



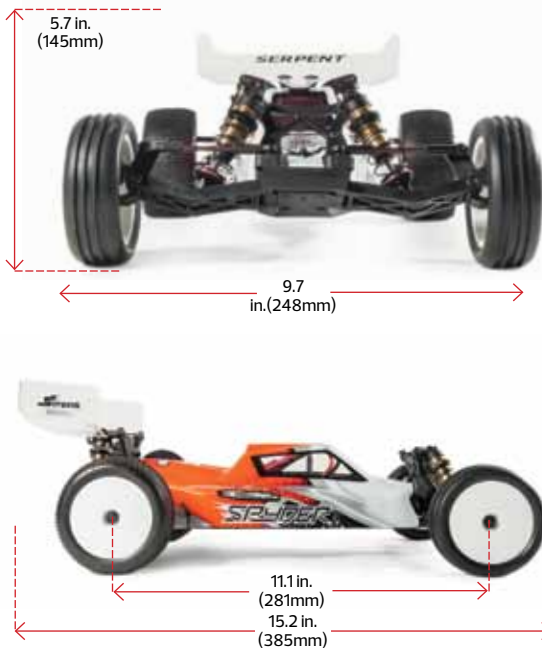
# SERPENT SPYDER SRX-2 MID RTR

*Serpent's mid-motor RTR is race-ready and spec'd for the track*

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**It's easy to get behind Serpent's RTR formula:** Start with the race kit, add electronics, and assemble. Presto! It's a ready to run. Serpent doesn't stick quite that closely to their kit specs, but it's not far off. A case in point is the Spyder SRX-2 Mid, tested here. Designed by 2003 IFMAR 2WD Off-Road world champ Billy Easton, the Spyder is a highly adjustable competition car offered in rear- and mid-motor versions—not a conversion but, rather, two dedicated designs. Serpent offers both as kits and RTRs, and you'll need to look closely to tell which is the kit and which is the RTR (unless the kit hasn't been built yet, in which case, all the bags of parts are a dead giveaway). There are no one-piece camber links or plastic shocks to disclose the factory-built car—just a few molded parts where the kit gets carbon plate. And there are some less obvious items, but all the important stuff is there: from the CV driveshafts and silicone-filled diff to the hard-coated shocks and cab-forward body. You even get a fully programmable LCD radio system to go with the factory-installed brushless system. It sounds like a one-box racing program to us.

# PERFORMANCE TEST



## SLIPPERLESS TRANSMISSION

Like other mid-motor 2WD buggies, the Spyder Mid mounts its motor so that the pinion is on the left side of the car. This would make the car run backward (or require you to run a reverse-rotation motor) if the transmission were a conventional 3-gear design, but the addition of a second idler gear makes certain that the silicone-filled differential spins the wheels in the right direction. The gears are plastic, befitting the car's race roots—it's not a basher.

An interesting tuning option is built into the transmission in the form of molded inserts, which hold the bearings for the differential and its nearest idler gear. The inserts offset the bearings to set the height of the differential and idler gear. Changing the height of the diff alters the angle of the driveshafts and affects traction under power as the shafts try to align themselves with the diff. The higher the diff, the more forcefully the shafts will try to raise the arms under load, causing more squat and weight transfer to the rear wheels. As for the shafts themselves, they're finely finished spring steel units with CV-style joints, which use the rear hub bearings to capture their crosspins. Notably absent from the Spyder is a slipper clutch. One can be added with optional parts, but out of the box, the spur gear is locked to the top shaft.

## RACE-SPEC SUSPENSION

Serpent hits all the right notes in the suspension department, starting with the 12mm bore shocks. Threaded and hard-coated aluminum bodies, nipped pistons, and an emulsion design with bleeder screws in the caps say "race ready," and everything looks deluxe and operates with precision. Do you prefer bladder volume compensation? The shocks can be set up with bladders, too. Spring-steel turnbuckles set camber and toe, and open-top ball cups make it easy to unscrew the vertical inboard ball studs to place spacers beneath them for roll-center changes. The front arms have a gullwing shape, which holds the shocks lower on the chassis to reduce the Spyder's center of gravity.

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No slipper clutch here, but you can add one as an option.



Most RTRs that include sealed diffs simply grease the gears. Serpent goes all the way and puts the O-rings to work by filling the diff with silicone oil.



There's some deluxe stuff here. Note the separately attached arm on the steering block; you can select from three different arm offsets to set Ackerman. Caster is adjustable by changing the blocks.

Viewing the Spyder head on reveals the arms' gullwing shape. It's easy to visualize how straight arms would require the shocks to sit higher relative to the chassis.

## SHORTY-READY MID-MOTOR CHASSIS

Modern competitive 2WD buggies are split between aluminum and plastic for their chassis designs, and Serpent opts for the latter. The two-piece semi-tub is molded in rigid composite plastic, and is well supported by ribs and sills that rise in height to meet the front bulkhead. The rear chassis plate holds the arm mounts and transmission, allowing the rear suspension and drivetrain to be removed as a module. The chassis is configured for "shorty" and saddle packs, and leaves room for fore-aft positioning to adjust weight distribution, with foam spacers to take up any slack. The battery hold-down is tightened over the pack with four thumbscrews, and it helps stiffen the chassis in addition to holding the battery tight. Serpent does a good job of loading the electronics into place, with wires neatly bundled.

The Spyder Mid looks more like a race kit than an RTR. You'll need to supply the battery; we used a MaxAmps shorty pack.



The screen-printed graphics of the Spyder Mid have a custom-painted look, and the cab-forward styling is up to date with the latest track trends.

