



2011 United States

Rotax Max Challenge

Supplemental Technical Regulations

Rules contained within this document apply equally to all classes unless otherwise specified.

Hierarchy of Rules:

- 2011 USRMC Supplemental Technical Regulations
- 2011 Rotax Mojo Max Challenge Technical Regulations

FONT CHANGE INDICATES CLARIFICATIONS OR NEW UPDATES

REMEMBER IF IT DOES NOT SAY YOU CAN, YOU CAN NOT!

Categories

- | | | |
|---------------------|---------------|--|
| • Rotax Micro Max | Age 7-10 | Combined driver/ Kart weight 235 lbs. |
| • Rotax Mini Max | Age 9 -12 | Combined driver / Kart weight 265 lbs. |
| • Rotax Junior | Age 13 – 16 | Combined driver / Kart weight 320 lbs. |
| • Rotax Senior | Age 15 + | Combined driver / Kart weight 365 lbs. |
| • Rotax Masters | Age 15+ / 32+ | Combined driver / Kart weight 405lbs.** |
| • Rotax DD2 | Age 15+ | Combined driver / Kart weight 385lbs. |
| • Rotax DD2 Masters | Age 15+/32+ | Combined driver / Kart weight 410 lbs.** |

** Driver age 15+ must weigh 190 lbs with normal safety equipment less helmet

Data Acquisition gauges must be mounted such that protrusion above the plane of the steering wheel is kept to a minimum, specific control of this dimension per CIK regulations does not apply.

Data Acquisition per 2011 Max Challenge / CIK regulations – RPM @ high tension plug lead – two (2) temperatures – speed of one (1) wheel – X/Y acceleration – lap times . Lambda sensor not allowed in competitive elements.

Cameras mounted on chassis or driver will not be permitted without prior written permission of Race Director.

Scoring Transponder body must be located as follows: Bottom of transponder no closer than 15 cm from track service, top of transponder no higher than 25 cm from track surface. Transponder may not be located forward of the tangent point defined by the radius transitioning to side of the seat and seat back. Preferred mounting position is vertical. Every effort should be made not to mount transponder directly above any solid material between transponder and track surface.

Specific decals must be applied to the body work in locations specified in Official USRMC logo placement document.

Ambient temperatures – fuel, tires must be ambient temperatures when presented to grid. When quiet pit rules are in effect, engines must be ambient temperature when presented on grid.

USRMC 3.0 CHASSIS

- *Per 2011 Max Challenge Technical Regulations – IRMCE, RMCGF require chassis with valid CIK – FIA Homologation.*

RMC National and RMCGN events:

- Any sit-up sprint Kart chassis constructed in conventional manner of round tubular steel is permitted.
- Chassis must conform to current US industry standards or CIK homologation specification.
- Brake system homologation is not required for any class except DD2 & DD2 Masters.
- Functional front braking systems are prohibited in Micro Max, Mini Max and Junior Max classes.
- All braking systems must be operated by a single foot pedal unless necessitated by physical restrictions and with prior approval of event technical director.
- DD2 & DD2 masters chassis must be BRP Powertrain / CIK homologated.

Ballast

- *Must be secured with two (2) 6mm bolts with double lock nuts.*

Mini Max Class

- Wheelbase – 41 inches (1041.4) maximum.
- The highest point at the center of the seat back shall be no lower than 12 inches (30.5 cm) from track surface.
- CIK axle wall thickness requirements are not applicable in Mini Max class. **(under review)**

Micro Max Class

- Maximum wheelbase 95 mm *Minimum 900mm*
- Over all width to be determined

USRMC 3.0 body work – bumpers – nerf bars

All classes – CIK rule 2.5.3 rear wheel protection

In all conditions, rear protection must at no time protrude beyond the external plane of the rear tires.

Junior Max, Senior Max, Rotax Masters

CIK Rule 2.7.1.4

- Side pod protrusion rule outboard of the quadrilateral formed by the four wheels is applicable.

“Wet Conditions”

- Side body work may not be located outside the plane passing through the outer edge of rear tires.

CIK Rule 2.5.3 Rear wheel protection

- In all conditions, the rear protection must at no time protrude beyond the external plane of the rear wheels.

