CAR ACTION THRASH TEST

1/10 SCALE ELECTRIC

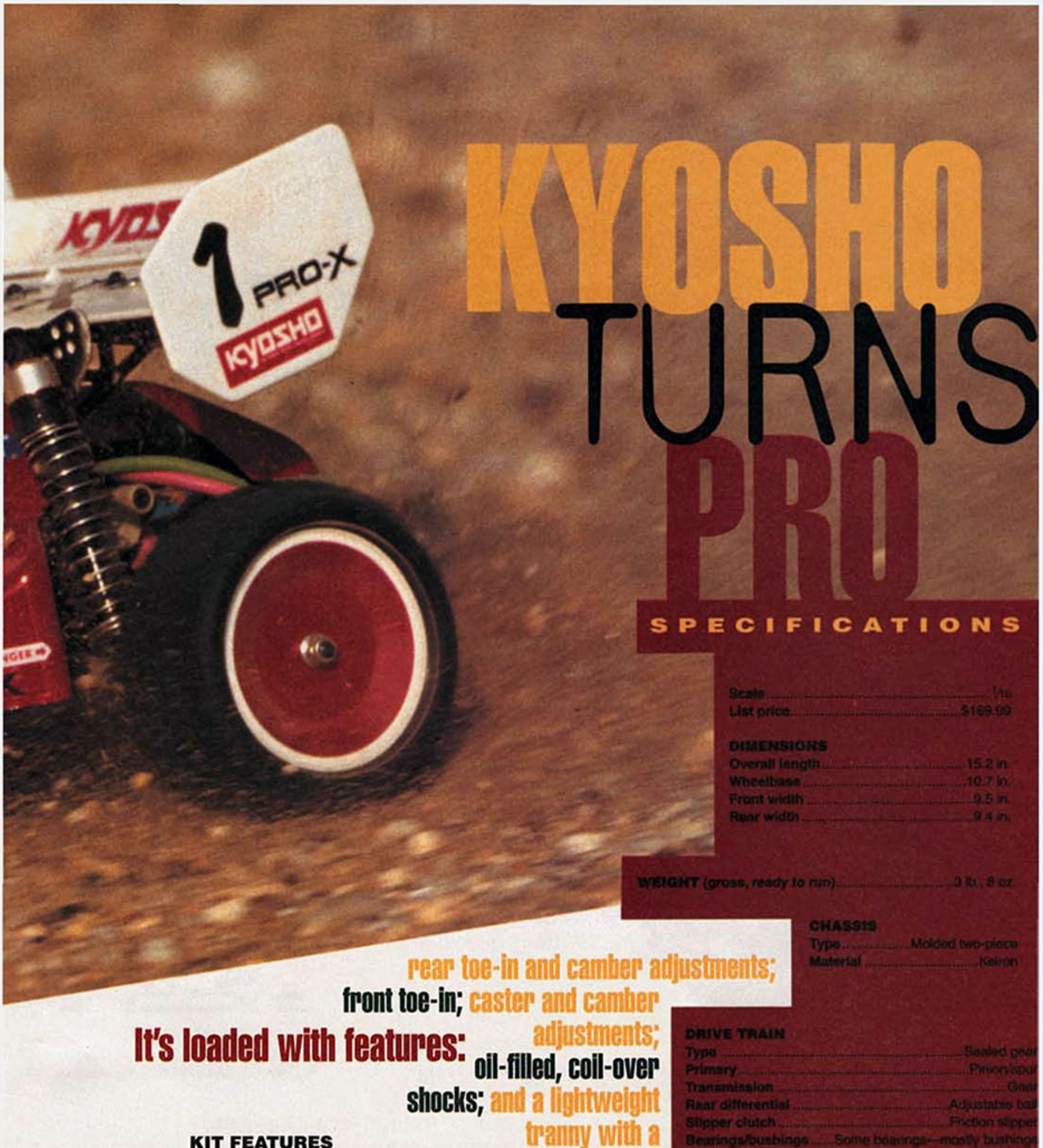
PHOTOS BY STAN VAN DRUFF

by Stan Van Druff

KYOSHO Pro-X

Kyosho is renowned for their scale cars and trucks as well as their off-road gassers; now they're going after electric off-roaders, in a big way too. Their latest—the Pro-X—is an inexpensive, but well-designed, 2WD electric buggy with almost everything a racer could want. When the Pro-X arrived unexpectedly at my door, I was elated to find a feature-rich kit that could be fine-tuned for any race track.

