RADIO CONTROL MODEL CARS

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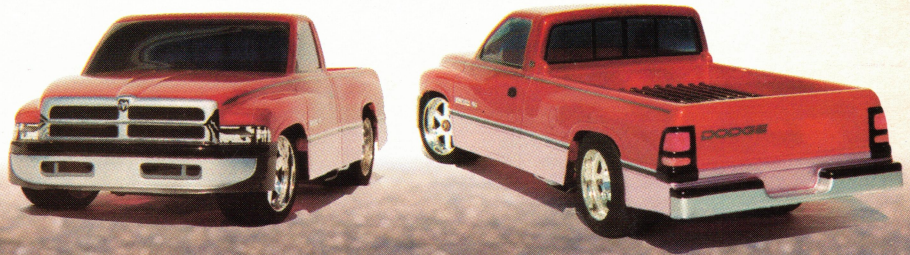

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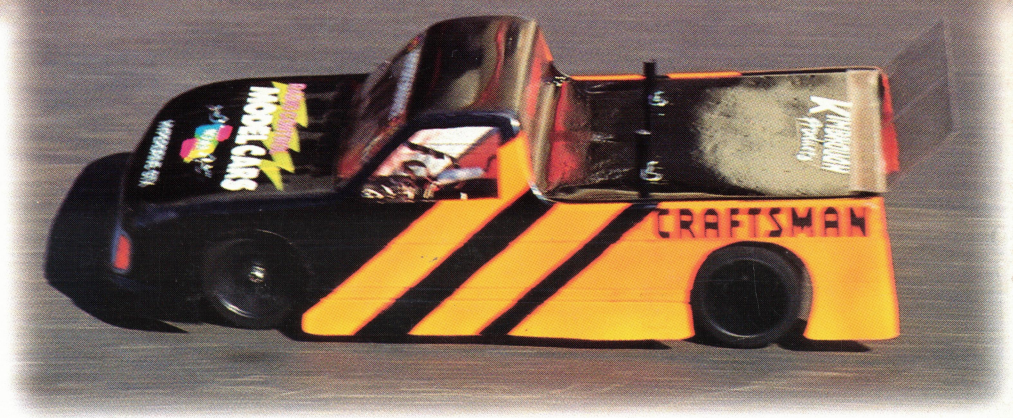

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RADIO CONTROL MODEL CARS

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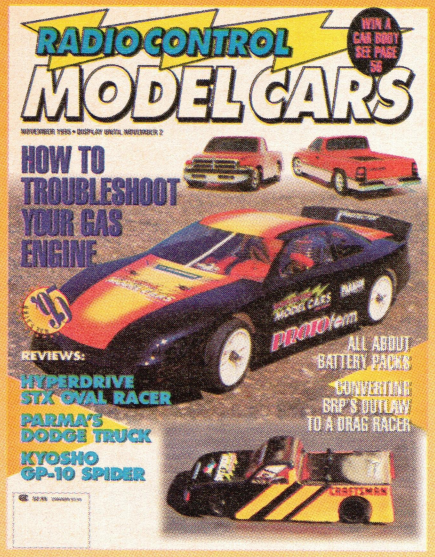

COVER: This month we take a close look at Hyperdrive's STX oval racer and Parma's Dodge Ram truck, both in 1/10 scale. BRP's 1/18-scale Oval Outlaw gets a facelift that turns it into a drag car. Kyosho's four-wheel drive, gas-powered GP-10 Spider also gets a thorough going-over, and we'll tell you how to troubleshoot your gas engine.

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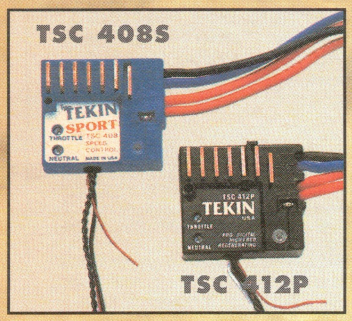



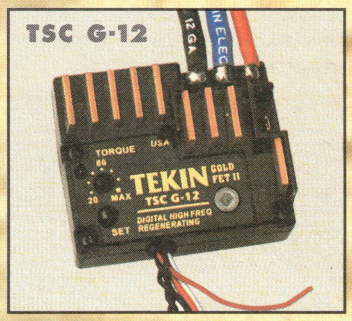

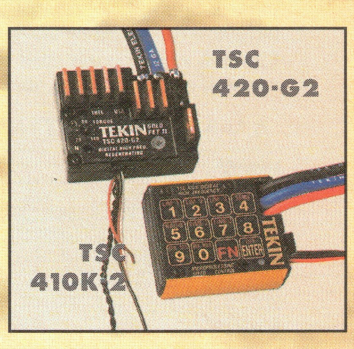

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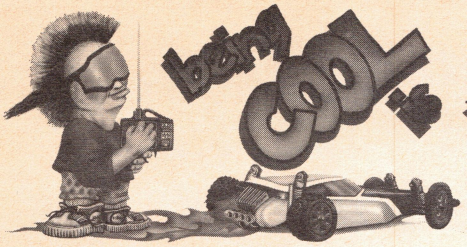

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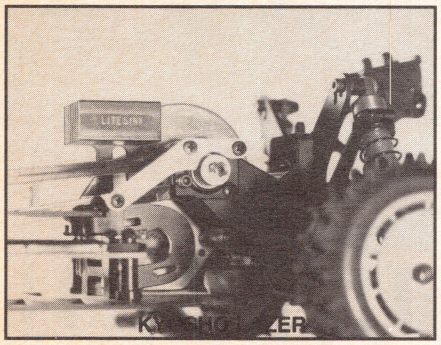

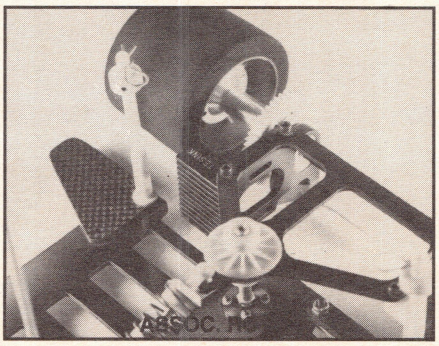

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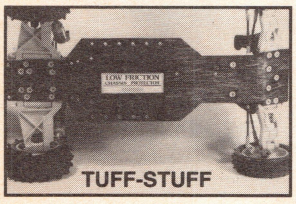

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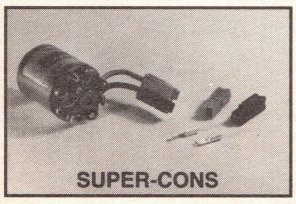

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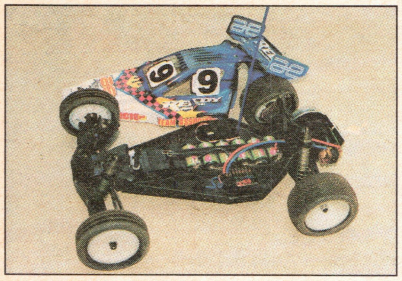
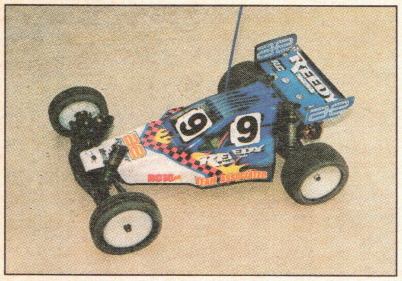
New & Hot



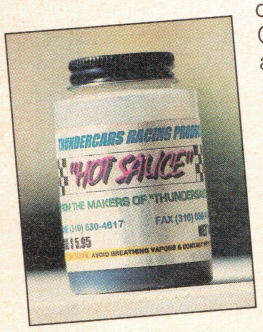


EXCLUSIVE FIRST LOOK: ASSOCIATED'S RC10B2

The RC10BC has been undergoing rigorous testing by Team Associated's factory racers, who have just finished competing in the World's Championships in Japan with the new buggy. Matt Francis won the 2WD class, with Masami Hirosaka finishing in second, both driving the B2, which will be reviewed in detail in an upcoming issue of *RC Model Cars*. Watch for it!

HOT AND STICKY

Thundersauce is fast-becoming the tire traction juice of choice among racers in Southern California, and it's easy to see why. Developed at the One-Stop raceway in Los Alamitos, Thundersauce was well-suited for indoor asphalt racing. With the demise of One-Stop and other indoor oval tracks, pavement racing has moved outdoors where track temperatures routinely exceed the 100-degree mark. Thundersauce's makers responded to the needs of the outdoor racers by developing Hot Sauce, which was created to withstand the high heat found on these asphalt courses. The Hot Sauce technique involves an application about 20 minutes before a race and requires no wiping. Recent tests under race conditions with track temperature exceeding 140 degrees showed the worth of Hot Sauce, as we placed in the top five of two A-main events—with excellent traction and no fading throughout the races. If your local hobby shop doesn't stock Hot Sauce, call Thundercars direct: (310) 630-4617, or fax: (310) 630-1327.





DE MARCHI WINS EURO CHAMPS

Italy's Marco de Marchi was top qualifier and winner of the 1995 EFRA 1/10 Onroad European Championships, driving an RC10LS with an LRP motor and speed control. The race, held on de Marchi's home track in Rome, Italy, knocked Corally off the World Championship pedestal. 1/12-scale champion David Spashett took fourth with his Corally racer after winning the first three A-mains.

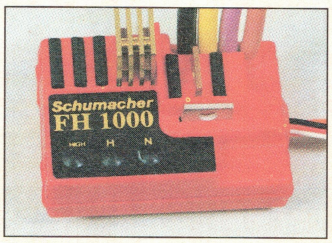
NEW DAHM'S CATALOG

Dahm's Racing Bodies has just released their new catalog, chock full of 1/8-, 1/10- and 1/12-scale bodies and products to help you finish off your racing body in style. The catalog is available for only $4.00 to Dahm's Racing Bodies, Box 360, Cotati, California 94931. They'll toss in some decals along with your catalog, too.



SCHUMACHER'S NEW SPEED CONTROL

England's well-respected Schumacher Racing Products is offering an inexpensive electronic speed control with features often found only in much more expensive units. The FH1000 has high-frequency switching, thermal overload protection, forward-only operation, a setup LED indicator, protected BEC receiver output and heavy-gauge silicone wires. The FH1000 ESC is on the dealers shelves now, and it's worth a serious look.



LOSI'S ENTRY-LEVEL VENTURES

Team Losi is introducing new entry-level versions of their popular XX buggy and XXT racing truck. The XXT is virtually the same kit as the original version, without bearings, as is the XX buggy. Both use the XX modular design chassis, rigid suspension arms anodized, oil-filled shocks and powder-coated springs and the exclusive laydown transmission with a precision ball bearing on the input shaft. Team Losi's line of hop-up parts can be added to the kits as your expertise grows. The kits are headed for the hobby shop shelves as you read this, so drop in and check 'em out.

SHORT TAKES

From our friend across the pond, **Mike Haswell**, of the British Radio Car Association, comes word of several recent events. The European 4WD Buggy Championships in Rauma, Finland were won by **Craig Drescher**, who also was top qualifier with his Schumacher Cat 2000, powered by a Reedy Ultra Sonic 11-turn quad motor. Second went to **Sascha Falter** running a Reedy/Keil-powered Yokomo YZ-10. Third was **Kevin Moore** with an LRP-powered Predator. All three drivers were running Pro-Line's Flat Fuzzies—as was most of the field...in 2WD, local racer **Jukka Steenari** TQ'd and won with his Schumacher Cougar 200 '95 Team car, followed by **Craig Drescher** driving an RC10. Third place went to **Kevin Moore**, who drove a Losi XX buggy...ROAR's Onroad Nationals in Naples, Florida, beset by heat, humidity and rain, were won by **Mike Lufaso** who took 1/10 Modified. The 1/12-scale stock class was won by **Brian Berry**, while Formula One class was dominated by **Tyree Phillips**. All three

continued on page 17

FOLLOW THE LEADER



PTI is leading the way in car racing and innovation. Whether you're racing flat out or just flat out having fun, for power, speed and control, PTI race cars rip the strip. PTI's H10 SSE race-proven chassis design is extremely lightweight, with reversible motor POD – for right or left drive with no extra adjustment required – easily adjustable front suspension and more motor adjustment allowing for taller gear ratios. The kit also includes a 45° bias t-plate. PTI is radical, controlled chaos. It's speed on top of speed. If you won't take our word for it, ask PTI racing champion Ralph Burch, Jr. if you can catch him.

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Readers' Page

DEAR READERS: YOU PEOPLE HAVE BEEN BUSY WITH THOSE CAMERAS! I'VE HAD MORE PHOTOS SENT TO ME THIS LAST MONTH THAN IN THE PAST EIGHT YEARS WE'VE BEEN DOING THE PHOTO PAGES! THANKS AND NO THANKS!! AGAINST MY BETTER JUDGMENT, I'M ASKING FOR MORE PHOTOS FROM YOU PEOPLE! I HAVE STUFF TO GIVE AWAY, AND I'LL GIVE EVERYONE WHO HAS A PHOTO CHOSEN SOME COOL GOODS! SEND YOURS TODAY. MAIL TO: DEL BAGSHAW, READERS' PAGES, BOX 2459, CAPISTRANO BEACH, CALIFORNIA 92624.



This hot Q-scale racer belongs to James Molesworth, of Owings Mills, Maryland. The Raco car was hand-painted by James, who says he likes to run his racer on a smooth parking lot. He's getting a free six-month subscription to *RC Model Cars* magazine.

Paul Jamerson spent a lot of time (and money!) on this excellent Clod Buster called "Snow Blind." James took an ESP Clodzilla 2 chassis with cantilever suspension. The bumpers and plow are from ESP too. Power is from twin Kyosho 36-degree stock motors. The ESC is a Novak 610HRV, controlled with an Airtronics Caliber 3PS radio. The truck features a Parma Hemi motor kit and Ram lights. James will be getting a free subscription for his efforts.





A new Dahm's truck body is on its way to Shane Robbins, of Belfast, New York, for this photo of his Traxxas Rustler. Shane painted the body himself, and did a most excellent job. His truck uses a three-gear, variable-ratio transmission with steel gears to handle the load he puts on it. Congratulations!

Des Moines' own Ron Jones sent these photos of a couple of his trucks. The Losi XXT uses an Airtronics radio, Tecnacraft turnbuckles and ball joints, Pro-Line Edge front tires and a Novak M5 ESC. On the right, Ron's RC10GT is controlled by a Futaba radio, powered by a TNT .12 engine with MIP clutch, pipe and temperature gauge. RPM rear bulkhead, a Dahm's body and Thorp aluminum brake adapter round out the equipment used. Ron painted the body to resemble John Force's Funny Car because "the flames scare the other guys." We're sending a new Dahm's body to Ron for his two fine trucks.





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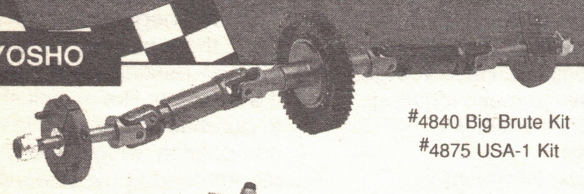
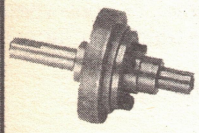


#4840 Big Brute Kit
#4875 USA-1 Kit



#6050
Rampage Ball Differential



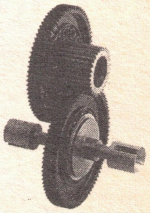
#6060
Rampage, Outlaw Brake

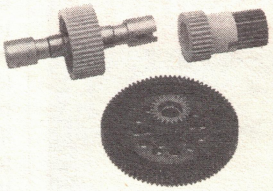
TAMIYA

#2000 Blackfoot Diiferential and Dog Bone Kit



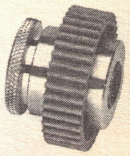
#2050 Super Blackfoot Differential Kit, 48 Pitch





#4985 King Cab
48 Pitch Gear Kit

#6000
Clodbuster
Differential

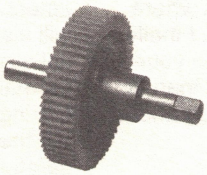


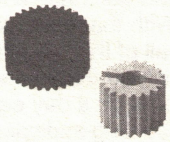
TRAXXAS



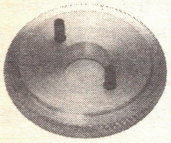
#5320 Adapter Kit

#5350 Blue Eagle/Nitro Hawk Ball Differential

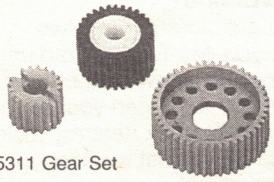




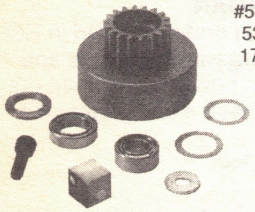
#5302 Idle Gear Set
#5309 3.0 Cheater Gear Set



#5361 Nitro Hawk
Aluminum Flywheel

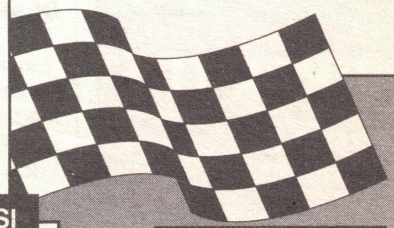


#5311 Gear Set



#5364, 5360
5363, 5362
17,18,19,20
Tooth
Clutch
Bells

#5370 Nitro Hawk
Adapter Kit
O.S. CZ-R



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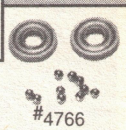

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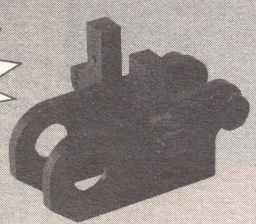

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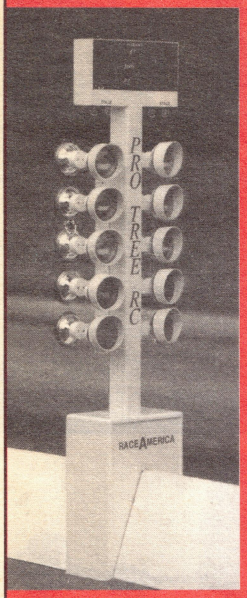



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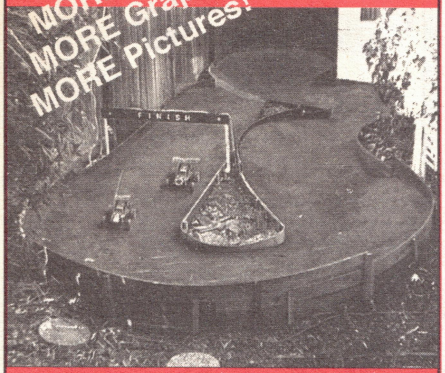

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Answerman

DEAR ANSWERMAN,

Every few months my racing buddies and I like to load up our RC stuff and travel out of town to a new offroad track somewhere. But sometimes, the only directions we can find is a tiny map on a track flyer and we end up pulling our hair out trying to find it. Have you got any ideas or ways to make locating unknown RC tracks easier?

Henry Linstrom
Normandy Park, Washington

A: My system is to first contact the track owner and get directions from the horse's mouth. Ask them to include some local landmarks to go by, such as fast-food joints, stores or gas stations where you would make a turn. Secondly, try phoning the track sanctioning body organization's area director for directions. I will stop at a convenience store somewhere in the vicinity of the new track and purchase a local map of the area. With that map, you can usually locate all of the tiny side streets where most RC car tracks are located. Finally, if you can, go a day early and do your track scouting in daylight rather than in the pre-dawn of raceday you'll be ahead of the pack.

DEAR ANSWERMAN,

I'm eight years old and have two questions for you. My Tamiya Stadium Blitzer truck needs a new motor. What kind should I get? Also, can you tell me where there's a RC track near my town? I don't want to race; I just want to see some RC car racing!

Thank you.

Charles Goodwood
Topeka, Kansas

A: Charlie, a good name-brand ROAR-type stock motor would be an excellent replacement motor for your Blitzer. This is especially true if you still have the stock mechanical speed control in the truck as a hotter motor would quickly wear it out. A good, strong motor will also put stress on the controller as well, so keep its contacts clean once you do replace the kit's stock 540 motor. As for a RC track near you, check out Sugar Bowl RC Speedway in Sugar Hill, Georgia. They have both an offroad track and dirt oval track; so, you should see plenty of good RC car competition these. To find out where the track is and when they hold races, contact Shelly or Jan Bailey, care of Sugar Bowl RC Speedway, 5272 North Ave., Sugar Hill, Georgia 30518 (404) 945-6709. Thanks for writing *RC Model Cars.*

DEAR ANSWERMAN,

Since I began reading RC Model Cars, there has been many articles on the new parking lot RC car racing craze. If a beginner like myself should decide to purchase a car for this type of competition, which kind would you recommend I buy, a two-wheel rear drive, four-wheel drive, or front-wheel drive sedan, or a F-1/Indy car racer?

Jason Twohy
Pensacola, Florida

A: I'd say either a four-wheel drive or front-wheel drive RC touring car, for these reasons. If this will be your very first RC vehicle, I'd also stick with a Tamiya or Kyosho sedan kit as well. The four-wheel drive sedans handle the best; and the two brands mentioned here are relatively easy to construct even for first-timers. The front-wheel drive only cars will also give you the same "feel" as the full-sized cars many folks drive today. As for maintenance, the four-wheel drive touring cars will require more wrenching; but they're simple to work on if you carefully read through the assembly manual. Finally, I'd recommend you use a good two-channel pistol grip radio with heavy-duty servos on your sedan to ensure no radio glitches or problems with your RC car.

DEAR ANSWERMAN,

I'm 11 years old and interested in RC cars. I like working with my hands and would like tips on how I should start out in RC cars. You have a cool magazine.

Gaby Mota
Rocky River, Ohio

A: Gaby, check your local yellow pages for hobby dealers in your area. If any of them sell RC cars and/or *RC Model Cars magazine*, you're on your way. Contact the magazine and get as many back issues as you can and read all of Joseph Ringeisen's excellent "Starting out" columns. Also, don't be afraid to ask the hobby shop folks about any questions you have regarding RC cars. Should you locate a nearby RC racetrack (the closest one I could find was Medina RC Raceway, 754 N. Court St., Medina, Ohio 44256 [216] 723-0255), check out the racing and also check out

continued on page 17

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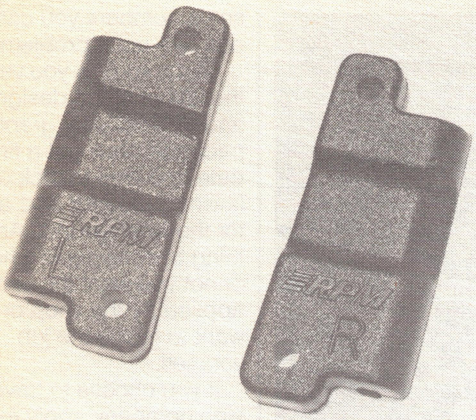

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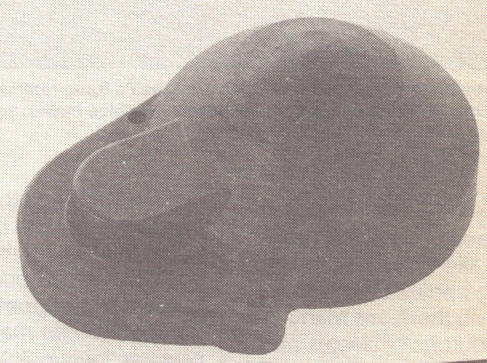

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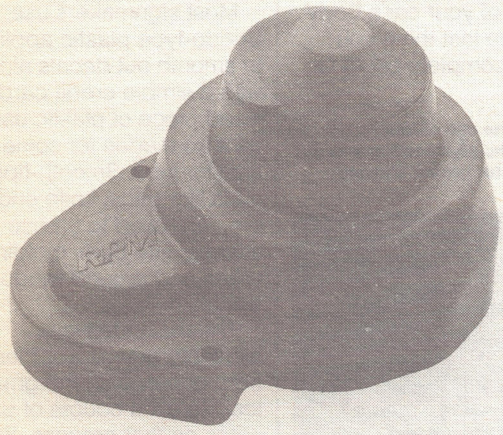

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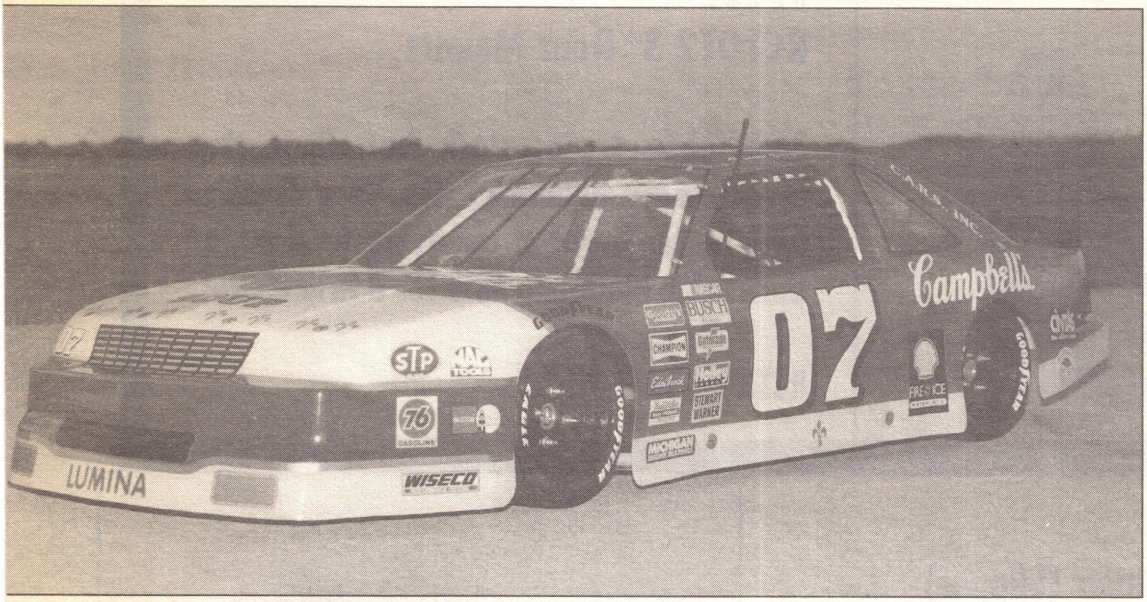
Big Tips

Q-SCALE BODY GRAPHICS



Good-looking Q-scale bodies like this Campbell's Soup replica by Dennis Cargal can be easier to achieve than you might think. Working with a knowledgeable graphics maker, you can design a full set of sharp-looking decals for any Q-scale RC racer.

BY RICK EYRICH

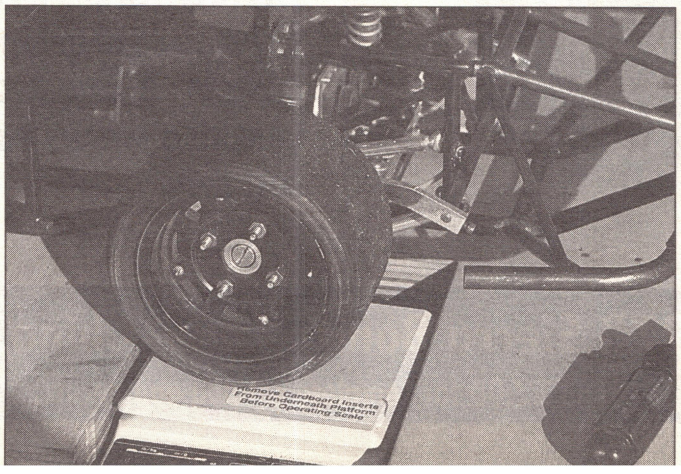
Let's face it, most RC car racers like to have nice-looking bodies on their cars. But while there are many easy sources of decals and stickers for the 1/10-scale RC vehicles, the same cannot be said for the 1/4-scale cars—until now. This month's Big Tips will not only relate where you can locate professionally made Q-scale graphics, but also tell how to find them on a local level as well. Plus we'll have the usual tips, tricks and updates you expect here each month as an *RC Model Cars* reader.

LOCAL 1/4-SCALE STICKER LOCATING MADE EASY

Many small sign companies now use computers to design and cut their vinyl decals. If you attempt to use a local sign shop for Q-scale graphics, bring with you the following when you walk through their front door: a complete body shell, any pictures of what type numbers and lettering you want, and the colors for the finished body. With these few things you should be able to relate to the sign maker what you'll need. Of course, the computer-equipped sign companies can make this process fairly painless, but you should be very specific when describing what you want both in size and color. Having the body there in person helps this process greatly; always remember the old saying "Measure twice, cut once" when laying out your car's graphics.

Once the basic design and color of your vinyl graphics has been done up on the computer, go back over the locations and final colors of your decals. Under most circumstances the sign shop owner will show you the actual rolls of vinyl that will be used for each sticker, so double-check them against the colors of your car's body as well. The last thing you need is a complete set of Q-scale numbers you can't use due to a color problem.

This racer's workstand has been notched to allow the use of four electronic scales for chassis setup. Each notch in the plywood top was cut so each scale would be centered under each wheel for proper chassis weight bias checking.



Okay, so now you've got the layout of the design, color and sizes of your graphic's package. Now get a firm date and time to pick up the finished product plus a price for the whole works. Another thing to consider is whether or not you want the stickers applied by the shop or if you want to tackle the job yourself.

If you choose to have the sign company apply the graphics ask if you can be present during the job. This can help you later on as you'll get a working knowledge of applying decals, and you'll make sure the job is done as you wanted in the first place.

Show a bit of common courtesy and don't get in the way of the sign person during the job; only ask questions between decal applications. Many times a sticker will need some time to lay down properly, so don't nitpick the work until they're finished. Pay close attention to whether they mount the vinyl stickers dry or with a mist of water on the body and what tools are used to complete the work.

Most signmakers use Bondo-type plastic applicator to smooth out decals along with a simple credit card-sized piece of plastic used as a squeegee for some smaller jobs. Smooth-tipped tools like pens, knife ends, etc., are used to crease stickers into body molding areas and around window edges.

The main idea is to eliminate any air bubbles from underneath the graphics. Here's a couple of extra notes on that process. Small air bubbles are easily removed with a regular straight pin. Once the center of the bubble has been punched, work the air pocket

continued on page 45

SK-5 HOVERCRAFT GUN BOAT

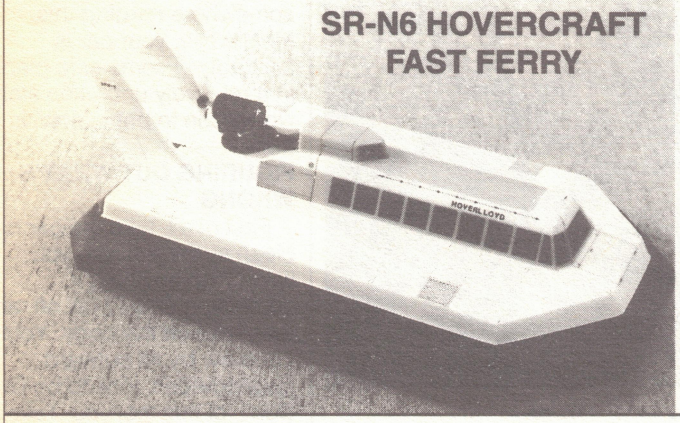


The SK-5 hovercraft was extensively used in Vietnam for patrol and interdiction missions in the Mekong Delta. This model duplicates the amphibious versatility of the combat craft: it can travel over water, land, ice or snow with ease. It is an exciting experience to fly and maneuver.

Scale	= 1/24	Length	= 24"
Width	= 14 1/2"	Weight	= 2.8 lbs
Cushion pressure	= 5 lbs/ft^2		

Kit includes all body parts, seals, hardware and 2 electric motors. Required equipment: 2 channel RC with reversible speed control and batteries. **Retail Price = $164.95**

SR-N6 HOVERCRAFT FAST FERRY



The SRN-6 amphibious hovercraft is used in many different roles. Originally, it was configured as a high speed passenger ferry in Europe and in the U.S. It has the capability to travel at speed over shallows, swamps or ice, and then land to discharge or take on passengers.

