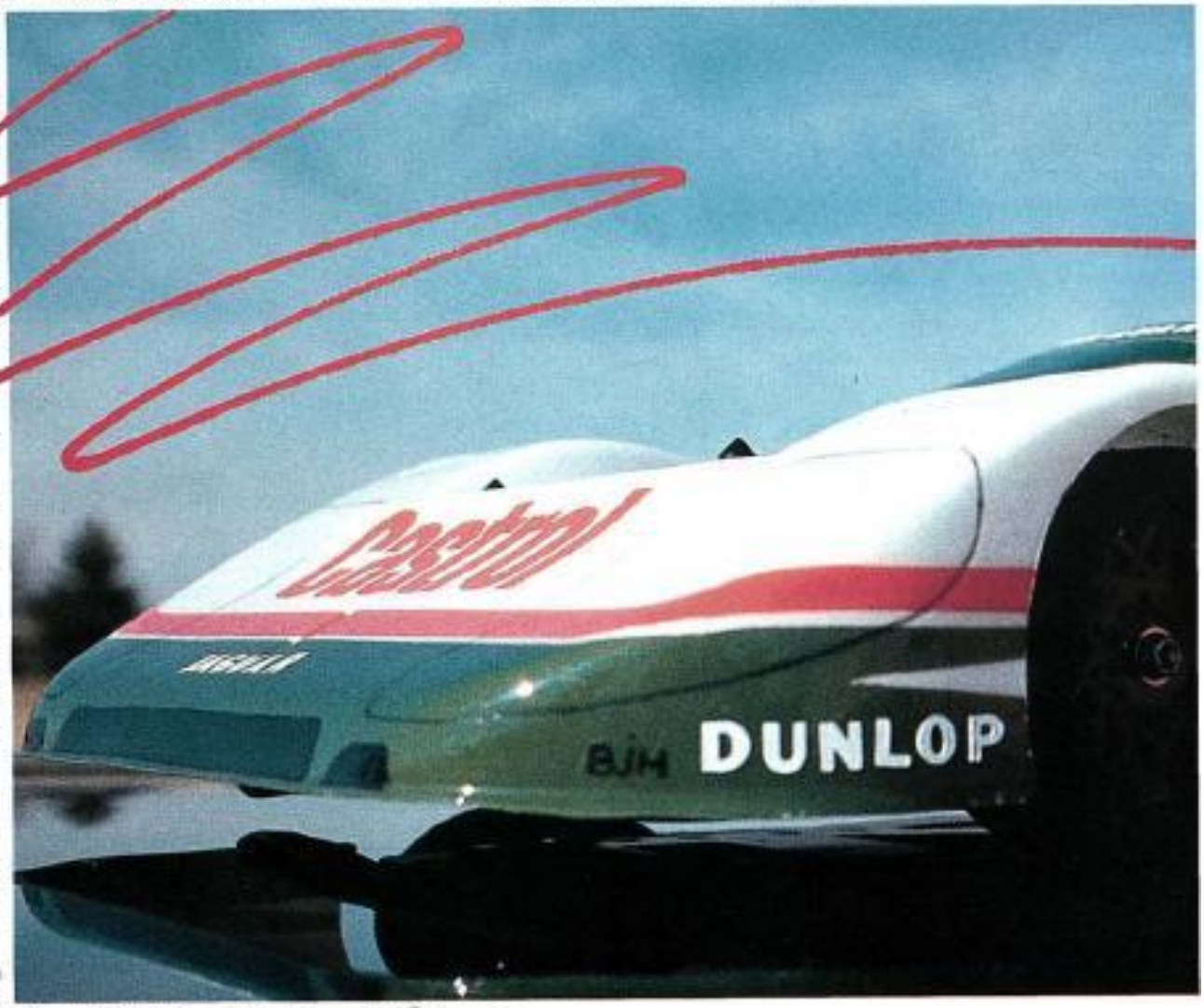
ALL SYSTEMS GO!

