



ROK CUP MALAYSIA 2019

TECHNICAL REGULATIONS



INDEX

1	CLASSIFICATION AND DEFINITION
2	GENERAL PRESCRIPTION
3	KART AND EQUIPMENT SAFETY
4	GENERAL PRESCRIPTION FOR GROUP 2 KARTS
5	SCRUTINEERING
6	RACING NUMBERS AND DRIVER NAME
7	ENGINE COLLECTION
8	CHASSIS DECLARATIONS
9	MISCELLANEOUS
10	VORTEX MINI ROK TECHNICAL APPENDIX
11	VORTEX ROK GP (JUNIOR/ SENIOR/ EXPERT) TECHNICAL APPENDIX



1 CLASSIFICATION AND DEFINITION

- a. Classification: Refer to Article 1.1 of the CIK-FIA Technical Regulations.
- b. Definition: Refer to Article 1.2 of the CIK-FIA Technical Regulations.

2 GENERAL PRESCRIPTION

- a. Refer to Article 2.1 of the CIK-FIA Technical Regulations.

3 KART AND EQUIPMENT SAFETY

- a. Kart Safety: Refer to Article 3.1 of the CIK-FIA Technical Regulations.
- b. Equipment Safety: Refer to Article 3.2 of the CIK-FIA Technical Regulations.

4 GENERAL PRESCRIPTION FOR GROUP 2 KARTS

- a. Chassis: Refer to Article 5.1 of the CIK-FIA Technical Regulations.

5 SCRUTINEERING

- a. A mandatory check will be carried out before the start of qualifying every Round. It must be possible to identify the homologated equipment using the technical descriptions (drawings, dimensions, etc.) on the homologation form. For any used equipment, which has been homologated, each competitor shall be able to submit the relative homologation forms to identify the homologated equipment. For identification and control, it must be possible to identify the homologated equipment.

- b. Chassis Homologation

- i. ROK CUP MALAYSIA 2019 is open to any chassis with either the current CIK-FIA homologation of the previous period (including brakes and bodywork) and in compliance with CIK-FIA Technical Regulations.

- c. Amount of Chassis

- i. Drivers are only allowed one (1) chassis only. However, if damage occurs to a chassis previously scrutinized for the Event, and if it is the opinion of the Scrutineer that it is impractical for such damage to be repaired in time, one alternative chassis of the same make and model as the damaged chassis may be scrutinized in order to continue the Event.

- d. Amount of Engines

- i. Only one (1) engine is allowed for each driver and category for Scrutineering and use per Event.

6 RACING NUMBERS AND DRIVER NAME

- Racing numbers shall comply with the provisions of Article 2.24 of the CIK Technical Regulations.
- Display of driver name and nationality is optional. Should the driver choose to display his name and nationality, the flag of the Driver's nationality must be that of the nationality of his license.
- Competition numbers should be in Black with Yellow Background for all classes and the allocation of the Kart number shall be as follows:

Mini ROK	1 to 99
Junior GP & Junior Open	100 to 199
Senior GP & Senior Open	200 to 299
Expert GP 30	300 to 399
Expert GP 40	400 to 499
Expert GP 50	500 to 599

- All competition numbers are to be prominently displayed at the front, back, left and right of the kart at all times. Replacement numbers can be purchased at SGD 1.00 per digit from the Promoters.
- Karts not in conformity with article 12.a, 12.b, 12.c and 12.d may not be allowed to participate in the ROK Cup.

7 ENGINE COLLECTION

- For each round, drivers will be issued one Engine and the accessories as follows:

Category	Engine	Accessories
Mini ROK	Vortex Mini ROK	<ul style="list-style-type: none"> ➤ Exhaust System ➤ Wiring Harness ➤ Carburettor
Junior GP	Vortex GP ROK with Junior Exhaust Restrictor	<ul style="list-style-type: none"> ➤ Exhaust System ➤ Wiring Harness ➤ Carburettor ➤ Radiator
Senior GP	Vortex GP ROK	<ul style="list-style-type: none"> ➤ Exhaust System ➤ Wiring Harness ➤ Carburettor ➤ Radiator

- No other parts will be provided by the Organiser in any manner.
- Running in of the issued Engines from Monday onwards before the race is allowed.



