

Raceworks Singapore On-Road Championship Series (ROCS)

Raceworks Hobbies is pleased to announce details of the RaceWorks Singapore On-Road Championship Series (ROCS).

ROCS is Singapore's most exciting on-road racing series for electric-powered R/C cars. Premiering on 12 February 2012, the series will be run over 6 races during the year. Raceworks Hobbies is privileged to have the support of Singapore's R/C governing body, the Radio Control Modelers Club (RCMC), to sanction the series¹.

In addition to racing classes for the more seasoned racers, a racing class for those new to on-road touring cars will also be run for the first time. The rules for this class will ensure that novices will be able to experience the fun and excitement of RC car racing at a reasonable cost.

We have also lined up attractive lucky draws and trophies at each series race event. Further, the overall series winner will get the opportunity to compete overseas with the support of our series partner, ORCA.

The details of the classes to be run and the applicable race fees are below. Do sign up now at Raceworks Hobbies or www.rctech.net and start preparing your ride for ROCS racing in 2012 at Raceworks Hobbies !

Race Dates

Race 1	:	12 Feb 2012	Race 4	:	17 Jun 2012
Race 2	:	18 Mar 2012	Race 5	:	5 Aug 2012
Race 3	:	8 Apr 2012	ROCS Finale:	:	9 Sep 2012

Each racer's best 4 results (inclusive of the ROCS Finale race) will be used to determine the overall ROCS ranking.

Venue

All ROCS races are currently scheduled to be run at RaceWorks Arena at Bottle Tree Park²

Fees

<u>Class</u>	<u>Standard Rate</u>	<u>RaceWorks/RCMC Members</u>
RaceWorks Open Modified Class	S\$30 per event	S\$25 per event
ORCA SuperStock Class	S\$30 per event	S\$25 per event
ORCA Spec Class	S\$20 per event	S\$15 per event

All racers participating in a 2nd or 3rd class are entitled to a discount of \$5 off the total entry fees for each ROCS race.

¹ Winners of the series are eligible to represent Singapore at IFMAR / FEMCA events.

² RaceWorks Hobbies reserves the right to announce changes in race venues where necessary.

Prizes

Trophies will be awarded to all podium finishers (ie 1st, 2nd and 3rd place) in the Mains (Finals) for each event.

Trophies will be awarded to the overall series Top-10 finishers in each class.

In addition, the Series Champions for the ORCA SuperStock and ORCA Spec Classes will each receive the Grand Prize sponsored by ORCA, comprising of Sponsored Travel, Accommodation and Race Entry Fees to participate in the ORCA Brushless Championship Final in Malaysia³ in 2012.

³ Participation in the ORCA Brushless Championship Final will be based on the rules applying to that event.

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Rules and Regulations (Updated 6 February 2012)

1. Race Classes

a. RaceWorks Open Modified Class

Chassis	Open to All brands and makes of 1/10 th scale, 4WD, chassis
Motor	Open to all Motors commercially available in the market
Electronic Speed Control (ESC)	Open to all ESCs commercially available in the market
Gear Ratio	Open
Batteries	§ Lithium Polymer 2S hard case 7.4v battery pack. Lipo batteries will be inspected before each run and must not have voltage readings exceeding 8.44v; or § 7.2V 6-cell Sub-C sized batteries
Tires / Inserts	HUGE RC High Traction Tire R36 Pre-Glued With Soft Inserts. A maximum of 2 sets, which must be purchased from Raceworks Hobbies, may be used per race day. The tire sets to be used for racing will be inspected and marked prior to the start of the race. Each racer is entitled to purchase 2 sets of the controlled race tires at \$38 per set from RaceWorks Hobbies upon payment of the race entry fee. Please see para 1d below for additional control tire rules.
Body	Saloon ⁴ bodies meeting the following requirements:- § Maximum width without body 190 mm § Maximum width with body 200 mm § Maximum wheelbase 273 mm § Minimum height 115 mm The rear wing including endplates must not extend higher than the roofline.
Minimum Weight	1350g including transponder