Scale	= 1/24	Length	= 29"
Width	= 14 1/2"	Weight	= 3.2 lbs
Cushion pressure	= 5 lbs/ft^2		

Kit includes all body parts, seals, hardware and 2 electric motors. Required equipment: 2 channel RC with reversible speed control and batteries. **Retail Price = $193.95**

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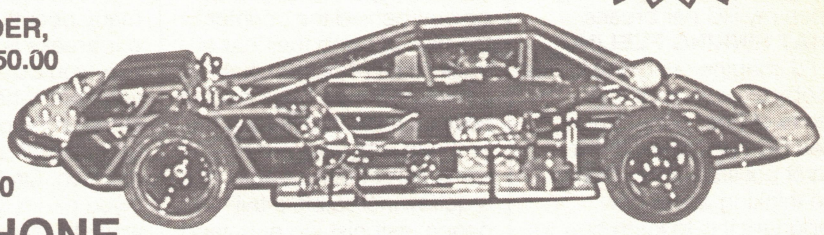

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Starting Out

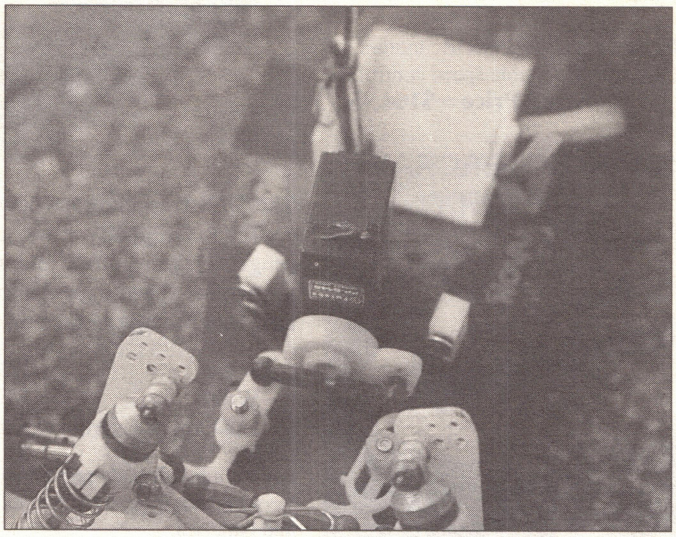
TROUBLESHOOTING YOUR RC CAR

BY JOSEPH RINGEISEN

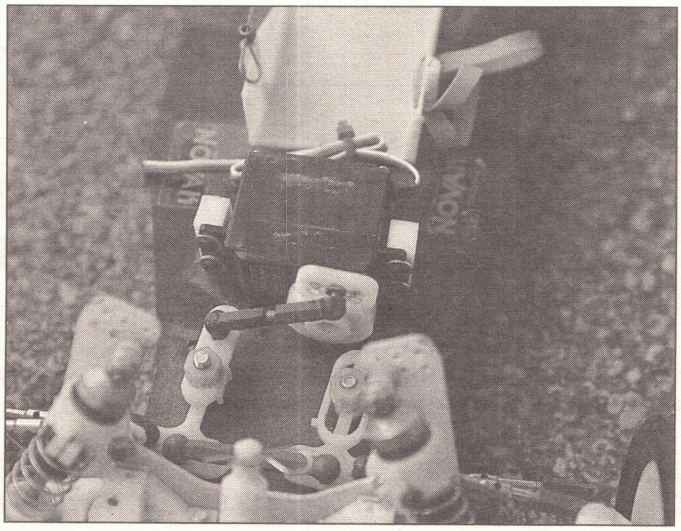
I had taken one of my RC cars over to my friend Jeff's house. Jeff is someone whom I go (full-size) drag racing with. Some time ago, he mentioned that he and his brother had RC cars. Apparently, his brother was still into the hobby, but Jeff had gotten into drag racing his Mustang because it was "cheaper." (Why he thinks that a Mustang that runs a low-12 second quarter mile can be cheaper than an RC car is beyond me.) At any rate, Jeff's wife had a Tamiya QuickDrive RC car, so we decided that we'd run his wife's Tamiya car and my RC10 just for fun.

Anyway, as we we're running the two cars, I jumped my RC10, and, unfortunately, it didn't exactly go where I intended. The result was that it slammed into a curb. At first, I didn't think there was anything wrong with it, but I soon realized that the car had no steering. That's when the sinking feeling hit me. I knew the car was broken, but I had no idea what was wrong until I pulled the body off.

The damage turned out to be simple: the mounting ears had broken off the servo case. Still, I couldn't help but think about the fact that, despite having been in this hobby for about eight years, I still get that sinking feeling when my RC car breaks.



Take a look at this photo. Everything looks okay, but...



Same car, Same steering servo. When troubleshooting your car, make sure that you check everything completely.

THAT SINKING FEELING

I'd imagine everyone in this hobby experiences that sense of near panic when their RC car breaks at the worst possible time. That got me thinking about how important it is to learn how to troubleshoot a problem with your car, as the ability to find a problem can save you a lot of time and worry down the line.

Every year, quite a few people take their RC cars to hobby shops and give the person behind the counter the task of fixing their car or truck. A lot of people that I've run into who are beginners or novices think that finding the problem with your car is some sort of difficult task that requires incredible intelligence, astonishing engineering skills, and enough sorcery to make Merlin toss his cookies. Not really. It just requires a little patience and a step-by-step method of examining the car.

YOUR FIRST REACTION

The initial reaction that many people have when their car breaks is panic. Whatever you do, *don't panic!* As someone who's said to be extremely high-strung, I can understand and relate to this reaction. On the other hand, if you panic, you probably won't be thinking too clearly. I don't recall ever being able to think clearly in a panic state.

The thing is, it's very easy to say, "Oh, I wouldn't panic if my car broke." You're probably not running your car and reading this article at the same time, either. No doubt you're sitting down somewhere reading this. Meanwhile, your car is probably in some safe place, in a relatively unbroken state. No reason to panic now, is there?

FIGURING OUT WHAT'S WRONG

First of all, take the car to a clean surface where you won't lose anything if something should fall off, and then take off the body. Your car may, by all outward appearances, look to be fine. Don't let this fool you. Take a look at the picture of the front of my RC10. It looks okay in the first photo, but then look at the next photo. It shows how the mounting ears on the steering servo broke off. Obviously, I put the servo back in place for the first photo, but this demonstrates just how easily a person can overlook something that simple, especially if you were upset and hurrying to find the cause of the problem.

This brings me to my next point: don't be in a hurry to find the cause of the problem. Haste makes waste, as the saying goes, and there's a lot of truth to that overused phrase. There's a lot you can overlook, and you may look right past the problem.

Sometimes you can easily spot a defect in your vehicle. Other times, you won't be able to see the problem as easily. If you don't immediately see what's wrong, it's time for a little thought.

If the reason for the malfunction is not easily apparent, there are a couple of things you'll need to do. The first thing is to stop and identify the problem. If, say for example, your car's problem is that one of the rear wheels is locked up, but the other one still turns, you

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NEW & HOT CONTINUED FROM PAGE 8

drivers used Novak speed controls...MIP (Moore's Ideal Products) has released a bunch of hop-up parts for Associated's RC10T2 electric truck, including a CVD kit, ball bearing steering, shock shafts, Blue Seals, ball ends and a diff rebuild kit. See your MIP dealer or give MIP a call: (818) 339-9008...Battery alert: NORRCA will mandate 1700 mAH batteries for all classes beginning in January, 1996. Get as much use out of your 1400s as possible now! •

ANSWERMAN CONTINUED FROM PAGE 12

what tools, parts, cars and bodies the racers use. Normal hand tools found around most homes, plus a small selection of other tools are the basic stuff you'll need to work on RC cars. Many kits will include special tools for that unit, so between the shops, tracks and *RC Model Cars* you'll have a good starting point to begin working on your first RC vehicle.

DEAR ANSWERMAN,

I'm considering buying a Kyosho USA-I truck and would want to upgrade it to a virtual "turbo" USA-1, i.e., the fastest, biggest torque-gushing vehicle I can create. The problem with this is the gear-stripping syndrome I might face with using the 0.S. RX-B .21 engine. Is this the engine I would need to achieve my goal (without gear problems)? How fast would the truck be, and would a less powerful engine with a diesel head installed be a better choice? Help!

Adrian Duran
Zapata, Texas

A: Adrian, since the 0.S. RX-B puts out almost twice the brake horsepower as the recommended RF-B rear exhaust engine, you'll have a very quick monster truck! I'd recommend you first purchase a full ball bearing set for your USA-1 to beef up the driveline and then work on the possible gearing from that point on. The Kyosho already has a heavy-duty driveline, but you can also try a Kyosho steel main gear and a 14-tooth clutch bell for quicker speeds. Thorp Racing, 4054 East Mission Blvd., Pomona, California 91766 (909) 622-6518 also makes driveline updates for the USA-1. You may want to also consider strengthening the clutch as well by using a unit from either Duratrax or Kyosho. Stick with the glow-fueled 0.S. engines for now and remember if you do convert to diesel you must use a diesel fuel blended for RC gas car applications.

DEAR ANSWERMAN,

I'm writing in regard to a certain Kyosho monster truck, the "Big Boss." According to my friends, this Kyosho truck is no longer available and I wondered if you could help me locate one. I'm very involved in RC monster trucks, and if you know of anyway I can get one of these Kyosho's please let me know.

Frederick L. Tincher Jr.
Allentown, Pennsylvania

A: Frederick, I'll try two different avenues of help with your problem. First, if any of our readers out there know of a spare Big Boss kit still available anywhere, contact the Answerman through the magazine (Box 2459, Capistrano Beach, California 92624) and we'll let Frederick in on it. On the other hand, you might consider Kyosho's Tracker monster truck kit as a replacement for the Boss. It has many of the same basic features as the Boss, and lists for the same price through Kyosho. Should you want the same kind of static engine and rims as the Boss, a Parma Hemi kit and some HPI chrome monster truck rims would do the trick. Hopefully these two ideas will enable you to fill that void in your monster truck inventory.

DEAR ANSWERMAN,

My local offroad track has a dirt surface that stays wet all day long on most racedays. This makes car cleanup be-

continued on page 29

TROUBLESHOOTING RC GAS CAR ENGINES

Back when this writer first started his apprenticeship as a small engine mechanic, a very important thing happened one day. Following a simple tune-up on a customer's two-cycle lawnmower, I found it wouldn't start. The mower was in good working order, but I couldn't get it to fire. After many pulls on the engine's recoil starter with choke on, choke off, idle throttle and full throttle, nothing was happening. So, after about 50 yanks on the starter rope and with sweat running into my eyeballs, I lost my cool.

My temper tantrum including pitching a screwdriver across the shop and yelling an oath that was pretty salty even for a service department! After witnessing my display the company's resident top mechanic came over and calmly asked me if there was a problem with the lawnmower? "The #&*%@! thing won't start!" I replied, "it *has* to start Rick," he answered, "A man designed this engine to start; and with the proper fuel, air and spark, this lawnmower *will* start. Now let's go through it together and get it right."

On that day, I really began my real understanding of internal combustion engines. The design of powerplants found on any RC gas car are just like those found on lawnmowers, cars, airplanes and anything else that uses an internal combustion engine.

This how-to feature will breakdown, into the simplest terms, the ways to troubleshoot your RC vehicle's non-starting gas engine quickly and with the least amount of nerve damage.

ENGINE-STARTING BASICS 101

Any RC gas car engine, from 1/12 scale up to 1/4-scale, is basically a pump. It pumps in outside air and fuel, compresses it, an ignition spark converts the mixture into usable power, and the remains of the process are pumped out of the engine as exhaust. So, if your RC car's engine receives the proper amounts of compression, air, spark, and fuel, it has to run. So let's discuss each of the necessary components to start your car's engine.

Engine compression requires more of your attention than many folks really know. Besides acting as a source of potential engine power output, proper compression or the lack of it can make your engine very difficult to crank. Compression pumps (there's that word again) air to your carb which in turn enables it to draw air and fuel into the powerplant's combustion chamber. A slight loss of compression, say 15%, can make your engine hard to start. Plus, if your other needed components are off tune even just a bit, you're in for a lot of cranking grief.

To create a proper mix of fuel and air for your car's powerplant, your engine has to draw outside air into the venturi of the carb. This means clean air minus any dirt, gunk, or track debris mixed in with it.

So a properly maintained air cleaner and intake must be in place for your engine to fire up. Engine air must also be relatively cool to prevent the possibility of vapor-lock which can occur on hot restarts and in turn means a non-starting powerplant.

Spark, and/or proper ignition timing creates the timed explosion once the air and fuel is compressed between the upper cylinder area and the top of the piston. A cruddy spark plug tip, an improper air gap, a burned-up glow plug, or a weak spark will prevent a proper explosion inside your engine and it won't start. And don't be fooled into believing a plug that fires outside the cylinder will always produce spark once it's under compression and covered with fuel mixture inside the combustion area.

Fuel is just that—it provides the needed energy source for your engine to convert combustion into power. Gas/glow that has gone stale and lost its volatility via contact with air will not ignite properly inside your engine nor will fuel that's been contaminated with water or debris from many trips to the local racetrack or parking lot. Properly stored fuel is always mandatory for easy starting on any RC vehicle's powerplant.

COMBINING THE NEEDED ELEMENTS FOR STARTING

Okay, let's now look at potential areas you should

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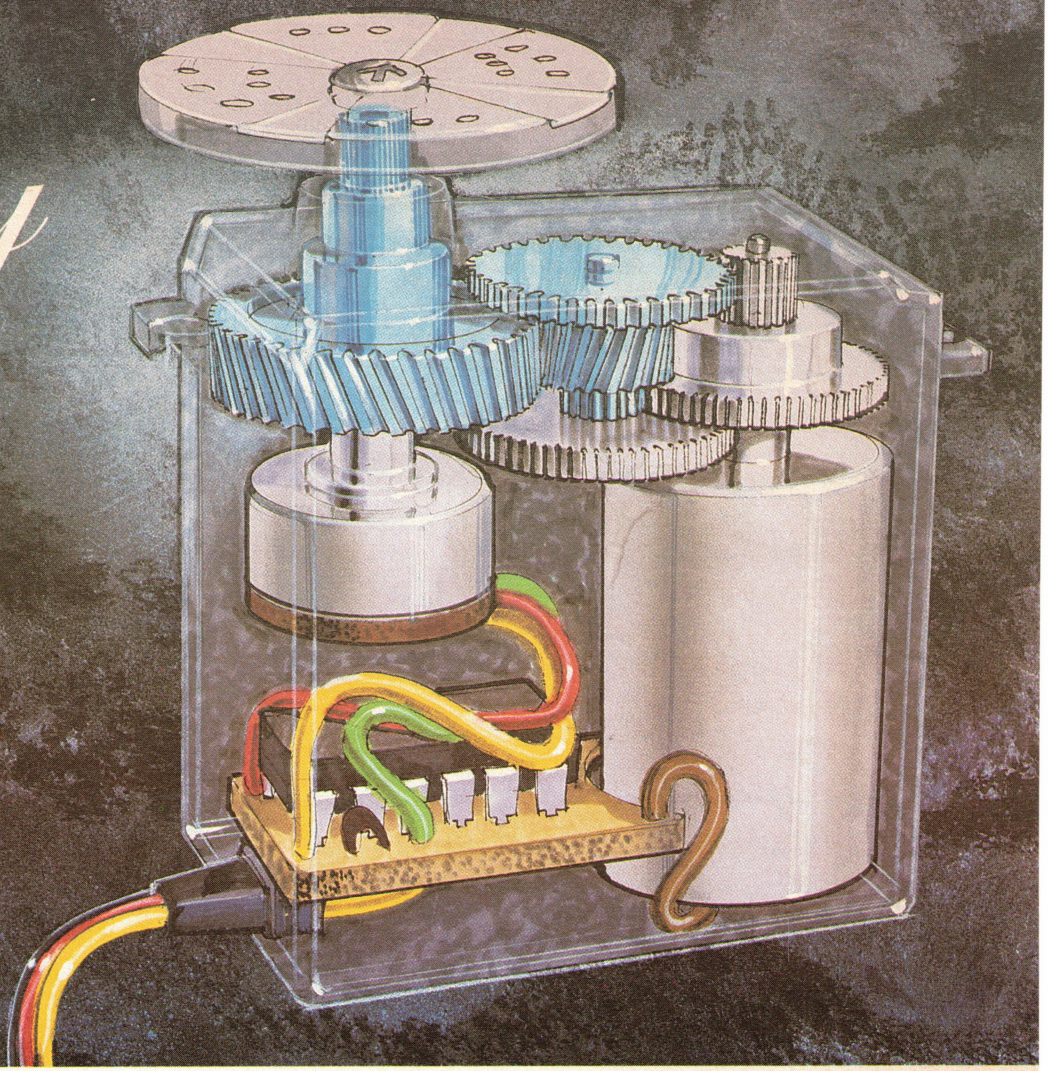
BY RICK EYRICH

Beauty in the Beast



Let's face it. Servos are not exactly eye-catching beauties. They are used and abused with scarcely a second thought. Nothing more than a beast of burden.

But when you realize that a servo is the last link between you and your model, beauty takes on a whole new meaning. That's why every Hitec servo comes with our own custom-designed I.C. to provide strong standing torque, a very narrow dead band and improved stability under low voltage conditions. Precise, heavy duty gears are used throughout the gear train to improve the neutral position with minimal backlash. When you combine all this with the latest in SMT circuitry, you have a servo that won't cut out on you when the going gets a little rough.

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HITEC #	DESCRIPTION	TORQUE@ 4.8 volts	SPEED@ 4.8 volts	BEARING	SIZE LxWxH	WEIGHT	AVAILABLE PACKS
HS-80 HS-80MG	Sub micro Metal gear	31 oz/in 31 oz/in	.15 sec .15 sec	NONE	1.1x0.6x1.1	.62 oz .76oz	RCD924 3 servos
HS-101 HS-101MG*	Mini servo Metal gear	24 oz/in 24 oz/in	.20 sec .20 sec	NONE	1.3x0.6x1.2	.93 oz 1.07 oz	RCD920 3 servos
HS-205BB HS-205MG	Super mini Metal gear	44 oz/in 44 oz/in	.20 sec .20 sec	TOP BALL BEARING	1.3x0.6x1.3	1.1 oz 1.3 oz	none
HS-300	Std. Sport	42 oz/in	.19 sec	TOP NYLON	1.6x0.8x1.4	1.57 oz	RCD905 4 servos
HS-422 HS-425BB*	Std. Pro Ball Bearing	43 oz/in 43 oz/in	.20 sec .20 sec	DUAL OILITE DUAL BB	1.6x0.8x1.4	1.55 oz	RCD910 4 servos
HS-605BB HS-605MG	Ultra Torque Metal gear	77 oz/in 77 oz/in	.16 sec .16 sec	DUAL BALL BEARING	1.6x0.8x1.5	1.73 oz 2.12 oz	RCD605 3 servos
HS-615MG	Super Torque Metal gear	107 oz/in	.21 sec	DUAL BALL BEARING	1.6x0.8x1.5	2.12 oz	none
HS-700BB HS-705MG	Giant scale Metal gear	133 oz/in 161 oz/in	.22 sec .27 sec	TOP BALL BEARING	2.3x1.1x2.0	3.5 oz 4.0 oz	RCD915 3+1 servos
HS-75BB	Retract servo	90 oz/in	.50 sec	TOP BB	1.7x0.9x1.0	1.3 oz	none
HS-725BB	Sail Winch 4 Turns	161 oz/in	1.62 sec 360 deg	TOP BALL BEARING	2.3x1.1x2.0	3.8 oz	none

*Denotes servo only available with Hitec/JR connector. All other servos available with FUT "J", AIRT and Hitec/JR connectors. Please specify connector type when ordering. All servo packs come with switch harness.

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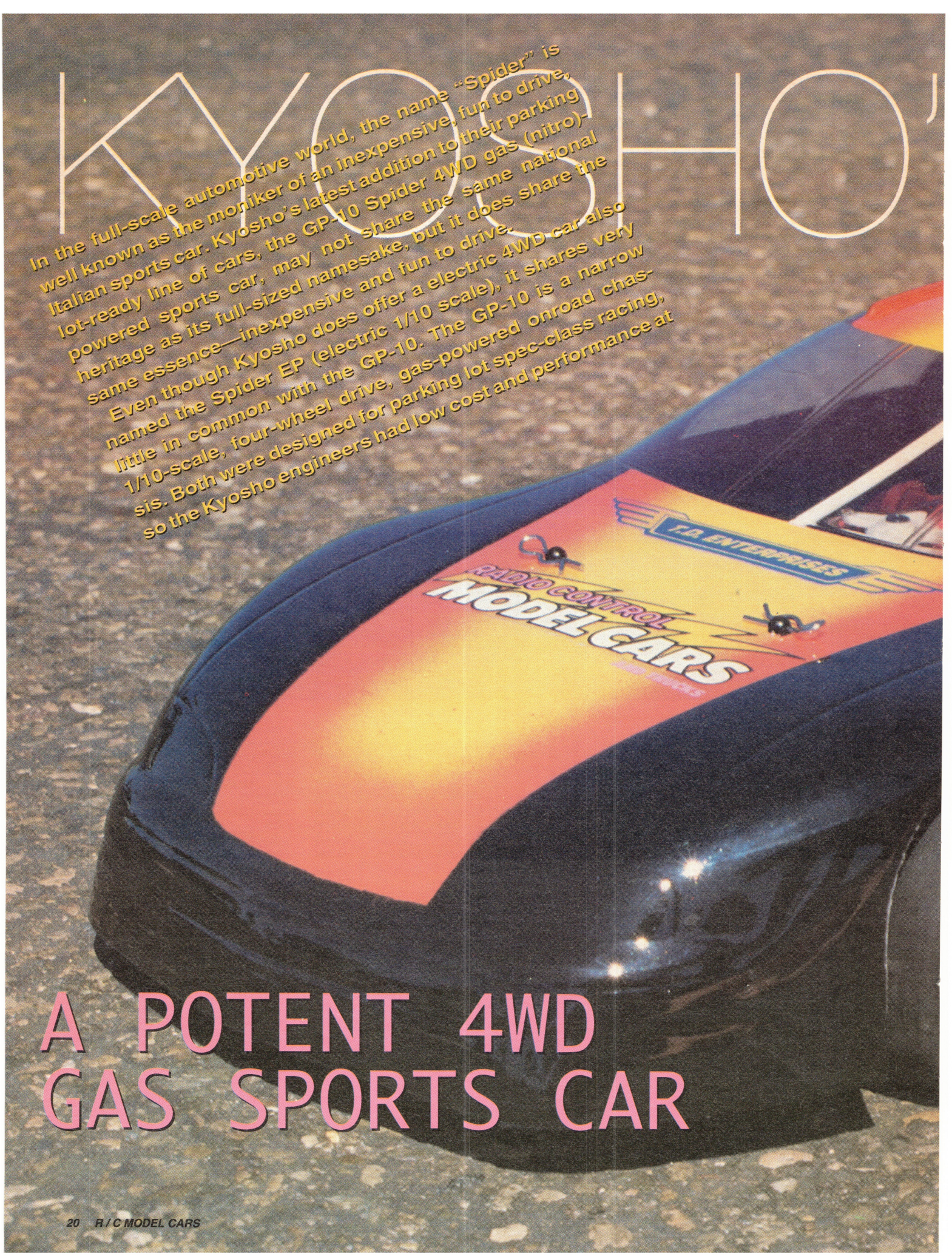
KYOSHO'S

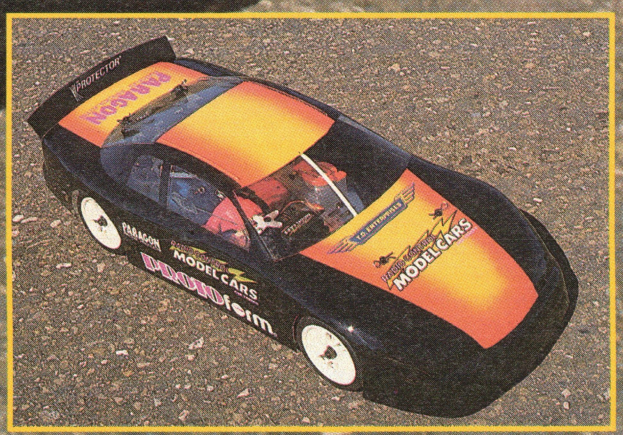
In the full-scale automotive world, the name "Spider" is well known as the moniker of an inexpensive, fun to drive, Italian sports car. Kyosho's latest addition to their parking lot-ready line of cars, the GP-10 Spider 4WD gas (nitro)-powered sports car, may not share the same national heritage as its full-sized namesake, but it does share the same essence—inexpensive and fun to drive. Even though Kyosho does offer a electric 4WD car also named the Spider EP (electric 1/10 scale), it shares very little in common with the GP-10. The GP-10 is a narrow 1/10-scale, four-wheel drive, gas-powered onroad chassis. Both were designed for parking lot spec-class racing, so the Kyosho engineers had low cost and performance at

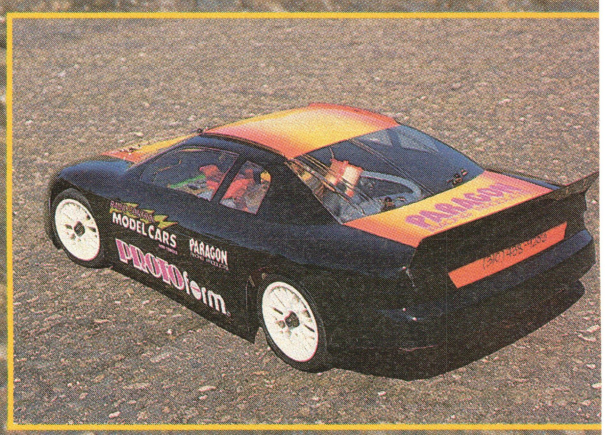


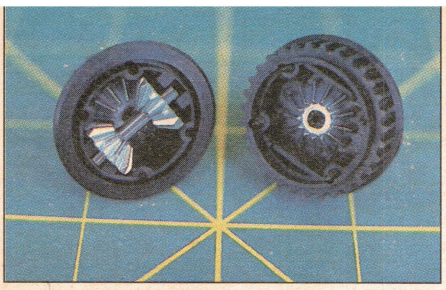
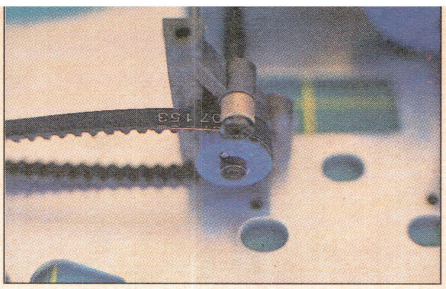
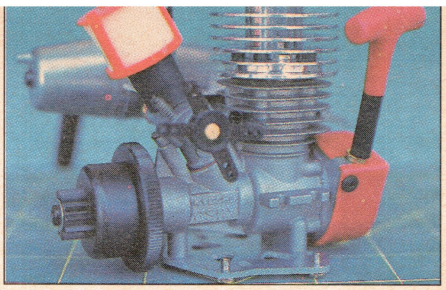
A POTENT 4WD GAS SPORTS CAR

S GP-10 SPIDER

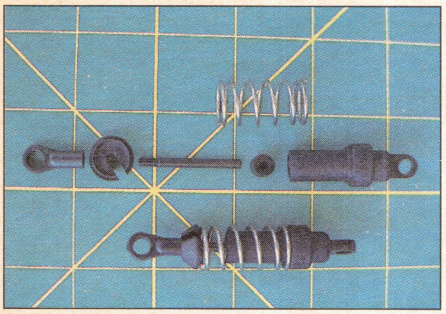
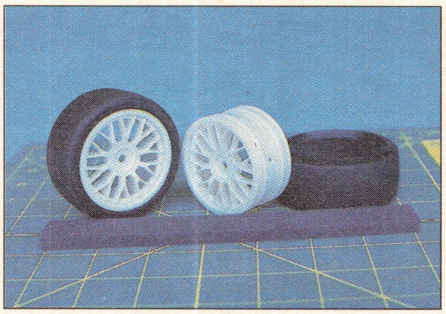
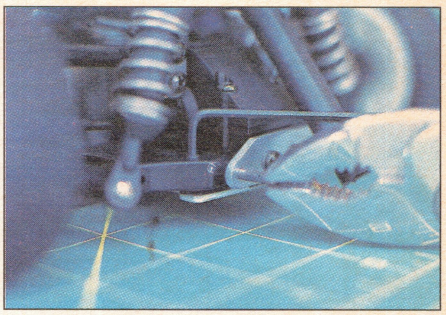
BY BEN CHIU



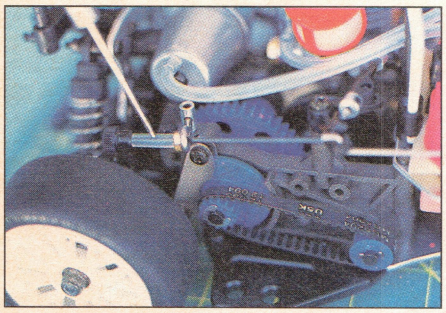
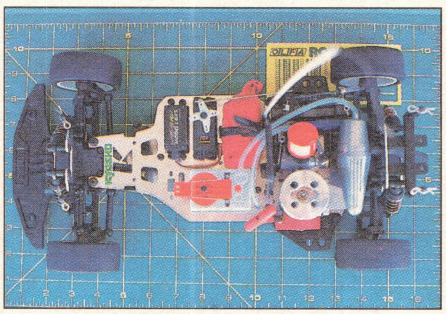
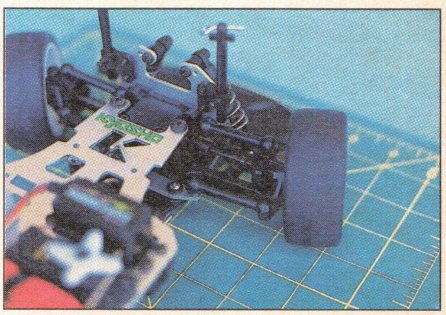


■ LEFT: Identical gear diffs are found in the front and rear gearboxes of the Spider. The castings are top notch. ■ CENTER: Brass spacers are the only things keeping the center and rear belts in line. An optional center belt tensioner is available from Kyosho, but not required. ■ RIGHT: The GS-11X fits the GP-10 Spider like a glove and the oversized heatsink head does a good job of keeping things cool. Just remember to add ventilation holes in the body. An interesting note about the GS-11X is that there is no mixture screw. There is only a needle valve and a idle adjustment screw.

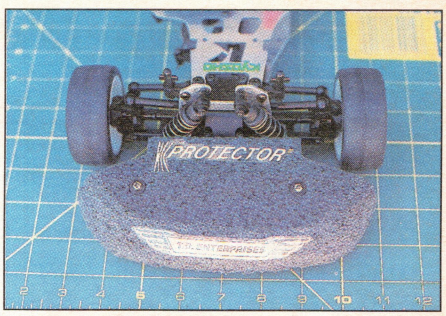




■ LEFT: Friction shocks are included with the GP-10. They look just like standard plastic-bodied oil shocks, but there are no pistons or oil seals. Chances are you probably won't notice the difference. ■ CENTER: Rubber slicks with foam inserts mount on the one-piece, molded wheels. They grip and wear well. ■ RIGHT: Set screws adjust ride height while simple friction-mounted hinge pins keep the suspension arms in place. Note the metal plates that give the mounts extra strength.

■ LEFT: I added a half-inch piece of silicone tubing to take up the slack in the brake arm. The long-wearing plastic disc brake is just below. The drive belt connected to it may seem a little loose, but it never once came off during test runs. Watch out for small rocks or debris getting caught in this and other belts. See text. ■ CENTER: The aluminum radio plate doubles as an upper chassis stiffener. It comes off by removing just six screws. ■ RIGHT: Fixed-length tie and camber rods are used in the kit. Adjustable versions are available as options.





■ LEFT: Paragon Ultralon was used on all metal-to-plastic contacts. While the GP-10's steering was very smooth, some of the credit must be attributed to Ultralon. ■ CENTER: All metal-to-metal contact points were lubed with Aero-Car Super Speed Gear Differential grease—some of the best stuff out there. ■ RIGHT: As with all my onroad cars, a Protector bumper from T.D. Enterprises was retrofitted to the GP-10. Simply stated, it's inexpensive and it works! Kyosho offers a similar product for the GP-10 as an option.

the top of their design goals list.

THE KIT

The GP-10 Spider is a chassis and engine combo that contains a Kyosho GS-11X glow engine. A Protoform (you read that correctly) '95 Winston Cup Monte Carlo (narrow, regular weight version) covers the Spider chassis. Other versions of the GP-10 (actually named the GP-10S) are available with either a Sard Supra, or Opel bodies. The chassis of the GP-10 is a flat aluminum plate that doubles as a heat sink for the engine and uses a removable aluminum radio plate as a stiffener. Bushings are found in all of the high stress areas of the drivetrain and wheel axles. A full set of ball bearings can be purchased separately.

FEATURES

The most obvious feature of the Spider is that it is a belt-driven 4WD design. Closer inspection reveals the simplicity of the design. Belt-driven 4WD cars are notorious for being complex and hard to work on. Well, this isn't so with the GP-10—there just aren't that many parts involved here. Simplicity in design means greater efficiency and reliability. Best of all, it means fast and easy assembly. I completed the GP-10 in two evenings!

continued on page 48

NO WAY.