- Only the Driver to which the Engine was issued may use the Engine and its provided accessories, and solely for the purpose of his/her participation in the Event.
- The issued Engine and accessories must be returned to the Organiser in good order and condition after the Race on Saturday. Any loss or damage to the Engine and accessories will be borne by the Team / Driver.
- The engine and accessories drawn by the Driver in his/her first round will be tagged to him/her team for the rest of the season.

7.1 ENGINES

- a. Engines must be run as supplied by the Organiser. No modification or components substitution is allowed, unless specified in the “Technical Bulletin”.
- b. Scrutineers have the right to inspect any engine or components at any point of time during the event and without particular reason.
- c. Scrutineers have the right to request, at any time during the event and without any particular reason, to have competitors exchange parts of the engine (i.e. but not limited to clutch, exhaust, carburettor, coil wiring loom, ignition etc.) with an identical part.
- d. Refusal to submit to inspection and/or exchange parts will result in disqualification from the event

7.2 ENGINE SEAL

- a. Engines will be sealed by the Organiser prior to the Event.
- b. The original engine seal must remain intact throughout the entirety of the Event (from collection of the engine until the event is over)

7.3 EXHAUST

- a. Exhaust system must remain intact, as provided by the manufacturer.

7.4 STARTING SYSTEM

- a. Scrutineers have the right to request that the drivers, at any time during the event and without any particular reason, demonstrate on-board starting.
- b. Auxiliary starters are not allowed.
- c. On-board batteries are intended for engine starters and data loggers only.
- d. Only one (1) battery is allowed per kart.
- e. Batteries must be firmly and safely secured to one of the main rails of the chassis.
- f. Batteries must be sealed and only dry cell type batteries are allowed.

7.5 RADIATORS

- a. Only one (1) radiator supplied by organiser (except for Mini ROK) is allowed and must be mounted on the left side of the driver and placed above the chassis frame.
- b. When tape is applied to block off a portion of the radiator, the tape must wrap around the radiator and must not be removed during any on track activities.

7.6 CARBURETOR SETTINGS

- a. See Technical Appendix

7.7 AIR BOX

- b. See Technical Appendix

7.8 BATTERY

- a. Use of aftermarket starter batteries is allowed and must be contained in the supplied battery support.

7.9 FUEL SYSTEM

- a. Fuel filter is optional for all engines and must be installed between the fuel tank and fuel pump.

7.10 SPARK PLUG

- a. Only the following spark plugs, strictly original and without any modification, are allowed:
 - i. NGK B8EG – B10EG
 - ii. NGK BR8EG – BR10EG
 - iii. NGK BR8EIX – BR10EIX
 - iv. NGK BR8CMIX – BR10CMIX
 - v. DENSO IW27
 - vi. DENSO IW29
 - vii. DENSO IW31
- b. The spark plug must be installed with its original gasket.

7.11 CYLINDER HEADS

- a. The cylinder head has to be strictly original. Only the thread repairing by means of an M14x1, 25 helicoil of the same length as the original thread is allowed. The sparkplug body tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome.

7.12 ENGINE BEARINGS

- a. All main bearings must be original Vortex OEM SNR or KOYO used.
- b. See Technical Appendix for details.

7.13 ENGINE REPLACEMENT

- a. The driver may choose to exchange the issued Engine for another one from the Organiser, at a fee of \$250SGD or RM\$750 (Mini ROK)/ S\$450 or RM\$1,350 (Others) per exchange.
- b. Engine swap is only allowed if the scrutineer assess that it is impractical for the damaged / ceased engine to be repaired in time.
- c. The replacement engine must undergo and pass scrutineering in order to continue the race, and a 'Engine Replacement Form' must also be filled up.

8 CHASSIS DECLARATIONS

- a. The event is open to any chassis with either the current CIK-FIA homologation or the CIK-FIA homologation of the previous period (Including brakes and bodywork) and in compliance with CIK-FIA technical regulations.