⁴ Bodies must be a 1/10 scale in character reproduction of touring car (sedan) 2 and 4-door vehicles that exist or have existed

b. ORCA SuperStock Class

Chassis	Open to All brands and makes of 1/10 th Scale, 4WD, chassis
Motor	17.5T Brushless motor, open to all brands commercially available in the market
ESC	Open to all ESCs commercially available in the market
Gear Ratio Batteries	Open § Lithium Polymer 2S hard case 7.4v battery pack. Lipo batteries will be inspected before each run and must not have voltage readings exceeding 8.44v; or § 7.2V 6-cell Sub-C sized batteries
Tires / Inserts	RIDE Revolution (Re36) High grip belted tires with wheels. A maximum of 2 sets, which must be purchased from Raceworks Hobbies, may be used per race day. The tire sets to be used for racing will be inspected and marked prior to the start of the race. Each racer is entitled to purchase 2 sets of the controlled race tires at \$38 per set from RaceWorks Hobbies upon payment of the race entry fee. Please see para 1d below for additional control tire rules.
Body	Saloon ⁴ bodies meeting the following requirements:- § Maximum width without body 190 mm § Maximum width with body 200 mm § Maximum wheelbase 273 mm § Minimum height 115 mm The rear wing including endplates must not extend higher than the roofline.
Minimum Weight	1350g including transponder

c. ORCA Spec Class

Chassis	Open to All brands and makes of 1/10 th Scale, 4WD, chassis
ESC / Motor	<p>All racers competing in this class are required to use the following:-</p> <p>§ OrcaQ Spark ESC 100A (Sensored) set to Profile 1 (No Timing, with flashing green LED).</p> <p>§ ORCA RX2 17.5T sensored brushless motor</p> <p>Racers in the ORCA Spec Class should note that no modification to the ORCA Q Spark ESC and RX2 motor is permitted.</p> <p>The ESC's included capacitor and wires should be used for ROCS races. Fans may be added if racers wish, but our testing shows that the ESC and motors run very cool at FDR of 6.0.</p> <p>Motor end-bell timing should be left at the factory default position of 0 degrees.</p> <p>Please see para 1e below on how racers may purchase the required ESC/Motor combo.</p>
Gear Ratio	Final Drive Ratio (FDR) not to be lower than 6.0
Batteries	<p>§ Lithium Polymer 2S hard case 7.4v battery pack. Lipo batteries will be inspected before each run and must not have voltage readings exceeding 8.44v; or</p> <p>§ 7.2V 6-cell Sub-C sized batteries</p>
Tires / Inserts	<p>SWEEP Racing SWP-36R Tires Set (Pre-Mounted).</p> <p>A maximum of 2 sets, which must be purchased from Raceworks Hobbies, may be used per race day. The tire sets to be used for racing will be inspected and marked prior to the start of the race.</p> <p>Each racer is entitled to purchase 2 sets of the controlled race tires at \$30 per set from RaceWorks Hobbies upon payment of the race entry fee.</p> <p>Please see para 1d below for additional control tire rules.</p>
Body	<p>Saloon⁴ bodies meeting the following requirements:-</p> <p>§ Maximum width without body 190 mm</p> <p>§ Maximum width with body 200 mm</p> <p>§ Maximum wheelbase 273 mm</p> <p>§ Minimum height 115 mm</p> <p>The rear wing including endplates must not extend higher than the roofline.</p>
Minimum Weight	1450g including transponder

d. Additional Control Tires Rules

i) CONTROLLED TIRE PURCHASE

Please note that the controlled tires eligible for use during the qualifiers / finals must be purchased raceday itself. The special ROCS pricing for the controlled tires will only be available on raceday. Controlled tires purchased on raceday will be marked and race scrutineering will need to sight the official markings during pre- and post-race inspections. Tires purchased before raceday may only be used for practice before the start of qualifying.

ii) USED OF CONTROL TIRES FOR MORE THAN 1 RACE

In the interest of keeping racing affordable, controlled tires purchased from Raceworks Hobbies for one race may be used for the next or subsequent races.