ADVANCED RACING TECHNOLOGIES

LUCAS



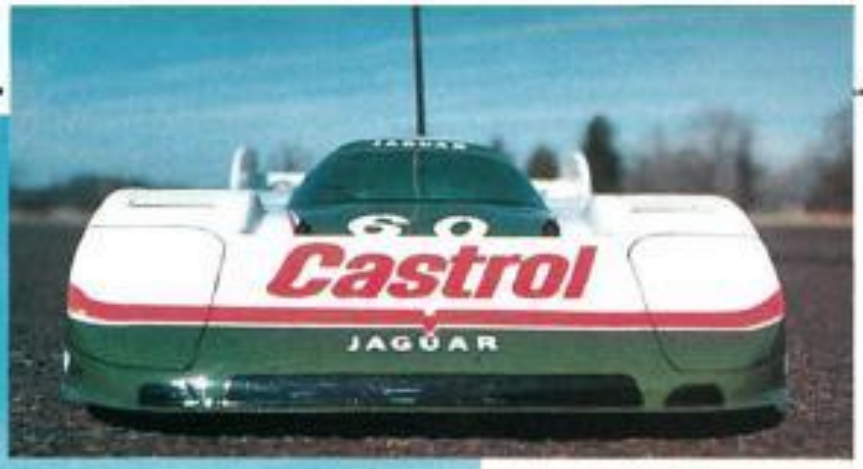
AGITATOR

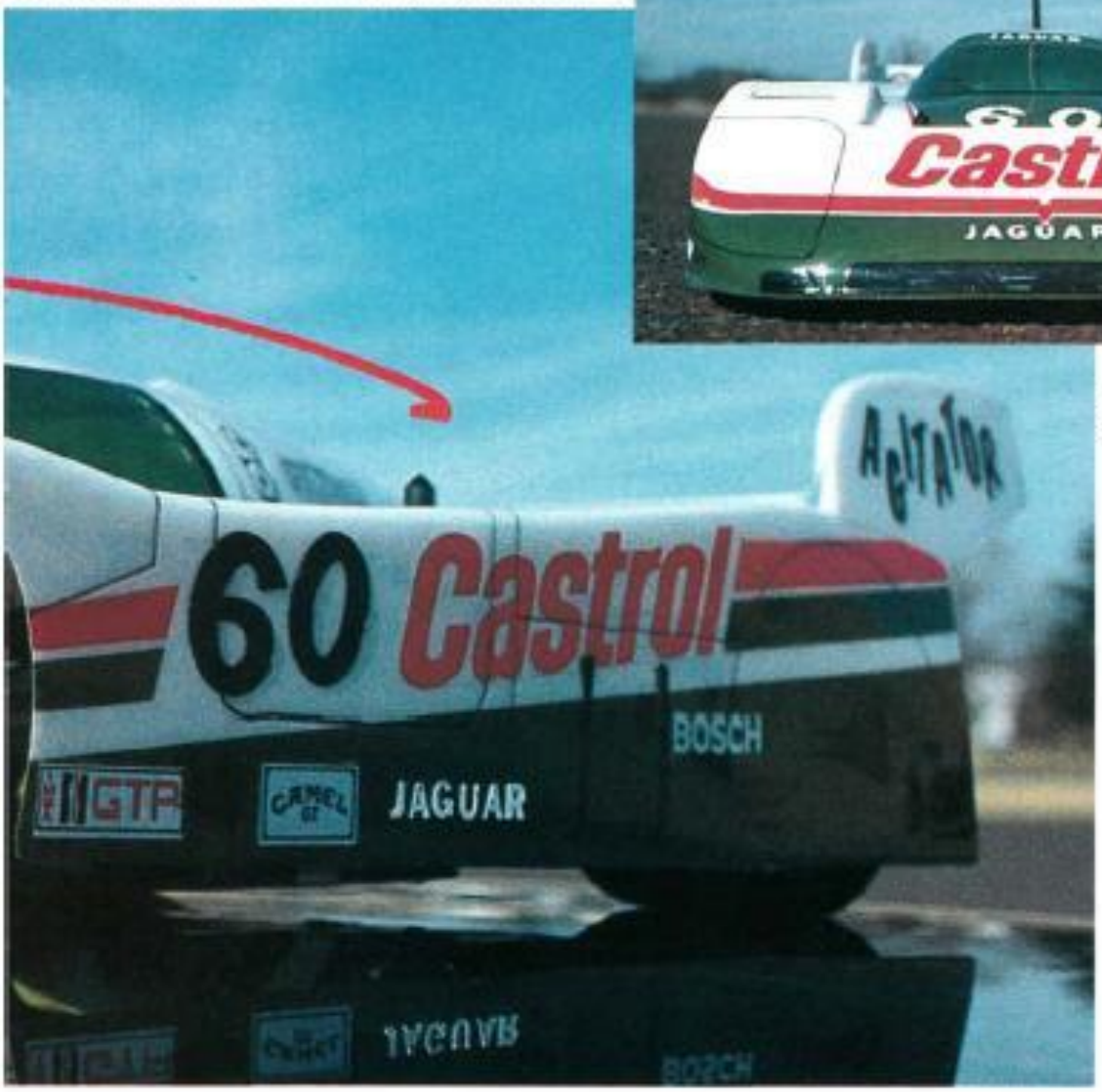
by WALLY DAVID

THE AGITATOR; the Alligator; the Instigator: These are all very good names for the new 1/10-scale on-road racer from Advanced Racing Technologies* of El Cajon, CA, but Agitator is the name chosen by Advanced. The car could have been called the Alligator, because it can chew up the competition, or the Instigator, because it will instigate a lot of discussion, since it's radically different.

The Lucas Agitator was designed and developed by Lucas Garneau, and the introduction to the 20-page instruction manual explains that Garneau spent the last year and a half developing it. The distinctive look and the ease of assembly are ample evidence of the time spent designing and testing what's sure to be a competitive racer.

THE KIT: The Agitator kit is aimed at serious racers, so you won't find a body, wheels, tires, radio, speed controller or motor, because serious racers will prefer to choose these themselves. You'll find two ball bearings for each front axle, a whopping five ball bearings, and three blue thrust bearings for the rear axle. Oh, and did I mention the *graphite* axle? (No steel axle here.) All the chassis parts are made of fiberglass. For those who have the fiberglass version and want to switch, an all-graphite Pro kit and a Pro conversion kit are available. In all three





Low, lean and mean, the Agitator is hiding beneath an Associated Jaguar GTP body; ready to strike.