8.1 CHASSIS

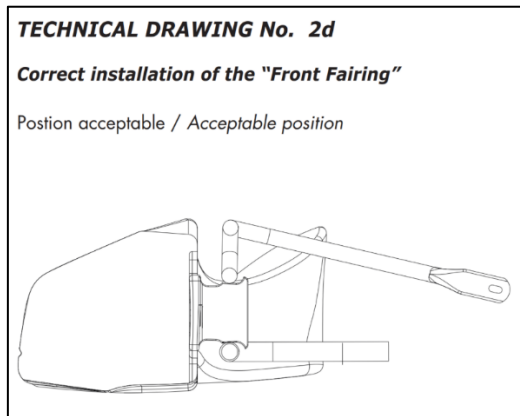
- a. All chassis tubing must be from magnetic steel

8.2 BODYWORK

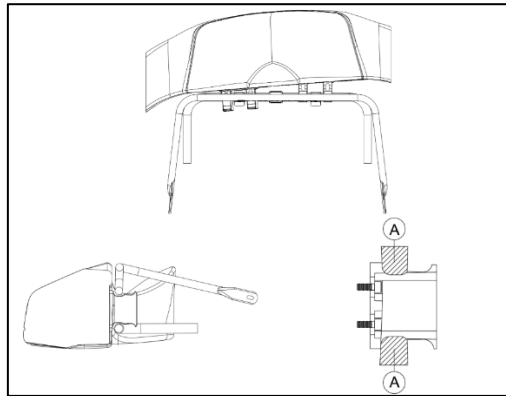
- a. Bodywork must have current or previous CIK-FIA homologation.
- b. Bumpers are compulsory for front, rear, and the side protection.
- c. The use of CIK-FIA homologated rear protection is mandatory.

8.3 CIK DROP DOWN BUMPER/ FRONT FAIRING

- a. All chassis in all categories are required to install the CIK Drop Down Nose Bracket Kit onto their front bumpers.
- b. From Qualifying until the Final, each Driver must enter the Start Servicing Park with the front fairing detached from the kart.
- c. The Mechanic or Driver himself must mount the front fairing in the Start Servicing Park under the supervision of a Scrutineer.
- d. The front (using the front fairing mounting kit) must be in the correct position at all times during the Event (refer to CIK Technical Drawing No. 2d).



- e. The Black Flag with an Orange disc will not be shown to a driver if his front fairing is no longer in the correct position. Drivers will be penalised if any part of the tubes of the front bumper are in the marked areas (A) as shown below.



8.4 BRAKES

- a. Brakes must have a current or previous period CIK-FIA homologation.
- b. Brake discs must be made from steel, stainless steel or cast iron. Carbon and ceramic brake discs are not allowed.

8.5 MINI ROK CLASS

- a. Minimum wheelbase 900mm
- b. Maximum wheelbase 1010mm
- c. Maximum overall width including all bodywork 1270mm
- d. Maximum rear track width 1100mm

8.6 ALL OTHER CLASSES

- a. Minimum wheelbase 1020mm
- b. Maximum wheelbase 1070mm
- c. Minimum width of rear protection system under all conditions is 1340mm
- d. Minimum rear track width for wet condition 1340mm
- e. Maximum rear track width 1400mm

8.7 AXLE

- a. Rear axle must be of one piece design.
- b. Axles must be constructed from magnetic iron or steel based design. Aluminium, stainless steel, titanium and carbon fibre axles are not allowed.
- c. Maximum diameter for Mini Rok rear axle is 30mm and a minimum thickness of 4.9mm.
- d. Maximum diameter for all other classes rear axle is 50mm and a minimum thickness of 1.9mm.

8.8 CHAIN

- a. Transmission must be carried by chain only to the rear axle. Any kind of differential is prohibited.
- b. Chain guard is required. Full protection totally covering front and rear sprockets and chain is mandatory.