The Pro-X is available as a Sport version (reviewed here) and as a full-feature, race-ready Team model. The Sport version lacks the turnbuckles, ball bearings and aluminum shocks of the Team model, but it still has all the tuning capability that's needed to make it race worthy.



KIT FEATURES

The Pro-X is Kyosho's best high-performance electric buggy to date. It's loaded with features: rear toe-in and camber adjustments; front toe-in; caster and camber adjustments; oil-filled, coil-over shocks; and a lightweight tranny with a ball diff and slipper clutch. The compact Super Sprint Tranny is adapted from the Outlaw Rampage Pro nitro racing truck. It uses low-mass nylon gears, and the diff is mounted in the center of the tranny where it can easily be adjusted. The slipper clutch even lets you change spurs without disturbing the friction setting.

The two-tier Kelron chassis is incredibly stiff, and it's neatly laid out with a convenient ESC shelf built into the shock tower. It also has

The bi-level chassis is really stiff! Molded-in webs also add to the stiffness, but they don't leave much room for the electronics.

THINGS YOU'LL NEED

- 2-channel radio system
- Steering servo
- ESC
- Motor
- Battery pack(s)
- Battery charger
- Lexan paint for the body

FACTORY OPTIONS

- Turnbuckles (get them!)
- Ultimate hard-anodized shocks—part nos. W5098 and W5099
- Full bearing kit
- 15-degree and 20-degree front hubs—XRW-01 and XRW-02

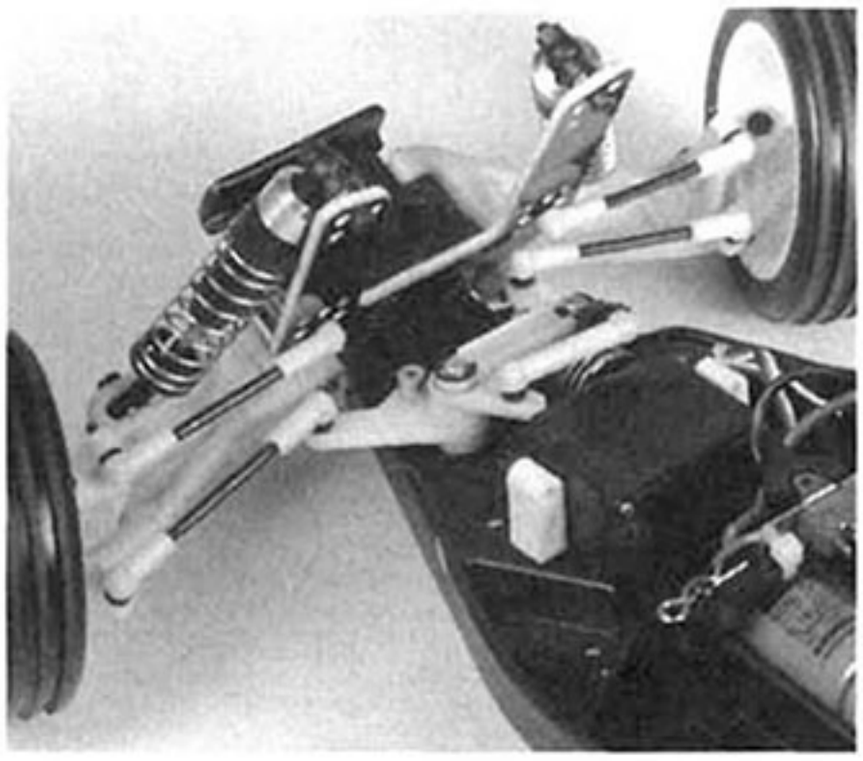
a foam-lined battery compartment that holds your battery firmly in place. Suspension arms are molded out of a durable, stiff, glass-reinforced composite.

The Sport version comes with cheap tie rods that have to be removed for adjustment. This is the one thing I think Kyosho should have done better. Any car that's designed for racers should have real turnbuckles. After you've yanked the ball ends off a dozen times to get your settings right, the tie rods are loose enough to pop off on their own. Do yourself a favor and get the accessory turnbuckles before you build the kit.