kits, the cross-beam that's part of the front end is fiberglass, and the flex of this piece is an integral part of the suspension. (Graphite wouldn't allow the front end to flex.)

ASSEMBLY: Building the Agitator didn't agitate me at all; in fact, it went like a dream. What impressed me most about this kit is the obvious care that has been taken in machining the fiberglass parts and Delrin plastic parts. Everything fit into place perfectly, and each hole was just where it should be. While the Agitator's design is complex, it still goes together very quickly.

Assembly starts with the front end, which consists of a cross-beam to which are mounted two A-arms. Each A-arm is supported by three standoffs, and the steering blocks ride up and down on coil-dampened kingpins. The supplied steering blocks use E-clips to hold the wheels onto the axle, but I replaced them with BoLINK's* threaded type, which use a nut to hold the wheels on. I was told that Advanced will include the threaded-type steering block in new kits. The kingpins run between the cross-beam and the A-arms. Because of

WILL '89 BE THE YEAR OF THE CAT?

by RICH HEMSTREET

AFTER FINISHING last year's 24 Hours of Daytona at the front of the pack, the Castrol Jaguar racing team must have thought that the IMSA GTP crown was within its reach. While the 24 Hours was just the first race of the season, the team gloried in the knowledge that it had beaten the dominant Porsche 962 contingent at a track that was ideally suited to Porsches. As the 1988 GTP season was played out, the Jag team continued to do well against the Porsches, but they were both blind-sided by the Nissan GTP ZX-Turbo.