8.9 CHASSIS REPLACEMENTS

- a. Drivers are only allowed one (1) chassis only. However, if damage occurs to a chassis previously scrutinized for the Event, and if it is the opinion of the Scrutineer that it is impractical for such damage to be repaired in time, one alternative chassis of the same make and model as the damaged chassis may be scrutinized in order to continue the Event.

8.10 TYRE DISTRIBUTION AND LIMITATIONS

- Only tyres purchased from the organiser may be used.
- Only 1 set of Dry Tyres and 1 set of Wet Tyres are to be used per round.
- Unused wet tyres may be carried forward to other rounds.
- Starting from the qualifying session on the race day, only the following tyres are allowed:

Class	Dry Tyres	Wet Tyres
Mini ROK	<u>Bridgestone DR1 YNL</u> Front Size: 40 x 100 – 5 Rear Size: 50 x 110 – 5	<u>Bridgestone WEK YFD</u> Front Size: 40 x 100 – 5 Rear Size: 50 x 110 - 5
Junior GP / Senior GP / Expert GP30 / GP40 / GP50	<u>Bridgestone YLR</u> Front Size: 45 x 100 – 5 Rear Size: 71 x 110 - 5	<u>Bridgestone WER YNP</u> Front Size: 45 x 100 – 5 Rear Size: 60 x 110 - 5

- Tyres will be distributed in the Servicing Park, in exchange for a voucher purchased from the Organiser.
- The tyres will be registered to the Driver during Scrutineering.
- In the case of tyre puncture, driver can replace their punctured tyre with their own used tyre after being inspected by the Scrutineer.
- In the case of a Wet Race, the choice of tyres will be left to the Drivers. The Clerk of the Course reserves the right to use the black flag if he or she deems that a driver's kart is fitted with the wrong set of tyres and that the Driver is too slow and pose a danger to other Drivers.
- Running in of wet tyres on a dry track is prohibited.
- It is not permissible to:
 - Tamper any tyre.
 - Alter the hardness or composition of the rubber or to change the construction of the tyre carcass by any means except through normal karting use.
 - Apply any substances including tyre treatment/ tyre softener.
 - Use heating sources, including heat guns or lamps on the tyres.

8.11 FUEL AND OIL

- The requirements specified in these Regulations are intended to ensure the use of fuels predominantly composed of compounds normally found in commercial fuel, and to forbid the use of specific power-boosting chemical compounds.
- Fuel will be non "Parc Ferme" status.
- It will be each competitor's responsibility to purchase their own petrol from petrol stations beginning from Free Practice till the end of the race on Saturday. No racing fuels or additives are allowed.
- Petrol will be unleaded commercial pump fuel, up to 97 octane.

- e. It is forbidden to add any liquid and/or power-boosting chemicals into the petrol.
- f. The volume of the fuel in tank must be over or equal to 1.5 litres at all times.
- g. The Scrutineers, following the decision of the Stewards, have the right to change, replace or check any entrant or driver's petrol at their discretion, at any time during the event.
- h. The recommended oil mixture ratio for each engine is as follows:

Engine	Recommended Mixture Ratio
Mini ROK	3%
ROK GP	4%

8.12 TRANSPONDER

- a. The competitor is responsible for securing the transponder to the kart to prevent loss of the transponder or timing due to incorrect positioning.
- b. The transponder must be mounted on the back of the seat.
- c. Recommended height
 - i. Yellow (Active Transponder) at a height of 25cm +/- 5cm from the ground.
 - ii. Red (Passive Transponder) at a height of 12cm +/- 5cm from the ground.
- d. The space, in a straight line, between the transponder and the ground must be free. No lead, chassis tubing, battery or other element which can block the signal between the transponder and the detecting loop.

9 MISCELLANEOUS

- a. Composite materials are banned, except for the seat, floor pan and chain guard.
- b. Data acquisition devices capable of recording and displaying data only are allowed.
- c. Any system capable of modifying fuel ratio mixtures, traction, throttle, ignition timing is forbidden
- d. Any kind of suspension device or system is prohibited.
- e. Communication to/from driver and/or acquisition devices via radio/telemetry or any other system is forbidden.
- f. No fluid spillage on the tarmac is allowed at any point of time. Catch bottles are highly recommended. Fluid spillage will result in a black flag.

