

NEZ TECHNICAL REGULATIONS V8 THUNDER CARS 2019

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V8 Thunder Cars

NEZ Technical Regulations 2019



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1 Definitions

1.1 Eligible Cars

Cars delivered by Performance AutoMotive Scandinavian AB (PASAB) and Aaskov-Motorsport.dk. Eligible models: Chevrolet Camaro Gen.5 and Gen.6, Ford Mustang Gen.5 and Gen. 6 and Dodge Challenger Gen.3 with chassis marked CCR Mk 1 or Mk 2 and MB C63 AMG and Audi RS5 chassis from DTC serie.

1.2 Limitations

Any modification or deviations not explicitly approved by these regulations are strictly prohibited unless given permission by PASAB/V8Thunder Finland Ry board through sanction of the NEZ Racing Commission who sanctions or ratifies further modifications or deviations.

A permitted modification must never lead to an unauthorized modification. The only sanctioned changes that are allowed are normal adjustments, service and replacement of damaged parts.

These parts may only be replaced by homologated CCR Mk1 or Mk2 parts according to appendix 1.1 Chevrolet Camaro, appendix 1.2 Ford Mustang, appendix 1.3 Dodge Challenger, MB C63 AMG appendix 1.4 and Audi RS5 appendix 1.5

Damaged parts on body or body parts, paint and decals must be repaired and/or replaced as soon as possible after the race.

1.3 References

Some paragraphs in this document refer to the Technical Regulations (TR) of SBF which can be downloaded from www.sbf.se > Racing > Regler > Tekniska regler TR.

2 Homologation

These regulations are based on CCR Mk1 or Mk2 Work Shop Manual and on spare parts homologated by PASAB according to appendix 1.1 Chevrolet Camaro, appendix 1.2 Ford Mustang, appendix 1.3 Dodge Challenger, MB C63 AMG, Audi RS5.

3 Oversight of Regulations

Oversight of these regulations are made according to the regulations of SBF. Interpretations of these regulations shall be made in consultation with the Racing Committee/Technical Commission of SBF together with PASAB/V8Thunder Finland

Ry board.

4 Weight Limits

Minimum weight including driver, 1215 kg. In case ballast is used it must be placed in the intended ballast box. Provisions for the ballast to be sealed has to be made.

Minimum weight refers to the weight of the car during practice, qualification or race including the driver. The car can be ordered in for weighing any time before, during or after practice, qualification or race and must comply with the minimum weight.

All Gen.6 body's (Camaro & Mustang) must mount two ballasts (Total 12Kg) according to below pictures, for compensation of lighter body weight. They should be sealed by technical stewards. Those ballasts are specified in Appendix 1.1, 1.2



5 General

5.1 Engine

The only engine allowed is the LS3CC manufactured by GM Power Train. PASAB is the exclusive supplier of this engine. The engines are sealed. No work which requires the seal to be broken is allowed on the engines. If any seals from PASAB/Ultra Motors is missing from an engine, the competitor will be excluded from the current championship. Competitors are responsible for all seals. Valve cover is not sealed.

Ultra Motors in Södertälje, Sweden, and Minges Universalservice in Trögstad, Norway are the official engine service suppliers and the only parties allowed to renovate, repair or serve these engines. Ultra Motors are responsible for engines from the Swedish, Finnish and Danish markets, Minges Universalservice are responsible for engines from the Norwegian market.

Only fully synthetic engine oil with a viscosity of 5W-30 and in accordance with the following standard, API SN, ILSAC GF5 may be used.

Spare engine will be supplied by PASAB in Sweden.

Unregulated parts:

Starting engine.

Clutch cover.

Throwout bearing.

Spark plugs.
Ignition cables.
Oil filter.

Safety Wire for Oil Plugs:

A through-hole may be drilled in the oil plugs to allow a safety wire to be used according to image below:



Engine Management (ECM)

The original GM LS3CC is the only Electronic Control Modul (ECM) allowed. The ECM is sealed. Connecting to, or up- or downloading information is prohibited. Only the white original cable from the ECM may be connected to the tachometer. The OBD-connection is sealed.

Any alteration of the ECM is prohibited.

Official technicians/stewards has free access to the ECM of each competitor.