For 1989, the Jaguar team has regrouped, and it's ready to take on both Porsche and Nissan. They'll continue to rely on their non-turbocharged 6.0-liter V-12 powerplants in their struggle against the smaller turbos of their competitors, and the Jaguar XJR-9 still carries Castrol Oil colors into battle.

PHOTO BY MIKE LEE

Jaguar hopes this will be the year they capture the IMSA GTP crown with their XJR-9.

At the '89 24 Hours of Daytona, a Jaguar had the lead late in the race, but it lost to one of the many Porsche 962 entries. While the team isn't off to as good a start as last year, team members at least know who their competition is this year.

For R/C racers, the Castrol Jaguar XJR-9 model will probably continue to be a popular choice for concours events. The decals are available from Perma, and the bodies are being produced in 1/10-scale by both Associated and McAllister. Many full-scale IMSA racers wish they could get their hands on one of the factory Jags as easily as R/C racers can get themselves their own—albeit smaller—version of this classic ride. ■

ADVANCED RACING TECHNOLOGIES

LUCAS AGITATOR

Type: ..... On-road racer
Scale: 1/10
Sug. retail price: $320

DIMENSIONS:
Overall Length: ..... 13 inches
Width: ..... 9.375 inches
Height: ..... 3.5 inches
Wheelbase: ..... 10.375 inches
Front Track: ..... 7.5 inches
Rear Track: ..... 7.375 inches

WEIGHT:
Gross (w/bat.): ..... 48 ounces

BODY:
Type: ..... Associated Jaguar GTP (not included)
Material: ..... Polycarbonate

CHASSIS:
Type: ..... Dual plane
Material: ..... Fiberglass

DRIVE TRAIN:
Type (pri./sec.): ..... 64-pitch pinion/spur (not included)
Differential(s): ..... Ball-type modular

SUSPENSION:
Front: Type: ..... Individual coil springs
Dampening: ..... None
Rear: Type: ..... T-Bar on steel pivot balls
Dampening: ..... Three coil-over oil shocks

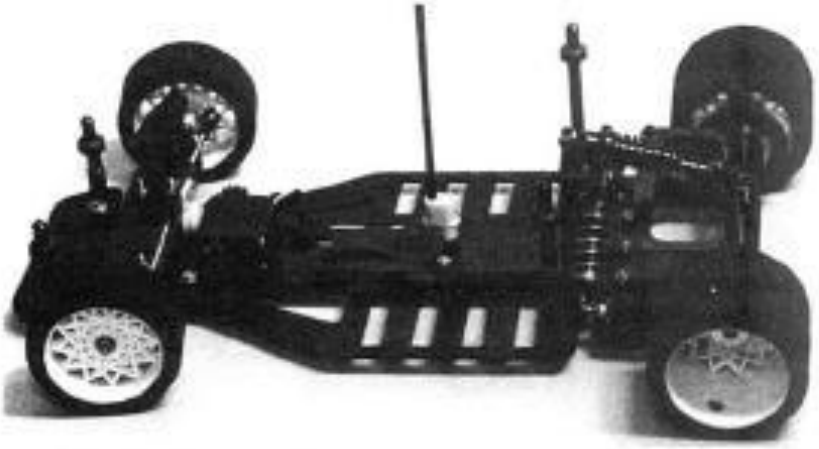
WHEELS:
Front: Type: ..... Nylon (not included)
Dimensions (DxW): ..... 1.875x1 inch
Rear: Type: ..... Nylon (not included)
Dimensions (DxW): ..... 1.875x2 inch

TIRES:
Front: ..... Foam
Rear: ..... Foam

ELECTRICS:
Motor: ..... Team Checkpoint 20-turn (not included)
Battery Req'd: ..... 6- or 7-cell, saddle-pack (not included)
Speed Controller: ..... Electronic (not included)

OPTIONS AS TESTED:
Futaba Magnum JR Radio w/S132H Servo, Novak 4-speed controller, Litespeed Litesink, TRC BBS wheels, Paragon graphite antenna.

