

# Honda Cup Tech Regs Incorporating

PART 2 SCHEDULE HONDA CUP Draft #1 01.09 16

## Honda Cup Race Series

TECHNICAL REGULATIONS 2016-17 Summer Series – North

### 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 Spare.

1.3 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.

1.6 TECHNICAL ELIGIBILITY AND SAFETY EQUIPMENT ENQUIRY:

Where any doubt may exist in understanding any regulation contained within this Schedule it will be understood that it is the Competitors obligation to enquire as to the correct interpretation. All technical eligibility and/or safety equipment enquiry shall be submitted in writing to:

(1) The Series Scrutineer, as detailed in the Series Articles.

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 not comply with the requirements of these regulations they shall be omitted from collecting any points until the car meets the regulations contained herein.

## 2 DEFINITIONS

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

'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.

'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.

'Non standard' means those components which are not 'standard'.

'Race trim' means the condition in which the car competes, and shall include all fluids, Ballasts and the driver.

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

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

## 3 ELIGIBLE VEHICLES

3.1 All vehicles must be a Honda production vehicle' of 'closed vehicle' unitary Construction and produced since 1989. (EF, EG, EK, DA, DC2, DC5, EP3, FD1, FD2, CRZ, ES).

3.2 Any Honda engine from D, B, K, F, H, series may be used.

3.2.1 K20 series engines are limited to 2021cc. maximum capacity (being standard Stroke and standard bore plus .5mm overbore)

3.2.1.2 K24 series engines are limited to 2400cc maximum capacity in chassis Manufactured post 1998 - more specifically EK , DC2, DC5, EP3, FD1, FD2, and ES.

K24 engines must run as standard OEM or OEM K24 with K20A2R OEM head, throttle

Body and camshafts. As per 4.2.2 or modified as per 4.2.3, 4.2.4, 4.2.5.

3.3 All cars are to be naturally aspirated with no turbo charging, supercharging or other Forms of forced induction allowed.

3.4 N1 eligible chassis EG hatch EK hatch DC2 DC2R two door and four door variants

## 4 RACE CLASSES

4.1 The Honda Cup Racing Series has classes as follows:

N1 - 0 to 1600 cc B16A spec 1601-1800cc b18c and b18cr spec

H1 - 0 to 1600cc

H2 - 1601 to 1800cc

H3 - 1801 to 2000cc

H4 - 2001 to 2400cc K24 stock block

H5 - 2001 to 2400 K24 modified and other engines over the 2000cc capacity limit

HU - Prototype (Honda cars not eligible to run in Honda Cup but authorised to run by The Race Director 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 Race Director).

4.2 Overbore allowance for class capacity calculations:

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.

4.2.1 K-series engines shall be allowed a maximum overbore allowance of 0.5mm From the standard bore with standard OEM stroke.

This rule allows the K20 engine to remain in the under 2000cc class after being rebuilt.

4.2.1 K24 OEM capacity 2354cc plus 0.5mm overbore 2382cc.

4.2.2 The K24 engine may be used in stock block format with OEM piston and rods and with an unmodified OEM Type R head and cams and will run at the stock block minimum race weight

4.2.3 The K24 engine may be modified 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.

4.2.4 Any K24 engine with a single throttle body over 74mm or Multiple throttle bodies will run an additional 20 kg over the modified K24 Minimum weight. Eg H5 = 1160 plus 20 is 1180kg\*\*.

4.2.5 Any K20 engine with a single throttle body size over 74mm or Multiple throttle bodies will run an additional 20 kg over the class minimum Weight. Eg H3 = 1800-2000cc 1060 plus 20 is 1080kg

4.2.6 N1 B16A engine, standard OEM crankshaft and pistons.

OEM B16A , B16B, B18C or B18CR head.

OEM B16A, B16B B18C or B18CR valve springs.

OEM B16A, B16B, B18C or B18CR camshafts.

4.2.7

N1 B18c engine, standard OEM crankshaft and pistons.

OEM B16A , B16B, B18C or B18CR head.

OEM B16A, B16B B18C or B18CR valve springs.

OEM B16A, B16B, B18C or B18CR camshafts.