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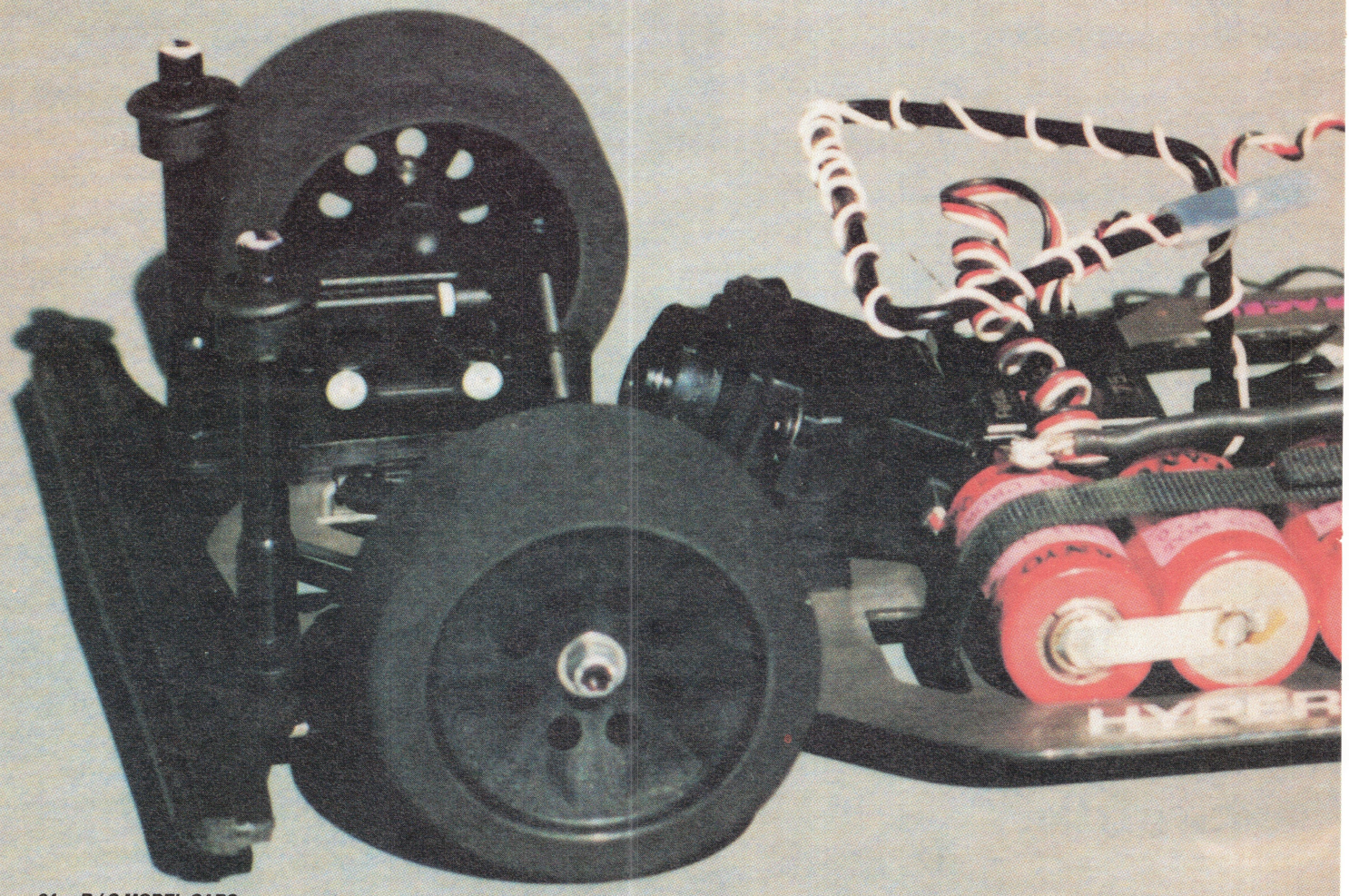
REVIEW

HYPERDRIVE 5TX

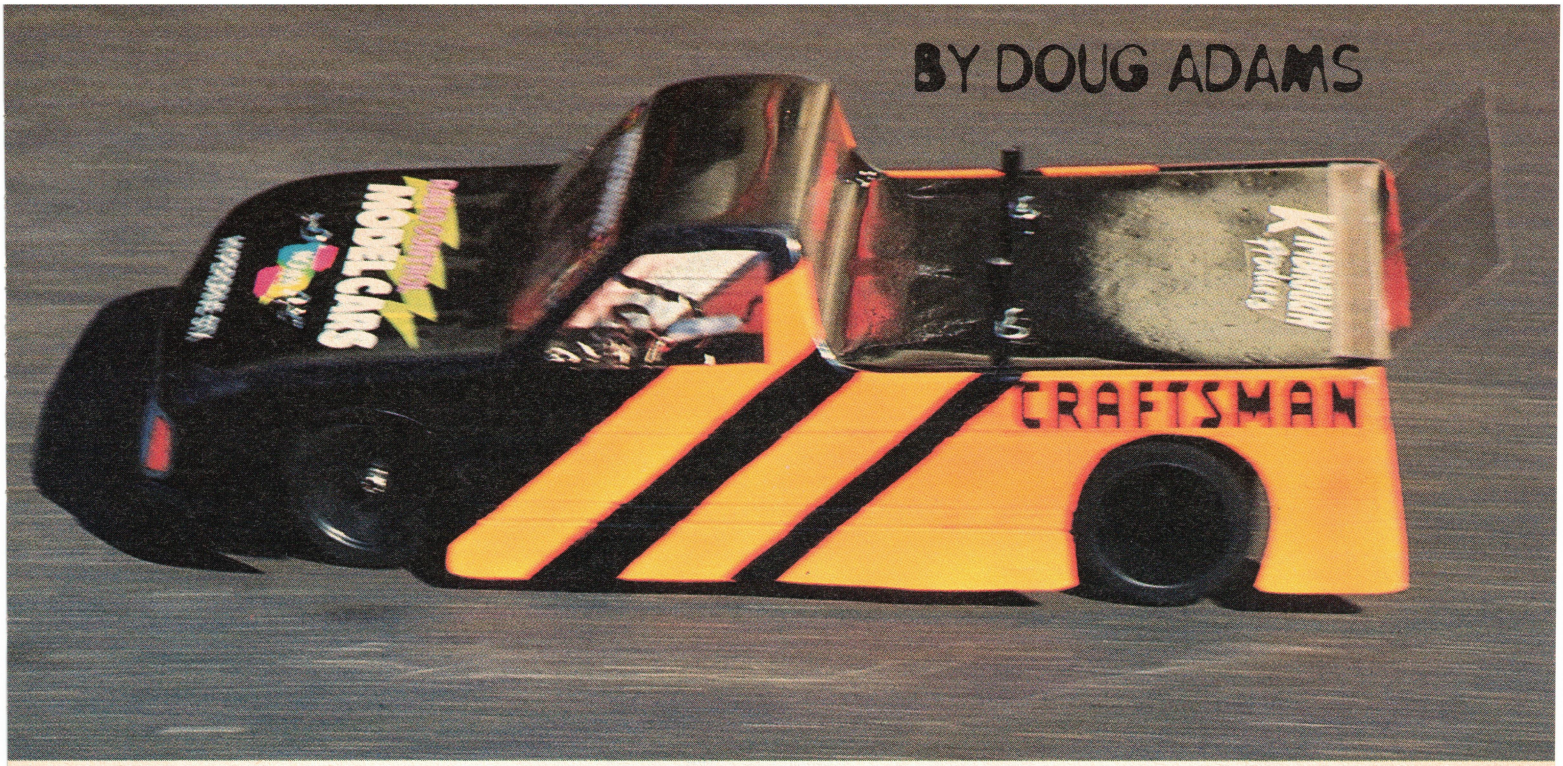
Recently, in preparation for the NORRCA Oval Series race five, we spent a day testing at Racers' Haven in Bakersfield, California. Going into the weekend, our editor was deeply entrenched in a points battle for the stock Nastruck championship. He was a solid third, only two points behind second and 11 points out of first.

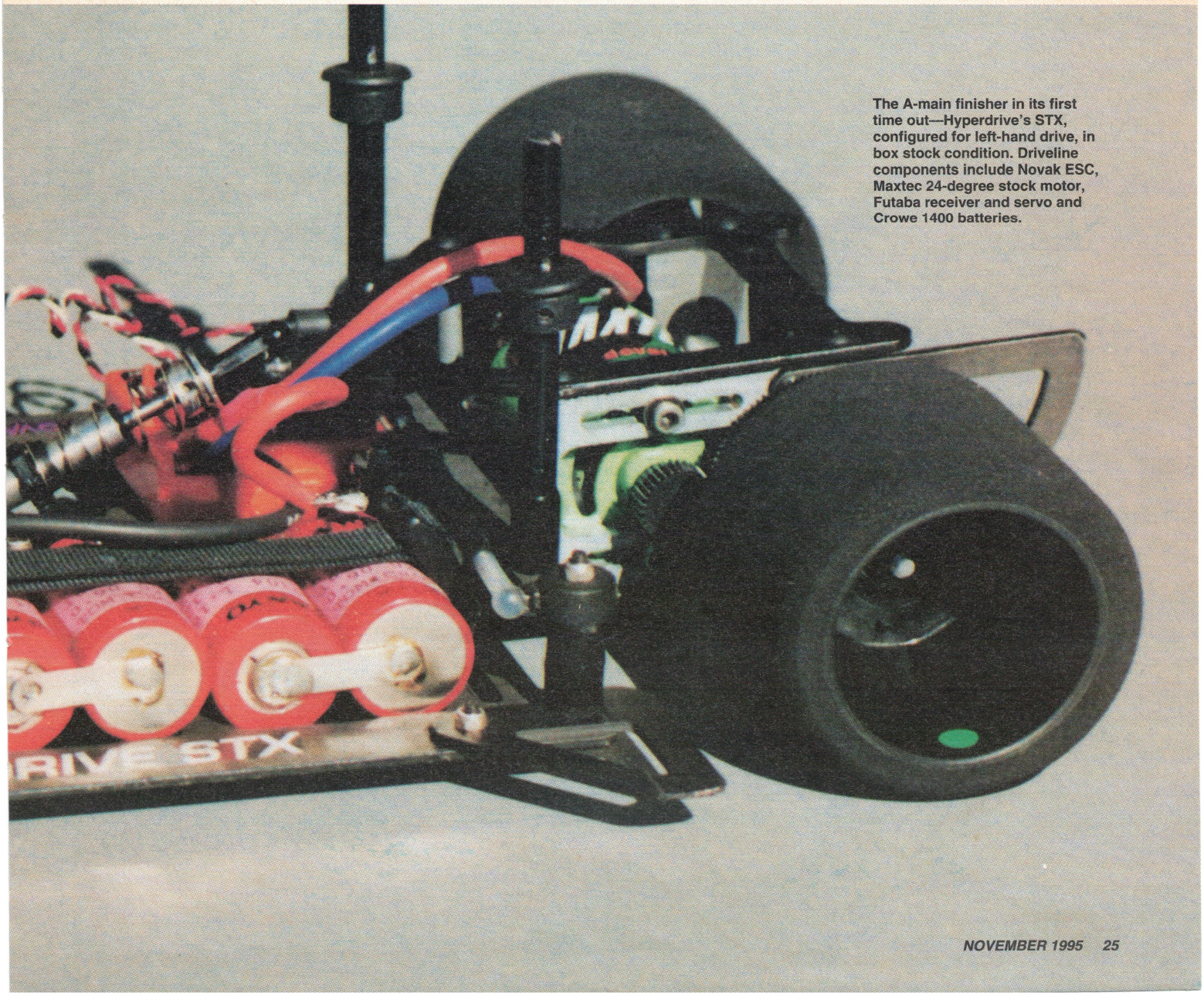
This race day was to be the pivotal moment in the championship quest. Our last trip to Bakersfield, back in March consumed our one and only throw-out race. If he wanted a shot at the top, we would have to return and face the competition and the fierce Bakersfield heat in the middle of the summer. To top it off we had left our old

RACING AHEAD, THE FIRST TIME OUT

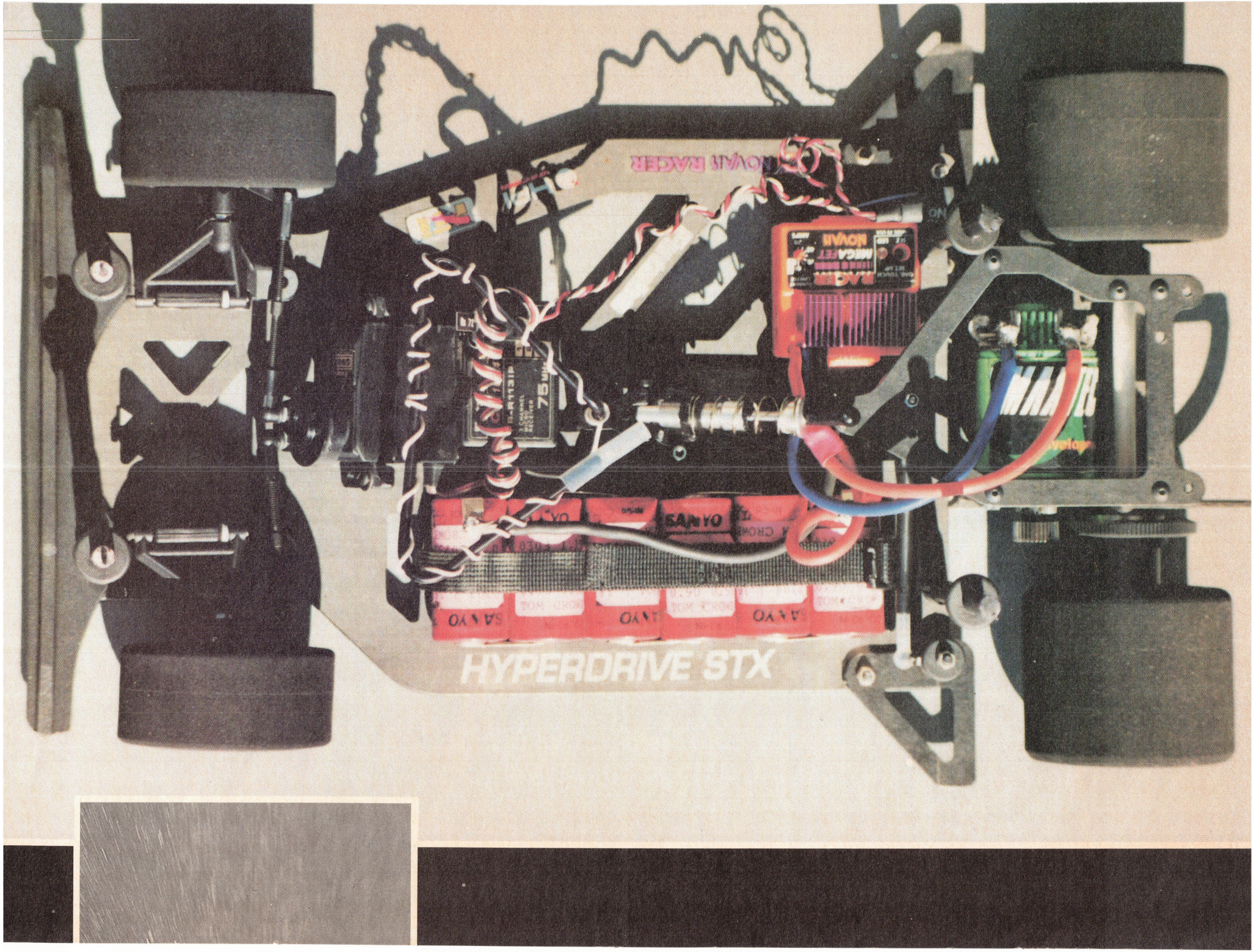


BY DOUG ADAMS





The A-main finisher in its first time out—Hyperdrive's STX, configured for left-hand drive, in box stock condition. Driveline components include Novak ESC, Maxtec 24-degree stock motor, Futaba receiver and servo and Crowe 1400 batteries.


NOVAK RACER
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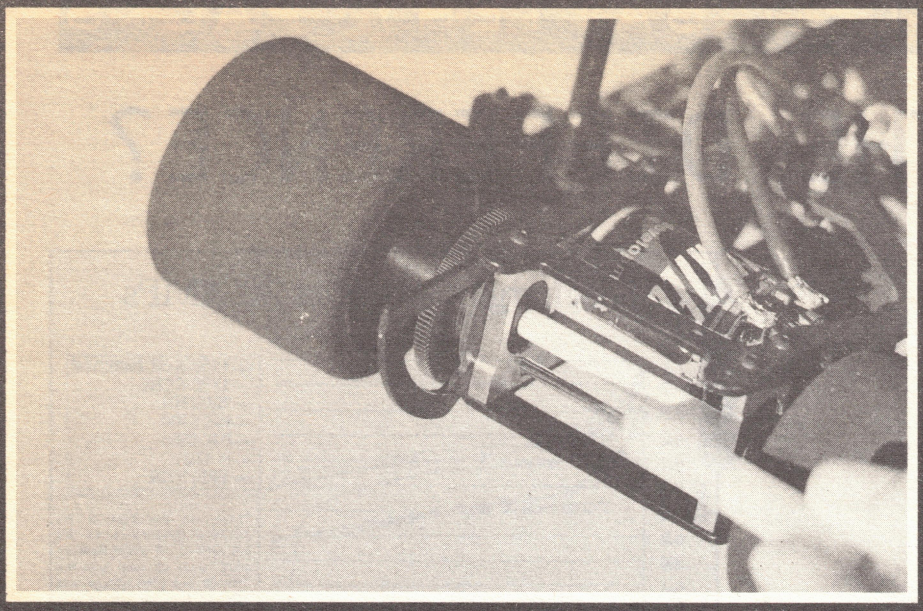
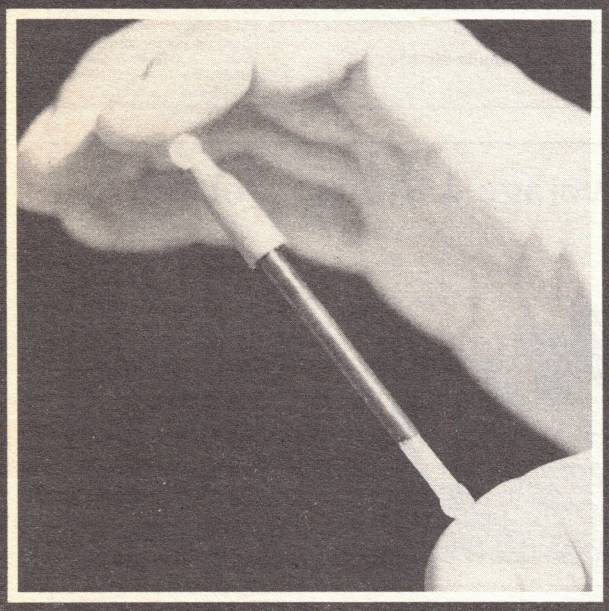
HYPERDRIVE STX





■ ABOVE: Precision-machined parts allow the rear pod to be set up for left or right drive. Notice the spur gear protector, another innovative feature of the STX chassis. ■ LEFT: The STX uses a silicone dampener to absorb side-to-side suspension travel. Because the silicone attracts debris, we made a boot out of shrinkwrap to help keep the dirt out.



The Hyperdrive STX with Dahm's Tornado II body was an A-main top five finisher in its combination track test and race debut in NORRCA's Oval Series.

reliable chassis (Associated's 10LSO) at home in favor of the unknown STX—the result of an unguarded moment's decision to race the chassis and do a track test at the same time.

INSIDE THE STX

We found the STX to be a bit different, in that it wasn't a 10L-upgrade kit. Sure, you'll find several Associated parts in the box but, distinct differences in the rear pod and suspension set the STX apart from other 1/10-scale left-turn-only cars.

The chassis plate of the STX is made of .090-thick and lightweight graphite. Even with the large battery openings and lightening holes, the chassis retains its rigidity. The rear of the chassis is supported by a graphite brace that also serves as the mounting point for the rear body mounts as well as one end of the silicone dampener. A standard Associated T-plate secures the rear pod to the chassis.

The nice thing about the STX's rear pod is that it is reversible, to accommodate either left- or right-hand drive motors, which fit our plan to run a left-hand drive at Bakersfield. The pod itself consists of five pieces, the upper and lower plates, left and right bulkheads and a standoff spacer. The direction of drive depends on how you assemble the five parts. It's very simple to switch; perhaps the hardest part of the operation is flipping the pivot balls in the T-plate.

THE REAR POD

Because of the way the pod is offset, the axle and hubs can also be used on either side, although, you still have to shim the axle in order to equalize the final spacing. The axle is made of fiberglass and has a nicely flared, instead of flat, diff side bearing contact. The hubs are made of Delrin and are very light despite their bulky size. Power gets transferred to the wheels through a 100-tooth, 64-pitch spur gear that is

continued on page 66

WHAT'S THE DIFFERENCE?



Many of us are in this hobby strictly for the fun of it, and pre-assembled battery packs are good enough for us. Although we may not be assembling our own packs with matched team cells that cost up to $70 per pack, we still like to go fast and be competitive in our backyard racetracks and, more importantly, get the best value for our money.

Given the array of pre-assembled packs available to us, the decision of which one to choose can be confusing, especially if you don't know what you'll be doing with it. Most pre-assembled packs offer somewhat of a sacrifice of either voltage or runtime, and some give you a little bit of both.

TO THE TEST

I tested some of the most commonly available pre-assembled packs, including 1200s from Radio Shack, Sanyo KR1300s, Duratrax 1400 SCRs, Sanyo KN1500s from Duratrax Sport Packs, 1700 SCRC Sanyo Black cells and Panasonic P-170s.

Just for the sake of comparison, I had some Sanyo 1400 SCR red cells (matched) that I also tested for comparison. I used multiple batteries of the same type and averaged the results in order to get the most accurate sampling possible and listed the number of batteries available for the individual test. I also contacted Sanyo and Panasonic to get recommendations for their respective batteries and how they should be treated. I spoke with an technical engineer at Sanyo who provided some very interesting information about their products and a spoke with a Customer Repre-

continued on page 49

FIGURE 1

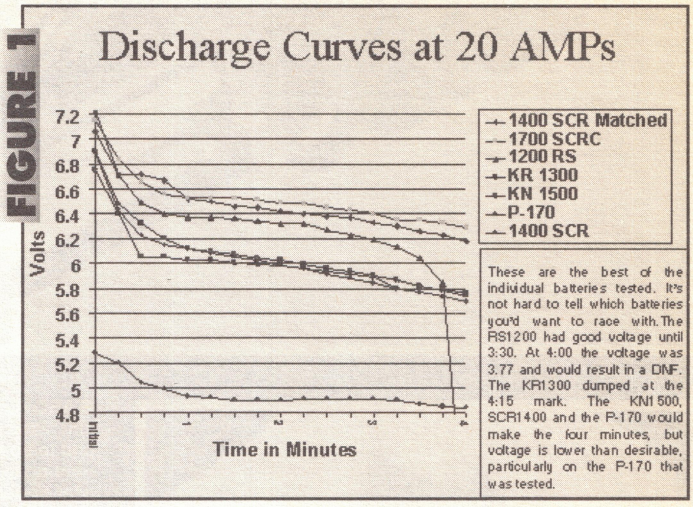


FIGURE 2

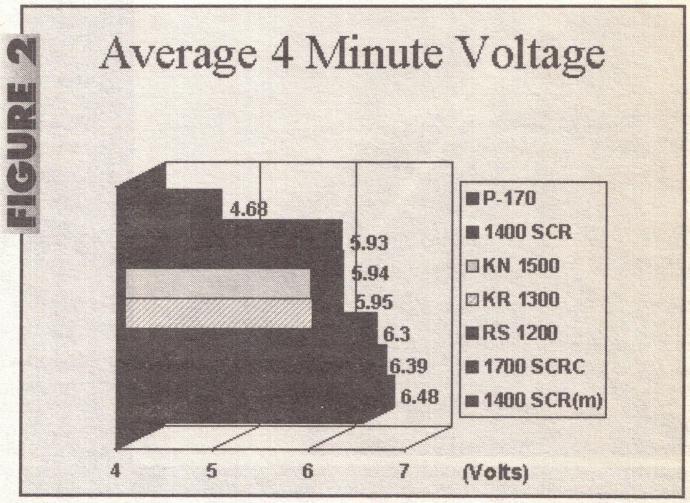
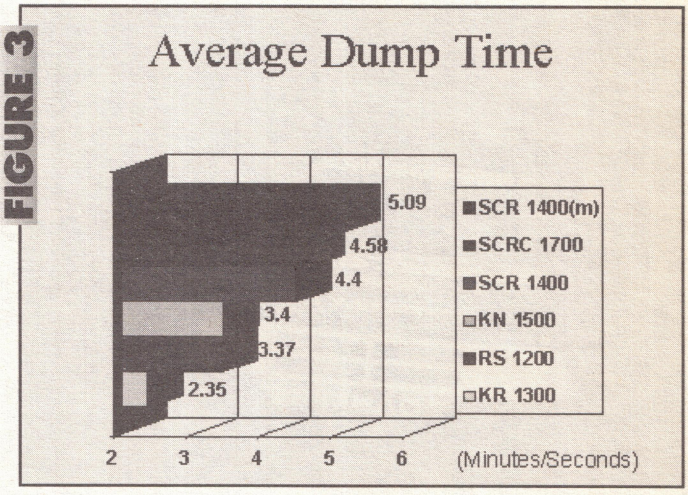


FIGURE 3



BY MATTHEW VERROCHI

ANSWERMAN CONTINUED FROM PAGE 17

tween races tough; but the worst part is cleaning the tires! The muddy clay gets stuck tight on the tires and sometimes I lose traction during a race from it. Is there an easy way to both clean tires and keep dried dirt from sticking to my car's tires?

Terry Ramsey
San Diego, California

A: Terry, tire-cleaning is a messy job no matter what method you tend to use! Some folks use running water to clean their tires while others go with a bucket full of water to remove mud from tires. You could also consider picking up a stiff whitewall brush which can aid in getting the heavier crud off your pin spikes. As for keeping the dirt and mud off the skins during a race, try spraying them with Son-of-a-Gun protectant prior to running. The Son-of-a-Gun will make the tire surfaces slippery, thus keeping a majority of the mud from building on the tires. Just don't go overboard with the protectant, you only need a light coating on each tire. Beyond that, you'll just have to keep scrubbing tires, or trick someone into doing it on racedays! Thanks for writing the Answerman!

DEAR ANSWERMAN,

I have a four-year-old Associated RC-10 buggy. I've really enjoyed this offroad RC car and have a question about the car's shocks. I think I need to change the shock oil again, but I've used up all the oil that came in the kit. My problem is that there aren't any hobby shops in my area that carry RC car stuff; so, there's no place I can get shock oil. Can I use regular motor oil in the RC-10, or do you know of any other lube I can put in the shocks? Help!

Travis Quentin
Ferguson, Kentucky

A: Travis, under no circumstances use regular motor oil in your RC-10 shocks! Motor oil will foam up and break down quickly leaving you with a badly handling buggy. Since you have no local outlet for RC car shock oil, you can try these two alternatives: first, you can order suitable shock oil from Associated, Losi or Tower Hobbies. Second, if you want a local source of shock oil, try a motorcycle shop. Most shops will stock motorcycle shock/fork oil in weights from 5-60, almost like RC car shock oils. Try a 20 or 30 weight (Belray if possible) in your RC10; this type of oil should work relatively well in your Associated buggy.

DEAR ANSWERMAN,

In your August, 1995 issue, there was an article on hopping up an Associated RC12L onroad car into an oval racer, written by Jeff Bates. I was wondering if any of the parts and modifications Jeff did to the HPI project car would also be used on a road course RC12L? I race on a local

continued on page 45

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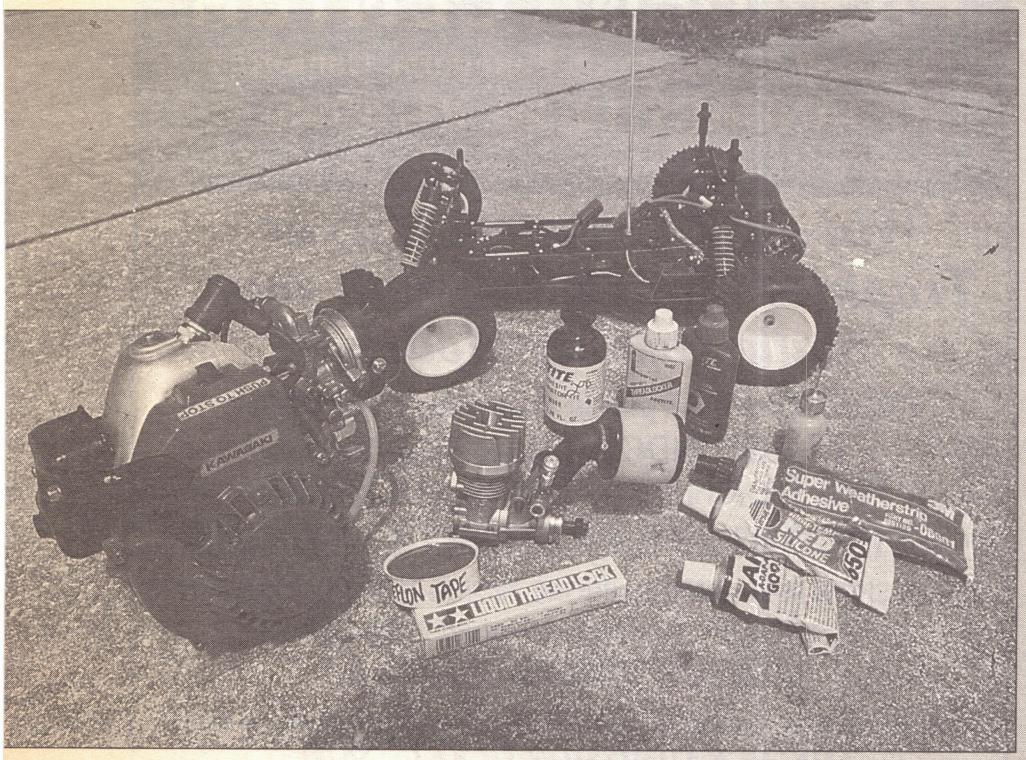

No matter what scale or type of RC vehicle you own, there are certain ways of retaining fasteners on each and every style of car. Besides the regular and high-strength thread-locking agents from companies like Loctite, Devcon and Pacer, you also have the option of using silicone sealers, Goop and other systems like those shown in the photograph.

BY RICK EYRICH

It's no secret that parts fall off of RC cars during competition or just plain fun running. Without fail, nuts, bolts, clips and screws can always be found lying along side most RC car tracks anywhere on the planet. So, this article will relate to all how to keep any kind of RC vehicle's fastener or retainer in place through the wonderful world of chemicals. Plus, we'll show you some additional ways to hold pieces without the use of thread-locking compounds as well.

LOCTITE AND RELATED PRODUCTS

By far, the most commonly found thread-locker around is Loctite's #242 liquid that's blue in color. It works great on metal-like chassis plates, motor mounts, or anywhere you have a screw mounted in a threaded metal hole. #242 Loctite also allows you to remove fasteners without any major hassles; so, keep that in mind when using it in tight places. Besides the Loctite brand, there are several other similar types of this compound sold through Pacer, Devcon and others. Under most circumstances these brands of thread lock will suffice for most RC car applications.

The next step up the strength level would be the Loctite #272 thread compound which is usually red in color. This locking agent is designed mainly for securing parts like studs and bearings permanently.

This type of Loctite would be a good consideration for those RC car fasteners that are tougher to keep in place, such as high-vibration motor clamps and mounts and exhaust flange screws. #272 Loctited screws can be tougher to remove as well; but it can be done with careful hands and proper tools. Loctite also manufacturers a #RC609 bearing compound which is strictly for retaining ball bearings into their mounting locations.

Another and often overlooked thread-locking agent comes from the RC giant, Tamiya. Their thread locker is also blue in color and is much thicker than most fastener locks. This type of retaining liquid can melt certain types of plastics as can the above mentioned agents as well. Before using any thread-locker around plastics, test the compound on the plastic beforehand to check for damage. Pacer Zaplock is plastic safe; so this type would be good for retaining metal screws in plastic pieces like chassis braces, A-arms and bumpers. Another good use for the Tamiya brand of locker is for retaining small E-clips and other snap fasteners.

Dabbing a tiny amount of the thick Tamiya locking agent on A-arm and kingpin pin clips, C-clips on bearing

continued on page 61

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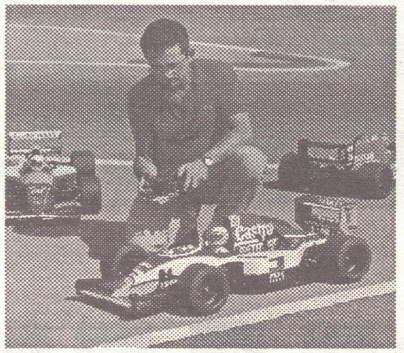

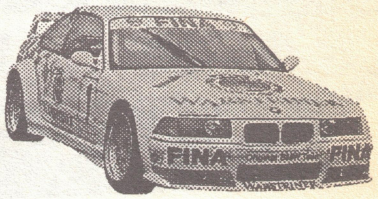

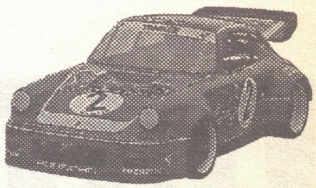

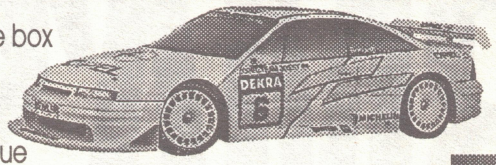





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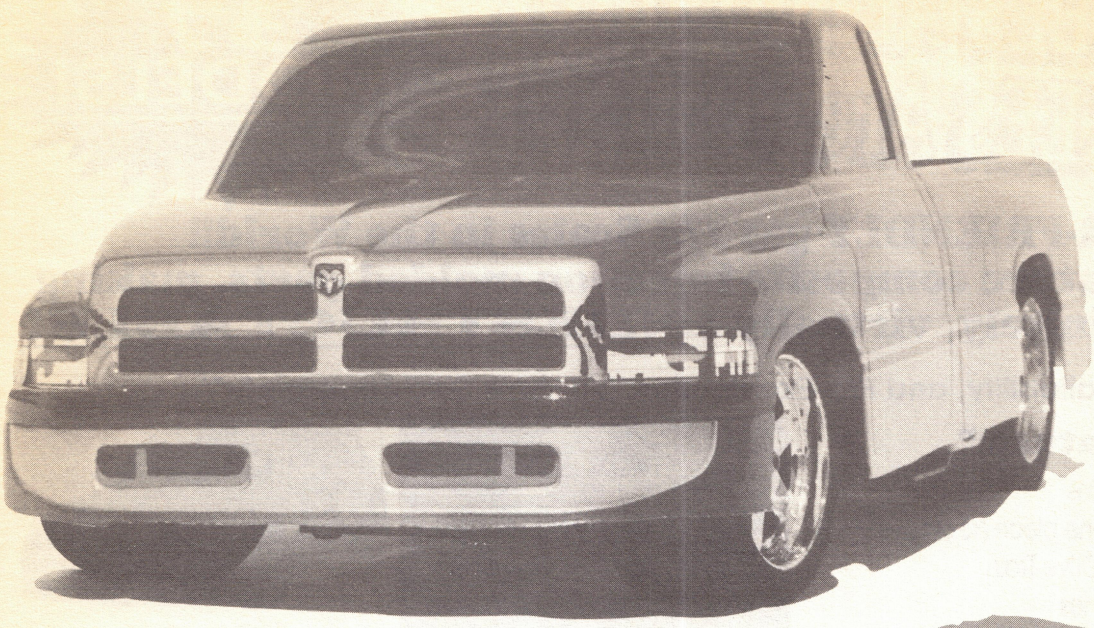
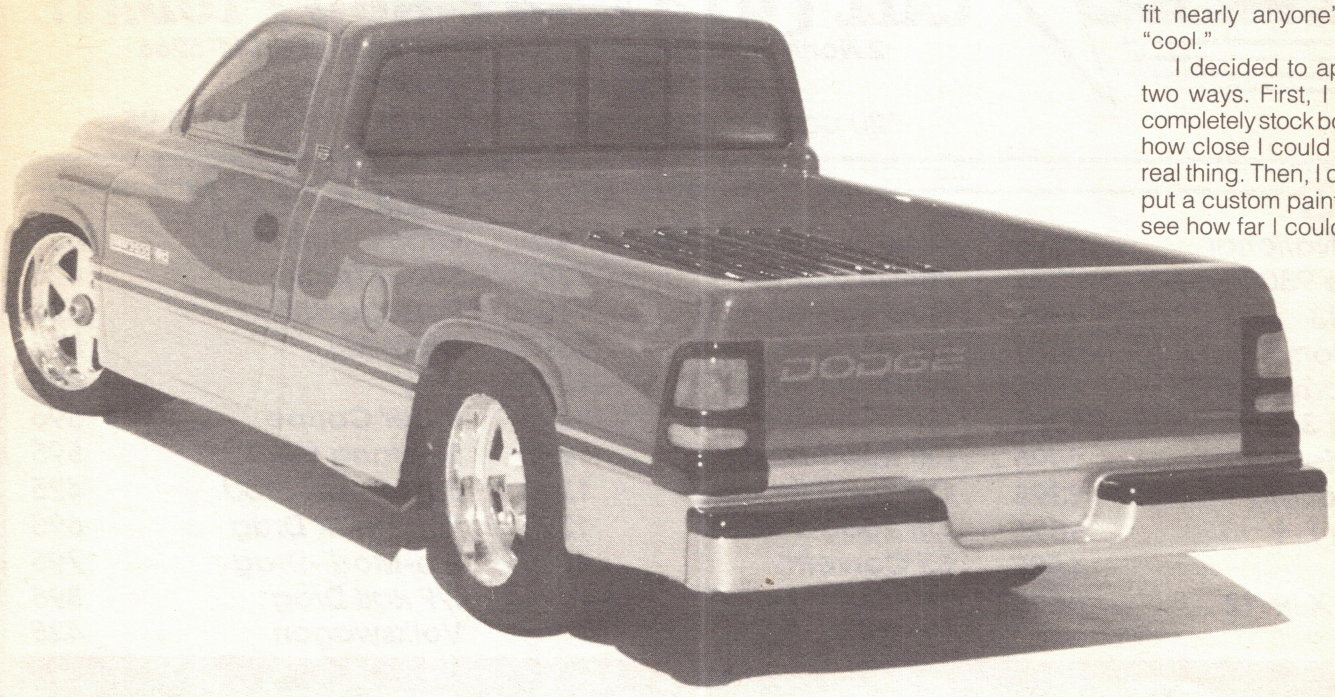


Parma has released another kit to spark the imagination of RC model enthusiasts everywhere: the new Dodge Ram truck. The Dodge Ram comes fairly complete, minus speed control, motor, radio and batteries.