Rear Protection- Side Body Work

- CIK Homologated plastic rear protection system required.
- Non homologated systems may be submitted to USRMC National Technical Director for approval.
- No modifications to chassis in regards to mounting of rear protection system.
- Minimum width of rear protection system under all conditions 134cm.
- Body work and bumpers must conform to specification for CIK – 02, 08 -11.
- Side bumpers and side pods must match.
- Front bumper and nose cone must match.
- It is not allowed to use 02 bumpers/side bars with 08-11 body work elements
- Modification of body work is limited to right side for radiator clearance only.
- Use of tape or other materials is allowed only for damage repair. Openings of 02 side pods may be covered in rain conditions only.
- ***No alteration of front or side bumper system is permitted. In this instance, bumper is defined as “steel tubing elements.”***

DD2 Class only

- Body work and bumpers must conform to specification for CIK 08 -11 homologation periods only.
- Mixing sets of any combination of components is permissible provided homologation numbers for side bumpers /side pods are matching, and front bumper / nose cone are matching.
- No alteration of bodywork components is permissible.
- Specific side pod protrusion rule out board of the quadrilateral formed by the four wheels is not applicable.

Mini Max

- All regulations previously described apply equally to Mini Max and Micro Max class unless specified otherwise in this section.
- Side pods may protrude maximum of ½ inch past outer edge of rear wheels in all conditions, including “wet” conditions
- Maximum overall width including side pods is 52.75
- Cadet nose cone may be of full size design with maximum outboard protrusion of 40mm per side.
- Full coverage rear bumper is mandatory. Full coverage is defined as covering inside half of each rear tire at all times, may not protrude outboard of outer edge of rear tires, under all conditions.
- CIK type plastic rear protection system is preferred. Industry standard is also accepted, with closed loop “elephant ear” design also preferred.
- Bottom bar between frame rails is required.
- Top bar may not be located lower than height of rear axle, nor higher than plane of rear tires.
- Minimum bar outside diameter 16mm.
- **Technical Director is final acceptance of rear bumper design.**

USRMC 4.0 TIRES

- All tires “wet” and “dry slicks” must be mounted and used according to rotational markings.
- No tire warmers, tires must be ambient temperature upon presentation on pre grid, and are subject to verification at that time.
- No tire treatments of any kind allowed. ***Upon verification of violation, competitor will be suspended from all RMC events under USRMC jurisdictions for a period of 12 months. No appeals.***

Junior Max, Senior Rotax, Rotax Masters

- Bead locks (3) required per CIK requirements with dry slicks.
- Front slicks Mojo D2 4.50 x 10-5 Rear slicks Mojo D2 7.10 x 11-5
- Front “wet” Mojo W2 4.0 x 10-5 Rear “wet” Mojo W 2 6.00 x 11-5
- Maximum mounted front tire width is 140mm.

DD 2 & DD 2 Masters

- Bead locks (3) required pre CIK requirements with dry slicks.
- Front slicks Mojo D3 4.50 x 10-5 Rear slicks Mojo D3 7.10 x 11-5
- Front “wet” Mojo W2 4.0 x 10-5 Rear “wet” Mojo W2 6.0 x 11-5
- Maximum mounted front tire width is 140mm

Micro Max – Mini Max

- No bead locks required
- Front & Rear Slicks Mojo D2 4.50 x 10-5
- Front & Rear “WET” Mojo W2 4.0 x 10-5
- Maximum mounted tire width 145mm
- Maximum tire circumference at any temperature 32.25 inches
- Maximum tire circumference is measured on tire center line with flat tape measure, track “pick up” to be removed with rag or glove hand only.

USRMC 7.0 SAFETY EQUIPMENT

- **Safety equipment is a post race tech item.**

Helmets

- Snell 2005 or later, *Snell K-98 and Snell M 2000 NO LONGER ACCEPTED*
- Current Snell, British Standards, CIK, WKA, IKF accepted helmets unless otherwise stated.
- Junior Helmets - Under 15 yrs of age, CIK CHM 2007 or any approved WKA or IKF helmets
- Neck “braces” mandatory in all Cadet and Junior classes. Unaltered!
- Event organizer or track officials may require senior classes to use “unaltered” neck “braces”
This may be insurance related
- Micro Max, Mini Max – SFI 20.5 Certified chest protector must be presented at pre-tech inspection and worn at all times while on track. Must be presented upon request at any time during event.

