Global Rotax Project E20

Technical Regulation 2025

Edition 2024 11 18

Version 1

1. GENERAL

The regulations for the ROTAX Project E20 are developed and based on the DMSB Elekro-Kart (DEKM) and FIA Technical Regulations for Electric Karts (E-Karting) published by the FIA.

Anything which is not expressly allowed in the technical regulations is forbidden.

The English language is the authentic version.

1.1. CATEGORIES

Karts used in ROTAX PROJECT E20 Events, Rotax MAX Challenge (RMC), and International Rotax MAX Challenge Events (IRMCE) are divided into the following categories:

ROTAX Project E20 Junior

- Top speed 125 km/h
- Power output of the electric motor 17 KW
- (Target similar lap time to ROTAX Junior MAX)

ROTAX Project E20 Senior / Masters *

- Top speed 135 km/h
- Power output of the electric motor 24KW

*3 power calibrations available, Junior, Qualifying and Race mode.

Note

The only technical difference between the Project E20 Vehicle used for the Junior, Senior and Master categories is the combined weight of the driver and vehicle and the power settings for the power train.

The power settings can be verified at any time by ROTAX staff or the Chief Scrutineer of the event using the calibration analysis software.

Approved Power settings for each element of the event will be documented in a technical bulletin.

1.2. AMOUNT OF EQUIPMENT

For each RMC / Project E20 race event (from qualifying practice to the final) the following maximum amount of equipment is allowed:

- 1 ROTAX Project E20 vehicle **
- 2 set of dry tires *
- 1 set of wet tires*

*In the event of a race tire being damaged (Slick or Wet), the technical scrutineer may allow the competitor to nominate a “USED” tire of similar wear from the drivers registered practice tires as a replacement. The damage must be reported to the scrutineer immediately after the on-track action where the damage occurred, and prior to leaving the parc ferme / scale area.

** The ROTAX race manager may allow the exchange of the vehicle or any of the power train components due to technical reasons or accident damage as required and in coordination with the chief scrutineer of the event.

2. EQUIPMENT

2.1. VEHICLE ROTAX PROJECT E20 JUNIOR AND SENIOR

For all ROTAX Project E20 Events the only vehicle allowed is the ROTAX Project E20 as provided by ROTAX, this comprises of a Specific Sodi Kart sigma chassis and ROTAX E20 Electric power train.

The ROTAX Project E20 has three pre-programmed power settings that can be adjusted by installing an alternative ignition key which is supplied and controlled by ROTAX.

Green key – Junior power setting
White key – Senior power setting
Orange key – Qualifying mode

The only power setting modes allowed to be used in the various elements of the event will be defined in the event supplementary regulations.

Pre and post-race technical checks can be performed on the Vehicle, Vehicle control unit and Key system at any time by the technical scrutineer in conjunction with the ROTAX race manager, any competitor found to be manipulating or not using the ignition key / power setting as set out in the supplementary regulations will be excluded from the event.

It is only allowed to use OEM parts as supplied by ROTAX at the event.

All work or exchange of any parts related to the Power train or electric systems is only allowed to be completed by ROTAX appointed persons (High voltage level 2 qualified and under instruction from the ROTAX Race manager).

The only persons allowed to perform mechanical work on the ROTAX Project E20 vehicle “chassis” (excluding the power train or electrical systems) is ROTAX staff or the registered driver and the nominated mechanic for the driver.

All persons must have receiving and understood the Project E20 operators manual and understood the briefing / training as provided by ROTAX along with signing the release waivers.

It is forbidden for any other person to work on, operate, or charge the ROTAX Project E20 vehicle at any time.

Failure to comply with the guidance of the ROTAX staff or ROTAX Race manage at any time will lead to exclusion of the event and removal of access to the ROTAX Project E20 vehicle.
No refunds will be provided in such an incident.

2.2. CHARGER AND POWER SUPPLY

The only allowed power supply and charger to be used is that as provide by ROTAX.
Each driver will be allocated a place in the ROTAX awnings complete with a worktable, charger and specific kart stand.
The driver and his team members are responsible to keep the work area, and the awnings tidy at all times.
The driver and his team must always follow the instruction of the ROTAX staff.
Connecting any device not provided by ROTAX to the charger, power supply or ROTAX Project E20 vehicle is strictly forbidden, with the exception of an additional data logger or camera as/if defined in the sporting regulations for the event.

The driver and the nominated mechanic are permitted to connect, charge and disconnect the Project E20 vehicle from the charging system after having completed the training to do so and having received the instruction by ROTAX staff.

2.3. DATA LOGGING

The ROTAX Project E20 vehicle is supplied with a custom data logger, built into this data logger is the isolation monitor systems and the safety warning lights.

This provided data logger must not be altered manipulated in any way shape or form. Access to the data loggers Wi-Fi connection is only permitted to ROTAX staff.
The ROTAX team has full access to all data from all vehicles at any time required.
Covering the display with any material is strictly forbidden and the isolation monitoring warning lights must never be obstructed from view at any time.

The ROTAX team will provide “when possible” shared data to all the drivers participating in the form of a printed E20 data pack.

The E20 data pack will comprise of the follow (if provided)
1, Track map (with sectors defined)
2, Measure graph
3, Split time report and Lap time report
4, Channel report

The fastest driver from the session will be used as the reference for all other divers, for the fastest (lap time) driver’s data pack the 2nd fastest (lap time) driver will be compared.