The Sport's shocks have Kelron bodies, which do a reasonably good job of damping the suspension. They work smoothly, but you can easily damage them during assembly. If you cross-thread the shock cap (as I almost did) you have to replace the body.

Other goodies include a bi-level plastic wing that has a very solid, adjustable mount. Unlike cars with wire wing mounts, the Pro-X has a wing that's easily adjusted and stays put—even during numerous rolls. The front and rear wheels are one-piece units that are molded with the smooth side turned in. With the polycarbonate wheel covers, this prevents dirt from accumulating in the wheels and slowing you down.

One of my favorite little features is the clear gear cover. It's made of tough, clear plastic that won't crack like thin polycarbonate covers do. You can easily tell which spur and



With the stiffener plate removed, the compact steering linkage is visible. You can also notice the lack of turnbuckles. I had to use that monster-size switch because I couldn't find a good place to mount the tiny switch that came with my ESC.

LIKES

- High-quality construction.
- Full race adjustments.
- Stay-clean wheels.

DISLIKES

- Needs some tweaking.
- Assembly is a bit tricky.
- No turnbuckles.

Building and Setup Tips

The Pro-X is not difficult to build, but you need patience. You'll also need to do some tweaking if you want it to perform at its best. I found some errors in the manual, and a few parts fit too tightly.

As usual, you start by building the shocks. Don't waste your time looking at the drawings shown with Step 1 because they're for the more complex Team shocks. Just follow the written directions.

The rear suspension arms didn't work smoothly. The 3mm-thick spacers between the arm and the hub carrier made the assembly bind, but it ran silky smooth after I had sanded 0.010 inch off each spacer. The upper hinge holes weren't perfectly aligned either, so I re-drilled the hole with a no. 31 drill bit (0.120 inch). The front suspension needed similar attention, but after a little work, all four corners performed flawlessly.

Before we get too far away from the rear suspension, here's the number-one tip for the rear end: put the hub-carrier pivot ball in the hole nearest to the center of the wheel, not in the upper hole, as shown in the drawings (I followed the directions and was sorry later!). I had to go back and redo some other pivot balls, too. Before you start, turn to Step 21 to see how to assemble them, and whenever the ball requires two nuts, be sure to use a thin one next to the ball.

pinion you're running, and you can even adjust the slipper through a hatch in the cover.

TEST GEAR

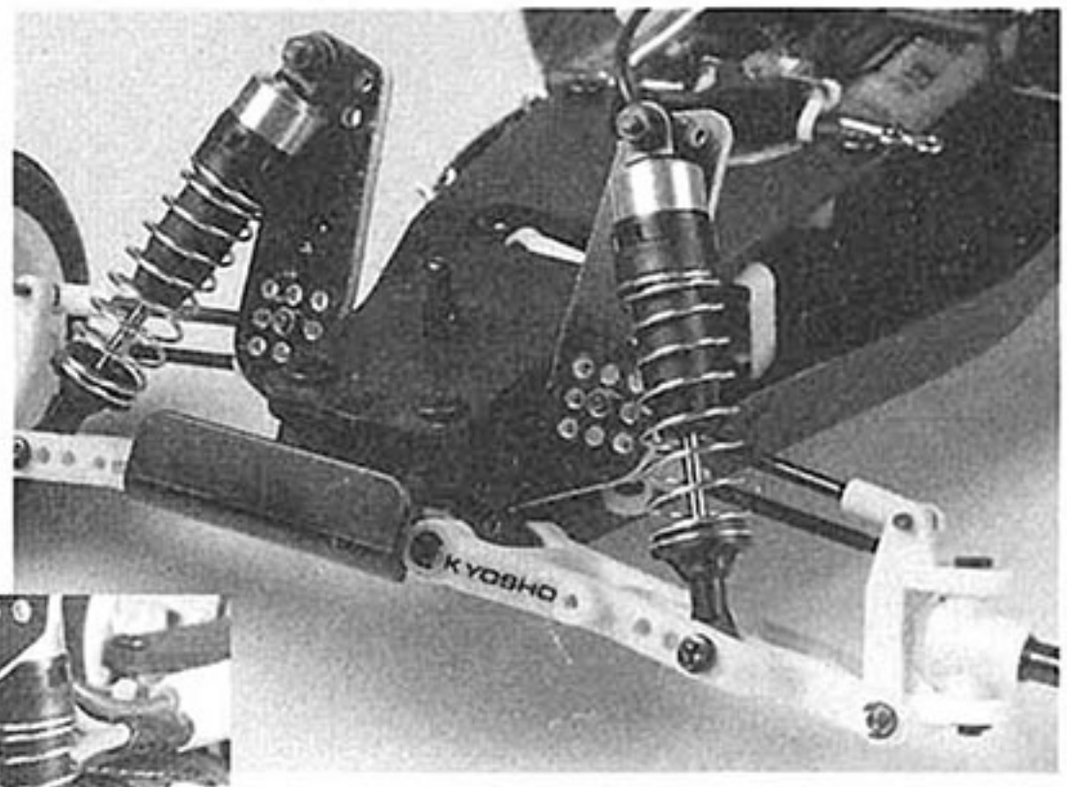
I really wanted to install a hot modified motor along with my new ultra-high-frequency M. Troniks* speed control. Then I realized that there wasn't room in the body for the slightly oversize controller. In fact, I was barely able to squeeze in my receiver. I ended up using my trusty Trinity* Slot Machine stock motor, Tekin* 411P ESC, Parma* 1400mAh matched cells and Sermos* Powerpole connectors. I chose a Futaba* Magnum AM radio and an inexpensive S148 steering servo (nothing exotic here, but this is a good example of what a novice racer might choose).