Official technicians/stewards are authorized to exchange ECM units between competitors/cars.

Official technicians/stewards are authorized to check the software of the ECM.

Official technicians/stewards are authorized to break the seal of an ECM and to reseal it after trouble shooting the unit.

5.2 Electrical System

Battery Optima model 34/78. PN 8004-250 Red Top Starting.

Laptimer may be installed

Transponder must be fixed to the right front frame tube in pre-drilled holes.

The original instruments must not be removed.

Digital meters (of dash/datalogging type) can be installed.

Negative battery cable must be connected to the central ground connection of the car. The positive battery cable must be connected to the ignition switch. Observe! All

wiring must be routed through the prefabricated entry system of the chassis, no new holes may be made.

The only sensors allowed to be connected to dash/datalogging system are:

G-force sensor.

Sensor to measure interior temperature of driver compartment must be installed inside loggerbox.

Voltage sensor (Volt)

Engine revolution sensor.

Wheel speed sensor (a maximum of one sensor) fixed to left front wheel.

Lap Time sensor.

Oil pressure and oil temperature sensor.

Engine coolant temperature sensor.

Lambda sensor.

Fuel pressure sensor.

GPS module.

5.3 Exhaust System

Headers and Y-pipes CCR Mk1/ CCR Mk2 according to appendix 1.1, 1.2 and 1.3

CAMCUP13 Muffler system Ferrita.

CAM09001 Catalytic converter Ferrita.

H2111C Exhaust tail pipe only, old version, only applicable outside Sweden.

Noise level limit 95db (Only applicable in Sweden) according to Technical Regulations (TR4) of SBF.

If noise level (db) differs between countries. The rule is to follow that countries noise level (db) were race event take place.

Thermal wrap may be fixed to the exhaust system at the two following points: To lessen the heat radiation on the generator thermal wrap may be installed on the front part of exhaust pipe 1 according to image 1 below:



Image 1

In order to decrease the heat radiation on the fuel tank, thermal wrap may be installed according to image 2 below:



Image 2

To prevent the heat radiation from the exhaust pipes on the generator cool air is allowed to be directed to the generator according to image 3 below. The following parts must be used for this purpose: PN RE200 Air Naca Duct and PN RE2031 Air Hose.



Image 3

5.4 Mounting of Front to Front Fenders

Original mounting parts between the front and the fenders may be replaced. Mounting parts are free of regulation with the following exceptions: Mounting parts must be mounted, screwed or riveted in the original fiberglass/**plastic** edge on front and fender. No mounting parts must be installed from the outside of front and fenders.

5.5 Fuel

According to V8 Thunder Cars **NEZ** Sporting Regulations 2019. Pump gasoline.

5.6 Upper A-Frame Mounting

To mount PN 2213907 (Precision Max Upper A-Frame) to the chassi the bolted joint must consist of bolt, washer + washer and a metal locknut: Bolt: UNC 1/2" x 2 1/2". Locknut UNC 1/2", thread depth 7/16 (11mm). Steel washer t = 3/32" (2,38mm). The width of the sum of mounted Camber shims must not exceed 16,1 mm.

6 Transmission

6.1 Gearbox

Four speed G-Force PN GF4A - G101A

Gearing:

1st = 2,45:1

2nd = 1,57:1

3rd = 1,22:1

4th = 1,00:1

Reverse = 1,93:1

6.2 Shifter Mechanism

Shifter Mechanism is free of regulation but must have an H-shifting pattern and fit in the original opening of the transmission tunnel.

6.3 Rear Axle

Model CCR Mk1-Winters, according to appendix 1.1, 1.2,1.3.

Type "Ford 9".

Gearing 3.50:1

Differential: Quaife ATB.

Toe and camber may be adjusted according to the following:

Toe = to a maximum of +/- 2 mm for each side

Camber = to a maximum of + / - 0,3 degrees.

6.4 Drive Shaft

Aluminum: PN QM188395

Steel: PN 243950

6.5 Master Cylinder

The following parts from Howe and Tilton may be used without limitations:

Howe PN 524312, Howe PN 524314, Howe PN 524316, TLT PN 74-875, TLT PN 74-1000.