## DRAGON POWERED

Like most other brushless-powered RTRs, the Spyder gets a sensorless power system. This one wears Serpent's Dragon branding, and the waterproof speed control is highly programmable when you get the optional programming box. Timing, punch, drag-brake and max-brake percentages, and neutral range are all adjustable. Out of the box, the factory settings deliver a punchy feel. The 3000Kv motor is low on frills, other than an orange-anodized case and a waterproof boot on its wires, but it's good for 31.6mph and performs reliably.



It's not much to look at, but the speed control performs well. Get the optional programmer to unlock its adjustable features.



It's sensorless, orange, and spins when electricity goes in—what else do you need?

## VEHICLE SPECS

### CHASSIS

**Material:** Fiber-reinforced plastic  
**Type:** Molded semi-tub

### SUSPENSION

**Type:**  
**Inboard-link positions (F/R):** 3/2  
**Outboard-link positions (F/R):** 3/2  
**Shock positions, towers (F/R):** 4/4  
**Shock positions, arms (F/R):** 2/2

### SHOCKS

**Bodies:** Threaded aluminum, 12mm bore  
**Shafts:** Steel, 3mm  
**Volume compensation:** Emulsion

### DRIVETRAIN

**Type:** 2WD enclosed gearbox  
**Slipper clutch:** None  
**Differential:** Sealed bevel gear  
**Driveshafts:** Steel CV-style  
**Bearings:** Rubber-sealed ball

### WHEELS & TIRES

**Wheels:** One-piece plastic, standard 2.2-in. buggy size, 12mm hex  
**Tires:** Dragon RC rib front, miniblock rear  
**Inserts:** Open-cell foam

### INCLUDED ELECTRONICS

**Transmitter & receiver:** Dragon RC DTS-2, 3-channel, 2.4GHz LCD  
**Motor:** Dragon RC brushless 9T/3000Kv sensorless  
**Speed control:** Dragon RC 45 amp with Deans connector  
**Steering servo:** Dragon RC 90 oz.-in. metal gear



## TEST GEAR (NOT INCLUDED)

**Battery:** MaxAmps.com 4250mAh 7.4v LiPo, shorty configuration



The Spyder's included DTS-2 transmitter is several notches above typical RTR fare. It's a 3-channel unit with an LCD screen and digital trims, and it packs in loads of adjustments, including endpoints, dual rates, ABD braking and brake mixing, 16-model memory, a dual-mode timer, and even servo speed settings. Ergonomics and styling appear to be Spektrum inspired, which gives the DTS-2 a good feel.

## BEHIND THE WHEEL

After topping off the MaxAmps shorty 2S LiPo battery and doing a few shakedown passes, I was ready for the track. I decided on our local outdoor track, which has a mix of sand and dirt that combines to create loamy areas with firm sections. The conditions are normally very low bite, but with the previous day's rain helping to settle things down, I now had a varied grip surface to test how the buggy would work with the included tires and setup in situations most casual users would most likely encounter. I immediately noticed how easy it was to drive and control the buggy. Being a mid-motor buggy with no slipper, I thought it would be a handful to keep under control, but with my initial battery position placed widthwise and all the way back, it had lots of rear traction. There are times, however, that a slipper would be nice, especially if I decide to upgrade the power system to something a bit more powerful; when run straight out of the box, though, it was fine. Much of this depends, of course, on the supplied sensorless 3600Kv motor. For the track, it felt predictable, smooth, and suited for beginner- to intermediate-skill levels—enough to make it enjoyable but not too strong that keeping on the race line was too challenging. The GPS-confirmed top speed was 31.6mph—plenty fast for track action. Its jumping performance impressed me; the buggy launched with ease and had controllable flight, which more advanced users can appreciate. The Spyder took the usual spiked pipes and rollovers in stride, but on one occasion, a rather mellow tumble popped off a ball cup. I popped it back on with my fingers, and was surprised by how easily it snapped into place. The cups stayed on for the rest of the test session, but I'll keep an eye on them. On the track, the tires contributed to stable handling and clawed through the loose sections while still maintaining enough rubber contact for the firmer areas. In the bumpy sections, the threaded, aluminum, big-bore shocks were effective at keeping the Spyder well connected with the track. As I learned the layout and tightened up my race line, I was looking for a bit more steering. Moving the battery up in the tray put a little more weight over the front wheels and gave me the sharper turn-in I was hoping for. The sealed gear differential was also doing its part to keep the rear wheels spinning at the appropriate rate relative to each other, and if I needed to tune it further, I knew that it was just a matter of changing to a thicker or thinner silicone oil. —Carl Hyndman



- Aggressive mid-motor handling
- Highly tunable
- Nearly full-race spec in an RTR
- Raceworthy transmitter



- No slipper clutch
- Ball cups might pop off easily

## FINAL WORD

Based on its specs, adjustability, and performance, Serpent is aiming the Spyder SRX-2 Mid RTR squarely at drivers with racing ambitions or who at least appreciate track-ready performance. Straight out of the box, the Spyder is a well-built and competent track machine, which offers aggressive handling and deep tuning capability. The RTR can be easily upgraded to full competition-kit specs, but the RTR already includes the most important bits, including the sealed, silicone differential and first-class shocks. We do wish that a slipper clutch was standard, but it won't slow down anyone's learning curve on nailing fast lines. Pricewise, the Spyder pulls a little more green out of your wallet than other RTR buggies, but the gap is far less than you'd expect based on what you get. Upgrading a plastic-shock, econo-radio RTR to the Spyder's specs would cost you way more than the slight price boost Serpent requires. If getting into 2WD buggy competition conveniently and on a budget is your mission, the Spyder SRX-2 Mid RTR could be your ride.

## SOURCES

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