10 VORTEX MINI ROK TECHNICAL APPENDIX

Any modification or adjunction on the engine and its accessories, if not expressly authorized, is forbidden. The Organiser considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility are strictly forbidden. The Entrant is liable for the conformity of their equipment.

The following original homologation form of the engine is an integral part of these Technical Regulations:

- ✓ VORTEX Mini ROK 60cc Identification Sheet

10.1 FUEL SYSTEM

- a. All fuel system components must be utilized as supplied
- b. A plastic "Y" for the fuel return is optional.
- c. The use of a fuel filter is optional.
- d. The fuel line must be of standard fuel line material and may not be restricted or reduced in any way.

10.2 CARBURETTOR

- a. The Dell'Orto PHBG 18 BS carburettor will be provided by the organiser
- b. Any change or modification is not allowed to the carburettor except for:
 - ✓ Main jet (All jets must be original Dell'Orto jets)
 - ✓ Needle clip position
- c. Carburettor airbox clamps must be used as supplied

Standard Dell'Orto PHBG 18 BS setup	
VENTURI	Max. 18 mm
SLIDE	#40
CIRCLIP POSITION	FREE
CONICAL NEEDLE	W23
GAS NEEDLE	WITHOUT SPRING
STARTING JET	#60
PILOT. JET	#50
MAIN. JET	FREE
SPRAY NOZZLE	AN266
FLOAT	4 grm
MAIN JET	FREE
AIR SCREW	FREE

10.3 AIR BOX

- a. Air box must not contain any additional holes.
- b. No external form of air ducts forcing air inside the air box is permitted.
- c. Plastic protection under rain conditions is mandatory.
- d. No modification on the inlet cone is allowed.

10.4 SQUISH GAP

- a. Minimum squish gap of 0.8mm
- b. Checking of squish gap can be done at any time during the race weekend.
The squish gap must be measured with a certified side gauge and by using a 2mm tin wire.
The crank shaft must be turned by hand slowly over dead centre to squeeze the tin wire.
The squish gap must be measured on the left and right side above the piston pin.
The average value of the two measurement counts.

10.5 EXHAUST PIPE

- a. No sandblasting, treatment or thermo wrapping of any kind is allowed.
- b. Internal dimensions may not be altered because of rust
- c. No modifications allowed to the silencer end cap.

10.6 EXHAUST MANIFOLD

- a. Only the original exhaust manifold header is allowed as supplied with the engine and must be kept in compliance with the homologation form, therefore no modification in structure or in dimensions is allowed.
- b. Exhaust manifold headers cannot be cracked or leaking.
- c. A template gauge will be used to control exhaust manifold headers.
- d. Cleaning the manifold with fuel or sandpaper is allowed as long as the dimensions remain as stated in the homologation form.

10.7 CLUTCH

- a. Each driver is responsible for the wear status of the clutch padding material and friction parts cleaning.
- b. Only original Vortex Z10 front pinion is allowed.

10.8 ENGINE BEARINGS

- Left Crankshaft Bearing: KOYO 6204
- Right Crankshaft Bearing: KOYO 6204



10.9 CHASSIS

- a. ONLY (chassis homologated by i.e. ACI/CSAI (Italy), FFSA (France), MSA (UK), MSB (Germany), WKA (US), RFE (Spain), are accepted.
- b. Wheelbase minimum 900 mm and maximum 1010 mm
- c. Bodyworks, and rear bumper homologated by ACI/CSAI (Italy), FFSA (France), MSA (UK), DMSB (Germany), WKA (US), RFE (Spain) are requested.
- d. Brake system homologated by CIK/FIA, ACI/CSAI (Italy), FFSA (France), MSA (UK), DMSB (Germany), WKA (US), RFE (Spain) is mandatory.