COMMENTS:
Awesome! Beautifully designed and machined car. Two minor assembly problems; otherwise, very easy to build. Since it doesn't have tires, body, gears, etc., serious racers can customize the car to suit their particular needs. Expensive and slightly overweight, but very competitive.



The dual-plane chassis and the triple coil-over shock setup are distinctive characteristics of the Agitator.

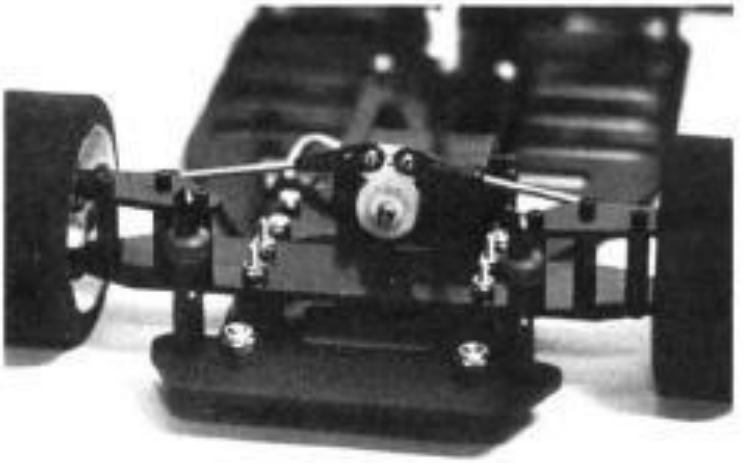
this design, there's no way for a kingpin to snap off, but this is a problem with some other cars on the market. The kingpins in my Agitator kit were the smoothest ones I've ever seen, so no polishing was needed, but you might like to apply a drop or two of light oil to make the steering block glide effortlessly up and down.

The cross-beam assembly is attached to the chassis plate with a unique Delrin saddle-block pivot. This is how camber and caster adjustments are made, and this step is also where I had the most trouble. While every other construction step in this kit is very well diagrammed, the instructions were of little help here. I called Gerry Pfeiffer of Advanced Racing Technologies and was told that the newer copies of the manual have been improved. I had, in fact, assembled the saddle-block pivot upside-down, although it looked good to me. Gerry explained the procedure for properly installing the saddle-blocks. Be careful when you install the screws in the saddle-block; they're threaded, so make sure that all the screws are tightened to the same degree. Partially tighten one screw, then the other, and so on, until the saddle-block is snugly seated on the pivot block and the pivot block is level and firmly set against the chassis. Repeat this procedure on both sides. Fine-tuning of the suspension is explained well in the manual.

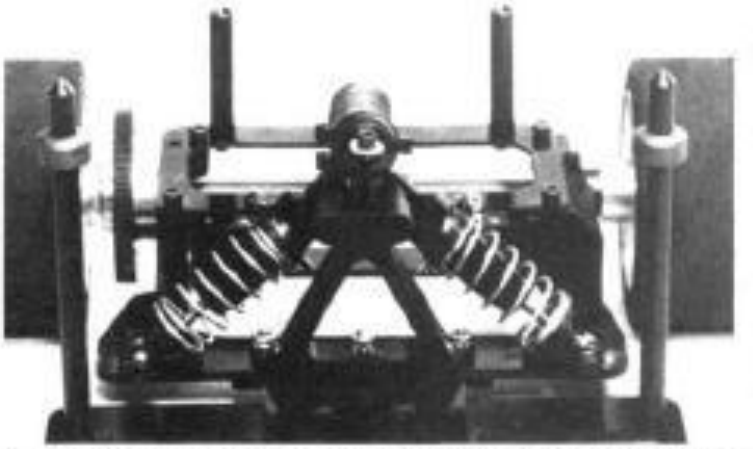
The rear end of the car consists of a T-bar that attaches the rear pod to the chassis. Actually, the T-bar is linked to the radio tray with a pair of pivot balls, and this allows for the side-to-side movement of the rear pod. The T-bar is attached to the bottom of the rear pod using three 4/40x1/2-inch flat-head screws, cone washers and O-rings.