4.2.8

N1 B18cr engine, standard OEM crankshaft and pistons.

OEM B18CR head.

OEM B18CR valve springs.

OEM B18CR camshafts.

Cam gears free.

N1 b16 a engine -B16A1,B16A2 or B18CR intake manifold.

N1 b18c or b18c r engine -B16A2 , B18C or B18CR intake manifold

B16A2 (60mm), B16B / B18CR (62mm) throttle body - UNMODIFIED (no taper boring)

Port matching between intake and head is permitted a maximum of 15 mm each way into the port and head.

Head gasket is free.

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

Intake pipe free to throttle body.

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

## **5 RACE WEIGHTS - CONTROL AND PENALTIES**

5.1 Minimum race weights will be race weight as 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 his Assistant on the Series official Scales.

5.1.1 Minimum race weights are based on actual engine capacity and largest tyre size and as declared on the official Honda Cup entry form.

If a competitor's engine capacity and /or tyre size changes during the race season it is the sole responsibility of the competitor to advise the series Technical officer at least seven days prior to the commencement of the round.

5.1.2 Minimum race weights shall be observed at all times during competition including official practice, qualifying and racing.

2016-2017 Honda Cup minimum race weights – including driver at the end of the race are as follows:

H1

0 to 1600 cc

15s: 205 = 935kg Z214

15s: 225 = 954kg Z214

16s: 210 = 950kg F200

17s: 215 = 955kg F200

No throttle body size restriction for H1.

### N1 1600cc

15's: (205) = 955kg Z214 b16a spec

N1 1800cc B18C spec

15's: (205) = 1030kg Z214

N1 1800cc B18CR spec

15's: (205) = 1055kg Z214

### H2

1601cc to 1800cc

15s: (205) = 995kg Z214

15s: (225) = 1000kg Z214

16s: 210 = 1000kg F200

16s: (245) = 1000kg Z214

17s: 215 = 1005kg F200

17s: 235 = 1025kg F200

17s 245 = 1015 kg Z214

No throttle body size restriction.

### H3

1801cc to 2000cc (including modified K20 with butterfly size up to 74m).

16s: 210 = 1055kg F200

16s: (245) = 1055kg Z214

17s: 215 = 1060kg F200

17s: 235 = 1080kg F200

17s: 245 = 1070kg Z214

**H4** 2200cc (H22 powered)

2001cc to 2200cc

16s: 210 = 1060kg F200

16s: (245) = 1060kg Z214

7s: 215 = 1065kg F200

17s: 235 = 1085kg F200

17s: 245 = 1075kg Z214

**H4** – K24-powered stock block

2200cc to 2400cc K24 stock block, R cams, t/body up to 74mm

16s: 210 = 1085kg F200

16s: 245 = 1085kg Z214

17s: 215 = 1090kg F200

17s: 235 = 1110kg F200

17s:245 = 1100kg Z214

**H5** – K24-powered modified

2200cc to 2400cc K24 modified, free cams, t/body up to 74mm

16s: 210 = 1135kg F200

16s: 245 = 1135kg Z214

17s: 215 = 1140kg F200

17s: 235 = 1160kg F200

17s:245 = 1150kg Z214

Plus 20kg for t/body over 74mm

Eg H4 with forged engine and total t/body size over 74mm on 235 f200 fronts

$235 + 925 + 20 = 1180\text{kg}$ .

Notes:

\*Cars will only be allowed to run medium compound tyres on the front

\*Rears can be soft or medium

\*If after completing tech. inspection and documentation cars 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 race director and 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.

5.1.3 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 may be excluded from racing that event .

### **Car weighing**

5kgs below the minimum race weight competitors will receive an official

warning and be required to rectify the weight and will be rechecked at the Tech

Officer's discretion.

A second breach at the same race meeting will result in the competitor being moved back five places on the grid for the next race.

5kgs to 10kgs below the minimum race weight will result in the competitor being moved back five spots on the grid.

A second breach will result in being moved back 10 places on the grid for the next race.

10kgs to 15kgs below the minimum race weight will result in the competitor being moved back ten spots on the grid.

