from collecting points at the discretion of the Series Coordinator or Tech Officer as per article 1.3.
- 17.5.10** Vehicles will only be allowed to run medium or hard compound tyres on the front. Rears can be any compound.

## Appendix #1

Dry racing tyres are open but must be a commercially available motorsport tyre sold new in New Zealand.

There is special exemption for the use of the Nankang AR-1 tyre in the dry. 10x new unused AR-1 tyres may be used over the season. And With exclusive use of this tyre in the dry you may deduct 40kg from your listed minimum weight as given in section 5.

Wet racing tyres are open.

Tyres must work safely within the maximum width of your wheel size as listed in section 17.

## Appendix #2

Engine sealing sample pictures

Fig.1 B series



Fig.2 K series