The most interesting part of the rear suspension is Advanced's use of three, large, oil-filled shocks. Two short shocks go from a Delrin shock bridge to each side of the pod, while the long one goes to the upper rear of the pod. The assembly and mounting instructions are very straightforward, so there's no need to discuss them here, but one point should be clarified: In step No. 10, the manual says you should install the shock-mount brackets with the tabs facing forward and to the outside, but in fact, they should be installed with the tabs to the *rear* and to the outside. Otherwise, the steel ball mounts for the bottom shock mounts will hit the end of the chassis. The kit originally included fuel tubing instead of the ball mounts, and this wouldn't have caused a problem. The addendum to the instructions didn't mention this.

The included pressure bladders are a nice touch, and they made me smile. These bladders (or gaskets) fit into the top of the shock.



A lower crossbeam and independent upper A-arms make for a bullet-proof front end. The front body mounts are located on the small bumper.



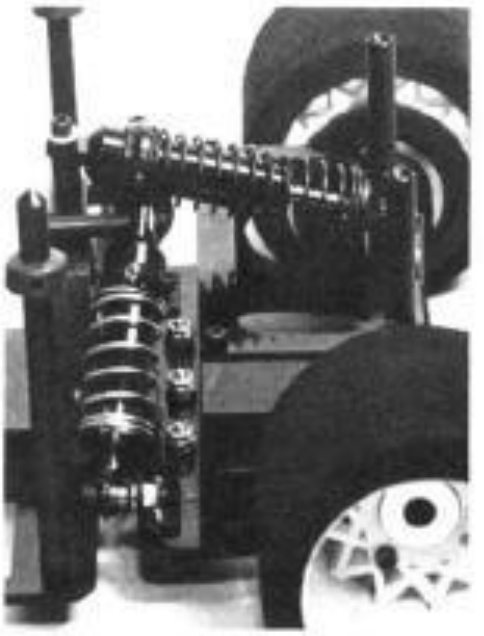
The two short rear shocks control the T-plate tweak and roll. The rear body mounts are attached to the main chassis.

They give the oil a place to go (other than out of the shock) when the shocks are compressed. These bladders aren't expensive, but they really show that the manufacturer thought of *everything*. The three-point suspension lets you control the amount of dampening on the rear of the car; to stiffen or soften the rear suspension, you just have to adjust the collars. (It's also the way you set the rear tweak.)

The right and left bulkheads are also made of Delrin. I've replaced the one on the right side with the RC-12L Litesink made by Litespeed*. I don't think the plastic motor mount allows enough cooling for the motor. There are a few extra holes already drilled in the upper and lower pod plates, and Advanced might have had this in mind when they made the plates. These RC-12L Litesink holes will line up perfectly with the other holes. The kit comes with three cams, so the ride height of the car can be altered to suit track conditions. Advanced recommends that you use the middle cam as a starting point.

The five-bearing, modular, graphite differential finishes off the rear of the car. This is a very smooth diff that's helped even further by the inclusion of three thrust bearings and a Delrin spacer. The wheel hubs are spaced perfectly, but in many other kits, it's up to the racer to try to ensure everything is spaced correctly. Again, it's not a big deal, but it shows someone was thinking when the car was designed.