However, racers should note that only a maximum of 2 sets of tires (new and/or used) may be used for each race. Hence, for example, if a racer during Race 2 decides to use a set of tires used in Race 1, he will have to nominate and present to registration the Race 1 used tire set for re-marking as one of the 2 sets eligible to be used for Race 2. Racers may choose to have used tire sets take up both the eligible tire sets for a race.

Please take note that used tire sets to be nominated should bear the original marking from the prior race to be eligible to be re-marked and used in the next race.

e. ORCA Spec Class ESC/Motor Combo Purchase

The ORCA Spec Class ESC/Motor will be available as a combo set, priced at S\$180 and comes inclusive of entry to the racer's first ROCS event (combo regular retail price is S\$225). Upon purchase of the combo, racers will additionally be required to pay a deposit of S\$30, refundable upon the racer completing his first ROCS event.

2. Race Format

a. Race Duration

§ Each heat / main for all classes will be run over 6 minutes.

b. Qualifying Format

Each race will have a minimum of 3 qualifying rounds of heats⁵. Each racer's heat result will be based on the number of full laps completed and time clocked (Qualifying Result).

Qualification for the Mains will be based on one of the following formats, with the format to be used announced by RaceWorks Hobbies prior to each race:-

§ *Single Best Result* – each racer's single best Qualifying Result will be used to determine his/her ranking for the Mains

§ *Points Format* – each racer will be awarded points based on the ranking of his/her Qualifying Result for that qualifying round. The best 2 points awarded to each racer will be used to determine the overall ranking for the Mains.

Points for each qualifying round will be awarded as follows:-

1 st	:	155 points
2 nd	:	153 points
3 rd	:	152 points
4 th	:	151 points
5 th	:	150 points

.... and so on.

c. Mains (Finals)

Mains will be run after the completion of all qualifying rounds.

All Mains will be run over 3-legs⁶, with each Main to comprise 10 racers⁷, if possible. The result for each leg of the final will be based on the number of full laps completed and time clocked (Leg Result)

The overall result for each leg (Leg Points) will be decided by a point system based on 10 points for the winner of each Main on down to 1 point for the tenth placed finisher in each separate Main.

If all 3 legs of a Main are completed, the best 2 Leg Points scored for each racer will count. If 2 legs are completed, the best 1 Leg Points will count. If only 1 Leg is completed, the result of that 1 leg counts. If no mains are completed, the finishing order of qualifying will be used to determine the final results of the event.

⁵ The number of qualifying rounds may be varied at the discretion of RaceWorks Hobbies, where necessary, due to weather and/or time considerations or other circumstances on raceday.

⁶ The number of legs to be run for each final may be varied at the discretion of RaceWorks Hobbies, where necessary due to weather and/or time considerations, or other circumstance on raceday.

⁷ The number of racers in each final may be varied at the discretion of RaceWorks Hobbies, with the exception of the A-final which should comprise a minimum of 10 racers, if possible.

Mains TieBreaker - In the event of a tied position, the driver with the single highest finishing position in either of the best 2 legs that counted will be awarded the tie. In the event of a continuing tie, then the laps and times from the highest finishing position will be compared. The driver with the highest laps and fastest time will be awarded the tie. If the tie still continues, then laps/times from the second best position will be compared.

d. Penalties

Penalties will be imposed on racers who fail to compete fairly or who exhibit unsportsmanlike behaviour.