6.6 Clutch Cover

Complete clutch cover, certified by SFI. All included parts to the clutch cover must be installed. The clutch cover may be modified according to the images below, trimmed at the bottom of the sheet in order to raise the clearance of the car; elliptic holes at the edge of the center hole of the clutch cover may be made according to the yellow markings on the image in order to ease mounting and deassembling of the gear box when a fixed release bearing is installed. No other modifications than those presented below are allowed.



7.0 Wheels

7.1 Rims

Dimension maximum 9 x 17. Minimum offset ET35. Must be made of metal with exception of magnesium. The hub must not extend beyond the outer rim edge. A longer wheel bolt may be used for the front rim hubs. Replace the front wheel bolt PN 20612 with the longer rear wheel bolt, PN 20613.

7.2 Tires

According to V8 Thunder Cars **NEZ** Sporting Regulations 2019

8.0 Brakes

Original CCR Mk1/Mk 2 according to appendix 1.1, 1.2, 1.3

The brake pad wear may be compensated by inserting shims between the backside of the brake pad and the brake caliper cylinder. Manufacturing and design of the shims are not regulated but they must be made of steel or aluminum.

The material in the brake shields RE221R/RE221L may be reduced by the two following alternative methods presented in the image below:

Alternative 1: Drill 3 holes with a diameter of 30 mm.

Alternative 2: Remove material inside the red line. Measured from the outer edge of the brake shield to the inner edge of the horizontal line, the radius is 50mm.



To decrease the heat radiation from exhaust to the brake and clutch fluid reservoirs PN B9524 may be installed according to the image below.



8.1 Front Brake Discs

Original CCR Mk1/Mk2 + **New 2018 AP disc**, according to appendix 1.1, 1.2, 1.3

8.2 Rear Brake Discs

Original CCR Mk1/Mk2 + **Use old front disc rear**, according to appendix 1.1, 1.2, 1.3

8.3 Brake Pads

Not regulated

8.4 Brake Cylinder

The following brake cylinders from Howe and Tilton may freely be shifted between front and rear brake circuit: Howe PN 524312, Howe PN 524314, Howe PN 524316, TLT PN 74875, TLT PN 74-1000.

8.5 Update Kit – Brakes

Original CCR Mk1/Mk2 according to appendix 1.1, 1.2, 1.3

New PF140 brake kit valid from 2018 according to appendix 1.1, 1.2, 1.3

9.0 Chassis/Body

9.1 Minimum Heights

Recommend Splitter minimum height **measured from lower edge to level surface** = 40mm.

Area of measurement = Between the fixation points on the two outer adjustable struts of the splitter and between the two longitudinal angle bars mounted in the splitter. The crossbraces are mounted in these angle bars. See images below.



Recommend Minimum **frame height** measured from lower edge of side rail to level surface = 58mm.

Area of measurement = A 100mm area measured from the front edge of the outer side rail.

Measurements must be made on a level surface with the driver inside the car. Measurements may be made anytime during a race weekend. The height shall be measured with a minimum tire pressure of 1,5kg.

9.2 Steering Wheel

Not regulated but CCR Mk1/Mk2 Steering Wheel hub WQRS must be used. A "master key" slot may be made in wheel hub and the steering column.

9.3 Seat

Seat according to SBF TR 5.16 Regulations.

Mounting bracket between seat and adjustable undercarriage according to SBF TR 5.16

The adjustable undercarriage (sliding seat) may be removed. The original mounting holes in the floor must be used and must not be altered or modified.

9.4 Foot Rest

An individually adapted foot rest may be installed in the floor panel with pop rivet.

9.5 Chassis and Body

Heat treating or straightening of main frame may only be made by PASAB or by companies approved by PASAB/V8Thunder Finland Ry board. Approved companies published by bulletin. The bumpers fixed with bolts may be straightened and welded but original shape, dimensions and material must be preserved.

Chassis- and bodyparts may only be replaced with original CCR Mk1/Mk 2 and DTC MB and Audi parts according to appendix 1.1, 1.2, 1.3.

Two (2) hood vents, PN B940, may be installed on the hood.

The following decals must be fixated and may not be altered:

Grill/Front decal PN PF024 = Camaro.