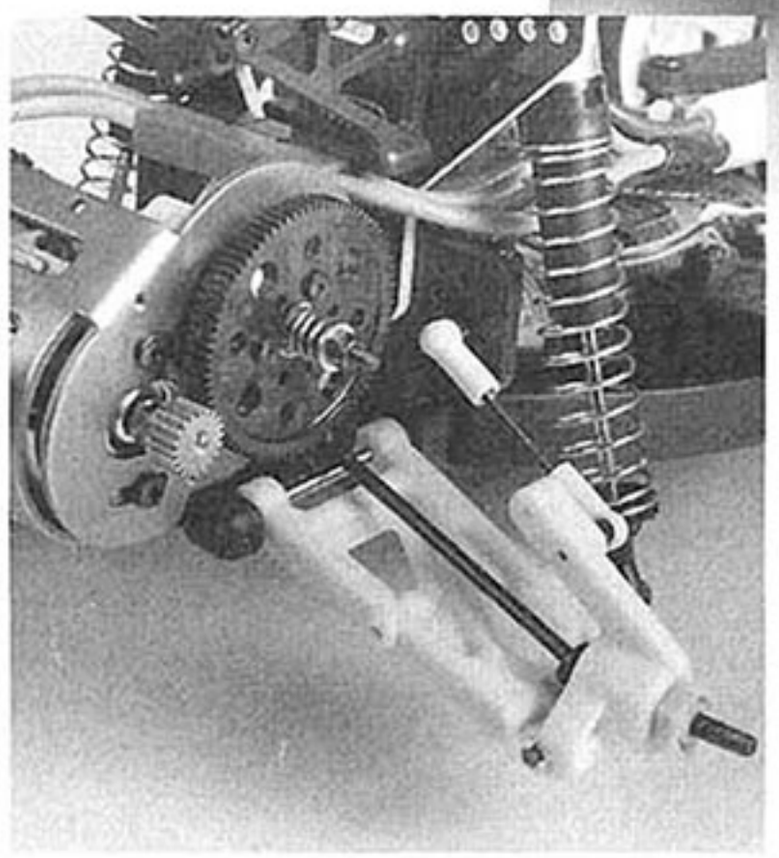
PERFORMANCE

The temperature outside hovered around freezing while I tested the Pro-X, so I filled the shocks with Associated* 30WT silicone shock oil. The shocks were sticky until they had warmed up. Initial setup took longer without the benefit of turnbuckles, but after I had the buggy dialed-in, it remained consistent. Overall, the car handled well.

I had a little trouble, though, with the transmission's slipping. I assumed it was a problem with the slipper clutch, so I kept tightening it. Eventually, the nut bottomed out, but the transmission still slipped; it had to be the diff. Fortunately, it was just a matter of removing a little red cap and snugging the diff with a hex wrench. When I reset everything, the tranny worked smoothly, and the slipper protected it from the jolt of landing off jumps at full throttle (my finger was frozen to the trigger!).