USRMC 8.0 FUEL AND OIL

- Spec oil will be ROTAX XPS synthetic. Recommended ratio is 50:1.
- Official fuel is TBA
- Commercial 98 octane, unleaded gasoline in mixture between 33:1 to 50:1 is allowed when a spec fuel is not specified.
- Where spec fuel is not supplied as premix, competitor’s fuel will be verified by comparison with Digatron DT – 15 or DT -47, to a controlled sample at 50:1 ratio. Competitor’s fuel must measure within +10/-5 points of control sample.
- Technical inspection of fuel is not limited to Digatron test only.

USRMC 9.0 ENGINES

CYLINDERS

- **US Grand Nationals - Only 2008 or newer cylinders will be accepted for competition in the following classes: Micro Max, Mini Max, Junior Max and Senior Max.**
- Rotax Masters will be under review for 2012 Grand Nationals.
- DD2 & DD2 Masters are under review for above requirement.
- **PULSE LINE** - Must be one single unit. No reducers or restrictors allowed. Must be attached as a single unit to pulse fitting.

Engine Identity Seals

- As of January 1, 2011 all engine seals must be “crimped” per new Rotax sealing procedures. Crimp calipers Rotax part number 276 110 must be used. This will be a pre-tech item. It is recommended all dealers have crimp calipers trackside to service customers.
- Dual seals, engines sealed before April 1, 2008 do not require dual seals.
- Engines sealed after April 1, 2008 require dual seal. (top and bottom)
- Dual seals will be required on all engines at 2011 Rotax Grand Nationals.

7.4 MAIN BEARING AND CRANKSHAFT SEALS

- *No SKF main bearings allowed. Main bearing and crankshaft seals must be installed as described in most recent repair manual, including interference fit.*

8.0 BALANCE SHAFT

- 237 945 balance shaft is no longer allowed. (Jan 2010)

11.6 Spark Plug

- NGK BR ___EG of any heat range is allowed.
- Spark plug washer must be in place. Exception thermal couple for temperature gauge in use.

13.0 Centrifugal clutch

- New style clutch may be used in all classes.
- Proper use of balance shaft gears is required.
- 2009 steel clutch or later model will be required for following classes. Junior Rotax, Senior Rotax, DD2 & DD2 Masters.
- *Engagement test is 4000 rpm for steel clutch.*
- Engagement test is 3000 rpm for old style clutch.

14.1 Intake silencer

- All classes must use “new style” intake silencer.

15.1 CARBURETOR

- ***All classes only K-98 needle allowed. Start jet is #60***
- ***Micro Max must use combination #2 - 8.5 insert – 3.6 floats - #60 idle jet # 60 inner idle jet***
- ***Micro Max main jets limited to those supplied in Rotax Micro Max jet package, 115-118-120-122-125-128-130. 132 is not allowed .***
- ***Micro Max – Mini Max –Event organizers may specify single main jet or choice of main jets for events.***
- ***Mini Max must use combination #1 - 12.5 insert -5.2 floats – #30 idle jet #30 inner idle jet***
- ***Mini Max intake restrictor Blue or Black anodized Rotax part # 267 535, unaltered.***
- ***Blue anodized will be required at Grand Nationals***

Junior Rotax, Senior Rotax, Rotax Masters, DD2 and DD2 Masters

- ***Must use either combination # 1***
12.5 insert – 5.2 floats - #30 idle jet- #30 inner idle jet
- ***or combination # 2***
8.5 insert -3.6 floats - #60 idle jet - #60 inner idle jet

16.1 Fuel pump

- Must be mounted on bottom of support bracket.

18.1 Radiator

- *New Rotax radiator is allowed. Old style radiators are accepted.*
- *Overlapping 360 degree tape rule applies.*
- No removal of tape allowed while on track or racing surface.

20.12 Exhaust system

- Versions #1 or #2 are accepted.
- Use of (4) four Rotax exhaust springs allowed.
- Silicone or like substance may be used for sealing exhaust connection and dampening of exhaust springs.
- EGT location, 50 mm +/-5mm from first weld @ pipe header connection.
- *Lambda sensor not allowed in competitive elements.*

Micro Max

- Exhaust packing must be unaltered, original single matt with no more than 20% loss of original length due to burn back along longitudinal axis.
- Matting is measured at its shortest length for this measurement.
- Any attempt to circumvent this rule will be considered a violation of this rule.

Micro Max & Mini Max

- Original and unaltered exhaust header, Rotax part # 273 972 is required. Inside diameter 22mm +/- .2mm.

Don Moormeister
US Rotax Max Challenge
National Technical Director

12/30/11