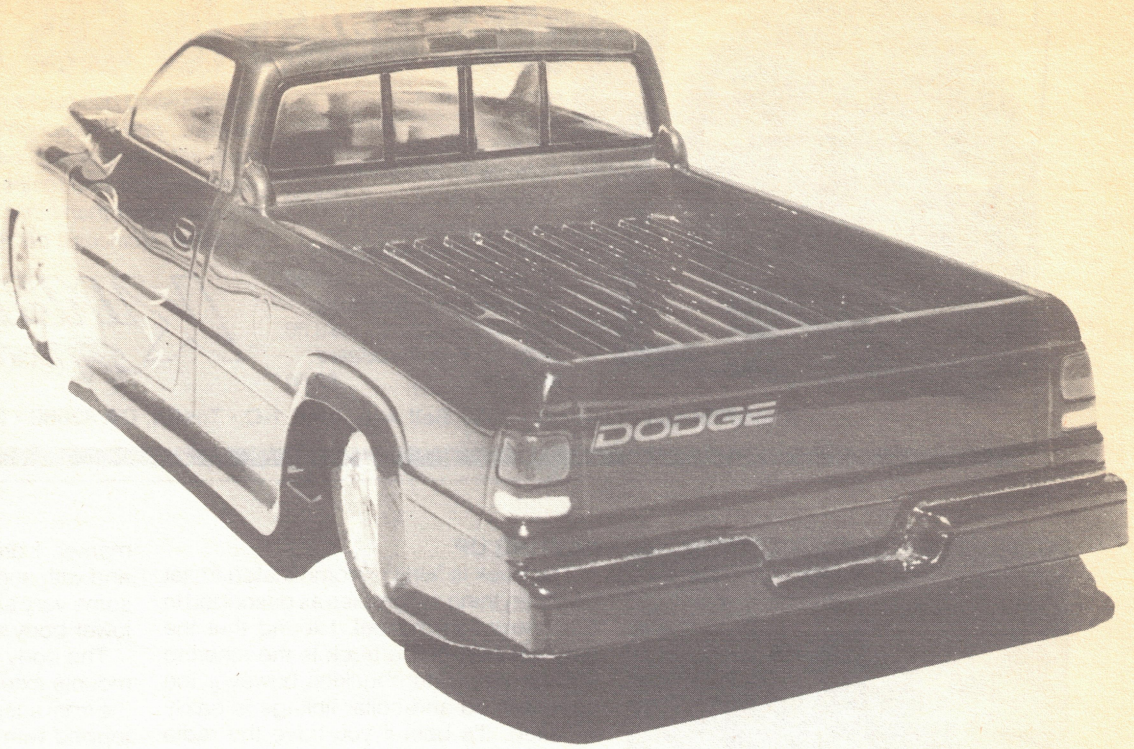
I'm a big fan of detailed kits that allow several different options of construction. Parma's Dodge comes with decals representing nearly every level of the real truck available. For instance, the decals include a badge for a V6, V8, V10 and Cummins Turbo Diesel engine options. The body has a detailed sliding rear window, grille, headlights, door handles, etc.

PARMA'S DODGE



With a little imagination, the truck can be customized to fit nearly anyone's idea of "cool."

I decided to approach it two ways. First, I wanted a completely stock body, to see how close I could get to the real thing. Then, I decided to put a custom paint job on to see how far I could go.



E RAM TRUCK

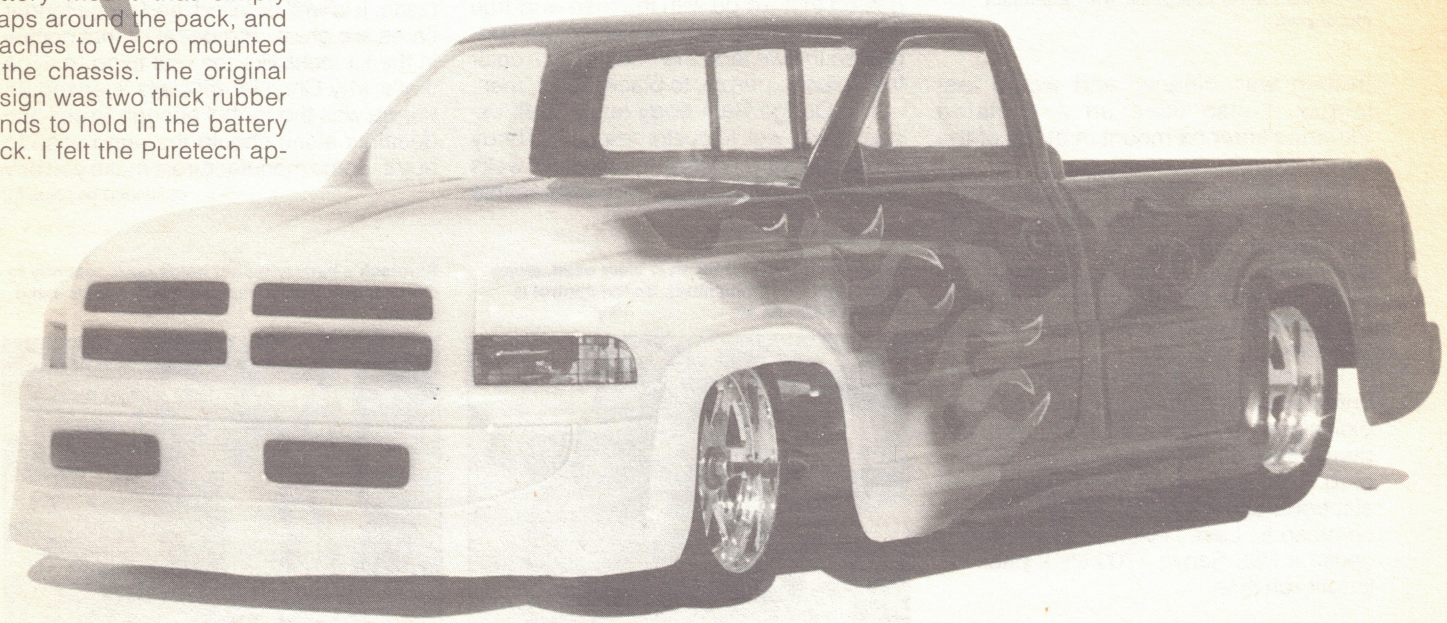
BY ROB TUCK

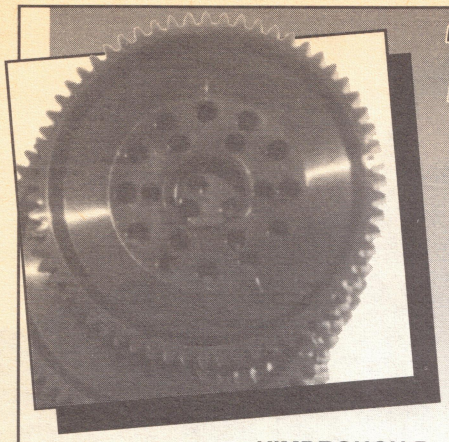
ASSEMBLY

The kit is basically constructed of a single length of fiberglass. The rear pod is made from aluminum, and there are several hard-plastic components. The rear axle is bushing-mounted, as are the front wheels. A ball differential is attached to the right rear wheel, and adjustments are made via the nut in the center of the wheel.

Assembly of the kit is fairly straightforward, the instruction manual is sometimes vague, but overall, some close attention to detail will help you along. It took me about an hour to assemble the kit minus the electronics.

Overall the kit had everything it needed, but I decided to make a good thing better. Puretech Racing makes a battery mount that simply wraps around the pack, and attaches to Velcro mounted to the chassis. The original design was two thick rubber bands to hold in the battery pack. I felt the Puretech ap-





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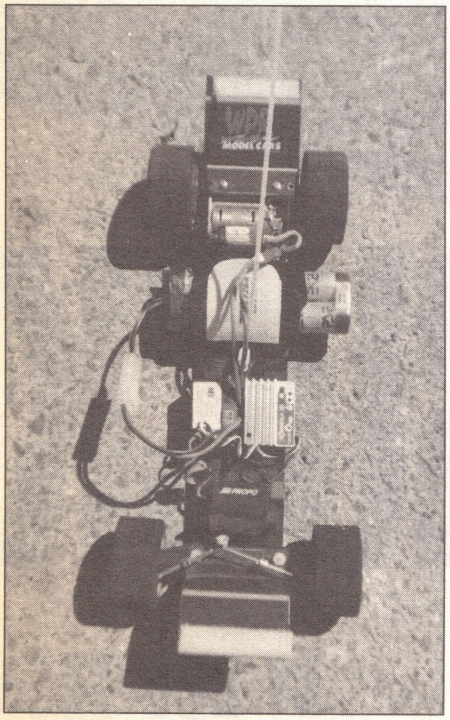


Parma's Dodge truck uses a simple chassis layout, but one that has room for all components. Material is fiberglass, with aluminum motor pod.

proach was cleaner and would last longer. I also used an Associated Electrics antenna mount in place of the supplied unit.

For radio equipment I installed a JR Python radio system and servo. The Python radio's grip is very comfortable, and is well balanced. In fact for an entry-level radio, it is very well designed. If you're in the market for an entry-level radio, be sure to check this one out.

To power the truck I used a Parma Enforcer stock motor and Parma 23-tooth pinion gear. The kit supplied a Parma spur gear, so the drivetrain was all Parma powered. I hooked up a Tekin Formula 10 electronic speed control (ESC) for throttle commands. Last, I installed the battery. I chose a PSE Sanyo 1700 stick pack for longer run time.

SETTING UP

The truck is fairly uncomplicated to set up. Everything assembles as described in the instruction manual. I found that the weakest part of the truck is the steering linkage. I prefer turnbuckles, however, the supplied rod-and-collar linkage is easily installed. It's best if you have the radio system in place so that you can center the servo for installation. Once it is set in place, you can adjust the steering linkage to meet the servo. The collar is actually easier to adjust than a turnbuckle, but not as accurate.

Once the steering was ready to go, it was time to test the differential. I set the car on the ground for the first time, hit the throttle, and found that the truck started to spin. Loosening the diff a turn or two solved that problem. During construction I had oiled the bushings as I installed them, but I would recommend oiling them every time you take the truck out. Not because you have to, but it helps cut down friction, and the bushings will last longer.

THE BODY SHOP

As I said before, I wanted a really custom paint job. I enlisted the services of a friend that paints commercially. He suggested that we go with the tried-and-true flame job. Along with the flames, he suggested the we fade the truck's base color from blue to purple, to black—cool, man.

The Dodge Ram body lends itself exceptionally well to customizing. The body is molded with a flare in the wheel wells and at the bottom edge. With an erasable marker, I drew out the line to cut along, and with some planning, I ended up with some very slick-looking fender flares and lower body skirts.

The body mounts on top of two plastic mounts extending from the rear pod and the front suspension mount. They are then topped with Velcro. No ugly body posts sticking up here.

MOVING OUT

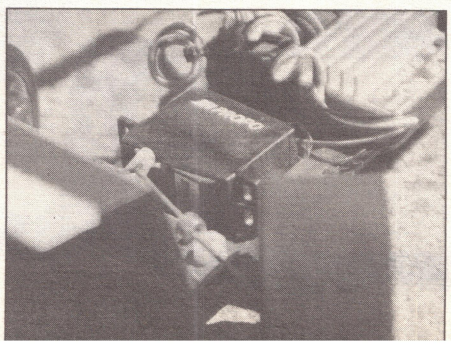
The truck is more or less intended for street use, so that's where I headed. I live on a cul-de-sac, so there is very little traffic there. I set the truck down topped with the flamed body, and throttled her up. I can only describe the truck with one word, "FUN!" This thing is genuinely a kick to drive. I found myself charging pack after pack to keep running the truck. In fact, I ended up taking the truck to a local road course just to see how I would do. Now, let me say, I am *not* a road course driver, so I cannot compare it to a full fledged racer. It certainly didn't handle as well, but it was FUN! (and I had the coolest paint job at the track).

IMPRESSIONS

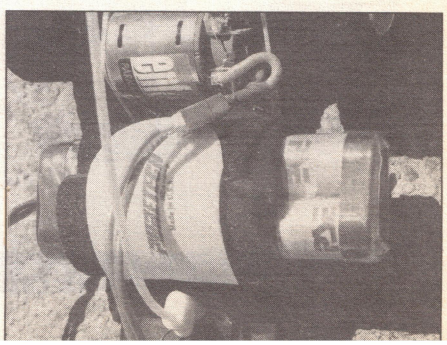
As with most kits in this price range, it is not overly complicated. The body is fantastic. It is well detailed, and those fender flares are great. The decal kit that comes in the kit looks like the real thing (maybe that's why Chrysler officially licensed it). Parma was thoughtful enough to sell the decal kit alone should the need arise to buy it. Some manufacturers make you buy

continued on page 62

KO Propo servo and receiver were used, along with JR Python transmitter. Speed control is Tekin's Formula 10.



Puretech's battery mount holds pack securely to chassis with Velcro, replacing kit's rubber-band mount.



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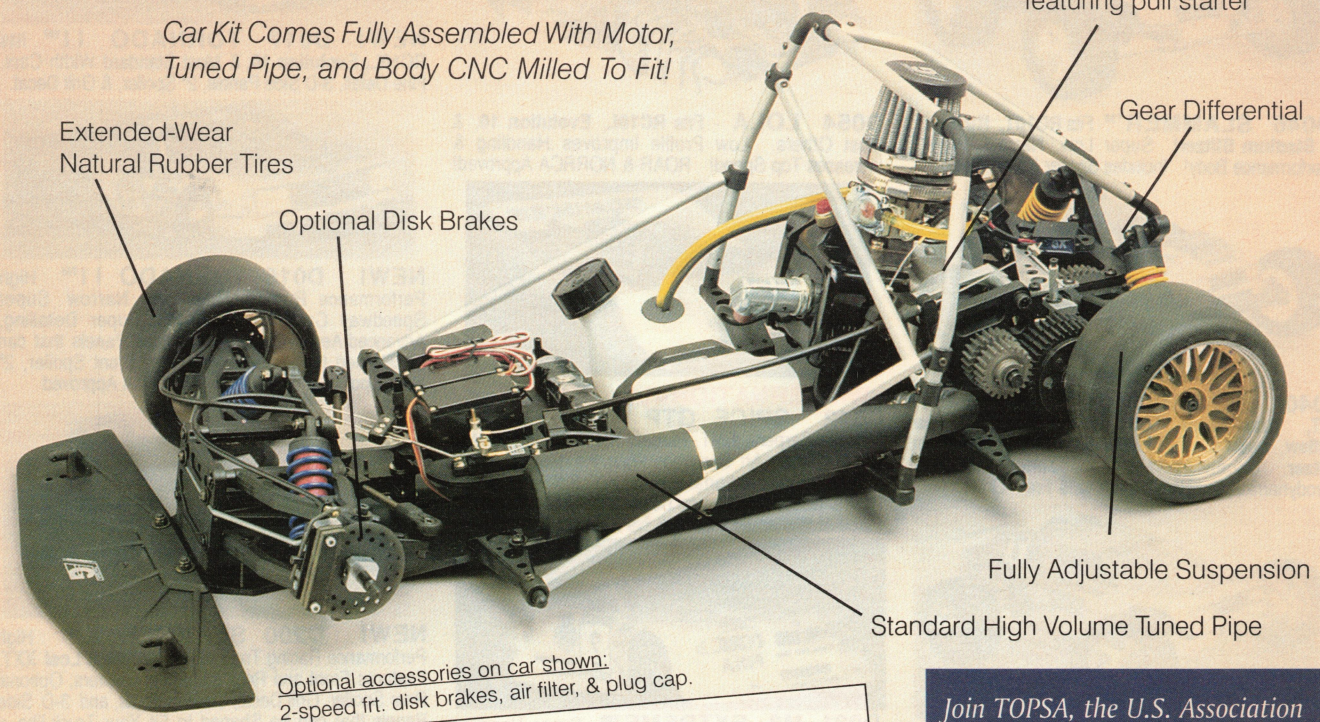

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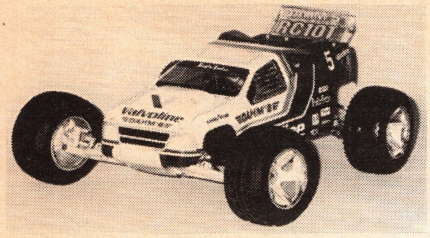

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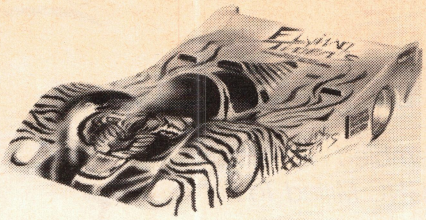
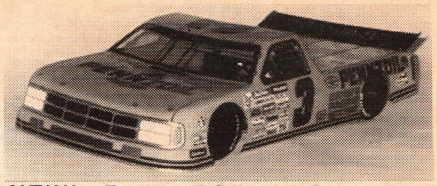
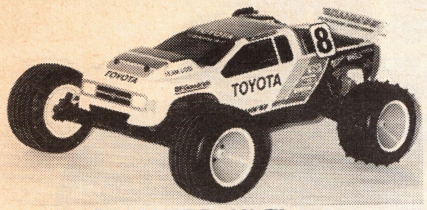


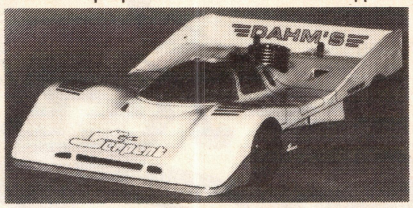
D054 LOLA - Fits **RC10L, Evolution 10**, & Most Others. Low Profile Improves Handling & Increases Top Speed! ROAR & NORRCA Approved!



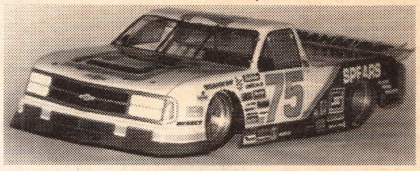
NEW! D017 TORNADO II™ fits **RC10L, Evolution 10,** & Most Standard Width Cars. Fine Detail, 3-D Side Panels, 2" Spoiler, & Grill Decal.



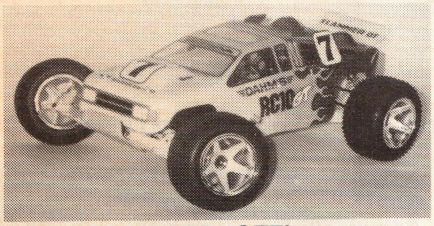
D040 SLAMMER XL™ Fits **Losi LXT, XXT, Blue Eagle, LSII, Nitro Hawk, Ultima Outlaw**, Associated **RC10T, RC10T2, & Stadium Blitzer**. Excellent Motor Cooling, Superior Aerodynamics, Excellent Handling, & Free Grill Decal!



WINTERNATIONALS WINNER !!!
D042 SPICE GTP Fits 10th Scale Gas Cars like Serpent, BMT, Parsec, PB, & Delta. IFMAR World Champ Art Carbonell Wins the 1994 & 1995 Florida Winternationals with his Spice/Serpent! ROAR National's Winner Dave Campbell Wins 2nd Place at Winternationals with his Spice/Delta!



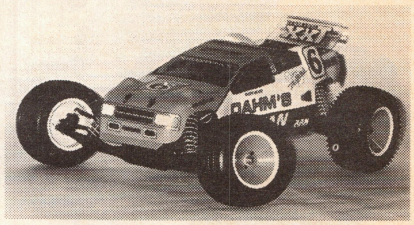
NEW! D016 TORNADO II™ High Performance Racing Body for Narrow Super Speedway Cars like **RC10LSS.** Super Detailing, Advanced Aerodynamics, & 3-D Side Panels that can be Shaped for Superior Handling. Front Spoiler, 2" Rear Spoiler, & Grill Decal! NORRCA Approved



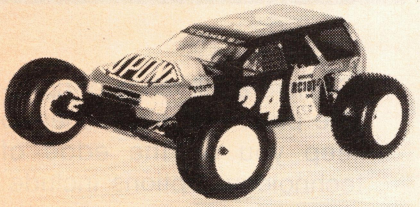
D038 SLAMMER GT™ Fits Associated **RC10GT**. Specially Designed to Improve Handling, Increase Top Speed, & Improve Motor Cooling. Includes Grill Decal and Adjustable Rear Spoiler!



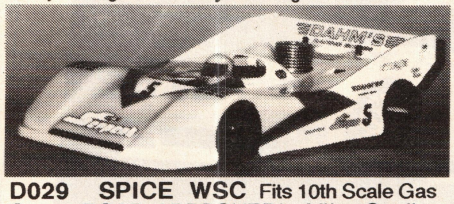
D021 M3 EXTREME™ Super Handling Touring Sedan Body & wing for 10th Scale Gas Cars like **Serpent Impact, BMT 931, PB, Parsec, & Delta**!
D020 M3 EXTREME™ Highly Detailed Body & Wing. Fits **Tamiya** Touring Sedans.



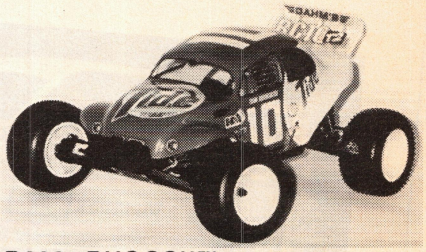
NEW! D200 SLAMMER X™ High Performance Racing Truck Body for **Team Losi XXT**. Features Front and Rear Molded-in Spoilers, Optional Rear Spoiler, Grill Decal, Cooling Vents, and 3-D Side Panels that can be Shaped to Fit Your Truck like a Glove! Complete Instructions included.



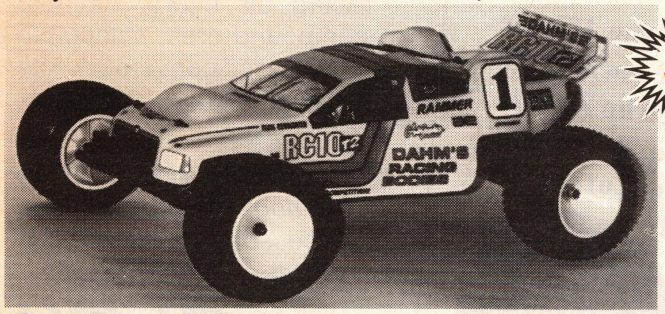
D049 COMMANDO EXP™ Fits **RC10T, RC10GT, RC10T2, Stadium Blitzer, Losi XXT, LXT, Tamiya Prerunner & Nitro Hawk.** Free Grill Decal.



D029 SPICE WSC Fits 10th Scale Gas Cars. ROAR APPROVED! Mike Queller TQ'ed & Won the "Enchantment 100" with His Spice WSC/BMT. - a Winner First Time Out!

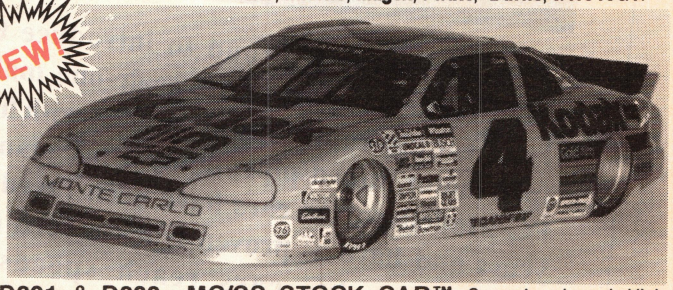


D080 BUGGSY™ Fits **RC10T2, RC10T, Nitro Hawk, Clodbuster, & Stadium Blitzer**
D056 BUGGSY™ 8th Scale Fits **XXT, LXT, Inferno, Mugen, Pirate, Burns, & RC10GT.**



NEW! D203 RAMMER™ Exciting, Aerodynamic Racing Truck Body for **Associated RC10T2 & RC10T.** Rammer's Narrow, Low, Profile Design Features a Molded-In Rear Spoiler, a 2" Adjustable Spoiler, Fine Detailing, Cooling Vents, 3-D Side Panels that can be Shaped to Hug the Frame, & Dahm's Decals.

NEW!



D201 & D202 MC/SS STOCK CAR™ Super Aerodynamic High Speed Oval Racing Body for 10th Scale Narrow Cars like the **RC10LSS.** Race Winning Styling, Super Detailing, Adjustable-Functional Spoiler, & 3-D Side Panels that can be Shaped for Superior Aerodynamics! Instructions Included! D201 - .030 Lexan, D202 - .040 Lexan ROAR & NORRCA Approved

THE MOST IMPORTANT, AND LEAST EXPENSIVE CHANGE YOU CAN MAKE TO YOUR CAR TO IMPROVE PERFORMANCE AND APPEARANCE, IS TO PUT ON A NEW DAHM'S LEXAN BODY. DAHM'S RACING BODIES ARE WORLD FAMOUS FOR THEIR LOW, SLEEK STYLING, AND SUPERIOR AERODYNAMIC CHARACTERISTICS. YOU CAN COUNT ON DAHM'S RACING BODIES FOR THE HIGHEST QUALITY, NEWEST AND MOST INNOVATIVE DESIGNS, FINE DETAILING, AND RACE-WINNING PERFORMANCE!!!

WANT TO KNOW WHICH BODIES FIT YOUR CAR? CALL US AT: **707-792-1316 FAX: 707-792-0137**

SEND $2.00 FOR DAHM'S LATEST CATALOG, OR SEND $4.00 FOR CATALOG AND DECALS TO:

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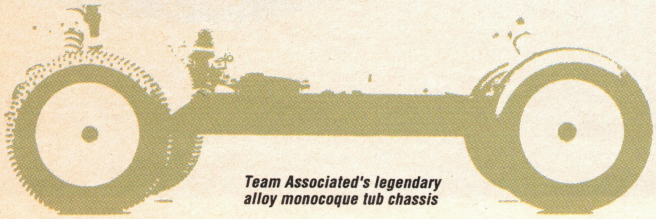
NOBODY KNOWS GAS RACING LIKE THE TEAM.

A lot of people would like you to think they created the whole concept of RC gas racing.

But with over 25 years of experience racing RC gas cars and winning two IFMAR Gas World Championships, Team Associated knows gas racing.

That's why the Team built the RC10GT.



Team Associated's legendary alloy monocoque tub chassis

Our RC10GT is the real thing, designed and engineered by the same racers that brought you the original RC10 and the RC10T.

While it might be enough for some to simply drop an engine and a fuel tank into an electric truck, the Team takes this kind of powertrain transfusion seriously. The RC10GT is a completely integrated package created to take maximum advantage of gas power yet versatile enough to accommodate all popular .12 and .15 size engines.

The most advanced, high performance vehicle of its kind, the RC10GT features competition proven, four wheel suspension with precision, coil-over



IFMAR World Champion factory drivers Brian Kinwald and Cliff Lett teamed with Curtis Husting in designing, track testing and racing our RC10GT prototypes.

shock dampening. Our World Famous Team Associated Stealth ATC gearbox is also adapted to the RC10GT, to get all that nitro power to the ground and our race-ready disc brake gets it all slowed down in a hurry.

Like all our kits, hardware and materials are nothing but the best. And because Team Associated understands RC racers, and their budgets, the RC10GT is available with either bushings or ball bearings and for both pull and non-pull start engines.

Enjoy the sound and power that makes gas RC racing come alive. The RC10GT is the ONLY RC gas truck with Team Associated's proven performance and reliability. Because no one knows RC gas racing like the Team.

Quick-fill 75cc fuel tank lets you race as long as you want with simple 2 second pit stops.

All terrain tires developed by Pro-Line specifically for the RC10GT

Wide track, long throw suspension, molded from durable, dyeable virgin nylon



The RC10GT is available in several Sport and Competition versions for most .12 or .15 engines. We highly recommend the .12 size for scale performance and reliability.

RC10GT

Associated Electrics 3585 Cadillac Avenue, Costa Mesa, CA 92626

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COMPUTERS MADE



Cliff at the keyboard gives the RC10T2 the edge with computer aided engineering and performance.

The RC10T2 was developed using the most advanced computer automation design tools available.

But all the new technology in the World wouldn't make any difference if we didn't input the right specifications.

The RC10T2 was designed from the ground up to be a pure, RC racing truck. We took the proven World Championship-winning Stealth design and made it even better with a lower, 2.6:1 reduction ratio, higher torque capacity and more consistent performance with fewer rebuilds. The gearbox is also used in the laydown configuration for a lower center of gravity and with the integrated bulkhead and rear shock tower provides exceptional chassis rigidity.

Every component of the RC10T2 was created within the sophisticated computer programs. The suspension geometry was fine tuned on the screen, animated to check clearance and other critical performance data. Everything that could make the RC10T2 a winner was analyzed in the system.

The RC10T2, however, must win on the track, so Team Associated still does some things the old fashioned way. RC10T2 prototypes were constructed and subjected to the usual high speed abuse and unreasonable demands of our Factory drivers. Now Team Associated's RC10T2 is ready to win when you are.



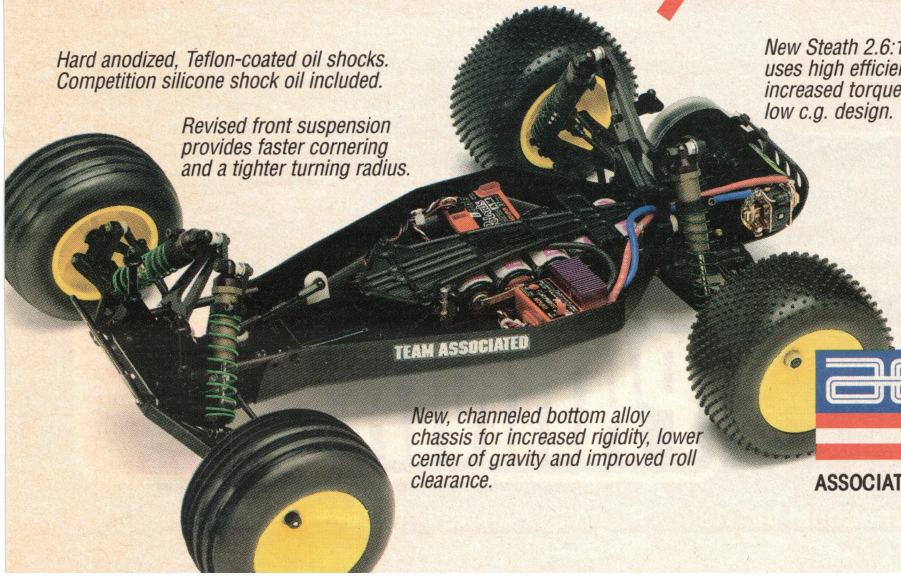
RC10T2 Top Qualifier/1995 Winterchamps!

US DO IT, FASTER.

Hard anodized, Teflon-coated oil shocks. Competition silicone shock oil included.

Revised front suspension provides faster cornering and a tighter turning radius.

New Steath 2.6:1 ATC truck transmission uses high efficiency composite internals, increased torque capacity diff and laydown, low c.g. design.



New, channeled bottom alloy chassis for increased rigidity, lower center of gravity and improved roll clearance.