Penalties that may be imposed by the Race Director include, but are not limited, to the following:-

- § *Time Penalty* will result in the penalty time being added to the time recorded for the race in which the penalty is incurred.
- § *Lap Penalty* incurred during a race will be subtracted from the total laps recorded for the race in which the penalty was incurred.
- § *“Stop-and-Go” Penalty* may be assessed by the Race Director, with or without delay, instead of time penalties. During a “stop and go” penalty, the vehicle must be stopped in the pit lane or other designated area, and lifted high enough for another vehicle to pass underneath it.
- § *“Black Flag”* may be given to a driver whose driving, vehicle operation, or performance constitutes a hazard to the other vehicles in the race⁸. This includes insufficient skills to compete in the class, unsportsmanlike driving, abusive language, and intentional hitting of other vehicles, intentional short coursing, intentional corner cutting, intentional blocking when being overtaken, illegal or improper vehicle numbers and other such acts. When assessed a “Black Flag” the racer should pull his/her vehicle off the track immediately. The driver will remain on the drivers stand until that heat or race is over.

The following are the penalties that would typically be imposed:-

Action	During Qualifier	During Main (Final)
Jump-Start	NA	If one or more vehicles jump start, a false start will be declared, and the grid will be re-formed. If the same vehicle moves a second time, it will be moved back the length of the grid from its original starting position.
Corner Cutting	10 second penalty	10 second penalty
Short Coursing (ie jumping track)	1 lap penalty for each incident	1 lap penalty for each incident
Failure to Marshal	1 lap penalty from best qualifier	1 lap penalty from best main
Failing to respond to a Race Officials request	1 lap penalty from best qualifier	1 lap penalty from best main

⁸ The “Black Flag” ruling will be applied judiciously, particularly with respect to the ORCA Spec Class which is intended for beginners

Please note - If the racer stops his vehicle in the area of the corner cutting infraction and allows the vehicle that was immediately behind him when the corner was cut to pass, no penalty is applicable. If a short-coursing vehicle is returned to the point where the infraction took place, no penalty is applicable.

e. Marshaling

Racers are required to marshal for their designated race and be in position before the start of the next race. Failure to marshal shall result in a 1-lap penalty from the best qualifier or Main.

3. PRE- AND POST-RACE SCRUTINEERING

Rules for each of the classes will be enforced during ROCS 2012. The following procedures for scrutineering will apply during each race:-

- i. Racers will be required to present their cars for pre-race inspection
- ii. Once inspected, cars should not be returned to the paddock area before the qualifiers/ finals starts. Should there be a need to bring the car back to the paddock area prior to the start, the car should be presented to scrutineering once again for inspection.
- iii. Upon completion of the qualifier / final, cars should be driven to the car pick-up area. The cars will be picked up by scrutineering for post-race inspection. Drivers and/or their mechanics may not pick up the car until the car has been inspected.
- iv. At the end of the heat/final, drivers may place their transmitters at the TX Holding Area, and proceed immediately to their assigned marshalling point.
- v. Drivers may only retrieve their cars from scrutineering after they have completed their marshalling duties.

All qualifiers / finals will start as per the time schedule to be provided on raceday. It is the racers' responsibility to ensure that their cars are presented to scrutineering sufficiently early to enable inspection to be completed prior to the start of the heat/final.

4. ROCS Points

Points will be awarded to each racer based on his final position at each event as follows:-

Top Qualifier : 2 points				
Position	A-Main	B-Main	C-Main	D-Main
1 st	98	82	70	60
2 nd	93	80	69	59
3 rd	91	78	68	58
4 th	90	77	67	57
5 th	89	76	66	56
6 th	88	75	65	55
7 th	87	74	64	54
8 th	86	73	63	53
9 th	85	72	62	52
10 th	84	71	61	51

Where there are fewer than 10 cars in each Main, the points of the positions not contested will be awarded to the racers in the next final (eg if it is determined that the A-Main should consist of only 8 racers, the 1st and 2nd place finishers in the B-Main will be awarded points from A9 (85 pts) & A10 (84 pts) respectively).

The best 4 ROCS Points scored, inclusive of ROCS Points scored at the ROCS Finale event, will be used to determine the ROCS Series Ranking for each class.

5. RaceWorks Hobbies' Discretion

ROCS racing is intended to promote fair competition for all racers under a friendly environment. Where necessary, RaceWorks Hobbies reserves the right to amend the above rules to meet this objective.