The Agitator kit is topped off by four beautifully machined body posts that have adjustable collars. These posts look unbreakable and will definitely remain straight through many severe collisions. I added a set of Body Foams made by Dan's RC Stuff*. These pads protect polycarbonate bodies from cracking and splitting at the mount holes. Delrin wing tubes are included for those who use a wing. Finally, I substituted a hollow, graphite, roll-over antenna from Paragon* for the plastic whip antenna tube. In the event of a crash, this type of antenna will usually flip the car back onto its wheels.



At the rear, you can see some of the nice design work that went into the Agitator. The triple shocks really work well.

For radio gear, I chose my trusty Futaba* Magnum Jr. transmitter with an FP-S132H servo for the steering and a Novak* 4 Electronic Speed Control. I installed a Checkpoint* Platinum Series 20-turn motor with a Trinity* 23-tooth pinion gear and a Robinson* 115-tooth spur gear. TRC* BBS wheels with green compound tires were chosen as a starting point.

The body is the new Associated* Jaguar GTP. Using Wizardry spray paints and Parma's* Castrol decals, my expert body painter, Bill Henning (of Henning Scale Models in Lansdale, PA), was able to create an exact replica of the Castrol Jaguar.

PERFORMANCE: At 48 ounces, I think the Agitator is the heaviest in the 1/10-scale on-road class. I couldn't wait to see how it would perform, and I took it to the track for an initial shakedown run. The tight, twisty roadcourse with its 65-foot straight was an excellent test site, and the Friday night open practice session showed me a couple of things. After a few laps to get used to the car, I was turning some respectable times, and the Jaguar body, combined with the Bud's* Racing Products bi-level wing, proved to be very stable. By adding a little more caster (tilting the kingpins back), I made the car slice sharply through the turns without any tendency to spin out.

On the following Wednesday, the Agitator had its first taste of competition. After two hotly contested heats, I was able to grab the outside front-row qualifying spot in the A-Main. The field consisted of a Viper, my Agitator, an Eliminator and a Pro-10. The start of the race saw a first-turn wreck involving all four cars, but the Agitator came out of the tangle worst and wound up over the barrier. When returned to the track, the Bud's wing was turned sideways. After a pit stop to remove the wing and another to reinstall it (the Agitator spun out at every turn without it), I made up at least three laps on the field. I still took 4th, but was only one lap out of 1st and on the same lap as the 2nd- and 3rd-place cars.

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AGITATOR

(Continued from page 71)

Overall, the Agitator appears to be a winner. Apart from a few problems, assembly was a snap, and this slightly heavy car's easy assembly and rugged construction will make it popular and a great racer.

**Here are the names of the companies mentioned in this article:*

Advanced Racing Technologies, *460 Cypress Lane, Suite F, El Cajon, CA 92020.*

BoLINK R/C Cars, Inc., *420 Hosea Rd., Lawrenceville, GA 30245.*

Litespeed, *P.O. Box 4765, Spokane, WA 99202.*

Dan's RC Stuff, *9525C Cozycroft Ave., Chatsworth, CA 91311.*

Paragon Racing Products, *8802 Knollwood Dr., Eden Prairie, MN 55344.*

Futaba Industries, *555 W. Victoria St., Compton, CA 90220.*

Novak Electronics, Inc., *128-C E. Dyer Rd., Santa Ana, CA 92707.*

Checkpoint Racing, Inc., *729 W. 16th St., #B4, Costa Mesa, CA 92627.*

Trinity, *1901 E. Linden Ave., #20, Linden, NJ 07036.*

Robinson Racing Products, *501 Peach, Santa Ana, CA 92704.*

TRC, *P.O. Box 1058, 2211 Charter St., Albemarle, NC 28001.*

Associated Electrics, *3585 Cadillac Ave., Costa Mesa, CA 92626.*

Parma International Inc., *13927 Progress Pkwy., North Royalton, OH 44133.*

Bud's Racing Products, *P.O. Box 601, Amherst, OH 44001.* ■