RC10T2

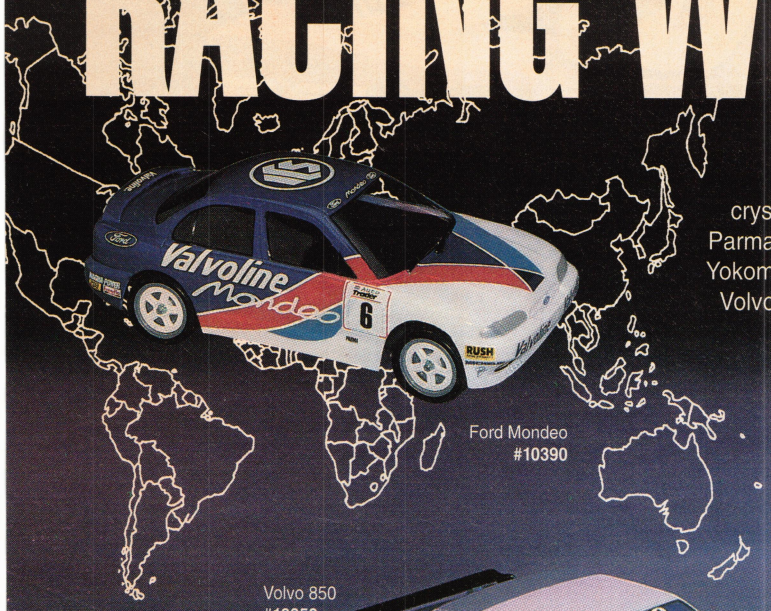
ASSOCIATED ELECTRICS 3585 CADILLAC AVENUE, COSTA MESA CA 92626

TOURING CAR

RACING WORLDWIDE.

Feel the advantage of precision molded racing bodies that utilize full scale styling and aerodynamics. Every Parma/PSE body is made from crystal clear, virgin Lexan®. Touring car racing is very popular worldwide and Parma International continues to make the bodies that win! Give your Tamiya, Yokomo or Kyosho chassis a new image with our latest touring bodies like the Volvo 850, Vauxall Cavalier/ Opel Vectra, BMW M-3 GTR and Ford Mondeo.

Adding to "worldwide" racing excitement is Parma's hottest creation, the New Z-28 Camaro. In American Trans Am racing - it's the undisputable choice of champions!



Ford Mondeo
#10390

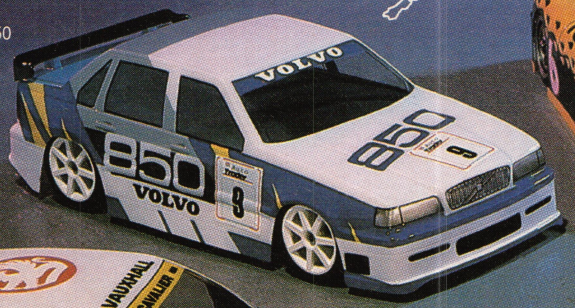
Z-28 Camaro
#10221



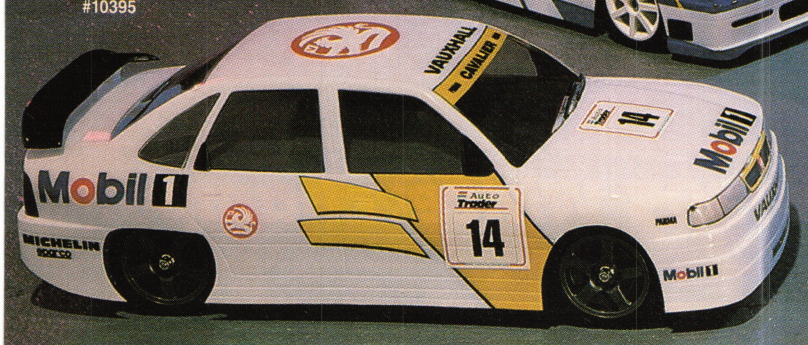
BMW GTR
#10355



Volvo 850
#10352



Vauxall Cavalier/
Opel Vectra
#10395



Porsche 993
#10393



New
Universal Interior
(Fits All Bodies)
#10203





The incredible Parma 993 Porsche is the first Lexan® body ever to combine total scale reproduction with complete racing function. Shown here with our Universal Interior #10203 (accommodates left or right hand drive) you can create the ultimate winning touring car!

From the parking lot to the track, Parma is here to help you achieve your goals and come out a winner. We spend countless hours testing and developing our new products to assure the quality our customers depend on. Make it Parma/PSE today!

Detail your cars with a large selection of "Stretchy Vinyl" decals, featuring many of the top teams and sponsors. If your local hobby dealer doesn't have them on hand, tell him to order them for you immediately!

When you have the need for speed but your budget doesn't agree, Parma has the answer for you in Team Spec II Motors. We have a complete range of hand wound & balanced modified motors for off-road or ground pounding pavement racing!

America's Choice!

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LRP

MORE POWER TO YOU!



ICS DIGITAL SPEED CONTROL #LRP8066

TOTALLY NEW DIGITAL TECHNOLOGY

The totally new digital technology LRP uses is actually a digital miniature computer in the speed control. This results in a state-of-the-art Digital Speed Control that surpasses every other type of speed control available.

RUNS COOL

The first thing everyone comments on is that the LRP Speed Control runs so cool that it does not require any additional heat sinks. The all new LRP Digital Computer Speed Control does not waste any battery power heating up the heat sinks.

LONGER RUN TIME

The battery power that has been saved in the cooler-running, more efficient LRP Speed Control results in longer run time.

MORE TOP SPEED

With the battery power you save, you can choose to gear higher and go faster, and still make the time.

FULLY ADJUSTABLE BRAKING POWER

The all new Digital Computerized Technology allows the driver to adjust the amount of initial braking to suit both his driving style and the amount of traction on the track.

Distributed exclusively by

TEAM ASSOCIATED

ASSOCIATED ELECTRICS, INC.
3585 Cadillac Ave.
Costa Mesa, CA 92626
(714) 850-9342 FAX (714) 850-1744

QUICKER STARTS

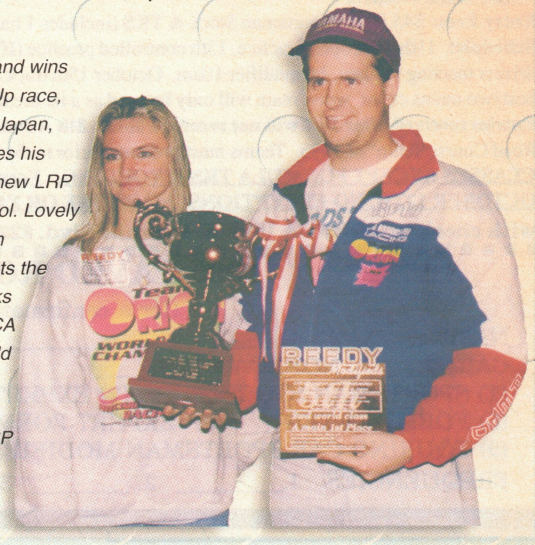
The Digital Computerized Technology also allows the driver to use 100% instantaneous power off the starting line for quicker race starts.

SMOOTHER RUNNING

Our drivers reported that they could actually feel that their cars and trucks were smoother in the corners, allowing them to go quicker through the corners. This is due to the finer pulse rate of the LRP Digital Computer-type Speed Control.

SIMPLE PUSH-BUTTON SETUP
OPTIONAL PROGRAMMABLE CURRENT LIMITER
MORE RELIABLE

Team Associated had 28 of the all-new Digital LRP Speed Controls in their cars and trucks at the 1995 NORCCA Off Road Nationals, and after all the practice, the qualifying, and Main event days, there wasn't even one speed control problem. They've never experienced that before!



Mark Pavidis TQ's and wins the World's Warm-Up race, at Yatabe Arena in Japan, the first time he races his RC10 using the all new LRP Digital Speed Control. Lovely Sylvie Dunand, from Switzerland, presents the awards. A few weeks later, at the NORRCA Nationals, Mark TQ'd and won the Truck Class with his new T2 truck and the LRP Speed Control.

TEAM ASSOCIATED

PARMA | PSE

PRESENTS

NORRCA

1995 Road Course Nationals

1995 Road Course Nationals



SILVERBOWL SPEEDWAY, RUSSELL RD. & BOULDER HWY., LAS VEGAS, NV

OCTOBER 14TH - 15TH

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PARAGON Racing

Entry Fees: $45.00 for Sportsman Stock & TKS (includes 1 handout motor), $35.00 for all others.
Schedule: 11th-12th open practice, 13th controlled practice **(If necessary)** 10am - 6pm , 3 qualifiers on 14th, Mains only on 15th. 14th check-in 7am-9am , mandatory drivers meeting 9:30am, 1st qualifier 10am. October 15th track opens 8am, concours 9am, mains at10am. All Experts will run triple "A" mains.(1st =100pts, 2nd =99, etc., best two mains count, worst main will only be used as a tie breaker). **6 cell maximum all classes. 1700 MAH batteries are legal in Expert only. Pre-Entries close 10/7. Entries received after 10/7 will not receive a shirt. 8th Annual Team Cup Challenge:** The Team with the highest overall points will be awarded a silver cup for "Best Road Course Team" of 1995. Teams must pre-enter prior to the 1st qualifier. **Only Expert Drivers are eligible for Team Cup.** GTP OR WSC BODIES ALL CLASSES EXCEPT FORMULA TKS & TOURING. Formula & WSC classes must have drivers & Touring Cars must have interiors. ENTRIES CLOSE OCTOBER 12TH, NO EXCEPTIONS! NO PHONE OR FAX ENTRIES! NORRCA 909-944-5381. STEVE STROBL 702-458-6758. **Mail entry form with check to NORRCA 1651 W. Foothill Blvd. #225. Upland, CA 91786.**

1995 PAVED ROAD COURSE NATIONALS ENTRY FORM

(for a confirmation letter, enclose a self addressed stamped envelope)

NAME_____ PHONE # _____ Shirt Size ____ **1 Shirt Per Driver**

CAR#_____ NORRCA # _____

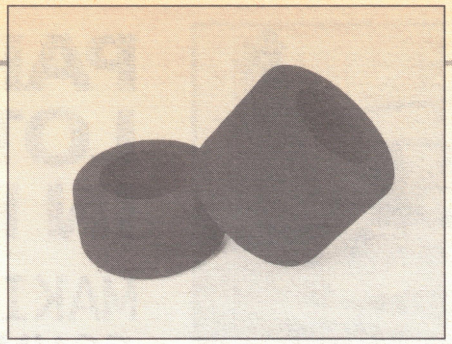
(1) SPORTSMAN STOCK___ (2) EXPERT STOCK ___ (3) SPORTSMAN MOD. ___ (4) EXPERT MOD. ___

(5) FORMULA TKS ___ (6) EXPERT FORMULA TKS ___ (7) 1/12TH EXPERT STOCK ___ (8) 1/12TH EXP. MOD. ___

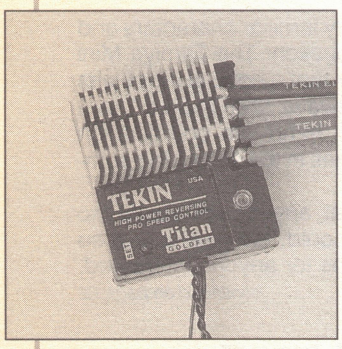
(9) TOURING CAR SPORTSMAN MODIFIED___ (10) TOURING CAR EXPERT MODIFIED ___

FREQUENCIES 1._____ 2._____ 3._____ FREQUENCIES 1._____ 2._____ 3._____

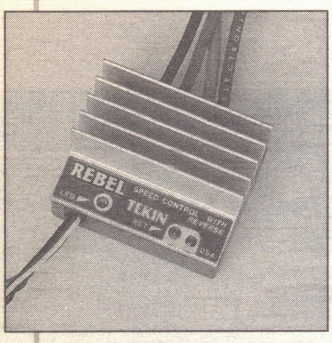
AWESOME '95 WHAT'S NEW PRODUCTS



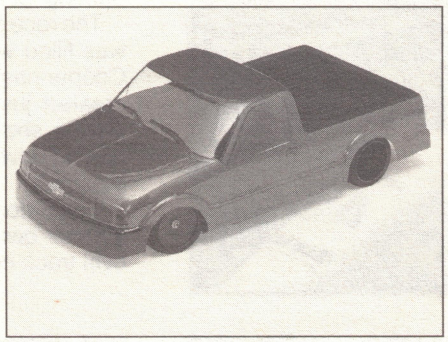
PARAGON POSITRAKS
These new pre-trued F1 tires are designed for Tamiya and Kyosho Formula racers. Suited for both outdoor or carpet racing, these full-width tires offer excellent traction on both front and rear, and are available in purple and white compounds. To receive a catalog and Paragon decals, send $2.00 to Paragon Racing Products, Dept. MC2, 340 Industrial Blvd., Waconia, Minnesota 55387.



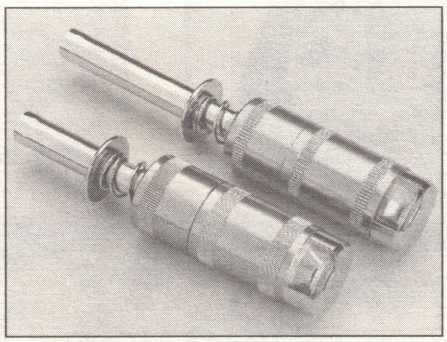
TITAN ESC
Tekin Electronics, 940 Calle Negocio, Suite 140, San Clemente, California 92673, has just introduced a new electronic speed control called the Titan. With fully proportional forward, brake and reverse, the Titan has 12 Goldfet transistors with low resistance and hi-amp power. You can power modified or dual motored-vehicles with the Titan, and the QuickTune one-button electronic setup you get your RC car or truck in gear and running in a moment. High-frequency regenerating operation extends runtime up to 25%. The Titan is protected against thermal overload, and has heavy-duty 12-gauge silicone wires that are easily replaceable. For more information, see your hobby dealer or contact Tekin Electronics.



REBEL SPEED CONTROL
This new electronic speed control from Tekin Electronics is designed to handle modified motors down to 10-turn models. The Rebel has factory-installed motor and battery connectors, high-frequency regenerating operation that extends runtime up to 25%. The small size fits most RC vehicles and with proportional forward, reverse and brake control, you get positive, easily controlled response in any situation. QuickTune one-touch setup means precise setup of your speed control in seconds. No imprecise tinkering required! For details, see your hobby shop, or contact Tekin Electronics, 940 Calle Negocio, Suite 140, San Clemente, California 92673.

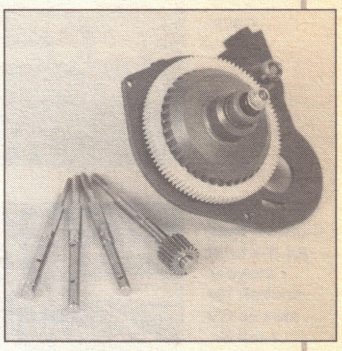


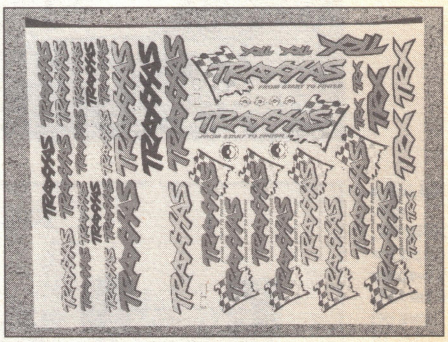
CHEVY S-10 TRUCK BODY
New for '95, this stylish reproduction of the full-size Chevy S-10 is perfect for 1/10-scale monster truck or street machine chassis. Available now at your Parma dealer. Parma International, 13927 Progress Pkwy., North Royalton, Ohio 44133.



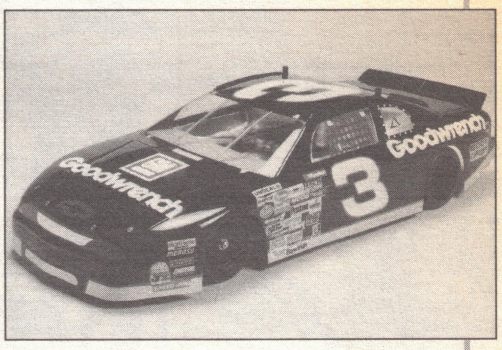
PROGLO NICAD STARTER CLIPS
Great Planes ProGlo Nicad Starter Clips now come with a built-in meter in the cap to provide a visual update of plug power consumption. There is no need to guess if power is being delivered to your glow plug. The metered cap is also available separately to retrofit on the original ProGlo, as well as Du-Bro's Kwik Klip III. The ProGlo Starter Clips come with a convenient overnight AC wall-type charger. Great Planes Model Distributors, 2904 Research Rd., Champaign, Illinois 61826. (217) 398-6300.

SCHUMACHER'S VISCOUS DRIVE UNIT
The new fully adjustable viscous drive unit provides a fluid drive system that surpasses the conventional slipper clutch. The viscous drive's torque is proportional to the difference between the motor speed and wheels speed. The viscous drive absorbs shocks and reduces wheelspin through all ranges of torque variation, from high torque on the starting line to small variations in torque which occur due to bumps or changes in the track surface. The viscous drive reduces wheelspin, making the car easier and more predictable to drive through bumpy and slippery track conditions. For information, contact Schumacher USA, 6302 Benjamin Rd., Suite 404, Tampa, Florida 33634. (813) 889-9691.





TRAXXAS DECAL SET
Team Traxxas decals feature the new Traxxas flag logo in five brilliant colors. The decals are arranged with both right- and left-hand versions for symmetrical paint schemes. Sheet size is 8-3/4 inches by 11-1/4 inches. See your Traxxas dealer.

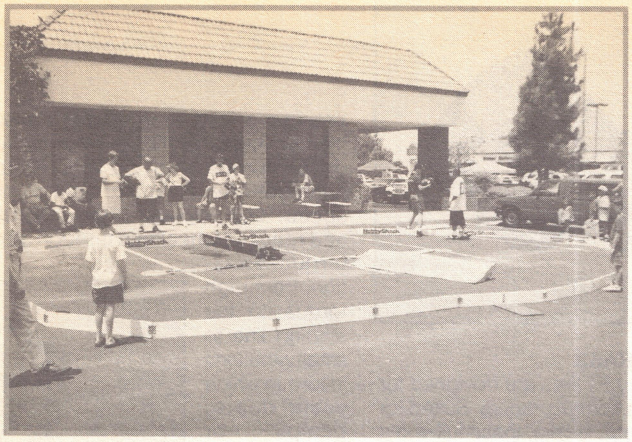


'95 CHEVY MONTE CARLO NARROW
The perfect body for superspeedway racing is the wind-tunnel tested BoLink 1/10-scale Monte Carlo. The narrow body comes in regular Lexan or BoLink's ultra-light Pro-Lite. Send $3.00 to BoLink RC Cars for catalog. 420 Hosea Rd., Lawrenceville, Georgia 30245. (404) 963-0252.

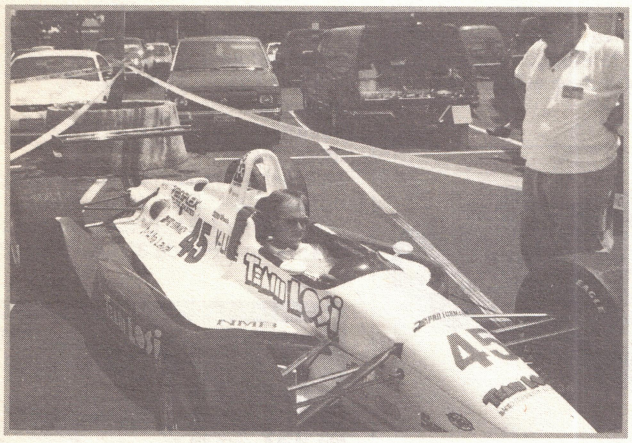
PARKING LOT RACING IN RIVERSIDE

MAKING THE RACE CONNECTION

BY ROB TUCK



Traxxas' "Try Me" track allowed spectators to have a chance at driving an RC truck for the first time. There was no shortage of drivers on this popular track.



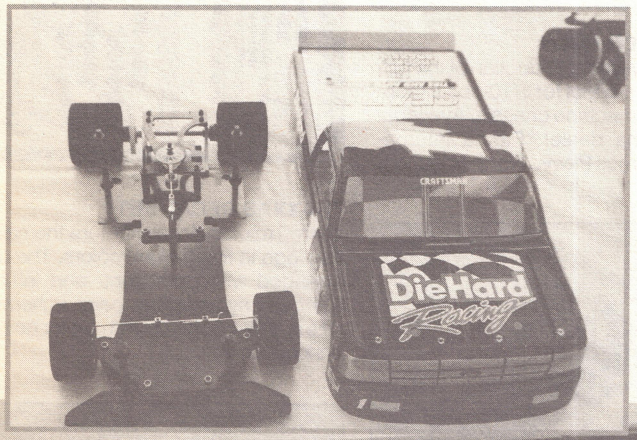
Kent Clausen tries out the Losi Indycar cockpit for size as Gil Losi Sr. looks on.

Hobby Shack in Riverside, California recentlyhosted the first annual Race Connection Expo. Festivities included a car show, food, manufacturers' midway, a "Try Me Track" course hosted by Traxxas, and of course, parking lot racing.

The race attracted some very familiar characters and was filled with exciting competition. The Tamiya Mini Cooper has gotten so popular that a special class was created just for them. As always, the Expert Class drivers showed super-human hand-eye coordination putting down blistering lap times in the scorching summer heat.

Spectators got a special treat: anyone who wanted to try their own hand at racing could. Traxxas set up an oval track complete with jumps for anyone interested.

continued on page 62



BoLink's new NASTRUCK, designed for 1/10-scale oval racing, was on display in the Expo's BoLink tent.



Traxxas VP Mike Jenkins shows off the Traxxas TRX truck. Mike also was in charge of the "Try Me" track open to anyone who wanted to try RC racing for the first time.



ANSWERMAN CONTINUED FROM PAGE 29

parking lot with my buddies and would like to increase my car's performance with your help.

Kerry Welton
Bucyrus, Missouri

A: Kerry, several of the HPI project car bits would work nicely on your parking lot RC12L. If your kit is an older unit, I'd definitely install the Associated Dynamic Strut Front End unit. Used in conjunction with the Holeshot Racing Products' alignment board, the strut setup will improve your car's handling ability greatly. The other two main changes you might want to try would be the Competition Products' rear axle hubs and the Paragon Racing Titanium Dampening Post. The hubs lock tight to the RC12L's axle without damaging the shaft and the titanium post makes the car's rear pod much stronger over the stock unit. As for radio gear I'd use whatever bits you prefer for ESC, servo and battery setup. Beyond that, you should use your own judgment. Remember, many times simply a few more practice laps will improve your performance over a few more bucks spent on your RC car. •

BIG TIPS CONTINUED FROM PAGE 14

out from the outer part of the bubble inward with the flat Bondo tool. For larger air pockets, make a small slit with a new X-Acto knife or razor blade and simply push the area flat. Once you've got the majority of the bubbles out, set the entire body outside in the bright sunshine, as this will help remove many bubbles as well. If the weather isn't cooperating, use a hair dryer or light duty heatgun (carefully) to do the job of the sun.

Patience is the key to proper graphics installation. So, take your time while doing the job. Should you have a problem with a certain decal, take a break. Many stickers have been ruined by allowing them to get your goat. Try this schedule: do both side numbers (break), do top numbers and front/rear bumpers (break), do hood and trunk areas (break) and final sponsor and window/door detailing to finish up. Have the body mounted to the chassis and sitting on a surface that allows you to work comfortably. The last thing you want is a backache positioning a large and fragile decal on your car!

Alright, let's now say you want a set of graphics from someone who's had previous experience with Q-scale RC cars. And perhaps you want the decals, paint and work done as well. Well, now we'll look at some outfits that will do part or all of the above for a fee.

MAIL ORDER Q-SCALE GRAPHICS

I've found four sources of Q-scale graphics makers that produce complete sets of number/sponsor decals. The following information was current at this writing, and as with the local sign companies, always check out everything completely and in detail before ordering.

CARLEE DESIGN

Wade Carlee of Bessemer, Alabama, has been producing 1/4-scale car graphics for several years now. Wade will make up decals for both the outer and inner surfaces of Lexan bodies and also will paint your provided body shell. Prices are as follows: outside graphics, $45.00—inside of body $59.00; Fluorescents (outside only) #65.00; paint on ABS shells (outside) $90.00 using Krylon paints; inside paint using Pactra (Lexan) paint $105.00; Fluorescent colors run $120.00. Carlee Design produces Goodyear or Hoosier sidewall tire stickers for $5.00 per set. Wade sends a free set of these tire sidewall stickers with any body paint package ordered. For additional information and ordering, contact Carlee Design at 6533 Pocahontas Road, Bessemer, Alabama 35023, (205) 425-5469.

COMPUTER IMAGERY

This Florida-based graphics company produces both inside and outside custom decals of all kinds of car numbers, Sponsor sheets, fender stickers, and tire decals are all available. Multi-color graphics are their specialty and be made up from a single sheet of material so no multi-layering is necessary for any decal. For prices contact Robert Stentiford, Computer Imagery, 3049 Drane Field Road, Lakeland, Florida 33811, (813) 648-5214.

CRAFTMASTERS SIGNS

Craftmasters manufacturers both Q-scale and other scale RC car graphics to order. Copy or custom decal sets range in price from $45.00 to $60.00 in cost, but there is no extra fee for reverse (inside the body) sets. Contact Craftmaster at (903) 322-4521.

NEW ERA MODELS

New Era produces a Grand National stock car graphics set for $49.95. They also make a full line of sponsor, tire and various other scale stickers as well. For additional information, prices and graphics available contact New Era, Box 7378, Nashua, New Hampshire 03060-7738 or call (603) 888-4453 or FAX (603) 888-8645.

TIP OF THE MONTH

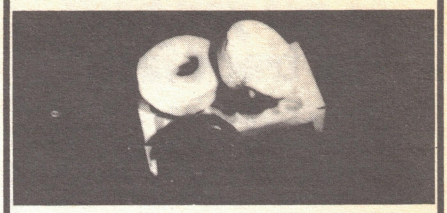
For those Q-scale cars equipped with quick-refueling receptacle, a leaky refueler can cause you to have handling problems, not to mention being a fire hazard. Spilled fuel can find its way to your car's right rear tire and this can lead to a loss of traction, or even a loose cap band. The fuel mix can be awful messy as well, so keep your refueler capped.

Use either a plastic hydraulic-fitting cap or a Weed Eater-style grommet plug like those found on WCM cars from the factory.

TRICK OF THE MONTH

Many 1/4-scale competitors use one- or two-inch wide Velcro material to back up

GLAZE BELONGS ON
DONUTS



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"With a ProSplice and a cigarette lighter, you have everything you need to prevent a broken electrical wire from ruining a full day of racing."

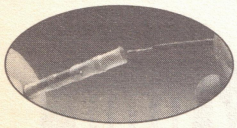
"There's no tinning to do, and no iron to heat: just slip stripped electrical wires in opposite ends of a ProSplice, and apply heat. In seconds, the flame melts the solder, shrinks the tubing and seals both ends tight against oxidation and moisture...all in the same easy step."

"ProSplice works just as well with a heat gun, which makes workbench soldering as easy as trackside repairs."

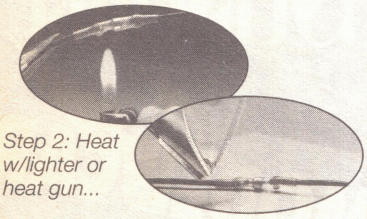
Don Anderson

Don Anderson
President and Founder
Great Planes Model Manufacturing

Great Planes® ProSplice™ Quick Solder Tubes



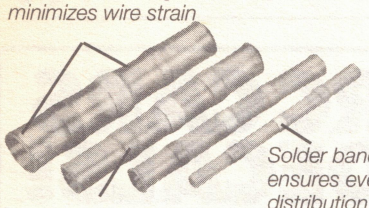
Step 1: Insert stripped wires into sleeve



Step 2: Heat w/lighter or heat gun...

...and the job is done! It solders, shrinks the tubing and seals the ends all at once!

Heat shrink tubing insulates and minimizes wire strain



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the regular Dzus fasteners used on the sides of most bodies. This system helps to ensure no loose body shells; but the Velcro on the chassis sides can loosen up over time. In most cases the hook and loop material starts to come off at the ends, so here's how to stop the problem. When installing the chassis side Velcro, cut enough to allow it to wrap around both ends of the chassis plates

Since most body mounts of this type are flat aluminum plates so wrapping the Velcro around the edges is relatively simple. To back up the mounting, use Some CA or Shoe Goo to secure the Velcro from coming loose at the wrong time.

UPDATE OF THE MONTH

Back in the May, 1995 issue's Big Tips I covered the use of an all-steel constructed work cart for large scale RC car pitwork Since then, another twist has been adopted for use with these roll-around work stations. Some racers are adding a wooden platform to the metal top surface of the carts. Using thick plywood, these additional platforms can serve two purposes: you can either slip a set of four scales into the notched-out plywood top, or simply allow the car's four wheels to sit in the notches for easier tire changes in the pits. The wooden addition can be retained with just a couple of carriage bolts and wingnuts and makes a good 1/4-scale car stand even better.

WRAP UP

Hopefully now you can obtain some classy-looking Q-scale body graphics to make your large scale RC car look great with minimal hassles. So, next month we'll reduce more Q-scale hassles by discussing some basic and advanced tools you might need to make working on your vehicle easier whether you're at home or at your local track. With the right tools for the right job you can increase your RC car fun factor by several notches—and that's the bottom line. •

STARTING OUT CONTINUED FROM PAGE 16

can't identify the problem by simply saying, "My car doesn't run." You have to be more specific in discovering the problem at hand, even when you're simply describing it to yourself. You have to diagnosed exactly what the problem is just as a mechanic, or doctor would. Stop and think about what parts of the car could play a role in creating a problem. You certainly don't have to locate, with dead-on accuracy, what's wrong, but you should at least have some idea of a general area to look at in trying to track down the malfunction. In the example a paragraph or two back (one wheel is locked up, but the other one spins), you should at least know that you're going to be looking for a problem in the driveline (motor, transmission, differential, drive axles, etc.). As your troubleshooting skills increase, you'll know that the problem is going to be found somewhere in the differential or drive axles.

CAN'T CONTROL THAT PANIC

When most people break their RC cars, they panic because they're scared to death that the fix is going to be expensive, such as the motor or electrical system. If you're absolutely terrified that the problem is in the expensive electronic components, remove the electronics from the car, and try them to see if they work when they're not in the car. Quite honestly, unless you've flat-out abused your car, the problem will usually be something mechanical rather than electrical.

Still, if you want to be able to remove your electronics quickly to make sure that they still work, mount the electronics with the strongest Velcro you can find. I've been doing this for years, and it works pretty well. This lets me pull the electronics out quickly so I can test them, make electronics changes. The steering servo and the motor will, however, have to be mounted normally.

SEE YA!

That's all for this month. Next month, I'll probably finish up on troubleshooting with some common problems and their likely causes. If you've got any questions or comments, write to me and let me know. The address is Starting Out, Box 2459, Capistrano Beach, California 92624-0459. See you next month. •

TROUBLE-SHOOTING CON. FROM PAGE 18

check first in the advent of a non-cranking RC car engine. My personal method begins with checking the gas/glow plug and the engine's spark output. Once the plug's been removed, check its condition. Is it wet? Is it dry? What's its color? Is the electrode in good condition? Is there any debris or build up of carbon on the plug? If it's out of a gasoline-powered engine, ground the plug on the engine fins and pull the recoil. A bright, blue spark should jump across the plug's air gap. On glow plugs, connect the battery igniter to the plug and check for a bright red coil not unlike a high burner on a stove.

If you even slightly suspect that the spark/glow plug is bad, replace it. Make sure the plug's sealing gasket is in good condition and look around the plug hole for any signs of leakage. Now, pull the starter or run the starter box and note the engine's compression "sound." You should be able to detect the "thock-thock-thock" sound that a properly sealed engine combustion chamber should sound like. A free-spinning or slow drag on the recoil/starter indicates either a low compression or internal engine damage condition and both might require a teardown to inspect the powerplant's components.

Again, remember the pump scenario.

You must have the "pressure" of compression to achieve proper combustion and thus achieve easy starting. One quick check for low compression on a non-starting engine is to spray WD-40 into the plug hole. If you notice increased compression and the engine cranks up, you're looking at a need to check piston-to-cylinder clearance and/or proper gasket sealing.

Now, inspect the carb/air cleaner for any outward signs of excess fuel or blockage of the air filter. Remove the air cleaner and try to start the engine.

If fuel flows out of the carb intake in large amounts, you've most likely got a flooded engine. If no fuel is noted, put your finger over the carb intake and again attempt to crank the engine. If you get a slight amount of fuel on your finger, the mixture should be about right. If it's still dry, your engine is in a fuel starvation mode. Fuel glitches make up the bulk of most non-cranking problems on gas RC cars. Under the right circumstances, an engine with no carb whatsoever will run on only the fuel left inside the combustion chamber—for a second or two.

SPECIAL NON-STARTING PROBLEMS

"Alright," you say, "I've checked, inspected and done all the systems on my car's engine and it still won't start—now what?" Look for the obvious. Is the exhaust blocked? Is the fuel filter plugged up? Are there any pinched fuel lines or holes in the tubing? Have you made any recent changes to the engine area just prior to having a non-starting condition? And, have you changed the fuel brand or type, plug brand, type of exhaust, etc. on the car? Many times a simple switch can deny you of a cranking powerplant.

Another factor is time. Leaving a gas RC vehicle with fuel onboard for any length of time can lead to starting problems. Fuel goes stale with time and time is greatly accelerated under certain circumstances. Heat, humidity and the amount of fuel present in any size container can all contribute to the lifespan of engine fuels.

Leaving fuel in a car's small onboard tank will go bad much more quickly than a large gallon jug of the same mixture. Moisture in fuel is a major factor in non-cranking situations and should be considered in any high humidity area of the country. Also, remember that the lubrication additives (oil) speed up the process of fuel going stale, so, keep your fuel in large containers and store it in a cool, dry location.

If you plan to store your gas RC car for any length of time, drain all fuel from the tank, lines and carb. Spray WD-40 or a good after-run type of lube down the carb inlet and plug the hole and crank over the engine to spread it throughout the powerplant. Then, when you attempt to restart the car after storage, again spray/apply the lubricant to insure you get proper piston ring seal within the cylinder walls—they can dry up during storage. And don't be surprised if your exhaust smoke output is rather heavy on first start up as the afterlube and fuel together will give you more than adequate oiling.