A second breach will result in a pit lane start or exclusion at the Tech Officer's discretion.

5.2 Equalisation ballast may be allocated at the discretion of the Series Race Director and it will be the sole responsibility of the competitor to supply and install this ballast in a safe manner.

Equalisation ballast will be carried in addition to any other ballast carried to meet class minimum weight.

5.3 Any ballast shall at all times be securely mounted inside the vehicle and mounted on the passengers side floor between the transverse rail that passengers seat attaches too and the floor pan riser .

5.4 All competitors require to add or adjust reward ballast shall be given a minimum of fourteen days advance notice.

5.5 Reward Ballast may be added during the season if required.

## 5.6 Tyre Limits

Round One or the first round of the competition

Competitors may start with four new tyres and these will be marked R1 xx ( xx = car number)

Competitors can only run two new tyres at every round and they must be marked at

each round before qualifying.

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)

Used tyres can be introduced instead of new tyres ie tyres from last season may be marked at a round if a competitor does not wish to introduce new unused tyres.

It is the driver's responsibility to ensure all tyres are marked and legible for the duration of competition.

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

If a race or meeting is declared wet and cars have to run on wets, a driver can bank their allocation of slicks for the next meeting, however they must be marked at that meeting.

## **6 SAFETY REQUIREMENTS**

6.1 The following safety equipment shall be fitted to the competing car:

6.1.1 A roll cage installed in full compliance with Schedule A requirements.

6.1.2 A safety harness and a fire extinguisher shall be installed, in full compliance with Schedule A.

6.1.3 All drivers must wear approved fire resistant race gloves, balaclava and shoes while competing.

6.1.4 Any driver wishing to race with the driver's side window down shall have an approved window net fitted and in place.

6.1.5 No tow hooks or other sharp objects shall protrude further forward or backwards more than the Bumper.

6.1.6 Safety equipment as may be required by round organizer.

6.1.7 N1 same as above

## 7 BODYSHELL VEHICLE EXTERIOR AND SUBFRAMES

7.1 Bodywork may be manufactured from lightweight materials.

7.1.2 N1 bodywork shall be OEM except from lower lip , side skirts and rear wing, which may be aftermarket parts from an approved nominated supplier

Any aftermarket panel must be approved prior to fitting . Approval can be obtained from the technical Director . Approval must be made and will be given in writing.

7.2 The vehicles side profile shall remain Standard with the exception of the front spoiler, rear spoiler, side skirts and wing. Roof chopping and / or body channelling is not permitted.

7.2.1 N1 side profile OEM except for front lip, side skirts and rear roof wing.

7.3 Spare.

7.4 Front and rear spoilers/wings are permitted. Front spoilers may include the front bumper.

7.4.1 Rear spoiler or wing must be contained in an area below 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 rearmost point of an original OEM rear bumper.

7.4.2 N1 no front splitters or undertrays.

7.4.2 Front and rear under-trays are permitted. Front under trays may extend back to the front suspension cross member (in line with the centre of the front axles).

Rear under trays may extend from the rear forward to the rear axle centreline.

7.4.3 under trays must at all times remain compliant with MSNZ Schedule A in regards to ground clearance and safety. At no time during racing shall the front spoiler, side skirt or any appendage under the car come in contact with the race track 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.

7.5.1 N1 arch rolling is permitted but guard must be OEM in position, shape and size.

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 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.

7.8.1 N1 engine must be in identical position to OEM.

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/hole/holes in the bonnet is permitted.

7.9.1 N1 front brake ducting permitted.

7.10 Windows other than front are free provided Schedule A compliance is maintained. Front windscreen must remain as laminated safety glass.

7.10.1 N1 front and rear must be OEM. Side may be OEM or approved plastic.

## **8 VEHICLES 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.

8.1.1 N1 shall retain standard dash pad, alternative front inner door panels may be fitted but OEM door openers must be retained.

8.1.2 N1 cars must have provision for a passenger seat and seat belts to be fitted.

## 9 CHASSIS

9.1 Honda Cup vehicles must use an approved Stock Unibody 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 consists 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, floor pan.