The drivers or his team members are not allowed access to the ROTAX computer data box, accessing the raw data via WI-FI connection or via any other means is strictly for the ROTAX team only.

It is allowed to install a second data logging system mounted to the rear of the seat, no connection to the powertrain or batteries are allowed. The mounting must satisfy the ROTAX race manager and chief scrutineer for the event.

“ROTAX Trax” is permitted to be installed and connected to the vehicles 12volt power supply during the event.

2.4. CHASSIS PROTECTION

The Chassis protection plates must be installed as supplied and always secured on the vehicle prior to each on track session.
The ROTAX Race manager along with the chief scrutineer has the right to refuse the kart to enter the circuit if the protection plates are not installed or suitably secured as supplied.
This chassis protection plates are not a post-race technical check / compliance item. If a chassis protection plate is damaged or not secured, it must be replaced before the next on track session.

2.5. BODYWORK

In accordance with regulations of national Federations or CIK-FIA.

2.6. TIRES

ROTAX Project E20 Junior / Senior / Masters

Dry	Mojo D5 CIK Prime	4,5/10.0-5	7.1/11.0-5
Wet	Mojo W5 CIK	10x4,50-5	11x6,00-5

Strictly no modifications or tire treatment allowed.
Recommended equipment to detect tire treatment is Mini-RAE-Lite.
Threshold value of maximum 4 ppm is recommended.
Tires must be mounted according to the sense of rotation defined on the tire.

2.7. KART SEAT

The only allowed seats that are allowed to be utilized are the seats as provide by ROTAX.
The two options allowed are ITAKA or IMAF seats in all size options.

Padding is an allowed addition to the original seats.

3. SAFETY EQUIPMENT

For ROTAX Project E20 events overalls, rib protector, helmets, kart shoes, gloves and other kind of driver protection must comply with the regulations of the national Federation or CIK-FIA.

4. ADJUSTMENT'S TO SAFELY ACCOMMODATE SHORTER OR TALLER DRIVERS.

Any foot support and Pedal kits as pre-approved by the chief scrutineer and ROTAX Race manager are allowed to be installed.
Permanent modification of the chassis to fix such devices is not allowed.
(Permanent modification is defined as not possible to return to original form after removal of such addition).
Example: drilling, grinding or removal of material from the chassis is forbidden to fit such a device, the original designed fixings on the chassis are the only allowed points of installation / attachment.

The only allowed components for adjusting the steering height, angle and distance are that as supplied by ROTAX at the event.

Any adjustment must satisfy the ROTAX Race manager and the Chief Scrutineer for the event.

5. ADVERTISING ON ROTAX PROJECT E20 VEHICLE

Drivers are not allowed to expose brands of competing companies with those partners of the event. (ROTAX or MOJO)

This prohibition includes the competitor karts, race overalls and other clothing and covers the entire period of the event (including prize ceremony, drivers parade and drivers pictures).

6. MODIFICATIONS

The Project E20 Vehicle or any of its ancillaries may not be modified in any way. "Modified" is defined as any change in form, content or function that represents a condition of difference from that originally designed. This is to include the addition and/or omission of parts and/or material from the Vehicle assembly unless specifically allowed within these rules. The adjustment of elements specifically designed for that purpose shall not be classified as modifications, i.e., Steering geometry, wheelbases and chassis adjustments using the provided material.

Genuine ROTAX components only that are specifically designed and supplied for the ROTAX PROJECT E20 are legal, unless otherwise specified.

ANYTHING WHICH IS NOT EXPRESSLY ALLOWED IN THE TECHNICAL REGULATIONS IS FORBIDDEN.

6.1. INTERNAL ADDITIONS

No additional material may be added except in the case of repairs and shall only restore the components to original specifications.

6.2. NON-TECH ITEMS

Non-original fasteners, circlips and washers.

7. TECHNICAL SPECIFICATION

7.1. MOTOR

Rotax designed Permanent Magnet Synchronous Motor (PMSM) with integrated transmission

7.2. CONTROL UNIT

Specifically developed VCU (Vehicle control unit)

7.3. BATTERIES

Lithium-ion batteries incl. BMS (Battery Management System) and IMD (Isolation Monitoring Device)

7.4. COOLING SYSTEM

Optimised combined air and liquid cooling system

7.5. SYSTEM VOLTAGE NOMINAL

350V

7.6. E-BRAKING / RECUPERATION

Deactivated

7.7. BOOST FUNCTION

Available, pre-set by ROTAX. Operated by the driver.

7.8. REVERSE FUNCTION

Available. Operated by the driver.

7.9. CERTIFICATION

CIK-FIA Approved 065-AED-20
DEKRA

7.10. CHARGING

AC / CEE16

8. ROTAX PROJECT E20 OPERATOR'S MANUAL

The ROTAX Project E20 must be operated in accordance with the operator's manual at all times

https://www.rotax-kart.com/upload/files/6896.pdf

9. TECHNICAL SPECIFICATION CHASSIS

Sodikart / Sodi Sigma DD2
Wheel base 1040mm
Brakes (Hydraulic) 2 front and one rear brake with adjustable brake bias

It is permitted to use long rear hubs as provided by ROTAX (Alu rear hub D50 L90 K8 PC0252.528) only in conjunction with wet tyres and rims.

It is permitted for the rear wheels to be inside the side bodywork. Minimum rear wheel base is 1340 mm at the widest point. Maximum rear wheel base is 1400 mm at the widest point.

---------- END OF TECHNICAL REGULATION ----------