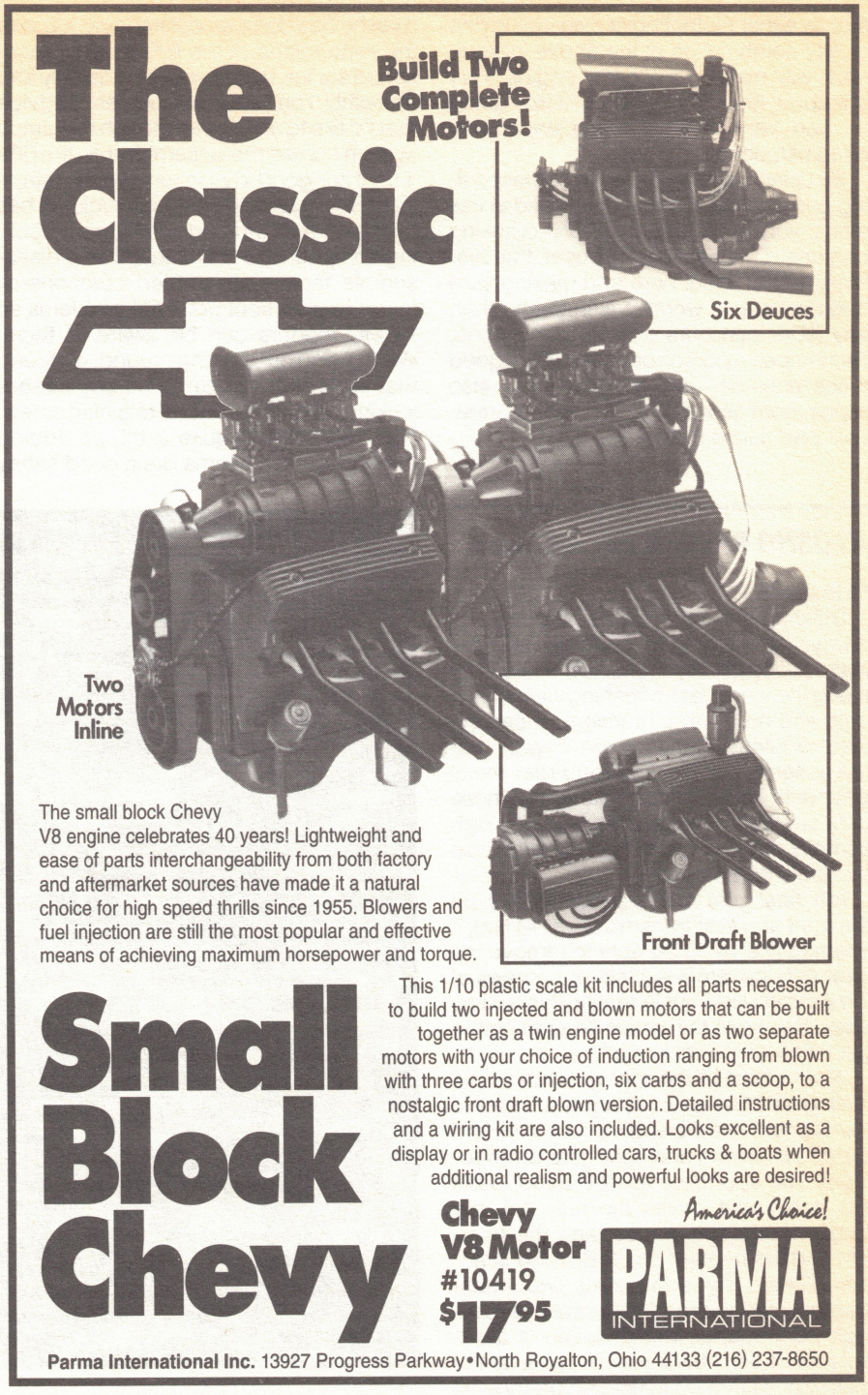
But besides lubricating the internal engine parts, the oil in your engine fuel also has another job. Without oil around the piston rings and skirt, your powerplant will not achieve its maximum compression pressure level.

The oil helps to seal the piston and rings with the cylinder walls and in turn keeps the combustion process "bottled-up" between the piston dome and cylinder head.

Air leaks around engine gaskets and seals can often lead to cranking glitches. Actually, these leaks work both ways in that it let's air out on the compression stroke and let's air in on the intake stroke. That means you will have lower compression and a lean (too much air over fuel) condition inside the combustion chamber. So, now your engine doesn't have enough fuel and it's down on compression—do you think it's going to start easily and run to its full potential? No way.

FINAL THOUGHTS

So, keep telling yourself that any engine is just a pump that always requires the right amounts of air, fuel, spark, compression and combustion to run correctly. Provide it with these simple components and it has to run, period. But, also, be aware



that by either restricting or over-doing one or any combination of the above ingredients will make your car's engine very unhappy. And if it's unhappy, it isn't going to start very easily for you under any circumstances.

By using a simple engine troubleshooting process like the one described in this story, you will cure most non-cranking engines. By calmly going over the systems talked about here and making sure that they are all working with each other, any RCer can cure a balky car engine. Remember, a person or persons designed these engines—and a person can also repair them as well with the right information, and a little patience! •

KYOSHO SPYDER CONT. FROM PAGE 22

BUILDING

Building the GP-10 was a cinch. As always, everything fit perfectly and the instructions clearly explained every step along the way. Plastic flashing was minuscule and no drilling, reaming, or carving was required. Construction began with the assembly of the front and rear metal gear diffs. Of particular note is that these diffs can be converted into ball diffs with some optional parts. A one-way diff is also available as an option.

Identical gear cases are used for both the front and rear transmissions. At first, it seemed like you'd be able to remove the gear diffs by removing the four screws of the gear covers, but in reality, this isn't so easy. You have to remove other things to get either of the covers off.

Just in front of the rear gearbox is the main gear (spur gear) assembly. Power is transferred from the engine via a standard clutch bell/pinion and spur gear arrangement. The spur gear shaft also supports the pulley that drives the rear diff, the single plastic brake disc, and the front-wheel drive transfer shaft. Braking is accomplished by squeezing two metal clamp/pads on the plastic brake disc. A high-performance brake option is available, but I don't think you'll need it as the plastic one seemed to hold up pretty well.

The front and rear suspension arms hinge on the bottom section of the gearboxes. This keeps the parts count down, but can be a real hassle if you ever break these mounts. Kyosho has added metal plates to strengthen the hinge pin holes to keep this from ever happening. It's a pretty good setup, although the hinge pins themselves caused a bit of concern. They are just held in by friction. There are no C-clips or threads to hold them in. I have to tell you that this arrangement did not instill confidence, but they've stayed in so far, so maybe they're okay.

The installation of the Kyosho GS-11X engine was a breeze. It fits like a glove. No fiddling, filing, cutting or hammering (yikes! Only kidding) was necessary to mount it. Kyosho has done an outstanding job with the instructions of the GP-10. As I mentioned earlier, everything went quickly and smoothly. I only have two pieces of advice that I'd like to offer: even though the clutch system comes pre-assembled on the GS-11X, it is a good idea to remove the retaining screw that holds the pinion/clutch bell on the engine and add some thread-locking compound to it. I usually like to disassemble factory-assembled components for reviews to spot potential problems so *RCMC* readers can be aware of them. Well, during our digging around, we found that there didn't seem to be any thread-locking compound on that retaining screw. Gas cars vibrate quite a bit, so adding thread-lock to it seems like a good safety precaution. Besides, looking around on your hands and knees for a missing part on race day is no fun.

The other thing is the brake rod that actuates the brake calipers is too long to set up the way the manual tells you to. I added a half-inch piece of silicone tubing left over from the fuel tank assembly to take up the slack between the adjustment nut and caliper arm. This not only makes the brakes work, but also gives the brakes some progressiveness.

FINISHING

Airbrush specialist Traci Hotchkiss (310-438-9206) put the finish on the Monte body. Pactra Polycarbonate paints were used with a Paasche airbrush. The thing to remember with a paint job like this is to paint the darker colors first. Otherwise the dark colors will bleed through the lighter colors. Because the Spider is a narrow 1/10-scale size chassis, there is a whole host of bodies out there to choose from that will fit. Not that you'd want to change from the hottest NASCAR body on the track. It's just good to know for next season!

RADIO INSTALLATION

All of the radio gear on the GP-10 Spider is mounted on the aluminum radio plate that doubles as a chassis stiffener. What is neat about it is that it can be removed from the rest of the car by just removing six screws. This simplifies cleaning immensely.

A high-torque JR NES-4735 was installed to handle the steering chores. Even though GP-10 is four-wheel drive and the steering bellcranks are not supported by ball bearings, the amount of torque required to turn the wheels was surprisingly low. While a standard servo would probably work adequately, the extra torque, speed and precision of this excellent JR servo is always most welcome. For throttle control, I used a standard 94102 because the mounting brackets were too large for a mini or micro servo.

SETUP

A set of plastic body friction-dampened shocks are included with the GP-10. That's right, friction-dampened, not oil-dampened shocks. If you've never heard of these before, they look just like standard plastic-bodied oil shocks, but there are no pistons or oil seals. I assume the reason Kyosho chose to include these in the GP-10 kit instead of the more conventional oil shocks was to keep the kit price down. While oil-filled shocks are available as an option, I have to confess that with the usual extremely limited travel lengths found on typical onroad applications, you probably wouldn't notice the difference between them.

Ride height is adjusted through set screws threaded through the suspension arms and press against the chassis. This is very convenient to set up and beats the heck out of placing spacers inside your shocks to limit travel. Fixed camber and steering links come in the Spider kit, so no adjustments were possible or necessary as far as we could tell on the bench. While more experienced racers would balk at fixed-length links, considering that the GP-10 was designed as a low dollar, spec-class parking lot racer, Kyosho has rightfully opted to keep prices down and simplicity up. If you simply must have adjustable camber links and steering tie rods, they are also available as options.

BREAK-IN

Bolted to the back of the GS-11X is a plastic pull starter. Most plastic pull starters are the snap-on variety. Believe it or not, the single screw that holds the pull starter on the GS-11X does wonders as it kept the pull starter from popping off through out our tests. Although Kyosho

SPECIFICATIONS

Scale	1/10 (narrow)
Price	$349.00 (Retail)
DIMENSIONS	
Overall Length	18.50 in.
Overall Width	7.9 in.
Overall Height	4.9 in.
WEIGHT	
Ready To Run	3.4 pounds
CHASSIS:	
Type	Plate with aluminum radio tray/stiffener
Material	2mm Duraluminum
DRIVE TRAIN	
Type	Open belt drive
Primary	Pinion/spur 14t/44t
Transmission	Metal dogbones
Differentials	Gear diffs front and rear
Bearings	Metal bushings
Brakes	Single plastic disc on spur shaft
SUSPENSION	
Type (f/r)	Independent double wishbone - fixed camber and steering links
Dampening (f/r)	Plastic, friction-dampened, coil-over shocks
WHEELS	
Type (f/r)	Lightweight one-pieced molded
TIRES:	
Front/Rear	Racing slicks w/sponge inserts
ENGINE	
Motor	Kyosho GS-11X w/pull start
Exhaust	Aluminum muffler, single exhaust
Tank Size	75cc

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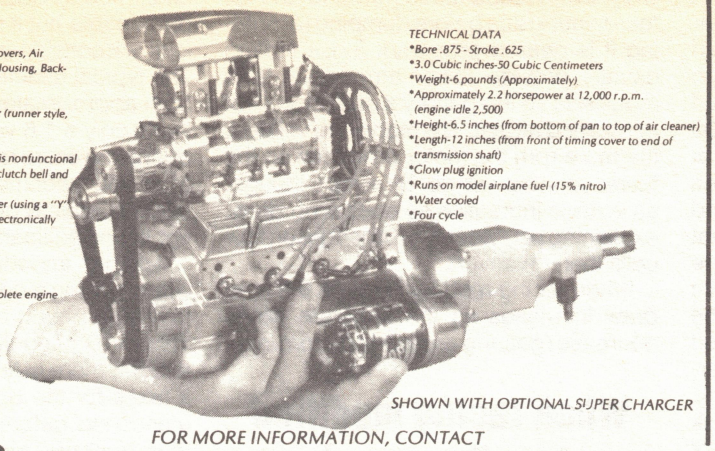
*Water pump
*Ball bearings
*All screws, nuts and necessary parts to complete engine
*Instrunction manual
*Only hand tools required for assembly
*Crankshaft pre-installed
*Cylinder linders installed and decks ground



TECHNICAL DATA
*Bore .875 - Stroke .625
*3.0 Cubic inches-50 Cubic Centimeters
*Weight-6 pounds (Approximately)
*Approximately 2.2 horsepower at 12,000 r.p.m. (engine idle 2,500)
*Height-6.5 inches (from bottom of pan to top of air cleaner)
*Length-12 inches (from front of timing cover to end of transmission shaft)
*Glow plug ignition
*Runs on model airplane fuel (15% nitro)
*Water cooled
*Four cycle

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doesn't list an optional onboard electric starter in the options list, there are some directions on installing one in the manual, so I imagine there is one available, or will be soon.

We filled up the tank with 10% glo fuel and the GS-11X lit up after a few tugs on the pull starter. Noise-wise, the GS-11X is about what you'd expect—not too quiet, but not too loud either. The recommended break-in procedure of the GS-11X is a little different than what we're used to. The recommendation is to place the car on something so the wheels are off the ground and run two tanks of fuel though it at idle. Then, drive it around below full throttle for two to three more tanks. Finally, lean the needle valve a little each tankful for another ten tanks! While this may seem excessive, I can tell you that the GS-11X runs better and better with each tank that we run through it, so there must be something to this tedious break-in procedure. An interesting note about the GS-11X is that there is no mixture screw. There is only a needle valve and a idle adjustment screw. I don't know why it works, but it works just fine.

DRIVING

We took the GP-10 out to our local Spec Class racing parking lot for some test runs. We did not sweep or blow off the surface. The GP-10 basically handled quite well, but we did encounter some problems. First, the GP-10 bottomed out excessively on our somewhat bumpy track. We added two old O-ring/shock seals to the bottoms of each rear shock shafts to limit shock compression and four to each front shock. This fixed one problem. The second problem was that occasionally the GP-10 would come to a complete stop and refuse to move forward, even though the engine was still running. Upon each inspection, we found a small rock jammed in between one of the belts. We moved to a cleaner section of the parking lot and the problem was solved.

The rubber slicks provided as good traction as could be expected for the unprepared surface. Tracking was straight and true. The fixed-length tie rods were right on. Power-on turning produced the usual 4WD understeer tendency. However, hard braking produced excessive oversteer. We minimized this problem by lowering the rear ride height. Now the GP-10 handled like a champ. Acceleration from the GS-11X is pleasantly fast, but if you really want to fly, a two-speed tranny is available.

As usual when testing a vehicle, we inspected everything for wear and tear after a day's running. Tire wear was a bit uneven on the outer edges, but not too bad. (Adjustable camber rods could easily remedy that.) Other than the slightly damaged belts (from the rocks), everything else looked brand new. No wear or loose parts anywhere.

CONCLUSION

Kyosho has done it again. On the scale of cool, the GP-10 is way cool! It's inexpensive, has an uncomplicated rugged design, performs well, and is a heck of a lot of fun to drive. Remember, this is just the basic package we're talking about. Kyosho offers a whole host of options for these cars ranging from belt tighteners to U-joints, so you can get as serious as your budget allows. Keep in mind that none of these are necessary in order to have a lot of fun. If you've ever wanted to get into gas inexpensively, or were just looking for a simple and rugged car to kick around with, this is the car to put at the top of your list.

PRODUCT SOURCE:

Great Planes/Kyosho, Box 9021, Champaign, Illinois 61826.

Aero Car Technology, Box 336, Western Springs, Illinois 60558.

Paragon Products, Dept. MC2, 340 Industrial Blvd., Waconia, Minnesota 55387.

TD Enterprises, Box 3301, Lexington, Ohio 44904. (419) 884-2004. ●

BATTERY PACKS CONT. FROM PAGE 28

sentative at Panasonic who provided me with a complete technical manual on the Panasonic line of batteries.

STRAIGHT FROM THE MANUFACTURERS

The letter designation on Sanyo batteries indicates the type of use the battery is intended for. When I spoke with the representative from Sanyo, I discovered that 1700 SCRCs were designed specifically for the quick-charge, high-rate and rapid discharge of RC racing. In addition, the 1400 SCRs were also designed for same-day recharging. On the Sanyo batteries, "R" stands for fast charge capability. The SCE was once the high-voltage battery to have but they were not designed for that type charge/discharge abuse. SCEs are hard to come by these days, in fact I haven't seen them advertised anywhere. Part of the reason is that SCEs should only be used once a day. Some think SCEs should only have been used once a week in order to prolong their life. I don't own any SCEs, nor do I know anybody who does, so they were not included in this test.

The KM designation specifies general use although they can handle a high rate of discharge. The KR designation is a normal discharge battery, so is the SCE oddly enough. The engineer at Sanyo said the SCE was not for RC racing, which explains why these batteries seemed so fragile to RC racers.

Panasonic told me their P-170s were a unique design and not succumb to the memory problem that plagues our Nicad batteries and reduces their capacity. I was told that P-170s do not remember their discharge curve, something a standard Nicad *can* do, which is why we take precautions to avoid this. Prior to my research, I was under the understanding that P-170s should not be charged more

than once a day. The representative at Panasonic said the batteries could be recharged more than once a day, assuming the battery had a chance to cool down without the assistance of a fan or other cooling device. The P-170 is considered by Panasonic to be a fast charge. High discharge but fast charge is considered to be 1 to 1.5 hours at capacity (1700 mAH). I did notice that when charging at 5 amps on my peak charger, the batteries got warmer than others I've charged, and I had a problem with false peaking at that amperage. Both my local hobby store owner and the Panasonic representative noted that use of a resistor could force the cell into "cell reversal," which is created when discharge is so complete, the polarity of the cell is reversed. I have had this happen on a couple of low-quality stick packs and the only cure I've ever heard of is to quickly "poke" the cell with 5 amps or so to straighten the polarity back out. I've never tried it though.

GENERAL BATTERY INFORMATION

A common practice for proper battery care is to place a 30-ohm resistor across the battery when it is dead. This has two functions: it keeps the battery (dead) at 5.4 volts and it helps to equalize all the cells down to the same voltage. I continually use resistors on my dead batteries and leave them there for weeks sometimes, and have noticed no adverse effects on the cells. I personally believe they have helped to ensure that my batteries dump completely and quickly when used. If nothing else, I can readily identify which batteries are charged and which ones are dead. Some theories suggest taking the resistor off after it gets cool, others wait one day before removing the resistor, and yet some don't use a resistor at all, claiming that a Nicad's tendency to self-discharge negates the need for a resistor. I have also noticed that many of my Nicads "bounce back" (voltage is slightly higher than when I dumped the battery) without the aid of a resistor. This conflicts with the self-discharging theory, but the use of resistors on a dead battery maintains the same low voltage until you're ready to charge them. I have some batteries that are almost three years old that have had a resistor used on them since they were new and I have never been able to trace premature battery failure to the use of resistors.

When you purchase matched cells, you're primarily paying for two things: high voltage and long runtime. I tested batteries based on similar criteria except I tested fully assembled packs and used a 20-amp load to determine run time. By run time I mean from initial voltage, right off the peak charger, to the 5.4-volt cutoff which is recommended as the lowest cutoff voltage. To compare these preassembled packs to high-dollar loose racing cells, I also tested some matched 1400 SCR battery packs that I have with 300+ seconds of runtime with 1.14 volts, dumped at 25 amps.

If you're racing stock motor applications many of the battery packs available will provide respectable power for the full four-minute race before dumping (assuming it is geared properly). Stock motors usually provide lower amp draw than modifieds so the battery's capacity is not consumed as fast. The higher the voltage, the more rpm the motor produces so the faster your car will go. Be aware though, as voltage increases so does amp draw, explaining why a car will run longer on four cells than on seven.

When racing modified motors the amp draw increases as the armature winds decrease (gearing and other factors influence amp draw as well). So run-time and battery capacity become more important than in stock racing. Pack voltage still translates to motor rpm but without high enough cell capacity, you won't run for the full four minutes. I have quite a few 1200 battery packs that have good voltage, but when they're run in my race truck with a 12-turn motor they don't nearly make the four-minute mark. Typically, the 1200 battery packs dump at about 3:10 when I race with them. On the other hand, I have some 1700 SCRC Sanyos that put out roughly the same high voltage as the 1200s, but making the four-minute mark is no problem. The KN 1500 batteries I referred to above can reach the four-minute mark, barely, but the voltage is lower than the 1700s so they make my truck significantly slower.

When racing modified motors the amp draw increases as the armature winds decrease (gearing and other factors influence amp draw as well).

WHAT'S THE DIFFERENCE?

Figure 1 is the result of the "dump test" I put the batteries through in order to determine the average voltage across a four minute time span for each type of battery I tested. As the batteries dumped, I recorded the voltage every 15 seconds and averaged the results for the entire four minutes for each battery. Then I took the averaged total voltage of the individual batteries and averaged them together to get what I will refer to as "pack average" for a given type of battery pack. Immediately prior to the dump test, each battery was repeaked using my Tekin BC67 charger in an effort to simulate the same conditions as race time.

As you can see there is a noticeable difference in voltage between the various types of battery packs. Unless you were racing stock against identical competition, you probably would not notice pack average of less than a quarter of a volt difference. A quarter of a volt seems imperceptible but it really may not be if you look at it considering the following factors. The typical usable battery pack range is from approximately 7.0 volts to 5.4 volts, that's only a 1.6 volt area that your using during the entire race. Suddenly a quarter of a volt becomes 15 percent of your usable capacity over the span of the race, not an insignificant difference.

Another important factor, particularly when running modified motors, is the mAH (milliamp hours) capacity of the battery. This mAH capacity translates to runtime and the more mAHs you have, the longer it takes for the battery to go dead. As I mentioned before, when I race my stadium truck with a low-wind motor, my 1200 mAH batteries don't make the full four minutes so I won't never race these batteries under a competitive situation, although the voltage they produce is very good. I have to run my 1400s, I500s and 1700s if I am going to finish the race. As you can see from the chart, the I500s are considerably slower, so I practice with them and burn them off first. I then move onto the 1400s where voltage is slightly higher and then finish the day with my 1700s, which have the highest voltage. As my driving accuracy increases throughout the day, I use the faster battery packs. Run time is also determined by many factors like gearing, drag, weight and other things. The best investment in run time you could possibly make is bearings. My experience with bearings has been nothing but positive and run time usually increases by about one minute in my offroad trucks. Top speed and initial starting torque can also be increased through the use of bearings, but the most apparent increase will likely be run time. I would recommend bearings as a primary upgrade item for the improvement in run time alone.

Figure 2 indicates the run time difference between the batteries I have tested. I used a 20-amp resistive load which is arguably less load than the track conditions an offroad race truck or buggy produces. Some of the batteries actually look better on paper under this test than they perform in my truck on the track but this is relative since I'm strictly comparing the batteries to each other. Modern theory says to stop dumping the battery when the voltage reaches 5.4 volts because the car cannot run well under that voltage and the risk of cell reversal increases substantially. The chart was plotted by determining initial voltage and timing it until the battery has discharged to 5.4 volts. This was not a practical situation with the P-170s I tested since the voltage curve of these batteries is substantially lower than the others so no dump time is plotted for them. I did notice however, that when raced in a similar

continued on page 59



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■ LEFT: One of these trucks has to be going in the right direction. Actually the truck to the right is going in the right direction, while the lower truck is definitely going in the wrong direction, and the truck above could be going in any direction. ■ RIGHT: Some of the guys don't even try to clear the doubles, they just drive over them, while others give it their all.





BY GENE HUSTING

1995 REEDY TRUCK CHAMPIONSHIPS

The 1995 Reedy Truck Championships were sanctioned by NORRCA, and held at the world-famous Ranch Pit Shop in Pomona, California. There was a special Invitational Class for the faster drivers, as well as an Expert Stock Class, Expert Modified Class and an Open Gas Class.

The track is quite large, with 23-second lap times common. There are enough different turns and jumps to make it quite challenging. A slight breeze made the 95-degree summer days acceptable. The track was watered every third round, and using a rotating starting grid, with IFMAR-type starts,

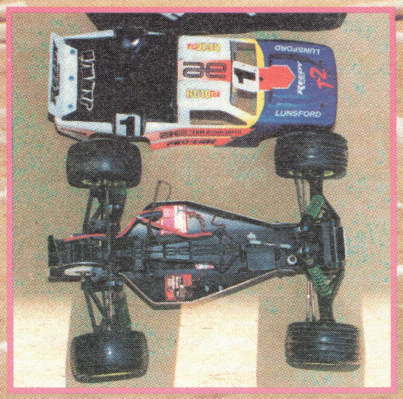
■ LEFT: Richard Saxton did everything right, taking Top Qualifier honors in both the Invitational Class and in the gas class. ■ RIGHT: Jay Halsey has returned back home where he belongs. Welcome home Jay!











LEFT: Mike Reedy was kept busy all weekend servicing motors. He must have done a od job. His motors took first and second in the Invitational Class, and first, second and rd in the Expert Modified Class. ■ RIGHT: Richard Saxton's RC10T2 features Reedy otors and batteries, Novak receiver and ESC, Airtronics radio and Pro-Line tires.



Pretty Misty Fossum presents the trophies to Richard Saxton (L) for TQ'ing and winning the Invitational Class, while Jason Ruona finished a close second. Greg Hodapp was third, but left the track early.

Mike Walker made the T-shirt for the race, and took the Wheaties Breakfast of Champions slogan, and tweaked it to read, Reedys—Truck Race of Champions.





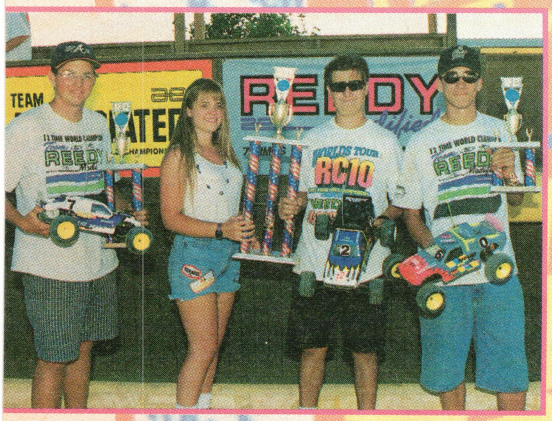
The Ranch Pit Shop has a large track with a table top jump right in the middle of the track. First you must go over the double jump perfectly to get enough speed to make the table top.



This is only half the track, which will give you an idea of the size of the track. Check out the double jump.



Richard Saxton (c) makes it a double by also winning the Gas Truck Class, with Jason Ruona (R) taking another second place, and Austin Dvorak (L) finishing third.



Todd Cariseo (C) took a convincing win in the Expert Modified Truck Class, with Bryce Beaver (L) taking second, and Coin Macrae finishing third.

That happy guy in the center, is Jason Ashton who won the Expert Stock Truck Class, with Alex Guerrero (R) less than a second behind in second, with Richard Trujillo (L) third.



everyone had equal track conditions. J. R. Sittman ran his usual professional races, with everything being run right on schedule, and I didn't hear of one complaint concerning racing.

INVITATIONAL QUALIFYING

There were a couple big surprises in qualifying. Richard Saxton, from Las Vegas, took the Top Qualifier honors on his very first run, surprising even Richard. Richard's truck was dialed in perfectly for this track, and he took advantage of the super handling and went fast without making any mistakes. He turned 11 laps in 4 minutes and 10.08 seconds, or 11-4.10.08.

I asked Richard where he practiced in Las Vegas. He said there was just one outdoor track that was really bad. So, that's where he had to run. He spent a lot of time tuning his truck to work as good as possible on the bad track. When he ran on the Pit Shop track, his truck worked so well he felt like the truck was so glued in, he couldn't make a mistake. He not only set quick time on his first qualifying run, but he backed it up by setting next quickest lap on his third qualifier with 11-4.10.78.

Greg Hodapp wasn't too far behind taking second place with 11-4.10.80, followed by Jason Ruona with 1 1-4.11.03, then Matt Francis with 11-4.11.36. Mike Weed had to stand with the aid of crutches, because of a motorcycle mishap, but he managed to take fifth spot with a good 11-4.11.42.

The biggest surprise was Brian Kinwald's times of 11-4.18.06, 11-4.16.30 and 11-4.16.90, which put him 12th overall in the B-main.

GAS TRUCK QUALIFYING

Greg Dennett took the top spot in the first round of gas truck qualifying, with a quick 13-5.06.44. Jason Ruona bettered that with a 13-5.05.17 to take the lead in qualifying, while Vince Stolo took over the second spot with a close 13-5.06.03. And then in the final round, Richard Saxton took his second T.Q. trophy, with a great time of 13-5.04.35. Nick Lasley moved into third place with a good 13-5.05.64.

EXPERT MODIFIED TRUCK QUALIFYING

Alex Guerrero took the T.Q. spot with a quick 11-4.12.67 followed by Todd Cariseo with 11-4.14.14, and Billy Easton at 11-4.14.53, with Nick Lasley at 11-4.17.79, and Colin Macrae with 11-4.17.97.

EXPERT STOCK TRUCK QUALIFYING

Richard Trujillo added his name to the T.Q. list with a fast 11-4.19.60, followed by Alex Guerrero at 11-4.20.01, and Jason Ashton with 11-4.20.64, and Mike Kendall with 11-4.20.86, and Ryan Murray at 11-4.22.40.

INVITATIONAL CLASS A-MAIN

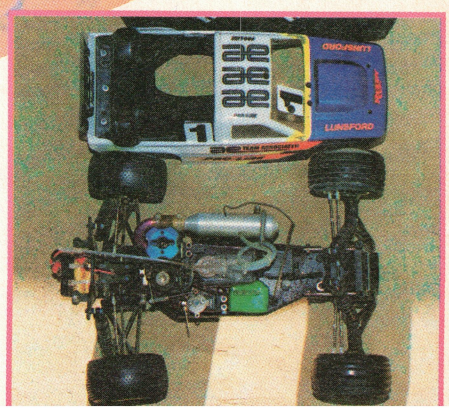
After the driver introductions, the trucks were placed on the short chute, in front of the drivers, the horn sounded and we were underway. Richard Saxton took off in the lead, from his #1 starting position, with Greg Hodapp close behind, and Jason

continued on page 62



Jason Ruona keeps getting better, taking second place in the Invitational Class, and then following that up with a second place in the Gas Truck Class.

Richard Saxton's RC10GT gas truck uses and O.S. Max CZ-Z engine, with O'Donnell fuel and Pro-Line tires.



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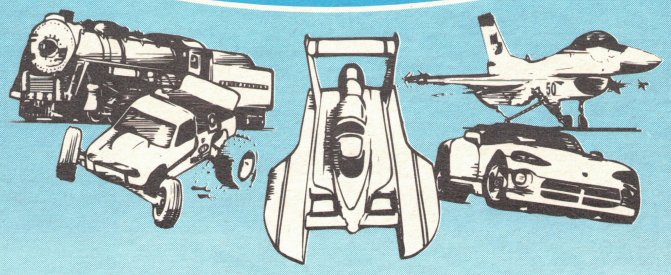

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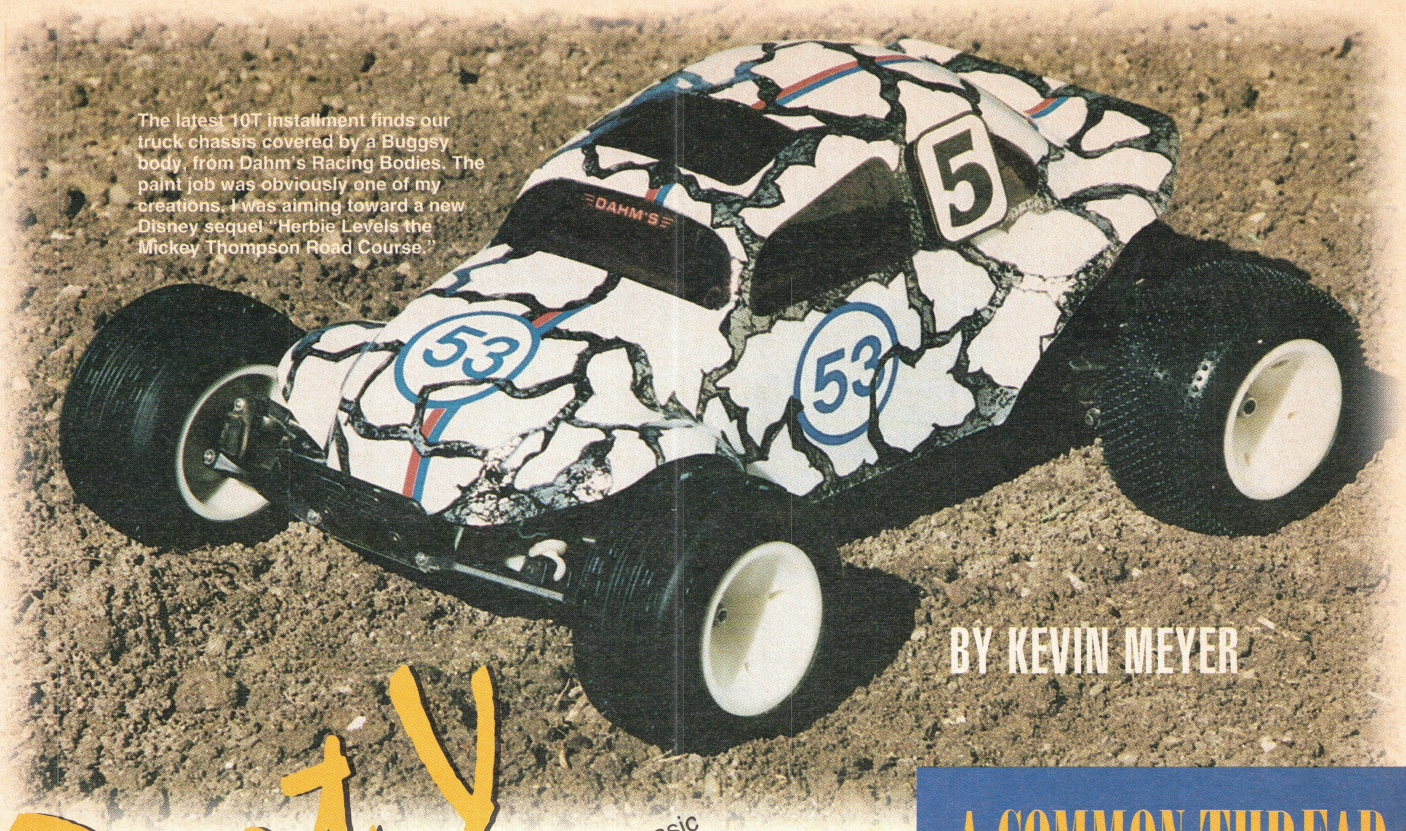


The latest 10T installment finds our truck chassis covered by a Buggsy body, from Dahm's Racing Bodies. The paint job was obviously one of my creations. I was aiming toward a new Disney sequel "Herbie Levels the Mickey Thompson Road Course."