9.1.1 Inner steel Guards must remain standard.

9.1.1.1 N1 same.

9.1.2 Chassis rails and floor pan must remain standard in standard position.

9.1.2.1 N1 same.

9.2 The floor pan rearward of the front of the rear seat riser may be modified and/or replaced with a different material.

9.2.1 N1 no modifications to floor pan.

9.3 The firewall must remain standard in the standard position however filling of holes or adding holes is permitted.

9.3.1 N1 same.

9.4 The gearbox/exhaust tunnel must remain unmodified in the standard position to the front of the rear seat riser.

9.4.1 N1 floor pan and exhaust tunnel must remain completely unmodified.

## 10 ENGINE SPECIFICATIONS

10.1 Engine

Capacity maximum:

K20 series engines maximum capacity 2021cc refer 3.2.1.

N1 B16A 1600cc. b18c b18cr 1800cc

K24 series engines maximum capacity 2382 refer 3.2.1.2.

10.1.1 Type and Manufacturer: Honda, D, B, K, F, H series engines.

10.1.2 Cylinder Block: free but must be OEM or Dart casting.

10.1.2.1 N1 Honda B16A 1, 2 3, B18c, B18cR

10.1.3 Cylinder Head: free but must be OEM casting.

10.1.3.1 N1 B16A, B16B B18C or B18CR standard.

10.1.4 The engine placement shall remain, as per Standard location forward of the Vehicles Wheelbase centre line .

10.2.2 Lubrication system: free provided that a catch tank in compliance with Schedule A is installed.

10.2.2.1 N1 lubrication system OEM - modified breather and catch tank permitted.

10.2.2.2 Dry sump systems are not permitted.

10.2.3 Cooling system: Radiator must remain mounted in standard position, but may be an aftermarket unit.

10.2.3.1 N1, half or full width radiators are permitted mounted in the standard position and aftermarket radiators permitted.

10.2.4 Exhaust system; free but must exit outside the vehicle behind the B-pillar

10.2.4.1 N1 exhaust system is free but must remain in standard position including outlet.

10.2.5 ECUs, free.

10.2.5.1 N1 only series authorised ECU permitted # OBD1, OBD2 Hondata s300 (to be supplied by competitor). OEM ECU's may be chipped.

10.2.5.2 N1 B18C only series authorised ECU permitted # OBD1, OBD2 Hondata s300 (to be supplied by competitor). OEM ECU's may be chipped.

10.2.5.3 N1 B18CR only unmodified B18CR oem ecu may be used .

## **11 SPARE**

## **12 FUEL SYSTEMS**

12.1 Fuel and air systems: modifications are free.

12.1.1 N1 must retain standard underfloor fuel tank. Upgraded pump permitted. Fuel lines may be upgraded with stainless braid.

12.2 All fuel must comply with Schedule A.

Permitted Fuels: Pump 98 E10 E85 and MUST be commercially available at public pump.

Special racing fuels, Av Gas and/or blended fuels are not permitted.

12.2.1 N1 - 95 or 98 pump gas only.

## 13 TRANSMISSIONS

13.1 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 vehicles wheelbase centre line .

13.2 Transmission casing must remain standard but may be modified for fitment of coolers.

13.2.1 N1 housing must remain standard – no coolers.

13.2.2 Sequential shifting gearboxes are not permitted.

13.2.3 Transmissions ratios may be altered provided they fit inside standard housing without modifications to the housing.

13.2.3.1 N1 Transmission ratios may be change but must fit into the housing without modification.

13.2.4 Any final drive ratio may be used provided it fits inside the stock differential housing without modifications to the housing.

13.2.5 Any commercially available LSD is permitted provide it fits in the standard

13.2.5.1 N1 LSD may be fitted provided housing is not modified.

13.2.6 Gearbox coolers are permitted.

13.2.6.1 N1 coolers are not permitted (as per 13.2.1.)

13.2.6.2 N1 gear shift mechanism must be OEM. Upgraded bushes are permitted. Quick shift levers are permitted.

## 14 ELECTRICAL SYSTEMS

14.1 Free, provided that two operational rear brake lights are installed in their Standard locations and compliant with Schedule A is and one additional high level brake light is installed.