11 **VORTEX ROK GP (JUNIOR / SENIOR / MASTER / EXPERT) TECHNICAL APPENDIX**

Any modification or adjunction on the engine and its accessories, if not expressly authorized, is forbidden. The Organiser considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility are strictly forbidden. The Entrant is liable for the conformity of their equipment.

The following original homologation form of the engine is an integral part of these Technical Regulations:

- ✓ VORTEX ROK GP 125cc Identification Sheet

11.1 FUEL SYSTEM

- a. All fuel system components must be utilized as supplied
- b. A plastic "Y" for the fuel return is optional.
- c. The use of a fuel filter is optional.
- d. The fuel line must be of standard fuel line material and may not be restricted or reduced in any way.

11.2 REED VALVE

- a. Must be standard as supplied by Vortex.
- b. Minimum thickness: 0.30mm +/- 0.06mm

11.3 CARBURETTOR

- The Dell'Orto VSH 30 carburettor will be provided by the organiser
- Any change or modification is not allowed to the carburettor except for:
 - ✓ Main jet (All jets must be original Dell'Orto jets)
 - ✓ Needle clip position
- Carburettor airbox clamps must be used as supplied

Standard Dell'Orto VSH 30 setup	
VENTURI	Max. 30mm
SLIDE	#40
CIRCLIP POSITION	FREE
CONICAL NEEDLE	K33
IDLE DIFFUSER	CD1
IDLE JET	#60
PILOT. JET	#60
MAIN. JET	FREE
SPRAY NOZZLE	DP268
FLOAT	4 grm
MAIN JET	Free
Air Screw	Free

11.4 AIR BOX

- Air box must not contain any additional holes.
- No external form of air ducts forcing air inside the air box is permitted.
- Plastic protection under rain conditions is mandatory.
- No modification on the inlet cone is allowed.
- Only the airbox as shown below is allowed.



11.5 SQUISH GAP

- a. Minimum squish gap of 1.0mm
- b. Checking of squish gap can be done at any time during the race weekend.
The squish gap must be measured with a certified side gauge and by using a 2mm tin wire.
The crank shaft must be turned by hand slowly over dead centre to squeeze the tin wire.
The squish gap must be measured on the left and right side above the piston pin.
The average value of the two measurement counts.

11.6 EXHAUST PIPE

- a. No sandblasting, treatment or thermo wrapping of any kind is allowed.
- b. Internal dimensions may not be altered because of rust
- c. No modifications allowed to the silencer end cap.

11.7 EXHAUST RESTRICTOR

- a. Restrictor Size
 - i. JUNIOR GP: 28mm +/-0.3mm
 - ii. SENIOR/ GP OPEN/ MASTER: Original 38mm exhaust manifold header
- b. Exhaust manifold headers cannot be cracked or leaking.
- c. A template gauge will be used to control exhaust manifold headers.
- d. Cleaning the manifold with fuel or sandpaper is allowed as long as the dimensions remain as stated in the homologation form.

11.8 COOLING

- a. Radiator used must be as supplied by the organiser.
- b. Number of radiator support brackets is not limited.
- c. Only OTK W866 thermostat is allowed and its use is optional.
- d. Only water and no other additives are allowed for cooling.
- e. Radiator shields, either adhesive or mechanical are allowed but should not be removable when the kart is in motion.
- f. No form of heat exchange is allowed on the water hoses.
- g. No form of water heater or engine heater is allowed.

11.9 CLUTCH

- a. Clutch engagement speed (maximum) is at 4000 RPM.
- b. Each driver is responsible for the wear status of the clutch padding material and friction parts cleaning.
- c. Only original Vortex Z11 front pinion is allowed.

11.10 ENGINE BEARINGS

- Left Crankshaft Bearing: SNR 6206
- Right Crankshaft Bearing: SNR 6206
- Left Balancer Bearing: SNR 6005
- Right Balancer Bearing: KOYO 6302



11.11 CHASSIS

- a. ONLY chassis homologated by CIK/FIA are accepted.
- b. Bodyworks, and rear bumper homologated by CIK/FIA are mandatory.
- c. Brake system homologated by CIK/FIA is mandatory.