PROJECT 10T Part V

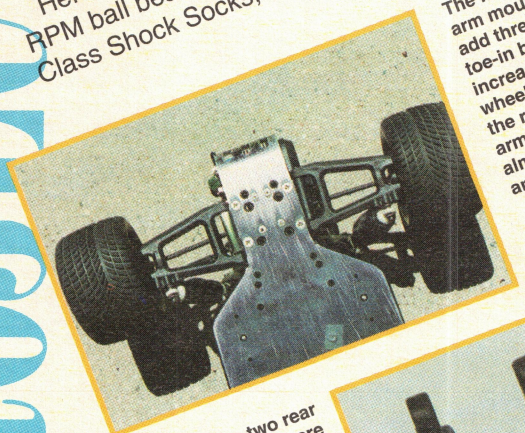
BY KEVIN MEYER

Last year (September, 1994) we assembled a basic Associated 10T kit, with the aim of racing and updating the truck as months went on. I'll have to admit the stock version is more than adequate as it comes from the box, and with the release of the all-new and improved 10T2, one could get along satisfactorily without any of these new aftermarket parts. But, if of you are like me, you won't let that stop you.

TOTAL RECALL

Here's the list of modifications made so far: Part 1, RPM ball bearing bellcrank; MIP CVD shafts; World Class Shock Socks; Litepeed Litesink. Part 2, Pro-

continued on page 63



The RPM suspension arm mount not only add three degrees of toe-in but also increase the wheelbase. Note that the rear suspension arm is moved back almost a quarter of an inch.

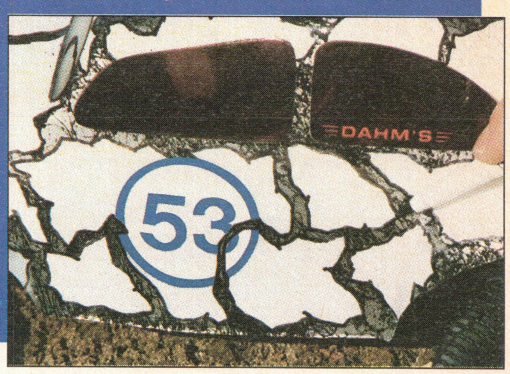


When the two rear bearing carriers are compared you see the center of the new carrier is actually lower than the original part. Because the carriers are larger they allow for a heftier bearing to be used.

A COMMON THREAD

Now it's time to reward one of our faithful readers...yes, we're talking contest here—but an easy one! We're giving away this nifty Dahm's Buggsy body seen here, the same body used in this article. All you need to do is to find the common thread that has run through all the 10T upgrade articles we've run. Here's a clue: It (the theme) is in the photos of each article since Part One back in September, 1994. There are a bunch of you who probably already have figured it out. If not, dig out your back issues or call up our order desk and have the back issues sent to you. But hurry! We're going to put all the correct answers in a giant barrel and pick a winner. Do it now and you'll have a chance to win this cool Dahm's body. The contest closes November 1, 1995. Send your entries to: Body Contest, RC Model Cars Magazine, Box 2459, Capistrano Beach, California 92624. •

The racing stripes and numbers were cut from Coverite. Dahm's Instant Window Tint was applied to the outside of the body. Overlay several layers to get the dark limo effect.



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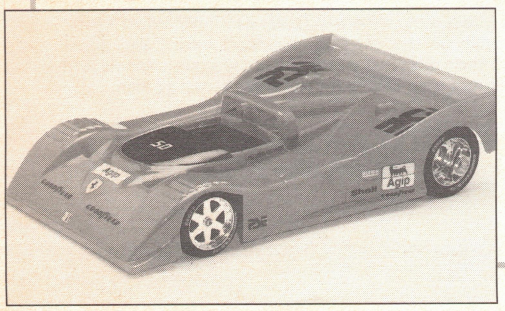
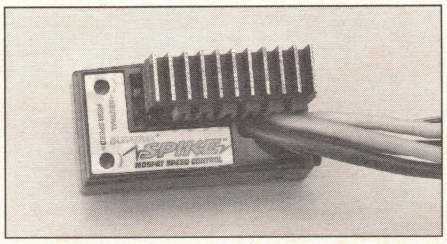
AWESOME '95 WHAT'S NEW PRODUCTS

WSC FERRARI BODY

The new World Sports Car series leading car is the open-cockpit Ferrari, and now Parma/PSE has reproduced the body in 1/10 scale for RC enthusiasts. The body comes with a wing that can be adjusted for increased downforce. Parma International, 13927 Progress Pkwy., North Royalton, Ohio 44133.



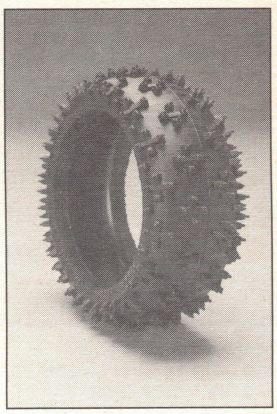


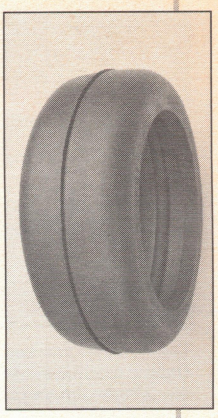
DURATRAX SPIKE ESC

The new forward-only Spike electronic speed control is a sport ESC that comes at a reasonable cost for modelers graduating from mechanical speed controls often found in RC car kits. The Spike handles from five to seven cells and comes with an on/off switch and 30-amp fuse protection against overload or incorrect hook-up. Other features include temperature-sensing circuitry that shuts down the speed control before heat damage can occur. BEC circuitry eliminates the need for a separate receiver battery, which lowers the ESC's weight, increasing the potential run time. The Duratrax Spike comes complete with heatsink, capacitors, screwdriver, instructions and 120-day warranty. From Duratrax, 2904 Research Rd., Champaign, Illinois 61826. (217) 398-3600.

AFFORDABLE DURATRAX 1/8 TIRES

Duratrax Ellegi Technics 1/8-scale offroad tires have won numerous European championships, and now they are available in America. The tires are as affordable as they are competitive. The extremely high rubber content is evidence of quality construction, available in six different tread designs for all track conditions. Quality foam inserts are also being offered. The one-piece foam inserts add strength and rigidity while being contour-molded to fit perfectly inside most 1/8 offroad tires. To fine tune tire performance, they are available in three compounds. From Duratrax/Great Planes, 2904 Research Rd., Champaign, Illinois 61826. (217) 398-6300.





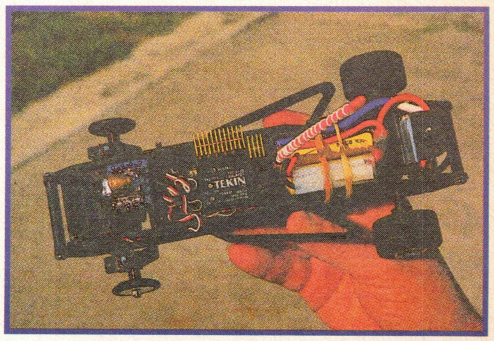


Converting the BRP Oval Outlaw to a drag racer only required a few bits and pieces from the hobby and hardware stores. Regular O-rings are used for front tires, a Revell plastic model kit supplied the small-scale Hemi engine and the chrome rear wheel inserts, and MonoKote trim sheet was applied to the front rims.



BY RICK EYRICH

Total money output for the BRP drag truck changeover added up to only around 20 bucks, plus four to five hours of building time. The assembly of the small-scale Hemi engine took up most of this time so this conversion is well within the ability of most RCers.



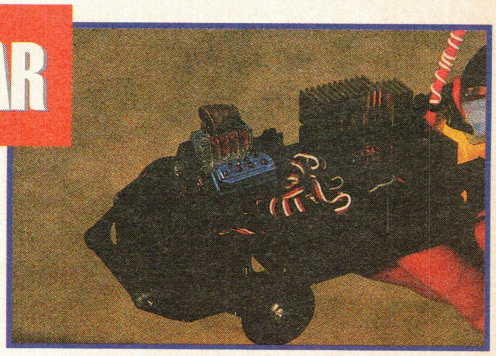
Although the same S132 steering servo was used on the dragger, a Futaba PCM receiver and transmitter now controls the BRP truck. New Lexan body mounts allow the pickup shell to sit nice and low on the chassis.

Conversion Project

THE BRP OVAL OUTLAW TO DRAG CAR



The Hemi engine and wheel inserts used on the Outlaw modifications came from the Revell model kit; the Jungle Jim Vega Funny Car (part # 7356). Although there was a difference in scale between the RC car and model kit, the blown engine looks right at home on the BRP.



Once the model kit engine was assembled, one-half inch was removed from its lower section to allow it to sit correctly on the chassis. A Lexan mount and some servo tape attached the Hemi to the main chassis and the mount also clears the steering servo as well.

Imagine a really nasty day where rain, wind, and cold temperatures eliminate any possibility of running your 1/10-scale electric drag vehicles outdoors. Of course, you could run them inside; but let's face it, it's tough to locate enough inside space to run 132 feet safely. So suppose, just suppose, you had a smaller RC drag car capable of RC scale indoor drag racing?

Well, wonder no longer, as you can easily convert the popular 1/18-scale BRP Oval Outlaw RC vehicles into mini-sized drag cars. We'll outline how the truck version of the BRP line was modified to straight-line racing specs.

WHEEL AND TIRE MODIFICATIONS

A major part of the BRP drag conversion centered on the front end of the chassis:

continued on page 65

BATTERY PACKS CONT. FROM PAGE 28

truck setup, run time was comparable to the 1700 SCRCs that I use, and achieving four minutes was not a problem. Not as scientific a comparison as I would have liked for the P-170s, but I was reluctant to destroy borrowed batteries.

The KR 1300s are the type found in Trinity Zip Packs (and possibly others). The voltage was good, but the run time was lacking due to the capacity rating. Run time was so lacking, in fact, that when reconfigured to four cells and run in our Legends cars, they could not make the full five-minute race. These batteries have been recharged as many as four times in four hours with no apparent side effects. Given that they can be purchased for as little as $13, they are a great low-cost value for someone not concerned with running for four-minute races. I had three 1300s available for this test, ranging in age from two to three years old.

The 1200s are Radio Shack's own Turbo Enercell battery packs. Radio Shack has these batteries manufactured for them in Taiwan and I could not find out who was the manufacturer. These were tested primarily because I have a ton of them, and Radio Shack is often more readily accessible than a hobby store, depending on where you live. These batteries are remarkably tough—some of mine are three years old and still going strong. I've recharged them repeatedly the same day with no adverse effects. I had overcharged one before I got my peak charger, and then put in my truck and ran it hard. When the battery came out, the shrink wrap had melted off the pack and the end caps were deformed due to extreme heat and I was certain the battery was toast. Oddly enough, I have no problems with it. These batteries are $20 each, which is approximately the same as a 1400 SCR pack. The 1400 SCR averaged over 1 minute of additional runtime but lacked one-third of a volt. The 1200 is faster in your car but for the same cost, the additional run-time the 1400 provides is worth sacrificing the voltage. The largest downfall I have found is that these batteries are welded together, so reassembly is impossible without ripping holes in the cells. I had seven Radio Shack 1200 batteries for this test and most of these batteries are two and three years old.

The red cell Sanyo-matched 1400s are only included as a point of reference. These cells were not assembled and cost $50 for six loose cells. Voltage is high (cells are marked at 1.14 v) and runtime is excellent (300 seconds) for a 1400. Everybody who runs them, notices their car is faster than with any pre-made packs they own. These cells are about eight months old and prove, that in the battery world, you get what you pay for. I have some preassembled 1700s that put out higher voltage and more run time than the 1400s and I also have some 1700s that are slower

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Anoka, Minnesota 55303
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Bob Clark (505) 310-0473

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Bob Curto (914) 668-0843

Northside RC Speedway
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Tonawanda, NY 14150
(716) 875-3435

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Ronald Hodgson (914) 796-2277

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Carolina Dragway
907-C Warsaw Rd.
Clinton, NC 28328
(919) 592-9489

Winston RC Drag Assn.
Winston-Salem, North Carolina
(919) 983-9416

PENNSYLVANIA
Pro Challenge Raceways
23 S. Highland Ave.
Lansdowne, Pennsylvania 19050
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Tri-State Electric Drag Racing Club
138 So. Springfield Rd.
Clifton Heights, Pennsylvania 19023
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Sudbury Organized Auto Racing
Hanmer, Ontario Canada
(705) 969-5044

Racine Drag Racing
875 55th Ave.
Lachine, Quebec, Canada
H8T 3B5
(514) 631-1360

Note: If you know of a drag club or track that should be listed here, send the information to the Editor at RCMC, Box 2459, Capistrano Beach, California 92624. If you sell drag racing-related parts and equipment, we'd like to hear from you too.

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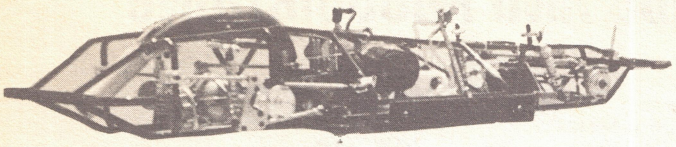
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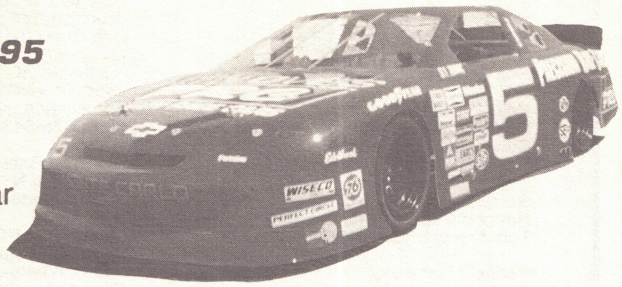
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than the matched 1400s. When you purchase matched cells, you pay for consistency as well. I use the matched 1400s for my qualifying run because voltage is good but the dump time is so close to the four minute mark, I don't want to risk a DNF (did not finish).

The 1400s are a great low-cost, good-all-around battery. They can handle repeated same-day chargings and have good run time. Voltage and run time place these batteries in the middle of both charts and you get quite a bit of both. These are not pro-level racing packs but they do provide plenty of punch and run time for backyard blasting and racing. They can make the four-minute mark so they are usable in local club races with a mild modified motor. A friend of mine has a bunch of these batteries he uses for our backyard racing and he has no problem making four minutes running a 14-turn, quad-wind motor. Perhaps their single biggest attribute is their ability to recharged over and over again in the same day, which is good if you don't have a lot of batteries. These batteries are assembled with tabs and can be rebuilt if necessary. Eight of these batteries were tested and none of them are more than one year old.

The KN 1500s just don't do it for me in the applications I have and I was really not satisfied with their performance although the price was good and these are high-quality cells. I have a Clodbuster with Slot Machine motors and I can get four to five minutes of run time from these batteries which isn't too bad. Perhaps this is the best application I have found for these batteries, because speed is not a concern in a Clod. When run in my monster truck, (standing start) wheelies are not possible due to low voltage output. Sometimes I can get just one wheelie out the truck when the battery is freshly peaked while all my other batteries provide wheelies for the full charge period (pavement only). Run time is less than at 20 amps and everybody who has run these packs has noticed they are slower than others they have run. These batteries should provide for a full four minutes of power for stock motor applications. When I made them into four cell packs, they ran our five-minute Legend races without a problem. These batteries get considerably warm after charging (at five amps) which I suspect is due to the standard charge designation I mentioned before. The price is attractive; for about $36 you can get two batteries, which is a good deal for the budget-minded who are not concerned with speed but who want more runtime than the 1300. I have recharged these batteries repeatedly in the same day (not recommended) and have not yet noticed a problem. The KN has similar voltage to the KN1300 but the KN1500 clearly has more run time. These KNs are assembled with tabs, so rebuilding is not a problem. Six KN1500 battery packs were used for the average given and none of them are over 1 year old.

The Black Sanyo 1700 SCRCs really pump out the juice in the pre-assembled battery pack category and if I had to replace the 20+ battery packs I have now, everyone would be a 1700 SCRC. My Clod gets about seven minutes of high-speed run time out of them and my 12-turn race truck can make the four-minute mark with no problems. My monster truck can get up to nine minutes of backyard bashing on a single charge running a 17-turn single. Voltage is high and the packs clearly make the car fast. What can I say about these cells? Of all my batteries, these are my first choice for any application. The durability, high voltage and long run time is why so many manufacturers use them as the starting ground for matched cells. They are, of course, the most expensive of the pre-assembled packs available running around $35 to $40 each but I have determined they are worth it for my needs and they, in fact, beat all contenders in the pre-assembled battery pack category. The high cost is offset by the fact these were designed for fast charging and high discharge with repeated same-day charging. Tab soldering makes rebuilding a cinch. I have six Sanyo SCRC 1700s that I used for this test; some are two years old or more.

The P-170s were borrowed from a buddy and I have no personal experience with them. They were included in the voltage chart because these are popular batteries but I was reluctant to push it in to the dump the category because the voltage was well below 5.4 volts and I was afraid of causing cell reversal. I can, however, tell you these batteries will last for the four minutes of a race, because I've never seen his car not finish and its run time is comparable to my 1700 SCRCs. At the time of this writing, he was running a 13-turn double, which puts a light drain on any battery. I must make note of the voltage readings though. I was told by more than one hobby store owner that these cells have low voltage and the voltage chart showed that but I also must note that his 13 turn, running these batteries, kept up with my 12-turn SCRCs. If you have the opportunity to borrow one and run it in your car before you purchase it, you may want to see for yourself. I would also recommend talking to the owner of the battery pack and getting their input as to performance and longevity of these batteries. The person I borrowed these from will not purchase them again because of the erratic operation and short lifespan problems he had with five out of his dozen P-170s. If run time is your only concern and speed is not an issue, these packs are about $6 cheaper than SCRCs, with

mail order houses offering bulk deals. The packs are tab-built so replacing cells should be easy. Three batteries were borrowed for this test and the batteries were over 1 year old. Given the volatile nature of these batteries, I'm certain my results were lower than what a new battery could have produced. According to the Panasonic technical manual, if you purchase these batteries assembled in packs directly from Panasonic, they are matched packs. No detail is provided as to the method of matching or the amps used but it's nice to know they provide that service.

After doing all the research and trying all the listed batteries in various applications, I found the Sanyo 1700 Black cells to be the fastest and longest running of all the cells I tested in every car I tested them in. I had others test each type of battery in their own cars to see if my findings were correct and they agreed that speed differences were readily apparent, but runtime is more subjective unless on a timed track. If the price of the 1700s is too steep for your particular needs, the 1400 SCR packs certainly do the job. I you buy 1400s be certain they are labeled SCR. You can purchase 1400 SCRs at just over half the cost of the 1700s (packaged under a variety of names), and given their performance, and ability to withstand abuse, they are certainly worth it. If you're an experienced racer or a serious contender in your local club you're probably not running these pre-made packs, although I did find some of the Sanyo 1700s to have average pack voltage exceeding the matched 1400s I had (costing $20 more), which was surprising.

Thanks to Henry James for the use of and his experiences with his PI70s and John Letendre for his 1300s and 1400s. Their contributions allowed this article to cover many more batteries than it would have otherwise.

PRODUCT SOURCES:

Panasonic Industrial Corporation Secaucus, New Jersey 07094. (800) 848-3979.

Sanyo Energy Company, 2001 Sanyo Avenue, San Diego, California 92173. (619) 661-6620.

Duratrax/Great Planes Model Distributors, Box 9021 Champaign, Illinois 61821. (217) 398-6300.

Tekin Electronics 940 Calle Negocio, Ste. 140, San Clemente, California 92673. (714) 498-9518. •

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CHEMICALS CONTINUED FROM PAGE 30

and shock housing bodies, and even flanged nuts will hold them in place quite nicely. Should you need to remove the clips, the dried Tamiya lock can be removed with an X-Acto blade or jeweler's screwdriver.

Any Loctite/thread compound requires two main things to achieve proper screw locking: clean surfaces and a minimal amount of liquid agent. Always use some motor spray to pre-clean the fastener and the threaded hole thoroughly prior to attachment. Loctite sells their Clean and Prime solvent just for this purpose and careful preparation is always necessary to ensure a snug and secure fastener. Never ever apply a thread compound to rusty or corroded screws, bolts, or threaded pieces. You're asking for a lousy and loose bolt and a potential DNF due to a missing part on your RC vehicle.

Another pre-assembly thread-locking tip centers on the actual amount of locking agent used for the job. A ton of folks apply way to much compound for a single nut or bolt. You only need enough locker to lightly coat the threads of the bolt or nut to achieve a proper job. Any agent that shows outside the threads will be wasted and the excess on the inner threads will make any future attempts for removal real difficult. Loctite needs low air or sealed areas to cure properly so remember, "More is better" doesn't apply to the amount of locking agent you use to hold your car's fasteners tightly!

OTHER BOLT-HOLDING TECHNIQUES

Besides liquid locking, there are other sources and ways of retaining nuts and bolts on RC cars. In some cases, you may only need a tiny bit of retaining ability or even some way to tell if a fastener has loosened up.

One option is regular Teflon tape which is mainly used for plumbing and hydraulic fittings use. This white tape is very flexible so you can form-fit it to a bolt or screw's threads very easily. Teflon tape will only act as an interference type of locking system which would be better for RC car bits like nylon nuts on steel or aluminum shafts, pressure fittings on fuel tanks and carb needle valves.

Another low-stress locking agent for plastic is regular old thick CA (cyanoacrylate) glue. Should you have a situation where a metal screw has loosened slightly in a plastic hole like a battery cup holder on a chassis a couple of drops of thick CA in the screw hole prior to assembly will usually retain the screw good and tight. Another CA lock area would be nylon pieces that require a threaded bolt like those found on nylon shock towers, shock bodies, or even A-arm/motor mount bits.

Silicone sealer and Shoe Goo or Goop can also be used to keep fasteners from falling off your trusty RC vehicles. Rather than coating the threads of bolts or nuts, use the sealer/Goop to cover over the top of the offending fastener to prevent any loosening. Again, more isn't better with this technique, so only cover the nut/bolt slightly and the surrounding area. Also, keep in mind that silicone sealer is also sold in a high-heat version which could be of help on gas RC vehicles.

Use the high-temperature sealer on pipe mounting hoses, exhaust flanges and the base of spigot-style carb assemblies, and around fuel couplings.

One old trick for locking nuts and bolts and keeping tabs on their tightness involves the use of enamel paints. First, coat the threads on a small bolt with a bright white, red, or yellow enamel paint and then install the nut on the bolt and torque it on. The paint should show up on both the outer portion of the bolt and nut, and this outer coat of enamel allows you to keep tabs on the tightness of the fasteners. The dried paint will split or crack should the nut back off. A pre-race eyeball check of your car's bits will show this up. Re-tighten the nut and re-coat the area for future inspections. NOTE: I've stressed the use of

enamel paint over water-based or Latex type paints for two reasons: enamels tend to be thicker in consistency and coats better than Latex, plus the enamel handles any heat and water better as well.

NON-CHEMICAL LOCKING TECHNIQUES

For those situations were chemical thread agents are not recommended you have several options such as lock washers, nylon locking nuts, and safety wiring. Lock washers should only be used in areas were over-tightening of the fasteners won't damage the parts being held together. For these areas, you have two types of lock washers: crimp and star styles.

The crimp style which has an angled cut end is by far the most common lock washer. The star-type locker uses several small twist ends around its outer diameter to retain small nuts and bolts. The star lock would be best for lower-stress RC car spots like motor pod screws, metal chassis stiffeners and motor screws. Use care with either locker around plastic parts as an over-tightened fastener can crack or break some types of plastics.

Ny-lock nuts are very commonplace on RC vehicles. Again, be cautious on what kind you purchase. Some locking nuts do not use nylon inserts to grip a screw's threads; they use metal on metal and can damage the threads of the bolt. Stick with the nylon insert locknuts and avoid re-using them too much on the more important parts of your car like axle nuts, diff nuts and around any high-vibration pieces on the chassis.

The final option for retaining nuts and or screws is by using safety wire, made from stainless steel, primarily used on aircraft and racing cars to ensure they stay put. The larger scale RC vehicles will be about the only ones to benefit from this system as you must drill out the bolt or nut to be wired. This drill work will be more difficult on the smaller the nuts and bolts become; so, keep this in mind. This small diameter safety wire is also quite flexible; so, it's very durable and won't break even under severe usage. Once the fastener has been drilled the wire is passed through the hole, twisted several times and then attached to another solid point.

Another bolt head, body post, etc. will do, and this will retain the pre-tightened nut/bolt in place. This setup is mainly for extreme cases; but it will keep any fastener firmly in place on any RC car.

So, as you can tell, there are many good ways to keep your RC car's parts from ending up trackside. Of course good preventive maintenance is ultra-necessary to prevent this; but with a combination of proper maintenance and good fastener retention, any RC car will keep all of its needed bits solidly attached for a long time.

PRODUCT SOURCE

Loctite Corp., Automotive and consumer group, Cleveland, Ohio 44128.

Pacer Technology, 9240 Santa Anita Ave., Rancho Cucamonga, California 91730.

Devcon Corp., Wood Dale, Illinois 60191. •

DODGE TRUCK CONTINUED FROM PAGE 34

a "bag" of stuff when you only need a couple of items. So with this in mind, you can buy several bodies and paint them up individually. The sky's the limit!

Overall, I think Parma has turned out another great kit. As with their roadster, this promises to be around for a while. Again, fun comes to mind. I am an avid racer, but occasionally I get to spend some time with a kit that is designed for pleasure. After all, I got into this hobby to have fun with my spare time. RC racing is supposed to be fun. The JR Python radio is a real winner, too. It is easy to operate, and felt stable in my hand.

If you want fun at an inexpensive price, go to your local hobby dealer and check out the Dodge Ram.

If you want fun at an inexpensive price, go to your local hobby dealer and check out the Dodge Ram. It's worth your attention.

PRODUCT SOURCES

Parma International, 13927 Progress Pkwy., North Royalton, Ohio 44133.

Horizon Hobby (JR Radio), Box 4105 Fieldstone Rd., Champaign, Illinois 61821.

Tekin Electronics, 940 Calle Negocio, Ste. 140, San Clemente, California 92673. •

PARKING LOT CONTINUED FROM PAGE 44

Just for the asking you could drive a Traxxas Stampede and enjoy RC car excitement as an active participant. Traxxas had great success with the track, and I'll tell you, those Stampede trucks took a real beating and kept right on going. Thanks to Mike Jenkins (who was also present in the midway) for providing the track, trucks and fun. Thanks to Hobby Shack's "Blue Crew" for helping out all of the people attending the Try Me Track.

In the midway there were some great things going on too. Peak Performance was there to show their wares, and Rick Hohwart the man in charge was racing his sedan. Bob Novak, of Novak Electronics was on hand, and was seen helping out several drivers who wanted advice or needed technical support. Pro-Line had a gigantic display Wcomplete with the new Ground Hawgs F1 tires and rims.

At the Futaba booth they had a display set up with all of their servos in clear cases. Hey, in case someone is paying attention, how about selling those servos like that. Better yet, how about colored ones like pager cases? Just a thought. (By the way, if you make money on the idea, I accept royalties, thank you very much.)

World-famous Tamiya was on hand displaying their many models, including their series of scale RC Formula One cars. They also had the RC Diesel truck on display—wow—that thing's huge! HPI had their new F1 car on display, and it looks fast sitting still (it will be reviewed in the December issue)—watch for it.

Outside the midway, there was a car show with some fine examples of custom and restored full-size automobiles.

Overall, the Hobby Shack Parking Lot Race program is a great success. The Blue Crew is available to everyone for expert advice and help, and they run a family-oriented race program. When I first started racing, I wish I'd have had someone like this to help me along. If you want to get started in this thrilling sport, visit your local hobby shop and tell them you want to go parking lot racing—it's nothing but fun—and inexpensive! •

REEDY RACE CONTINUED FROM PAGE 54

Ruona following closely in third. Hodapp kept trying to find a way around Saxton, but Saxton was going fast and he wasn't making any mistakes. So, for the first 2 minutes, it was a three-truck freight train, with Saxton leading, Hodapp three feet back, and Jason following, another three feet back.

Then, Hodapp made a desperate attempt to pass Saxton on the outside, but the track was too slippery and Hodapp spun out, moving Ruona into second place, with Matt Francis now third, and Hohwart fourth. Hohwart moved into third, but then had a problem at the three-minute mark, and dropped out of the race.

Saxton had a five-foot lead over Ruona, while Hodapp was having a race with Matt Francis for third. Francis finally got sideways, and Hodapp took over third. But nobody was going to catch Saxton. He took the checkered flag with Ruona one second behind in second place, and Hodapp another second back in third place, followed by Matt Francis and Jimmy Jacobson.

INVITATIONAL CLASS A-MAIN

PLACE, RACER, TRUCK, MOTOR
1 RICHARD SAXTON, RC10T2, REEDY
2 JASON RUONA, RC10T2, REEDY
3 GREG HODAPP, LOSI XXT, MAXTEC
4 MATT FRANCIS, RC10T2, REEDY
5 JIMMY JACOBSON, RC10T2, REEDY
6 SCOTT HUGHES RC10T2, REEDY
7 MIKE WEED, LOSI XXT TRINITY

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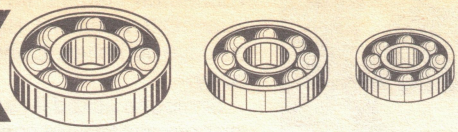

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8 SOHRAB TAVAKOLI, LOSI XXT, PEAK
9 RICK HOHWART, RC10T2, PEAK
10 GREG DENNETT RC10T2, REEDY

INVITATIONAL CLASS B-MAIN
1 BRIAN KINWALD
2 JIMMY BABCOCK
3 STEVE CHAMBERLAIN
4 PAT FESCHTSCHENKO
5 JACK JOHNSON
6 JAY HALSEY
7 CURTIS SCHLANT JR.
8 GIL LOSI JR.

GAS TRUCK A-MAIN

The gas trucks were lined up in a LeMans lineup, the horn sounded and this 30-minute A-main was underway. Richard Saxton immediately took the lead, with Jason Ruona in second, and Vince Stolo moving right up to third. Vince then went after Ruona's second-place spot, which wasn't an easy thing to do. Ruona was holding as tight a line as possible on the slippery track, but Vince finally found his chance, and moved into second.

Vince then moved up to challenge Saxton, but Saxton was simply running too good, and driving too good, so Vince settled in to second. Meanwhile, Ruona was having a good race with Jack Johnson for third. Their positions swapped back and forth during the pit stops for fuel.

Then, at the 20-minute mark, Vince had a mechanical problem, and had to drop out. At least he got to race 20 minutes. Greg Dennett had to drop out at 11 minutes, when he lost a receiver crystal, and Scott Hughes didn't even get to start, because his battery pack came unsoldered.

Richard Saxton was running a fantastic race, and opened up a two-lap lead on the field. Jack Johnson was running in second place, with just two minutes to go, his car didn't turn at the end of the straightaway, and went straight into the block wall, taking him out. He said he thought his battery went dead. Jason Ruona moved back into second with Austin Dvorak moving into third.

GAS TRUCK A-MAIN
PLACE, RACER, GAS TRUCK, ENGINE
1 R. SAXTON, RC10GT, O.S. MAX
2 JASON RUONA, RC10GT, O.S. MAX
3 AUSTIN DVORAK, RC10GT, O.S. MAX
4 N. LASLEY, LOSI XXT, EARL'S, O.S. MAX
5 JACK JOHNSON, LOSI XXT, O.S. MAX
6 BRAD DONOVAN, RC10GT, O.S. MAX
7 DEREK LAMB — —
8 VINCE STOLO, RC10GT, O.S. MAX
9 GREG DENNETT RC10GT, O.S. MAX
10 SCOTT HUGHES RC10GT, O.S. MAX

GAS TRUCK B-MAIN
1 DARIN LEFKOWITZ
2 JUSTIN MORRISON
3 BRIAN ROMO
4 SOHRAB TAVAKOLI
5 RANDY HAMILTON
6 SCOTT BOOKER
7 TOM HIGHTOWER
8 JAMES WALKER
9 NELSON WALKER
10 CALVIN EDGAR

EXPERT MODIFIED A-MAIN

Alex Guerrero went a little too wide into the first turn, and got into the loose stuff, and half the field went by. Todd Cariseo shot into the lead, with Albert Clemons moving around a group of tangled cars to move into second, with Bryce Beaver following in third and Ryan Murray fourth. Cariseo was being challenged by Clemons for awhile, but Clemons spun out moving Bryce Beaver to second with Coin Macrae going to third. Cariseo was flying. He drove perfectly the whole four minutes and won by over half a lap.