Grill/Front decal PN MUSTHLD = Mustang

Grill/Front decal PN CHAHL D = Challenger

Grill/Front decal PN 81131-44141 = Camaro Gen.6

Grill/Front decal PN 81321-44141 = Mustang Gen.6

Grill/Front decal PN 81131-44141 = MB and Audi

Grill/Front decal PN 81321-44141 = MB and Audi

Rear Light decal PN PF025, PF026 = Camaro

Rear Light decal PN MUSTLDR, MUSTLDL, MUSTCAP = Mustang

Rear Light decal PN CHATLD = Challenger

Rear Light decal PN 81131-44541 = Camaro Gen.6

Rear Light decal PN 81321-44541 = Mustang Gen.6

Rear Light decal PN 81131-44541 = MB and Audi

Rear Light decal PN 81321-44541 = MB and Audi

9.6 Shock Absorbers

Front: Öhlins type CAX - 971

Rear: Öhlins type CAX - 972

Öhlins Auto Norden, Dagvindsgatan 10, 652 22 Karlstad, is the exclusive supplier of shock absorbers and springs.

Service and sealing may only be made by the above mentioned company. The two sealings below are approved along with the yellow paint sealing of the nut. The yellow paint seal together with one of the two seal alternatives must always be unbroken.



9.7 Springs

Front Spring: Öhlins 01092-79 = 190N/mm

Front Spring: Öhlins 01092-89 = 210N/mm

Front Spring: Öhlins 01092-91 = 230N/mm

Front Helper Spring: Öhlins 05173-07 or 05173-01/KH. Must be installed.

Front Spring Support: 05281-01 (53/74/19). Must be installed.

Rear Spring: Öhlins 00698-06 = 44N/mm

Rear Spring: Öhlins 00698-14 = 60N/mm

9.8 Front Anti-Roll Bar

SC1449HW112 = 1-1/2" according to appendix 1.1, 1.2, 1.3.

SC1449HW138 = 1-3/8" according to appendix 1.1, 1.2, 1.3.

SC1449HW114 = 1-1/4" according to appendix 1.1, 1.2, 1.3.

Must not be decoupled.

9.9 Rear Anti-Roll Bar

Original delivered with car, dimension = 19mm (3/4").

May be decoupled.

10 Safety Equipment

10.1 Roll Cage

Certified chassis model CCR Mk1 / CCR Mk2 according to appendix 1.1, 1.2, 1.3.

All tubing within a radius of 50 cm of the head of the driver (measurement made with driver belted in seat) shall be covered with FIA homologated flame resistant cushion for protection.

10.2 Safety Belt

Six-point harness compulsory. According to SBF regulations TR 5.6.

10.3 Fire Extinguisher

Sparco model 0146EM41A with extinguishing agents for regular petrol.

Lifeline model L-102-400-001 with extinguishing agents for regular petrol.

The system must be in active mode (defined as possible to activate without removing any safety pins) during practice, qualification and race to the time for parc-fermé has expired or the car is released to the team.

10.4 Safety Fuel Cell

Original CCR Mk1/Mk2 according to appendix 1.1, 1.2, 1.3.

10.5 Defuelling of Fuel Cell/ Fuel Sample System FIA

PN: Name:

SPT 08.5655/L/JV Stäubli, panel mounted plug.

SPT08.1655/L/JV Stäubli, Female.

The drain plug must be placed in the aluminum sheet by the fuel cap according to the image below **on Gen.5 models:**



Fuel Sample only in Sweden with Aspen fuel. To protect ECM electric wire should be disconnected at tank armature. Electrical wire with switch from battery connects to tank armature and control fuel pump directly. After defueling reconnect electric wire from ECM.

The drain plug must be placed in engine bay according to the image below on Gen.6 models:



10.6 Other Safety Regulations

Unless specified otherwise in these regulations, the Technical Regulations of SBF TR 5 supersedes these regulations.

On Mustang Gen.5 the field of view is limited with regards to using the left rear view mirror. PN 15175-A31 may be replaced with PN 22548 Longacre.