Steering was smooth and responsive, and there was very little tendency to push. The car easily outperformed the S148 servo I used. The buggy remained controllable on bumpy terrain, even in turns. At first, I had some trouble with jumps because the buggy's center of gravity is a little aft of what I'm used to, but with a little practice, I was able to make the Pro-X jump as well as any other car I've driven.



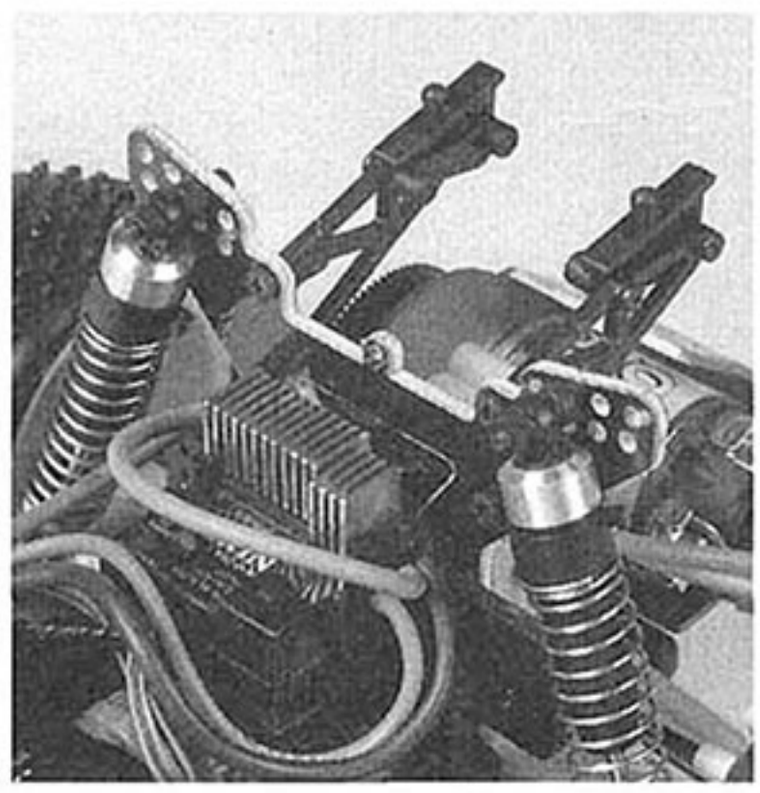


Above: the front suspension has all the adjustments you need, although changing caster requires optional parts. The plastic shocks worked well but tended to stick after they had sat awhile. Left: the rear suspension offers plenty of adjustments, including toe-in options of 1.5, 3 and 5 degrees. If you build the kit, notice that the pivot ball uses the lower hole in the rear hub.

The Competition

	Team Associated RC10CE	Kyosho Pro-X
Wheelbase (in.)	10.25	10.50
Width (in.)	9.625	9.30
Weight	3 lb., 10 oz.	3 lb., 8.5 oz.
Diff type	Adjustable ball	Adjustable ball
Chassis	Aluminium	Kelron
List price	$230	$169.99
Available at*	$115	$109.99
Issue reviewed	10/94	7/95

*Prices vary with location.



The ESC (if it's not too big) mounts on a shelf above the battery. The adjustable wing mounts are sturdy and stay locked in position even after a crash.

FINAL THOUGHTS

Kyosho has created a kit with many extras, but they've overlooked a few things, too. For instance, the chassis is cramped. I was barely able to squeeze in a standard receiver. I couldn't use the ESC I wanted, because molded-in bosses unnecessarily restrict the width of the space for the controller. Also, the motor needs a separate spacer, and that makes it difficult to re-install the motor after maintenance.

Overall, the Pro-X is an excellent kit that's filled with the details that any racer would appreciate. Some kit manufacturers have simplified their designs to make the leanest cars possible. Kyosho knows that many racers appreciate the little extras and have included them without adding weight. The kit materials and workmanship are superb and, with the exception of a few suspension parts that were too tight, everything fit perfectly. Kyosho also always throws in some spare fasteners in case you lose something during assembly.

The Pro-X Sport has so many adjustments and needs so much tweaking that I wouldn't recommend it as a first kit. For the same reasons, however, I strongly recommend it for someone who has built a kit or two and wants a challenging buggy—especially someone who wants to get into serious racing without breaking the bank.

**Addresses are listed alphabetically in the Index of Manufacturers on page 166.* ■