14.1.1 N1 and N2 shall retain operational head, tail and brake lights with OEM switches.

14.2 One high level rain light must be installed in compliance with Schedule A and used when directed by the Clerk of course.

14.3 No flashing forward facing lights are permitted.

14.4 Headlights or other forward facing lights can only be used at times of darkness or when lapping another vehicle

14.5 No rear facing flashing lights shall be used in dry conditions

## 15 SUSPENSION

15.1 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.

15.1.1 N1 and standard track with no spacers permitted.

15.2 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.

15.2.1 N1 all pickup points must be OEM.

15.2.2 Aftermarket tension or compression struts (traction bars) mounted to non standard pickup points are not permitted.

15.3 Standard suspension type must be used (i.e. torsion bar must remain torsion bar and coil over must remain coil over).

15.4 Front uprights and rear trailing arms must remain standard. Spindle height cannot be modified

15.5 Suspension arms and links are free.

15.5.1 N1 oem front lower arms must be used

15.6 Shock absorbers and spring rates are free but must be mounted in the standard position.

15.6.1 N1 same but only height and one way adjustable.

15.6.2 N1 sway bars must be OEM but may be from other Honda models . These must be mounted in the OEM position. Upgraded hard bushes are permitted. Swaybar links must be OEM or OEM copy.

## **16 BRAKE SYSTEMS**

16.1 Free provided compliance with Schedule A is maintained.

16.1.1 N1 must remain OEM with upgrades to larger Honda parts permitted . OEM bias valve may be removed and one aftermarket rear pressure limiting valve may be fitted.

16.2 A maximum of one caliper per wheel.

16.2.1 N1 same.

16.3 No liquid cooling or fluid recirculation is permitted.

16.3.1 N1 same.

16.4 Master cylinder braces are permitted.

16.5 N1 and N2 cars must run the series spec brake pads which will be available direct from the supplier. Supplier: Autoquip Auckland. Brand: Hawk.

## **17 STEERING**

17.1 Free provided compliance with Schedule A is maintained.

17.1.1 N1 OEM steering system but steering wheel and boss may be aftermarket.

17.2 A standard OEM steering rack must be used but power steer racks can be converted to non power steer and visa versa.

17.2.1 N1 same.

17.3 Spare.

## 18 WHEELS AND TYRES

18.1 The maximum wheel size shall be 17x8. No other wheel diameter used for competition may be more than 8 inches in width

18.1.1 N1 maximum rim size 15x7 - one piece alloy rim.

18.1.2 Widened, welded or rims that are otherwise modified are not permitted

18.2 Only approved control Hankook dry racing tyres in models F200 or Z214

supplied by Value Tyres NZ in sizes and compounds as approved by Honda Cup and as listed in addendum #1 may be used in any Honda Cup official practice, qualifying race or display.

18.2.1 N1 only approved Hankook 15 inch Z214 and 205 50 15.

18.2.2 Wet tyres are free but dimension must not exceed the registered dry race tyre sizing

## 18.3 N1 other

Wiring loom shall remain standard but wires may be removed and added to.

Oem headlights must remain and be operational

Fuse box or boxes may be relocated

Engine mounts may be upgraded to hard rubber type but no billet alloy style.

Ignition system must remain OEM.

Ignition leads may be upgraded.

## Addendum #1

### Hankook spec tyres

Hankook Honda Cup spec race tyre list:

#### 15 inch

1008926 205 50 15 Z214 Medium compound

1008927 205 50 15 Z214 Soft compound

1008877 190 580 15 Z207 Wet compound

225 50 15 Z214 medium compound

#### 16 inch

1008845 210 619 F200 Medium compound

1008846 210 610 F200 Soft compound

245 45 16 FZ214 Medium compound

1008878 210/610 16 Wet compound

#### 17 inch

1008721 215 615 17 F200 Medium compound

1008851 215 615 17 F200 Soft compound

1008853 235 620 17 F200 Medium compound

245 17 Z214 Medium compound

1008876 200 620 17 Z207 Wet compound

1008874 235 620 17 Z207 Wet compound

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