11 Appendixes

11.1 Appendix 1.1

Homologated spare parts including part numbers for Chevrolet Camaro Gen.5 – Gen.6

11.2 Appendix 1.2

Homologated spare parts including part numbers for Ford Mustang Gen.5 – Gen.6

11.3 Appendix 1.3

Homologated spare parts including part numbers for Dodge Challenger Gen.3

11.4 Appendix 1.4

Homologated spare parts including part numbers for MB C63 AMG

99 4011AMG	Hood AMG
99 4015-1AMG	Gurney AMG
99 4015AMG	Rear Deck Lid AMG
99 4040AMG	Right Quarter Panel AMG
99 4041AMG	Left Quarter Panel AMG
99 4042AMG	Rear Bumper Cover AMG
99 4045AMG	Lower Nose AMG
99 4046AMG	Upper Nose AMG
99 4072AMG	Right Fender AMG
99 4073AMG	Left Fender AMG
99 4080AMG	Right Door AMG
99 40811AMG	Left Door Lower AMG
99 40815AMG	Left Door Upper AMG
99 40820AMG	Rear Greenhouse AMG
99 4082AMG	Front Greenhouse New, AMG
99 8212000AMG	Front Bumper Kit, AMG
99 8212100AMG	Front Bumper Hood Pin Bar, AMG
99 8212110AMG	Front Bumper Side Pin set, AMG
99 8222200AMG	Rear Bumper Kit, AMG
99 91917AMG	Rear Deck Support, AMG
99 AMGHLD	DECAL H. LIGHT AND FRONT GRILL AMG
99 AMGTLDL	DECAL REAR LIGHT, LEFT AMG
99 AMGTLDR	DECAL REAR LIGHT, RIGHT AMG
99 B800AMG	Window Braces Front AMG
99 B800AMGR	Window Braces Rear AMG
99 B8019AMG	Front Windshield New, AMG
99 B91940AMG	Mirror Bracket/ Door Support L/S AMG
99 B92040AMG	Mirror Bracket/ Door Support R/S AMG
99 B92100AMG	Vent Window R/S AMG
99 B921AMG	Right Quarter Window AMG
99 B92200AMG	Vent Window L/S AMG
99 B922AMG	Left Quarter Window AMG
99 B923AMG	Rear Window AMG
99 B92400AMG	Front and Rear / Roof / Side Bracket AMG
99 B9280FAMG	Window Brace Bracket Front AMG
99 B9280FLAMG	Window Brace Bracket Front LH AMG

11.4 Appendix 1.5

Homologated spare parts including part numbers for Audi RS5

99 4011RS	Hood RS
99 4015-1RS	Gurney RS
99 4015RS	Rear Deck Lid RS
99 4040RS	Right Quarter Panel RS
99 4041RS	Left Quarter Panel RS
99 4042RS	Rear Bumper Cover RS
99 4045RS	Lower Nose RS
99 4046RS	Upper Nose RS
99 4072RS	Right Fender RS
99 4073RS	Left Fender RS
99 4080RS	Right Door RS
99 40811RS	Left Door Lower RS
99 40815RS	Left Door Upper RS
99 40820RS	Rear Greenhouse RS
99 4082RS	Front Greenhouse New, RS
99 8212000RS	Front Bumper Kit, RS
99 8212100RS	Front Bumper Hood Pin Bar, RS
99 8212110RS	Front Bumper Side Pin set, RS
99 8222200RS	Rear Bumper Kit, RS
99 91917RS	Rear Deck Support, RS
99 RSHLD	DECAL H. LIGHT AND FRONT GRILL RS
99 RSTLDL	DECAL REAR LIGHT, LEFT RS
99 RSTLDR	DECAL REAR LIGHT, RIGHT RS
99 B800RS	Window Braces Front RS
99 B800RSR	Window Braces Rear RS
99 B8019RS	Front Windshield New, RS
99 B91940RS	Mirror Bracket/ Door Support L/S RS
99 B92040RS	Mirror Bracket/ Door Support R/S RS
99 B92100RS	Vent Window R/S RS
99 B921RS	Right Quarter Window RS
99 B92200RS	Vent Window L/S RS
99 B922RS	Left Quarter Window RS
99 B923RS	Rear Window RS
99 B92400RS	Front and Rear / Roof / Side Bracket RS
99 B9280FRS	Window Brace Bracket Front RS
99 B9280FLRS	Window Brace Bracket Front LH RS