EXPERT MODIFIED A-MAIN
PLACE, RACER, CAR, MOTOR
1 TODD CARISEO, RC10T2, REEDY
2 BRYCE BEAVER, RC10T2, REEDY
3 COLIN MACRAE, RC10T2, REEDY
4 A.CLEMONS, LOSI XXT, DOUBLE STRIKE
5 NICK LASLEY, LOSI XXT, TRINITY
6 ALEX GUERRERO, LOSI XXT, PEAK
7 GABE BOUDREAU, RC10T2, PEAK
8 BILLY EASTON, RC10T2, REEDY
9 BRIAN ROBINETE —
10 RYAN MURRAY, LOSI, TRINITY

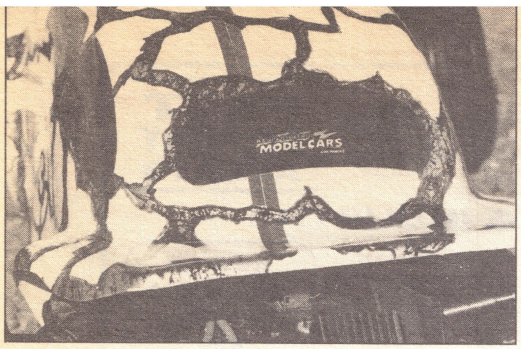
EXPERT MODIFIED B-MAIN
1 WES KASPER
2 ALBERT GUARDADO
3 TRENT BRAGG
4 JACK ROBINSON
5 AUSTIN DVORAK
6 DUSTIN BAER
7 TRAVIS AMEZCUA
8 JASON AYERS
9 BRAD NIBBELINK
10 VINCE STOLO

EXPERT STOCK A-MAIN
1 JASON ASHTON, LOSI XXT
2 ALEX GUERRERO, LOSI XXT
3 RICHARD TRUJILLO, LOSI XXT
4 MIKE KENDALL, TRAXXAS
5 TODD CARISEO, RC10T2
6 RYAN MURRAY, LOSI XXT
7 CHAD BRADLEY, RC10T2
8 COLIN MACRAE, RC10T2
9 ALBERT GUARDADO, RC10T2
10 STEVE BUTTS, LOSI XXT

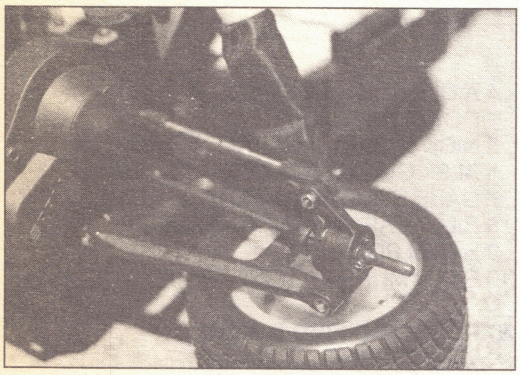
EXPERT STOCK B-MAIN
1 BRYCE BEAVER
2 BILLY EASTON
3 JUSTIN MORRISON
4 BRAD NIBBELINK
5 LLOYD DASSONVILLE
6 DAVE EHRLICH
7 TRENT BRAGG
8 DUSTIN BIBER
9 STEVE KEISER
10 WES KASPER •

10T PART V CONTINUED FROM PAGE 56

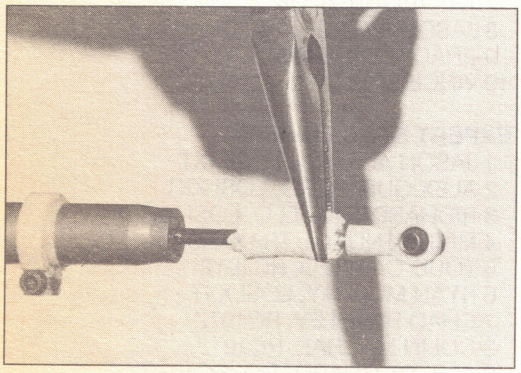
Line Road Hawg rubber; Protoform Sonoma truck body. Part 3, RPM suspension arms, bulkhead and rod ends;



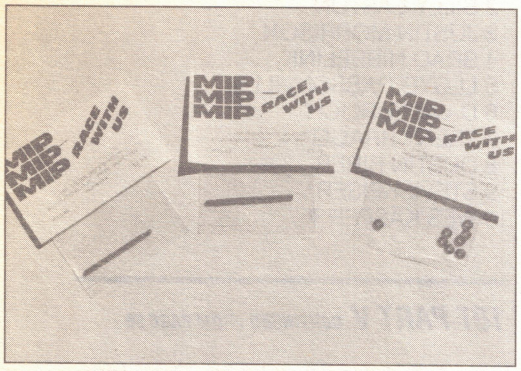
A layer of Coverite Cobweb paint was applied first, followed by Pactra's Indy Silver. Then I finished up with Sprint White. The main sections were then outlined with a Parma permanent pen. This gives the illusion that the body is broken in pieces. Yes, "The Master of the Weird" strikes again.



If you use the MIP CVD (constant velocity drive) shafts you may have to experiment with the number of washers used. Originally there are three per side. I used only one per side, which enabled me to get the roll pin through the axles.



To avoid scratching the shafts during replacement or maintenance, wrap a strip of cloth around the shaft. Grip the shaft toward the bottom.



Newly installed MIP gold shafts #1043 (front) #1049 (rear) and blue seals #1043 improve the 10T's handling.

Tecnacraft titanium tie rods. Part 4, MIP Super Diff rebuild kit; Barracuda Titanium outdrive diff halves; Dahm's Slammer truck body.

Someone asked if I was at all biased in my opinions toward some of the RC products I've been using (especially the free ones). My answer is no. I have reported as accurately as possible on the items written about through these past installments. It wouldn't be fair to the readers or the companies involved if I were to sugar-coat any of my reviews. The reason for this series is to determine which parts work and which don't. Therefore, I would be defeating the purpose if I wrote anything to the contrary. With that said, let's get on with it.

ALL THE NEW STUFF

In my last look at the 10T aftermarket scene (April, '95) I rebuilt my transmission with MIP and Barracuda parts. I gave the parts a good work out on the asphalt oval track, set up in the parking 10T where I work. Then I took them for a mosh-pit ride at the local dirt track (MHOR in Aurora, Colorado). The diff still seemed to be very smooth. I was told by Barracuda reps that the parts would be extremely high wear on dirt tracks, and that they would only yield 10-15 runs before being trashed. I said that I was determined to drive the truck beyond that point and I did. Though I did manage to get over 20 runs on the outdrives, the deterioration of the parts became apparent, it was time for a rebuild.

Before I get into the gory details, another story needs to be told about the World Class Shock Socks. This was one of the items listed in part 1. Since I've had them on my truck, which is about three or four years, I've only had to replace one pair. Unfortunately other consumers had more problems than I. I talked with Chuck Stary of World Class Batteries and expressed to him what a great product he had (I still think so). Chuck told me that because of having to replace so many of the Shock Socks the production was discontinued. The parts were actually made by another company and distributed by World Class. So, it was a great idea, but the product just didn't hold its own.

MORE NEW PARTS

Both MIP and RPM have a load of new goodies to check out. I'll start by going over a couple points about the new RPM rear bearing carriers. My first move was to boil the new nylon parts in Litespeed black Dy-Ion. Because RPM parts are so sturdy anyway, dyeing the parts was more cosmetic than anything. The most noticeable difference on the bearing carriers is their size. Next, the center of the new carrier is slightly lower, so the center of gravity should be lower too. This will give better stability in corners and better straight-line acceleration. Take note that when you set up the rear suspension: the suspension arms and driveshafts should be parallel to the ground. A helpful tip here is to set up your vehicle just as if you're going to race—install the battery pack and motor. Prop the car on to the ground from about one to two feet, this ensures all parts are moving freely and also simulates coming off a jump. When the truck comes to rest the suspension arms should be parallel to the ground once again. Adjust the shock collars, toe-in, camber, etc. accordingly. If you're in doubt, consult your 10T instruction manual. The manual setup is always a good place to start and is a basic all-around setup for most tracks. Something else I want to mention is that I see a lot of people struggling and frustrated because their vehicle doesn't handle well throughout every part of track. It's not always possible to get the setup that performs perfectly through the entire course. Sometimes making an adjustment here may mean a sacrifice in another tuning area. Your best bet is to get the handling right for most of the track and use your driving skills to get by the tough spots.

Originally I had no idea what the purpose of the three-degree suspension arm mounts were. After the first one was in place it was fairly obvious. Not only do they give the necessary three-degree toe-in, but they also increase the wheelbase of the 10T. At first I thought I'd installed them backwards. After further examination I realize I had it right. This would be a good place to cover the information included with all RPM parts. Some of the sheets lack illustrated instructions and are only text. I'm a firm believer that a picture is worth a thousand words. It might cost more to include illustrations with the instructions, but this could greatly assist the novice RCer in getting it right the first time. I would also suggest that it's a good idea to save all instructions and paperwork in a safe place for future reference.

On to the gearbox. This is an area that I try to avoid but, rebuilding the diff was no big thing. As with anything, getting started is the hardest part. I always feel a sense of accomplishment when I'm done. All parts of the Stealth transmission got a cleaning and inspection. The only internal parts replaced were the outdrive hubs. Disassemble and clean the tranny over a rag to avoid losing small parts. A shot of motor spray on a rag works great for cleaning, but be sure to use the spray in a well-ventilated area.

The MIP diff balls were cleaned and then re-lubed with the MIP diff lube, while the drive rings were in good shape so they went back in. The diff adjustment was done according to the Associated 10T manual, with final tweaking to be done after the truck is reassembled.

The shocks were also disassembled and cleaned. The shock shafts were replaced with MIP Gold Shafts. The Associated stock seals were replaced with the new MIP blue seals. The shocks were reassembled, using 30wt. silicon oil and #1 pistons, as per the manual. The one thing most noteworthy here is to use a generous

amount of shock oil on the shaft's threads when inserting them through the seals. This protects the seals against being damaged during installation and makes a good seal to prevent leaking.

The truck handled great on asphalt, so next time we'll see what it can do in the dirt. During test runs in the parking lot, my race buddy, Dan Starkey and I turned our oval race into a figure-eight demo-derby. This resulted in a broken ball end on the right rear bearing carrier of my truck, which would indicate the new carriers are taking a pretty good heating and holding up well.

Next time I'll fill you in on what went on at the dirt track and also we'll torture-test the new RPM Steering Enhancement kit along with some other neat RPM accessories. Be looking for my next 10T update. You'll only see it here in *RC Model Cars* magazine.

PRODUCT SOURCES

RPM, Custom RC Products, 14978 Sierra Bonita Ln., Chino, California 91710.

Moore's Ideal Products (MIP), 746 E. Edna Pl., Covina, California 91723.

Associated Electrics, 3585 Cadillac Ave., Costa Mesa, California 92626.

Dahm's Racing Bodies, Box 360, Cotati, California 94931.

Pro-Line/Protoform, Box 456, Beaumont, California 92223. •

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BRP DRAG CONTINUED FROM PAGE 58

i.e. tires and ride height. The first move was to remove the stock front wheels and take off the foam tires. The tires were allowed to soak in some lacquer thinner which allows the glue to loosen on the units. Once the foam tires were removed, the plastic front wheels were then narrowed with a fine-tooth hobby saw. Why? My plan was to use O-rings for front tires, so a slimmer rim was needed.

The flat inner part of each rim would now be the outer part of the drag wheels due to the recessed area of each stock BRP rim. So measure from the flat side and cut the units so they end up being 5/16-inch wide overall. A stop at a local hardware/auto parts store yielded two suitable O-rings (1-inch outside, 3/4-inch inside diameter) for the new "tires" for the BRP truck. Before you attach the O-rings to the cut down rims, clean both rims and O-rings with regular rubbing alcohol from your medicine cabinet.

Now, push the O-rings onto the plastic wheels from the inside and lay the rims on a smooth, flat surface. Edge the O-rings up until they are flat against the surface and are even on the wheels. Now apply a bead of thick CA adhesive around each rim and O-ring and allow them to dry overnight.

Now flip the wheels over and apply some thin CA to the O-ring wheel joining area. The thin glue won't look "chunky" on the outer rim area which will look much better on the completed wheels.

Mounting the new modified drag wheels on the 1/18-scale chassis will require two changes; the first is you must space out the front rims on their axles, and second, the smaller diameter O-ringed tires require a reduction in kingpin/upright height. Widening of the wheels was done with plastic spacers but you could use regular flat washers if needed. Leave the rims enough space so they don't tide on the threaded portion of the axle and use locknuts on them as well.

As for the actual chassis ride height, I found that removing the single 4-40 nut from between the kingpin and front Kydex upright mount gave the BRP the proper ground clearance with the O-ring tires. To hold the upright screw in place now that the nut's missing, use some Goop or thick CA on the head to retain it properly.

The final mod to the Outlaw's front end was done for purely cosmetic reasons. Using a dime as a diameter guide, two chrome MonoKote trim sheet "dots" were cut out and attached to the outer rim surfaces. This gave the new front wheels a racier look, and should they get nicked up, you can quickly cut out fresh ones to boot.

RADIO BITS

The same Futaba S132 servo and BRP DC motor from the original test has remained; but a different receiver/transmitter setup can be found on the drag conversion. A Futaba 1024 PCM receiver and transmitter supplies signals to the steering servo and Tekin's 411G ESC. Initial testing of the truck was done with both the four- and five-cell AA Nicad packs. I've had zero problems using the PCM Futaba on any RC vehicle from the BRP 1/18 scaler to a Q-scale stock car. A Paragon neon antenna tube routes the receiver lead out of the body shell and the total radio package has been glitch-free since day one.

ADDITIONAL CHASSIS CHANGES

On the BRP's rear end, the optional diff unit was retained on the drag truck conversion. This was done to ensure the chassis tracked straight on starts with no big-time fishtailing off the line. The #390 (orange) rear foams seemed to work best for my surface conditions and the front wheels were set up with a tiny bit of toe-in to again keep the Outlaw running straight during a pass.

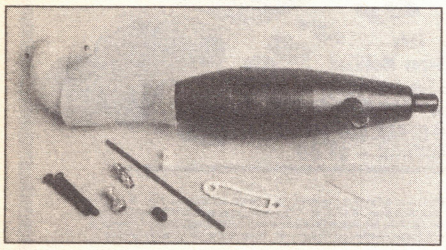
APPEARANCE MODIFICATIONS

Outwardly, the big change to the BRP vehicle has been the addition of a "blown" Hemi powerplant which rises-up through the truck body. The source for this engine was from a Revell 1/25-scale "Jungle Jim" Funny Car kit (part #7356). The Hemi was painted and assembled following the kit instructions, plus a homemade scoop was added to the top of the blower), but several changes were required to fit the Hemi

continued on page 67

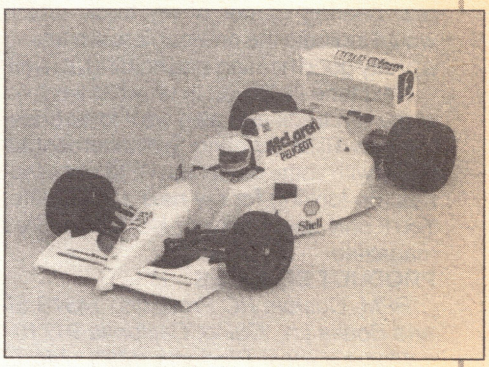


INFERNO 10 TUNED EXHAUST SYSTEM
The Duratrax tuned exhaust system that comes in the Kyosho Inferno 10/O.S. .12 CZ-R combo package, can now be purchased separately. If you choose to buy the Inferno 10 without an engine and add their own CZ-R can also make use of this high-performance system. The system includes a .10-.15 tuned pipe specially designed for tight fits, header, silicone connector, tie straps, screws and complete hardware. The tuned exhaust system can also be used in other .10-.15-powered cars and trucks. Duratrax, 2904 Research Rd., Champaign, Illinois 61826. (217) 398-6300.





BANDIT OFFROAD BUGGY
The bandit is a high-performance 1/10-scale racing buggy from Traxxas available as a kit or ready-to-run with pistol radio system. Features include channeled fiber-composite chassis, double-deck reinforced for rigidity, extra-long fiber composite front arms, centered kingpin and live front axles, longitudinal low CG battery placement, offset rear wheels, telescoping U-joints sliding driveshafts, interchangeable spurs and pinions. For details, watch for *RC Model Cars* magazine's review, or contact Traxxas: 12150 Shiloh Rd., Dallas, Texas 75228. (214) 613-3300.



PROTOFORM F-1 MCLAREN MP4/9
Protoform bodies has released a McLaren MP4/9, designed to fit the Tamiya F103 chassis. The body comes with separate air deflectors, which are the latest trend on full-size F1 cars. The McLaren body is best suited when combined with Tamiya's Sauber front wing. Protoform, 201 W. Lincoln St., Banning, California 92223.

HYPERDRIVE STX *CONT. FROM PAGE 27*

protected by a graphite spur nerf guard which gets screwed to the motor-side bulkhead. One thing that I found odd was that the diff rings were two different sizes. I would recommend getting a few spare sets, just in case the track where you're racing doesn't carry them.

The rear suspension is made up of the T-plate, a silicone dampener and a coil-over shock. The dampener takes the place of the familiar washer and springs and can be adjusted to one of two positions in the upper plate. The shock is a long travel, small bore unit that uses an internal O-ring, instead of a valve disk. The outside of the shock body is threaded for fine adjustment of the coil spring. This is a very smooth-operating unit.

SUSPENSION

The front suspension is an Associated dynamic strut assembly with features that include fully adjustable caster and camber. The upper suspension arm is attached to a caster block that can be shimmed to achieve a range of plus or minus four degrees. The camber is controlled by a turnbuckle-pivot ball setup that is screwed into the end of the upper control arm. The chassis' camber has an effective range of about plus or minus two degrees; .020 front springs are standard.

Hyperdrive completes the kit with a full set of bearings, Kimbrough's servo saver, servo mounts, steering linkage with ballstuds and cups, antenna tube, body posts, front bumper, wing mounts and a complete set of pre-trued green dot tires.

To power the car we used a set of 1400 mAH batteries from Crowe Enterprises. The motor was a Maxtec reverse-rotation, 24-degree green can stock motor, the ideal choice for left-hand drive cars. We used a Novak Racer electronic speed control that took its signals from a Futaba 1024 PCM radio and FM receiver. Steering was handled by a Futaba 9301 servo and the body was the new Dahm's Tornado II.

ON-TRACK SETUP AND TESTING

Friday morning the sun was up as early as we were, pounding us with 106-degree heat. The track staff was washing the racing surface in preparation for Saturday's race, which kept us off of the track until about 10:30 in the morning. Our objective for the day was to dial-in the chassis and then find a strong four-minute gear ratio. In fact, it took longer for us to find the gear than it did to dial-in the chassis.

After setting the tweak and a quick trim of the steering we were ready for some hot laps. The STX responded with only a slight push as it made a series of low eight-second laps. We brought the car to the pits and adjusted the tweak to compensate for the push, then were on our way again. We ran the batteries down then brought the car in for cleaning and inspection. The inspection revealed that the front tires were coning. The car got in and out of the turns okay so I left the caster at minus four degrees. The camber, on the other hand, required about plus one on the left and minus two on the right.

As with any new car, you don't know what to expect when you finally get to the track. The STX had a surprising familiarity about it and was very easy to assemble and tune. The only thing unexpected that we found was a car that was stuck to the track and fast right out of the box—a good sign for Saturday's races.

By the end of Friday we were ready for a few chilled Margaritas and a good night's rest, confident that the truck was ready to race. After cleaning the chassis and truing the tires, we called it a day.

RACE DAY

Saturday, the true test, with seven other trucks on the track, race conditions, hot weather, lots of ice water and boxes of Munch 'Ems and Cheez-its. What more could you ask for? The first heat of the day yielded only 29 laps on the truck because of a few wrecks. In heat two, we improved to 30 laps, but the TQ had posted 32 and it was going to take at least a 31 to make it into the A-main. Then, in heat three, we came home with a solid 31 laps, mid seven-second lap times and we were there, qualified for the A-main.

Before the race the only advice I had for our editor was to drive clean, stay out of

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trouble and beat the guys who were ahead of him in the points. The second-place points man had already fallen victim to a bad finish in the B-main, and now we were sitting four grid positions ahead of the points leader who, I knew, would struggle in the pack. So, here we sat, new chassis, new-found confidence and a chance to cut the points lead considerably. The horn sounded, the pack was away, and we were running clean. We passed a few, then got passed, but still managed to hold on to fourth, finishing ahead of the points leader and the other contenders in the series.

We had a great time with a great car. What more can I say? The first time out with a new car and we end up with a top-five A-main finish in harsh, hot-weather conditions. I think the Hyperdrive STX's performance speaks for itself!

PRODUCT SOURCES

Crowe Enterprises, 15103 Golden Eagle Way, Tampa, Florida 33625 (813) 920-5913.

Dahm's Racing Bodies, Box 360, Cotati, California 94931.

Futaba Corp., 4 Studebaker, Irvine, California 92718.

Hyperdrive/PTI, Box 950, Pilot Mountain, North Carolina 27041 (910) 368-1380.

Novak Electronics, 18910 Teller Ave., Irvine, California 92715. ●

BRP DRAG CONTINUED FROM PAGE 65

to the BRP chassis and body.

The completed Hemi, minus its oil pan, needed 1/2-inch removed from its bottom halve to properly sit and fit the Outlaw car. A scrap piece of model kit plastic was then glued to the cutoff area to allow the Hemi to be attached on the chassis. A 040-inch Lexan "motor mount" and servo tape was used to mount the Hemi to the top of the steering servo.

Take extra care to be sure the mount clears the servo linkages and doesn't cause any steering problems.

Mounting was done with the Hemi so that it would protrude up through the truck body's hood area-just in front of the windshield area. A 1-1/4 by 1-1/4-inch square hood opening was required to let the blown engine to slip through the shell. The opening was made with drill and hobby knife.

First use a pin vise drill to make small holes at the four corners of the engine opening; and then, use the X-Acto knife to scribe lines between the holes. A center cut will then allow you to snap off the hole-to-hole scribed sections; and then the opening can be finished out with the hobby knife and sandpaper.

FINAL DETAILING

Always double-check your wheel to body and Hemi to body measurements between each of the steps mentioned in this article. This will ensure you will end up with properly fitting pieces on your newly modified Outlaw dragger. I added the Revell kit's chrome rear wheel inserts to the BRP's rear rims to compliment the chrome MonoKote covers up front. I also dropped both of the chassis body mounts to allow the truck shell to ride as low as possible.

Body graphics changes completed the conversion, and first tests have shown the BRP truck will make an effective indoor drag vehicle. These changes and mods could also be used to convert the truck into a micro-pulling truck for the sled set out there as well. So, without a doubt, Bud Bartos' 1/18-scale Outlaws are truly versatile for all kinds of RC fun, for a large variety of RC projects. Let your mind run free!

PRODUCT SOURCES:

BRP Model Racing Products, 1575 Lowell St., Elyria, Ohio 44035. (216) 284-0270.

Futaba Corp., 4 Studebaker, Irvine, California 92718. (714) 455-9888.

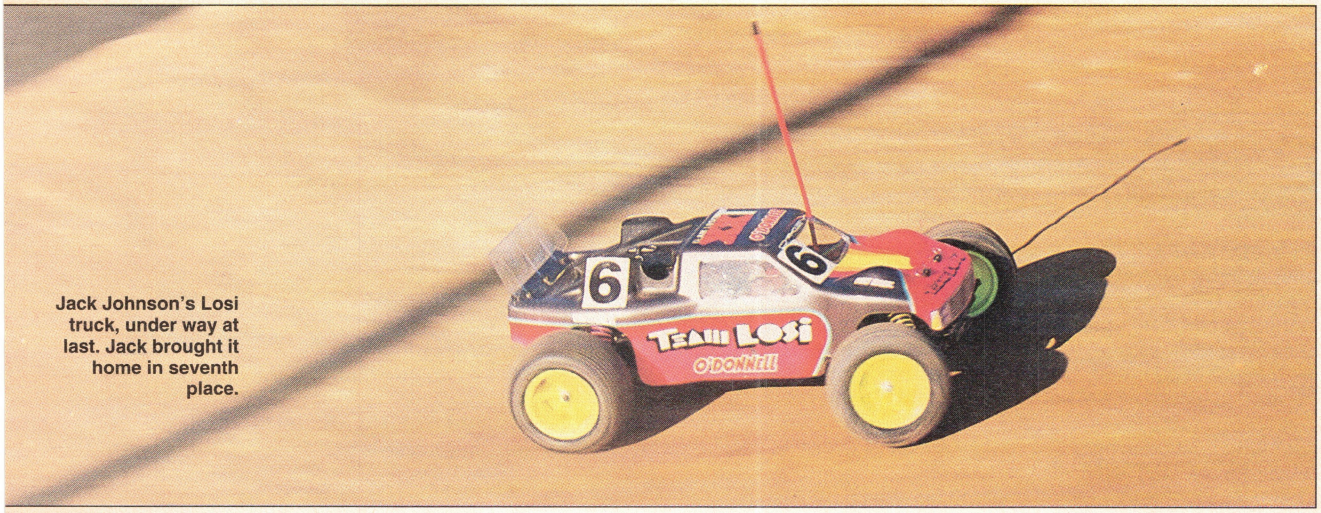
Tekin Electronics, 940 Calle Negocio, Ste. 140, San Clemente, California 92673. (714) 498-9518.

Paragon Products, Dept. MC2, 340 Industrial Blvd., Waconia, Minnesota 55387. ●

GAS TRUCKS AT THE RANCH



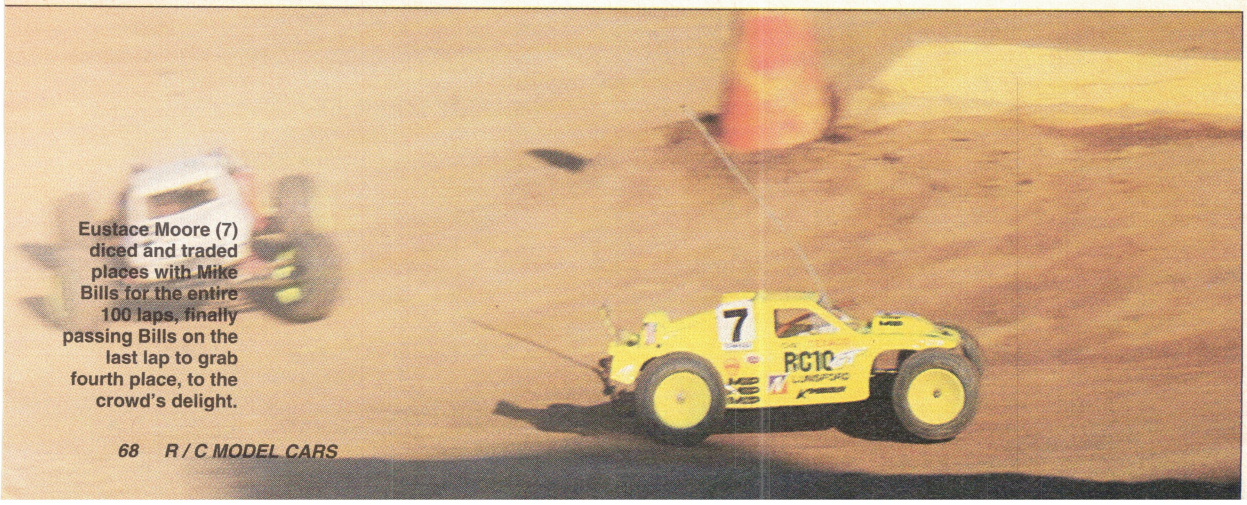
The start of the A-main, as Vince Stolo zooms away from the rest of the field—except for Jack Johnson, who had engine problems that delayed his entry into the race until lap 17.



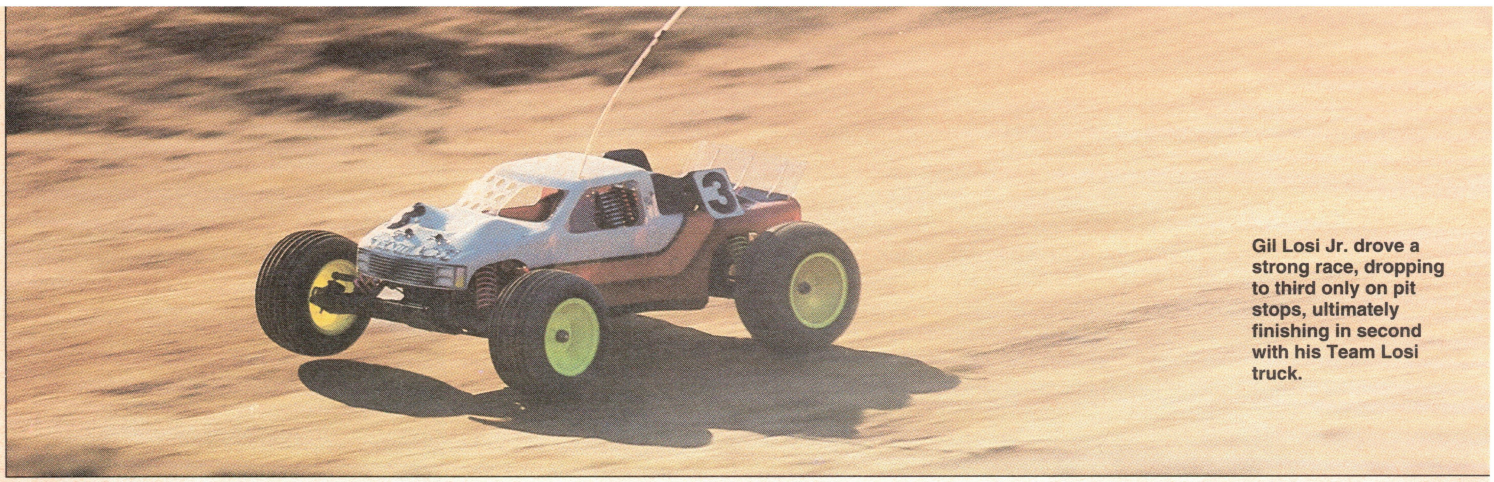
Jack Johnson's Losi truck, under way at last. Jack brought it home in seventh place.



TQ and eventual winner Vince Stolo's RC10GT does a wheelie through the whoop-de-doos.



Eustace Moore (7) diced and traded places with Mike Bills for the entire 100 laps, finally passing Bills on the last lap to grab fourth place, to the crowd's delight.



Gil Losi Jr. drove a strong race, dropping to third only on pit stops, ultimately finishing in second with his Team Losi truck.

THE FIRST *recracker* ONE HUNDRED

BY RICHARD DOWDY



Austin Dvorak managed to overcome a mechanical problem late in the 100-lap main to hold on to third place.

On a hot July Sunday, two days before the Fourth of July, Allen Losi put on a gas race at Jim Halsey's Ranch Pit Shop in Pomona, California. Co-sponsored by Team Losi and Associated Electrics, the truck race brought out 68 of the Southland's hottest truck racers for a day of friendly (but intense) competition. As a bonus, Allen arranged for a barbecue for the race participants, which was much appreciated by everyone present.

The one-day race, which is envisioned as an annual July event, got off at mid-morning with three qualifying heats. After all the heats were run, Vince Stolo emerged as top qualifier, driving a RC10GT. In second was Nick Lasley, closely followed by Gil Losi Jr., who was driving a Team Losi gas prototype truck, seen last year at the NORRCA Truck Nationals, also held at the Ranch. Earlier in the day, while talking to Gil's dad, Pops Losi let it be known that while there were no firm plans for a production 1/10 gas truck from Team Losi, he mused that sooner or later such a vehicle would probably be pro-



Firecracker

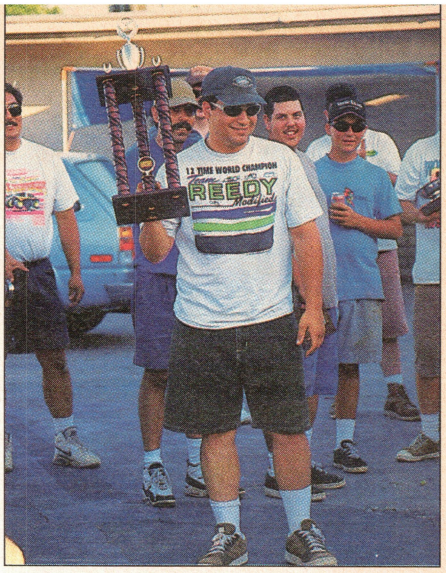
duced. The overwhelming success of their electric XX buggy and XXT stadium race truck has forced the company to focus all their attention on these two vehicles, so there was little likelihood of seeing a gas truck in the near future. Pops also let it be known that he was thinking seriously of entering the Team Losi full-size Indycar in the emerging Indy Racing League, with John Paul Jr. as driver. When he was asked why Team Losi didn't field an Indycar at this year's Indy 500, Pops pointed out our inattention to detail: "Didn't you see our logo on a car this year?" he asked. No, we replied, we didn't. "It was there," Pops said. "Guess who's car it was on...right on the nose." No idea, we responded. "Stan Fox's car," Pops replied, referring to the hapless driver who suffered a terrible crash in the first turn of the first lap. "Not too many people saw our logo this year, " Pops lamented.

THE MAIN EVENT

Following a tasty and ample lunch, the mains were run. Allen Losi was running an efficient, no-nonsense race program, so there was hopes the main events would be finished before late afternoon, which would prove to be the case.

The 100-lap A-main brought out the

continued on page 71



A-main winner Vince Stolo accepts his trophy and the applause from the crowd and fellow competitors.



Drivers' stand lineup for the gas truck A-main at the Ranch.



Second-place finisher Gil Losi Jr.

FIRECRACKER 100 RESULTS

Ranch Pit Shop, Pomona, California

A-MAIN

1. Vince Stolo	100 laps	41:05.15
2. Gil Losi Jr.	98 laps	41:09.94
3. Austin Dvorak	95 laps	41:28.68
4. Eustace Moore	94 laps	41:21.09
5. Mike Bills	94 laps	41:24.64
6. Jim Lin	91 laps	41:17.82
7. Jack Johnson	84 laps	41:25.61
8. Brad Donovan	43 laps	21:17.93
9. Nick Lasley	12 laps	4:47.71
10. Danny Mendes	DNS	



Race orgainizer Allen Losi hands the fourth-place cup to an appreciative Eustace Moore.

FIRECRACKER CONTINUED FROM PAGE 70

cream of the crop, with Vince Stolo on top as TQ, followed by Lasley, Gil Losi Jr., Brad Donovan, Austin Dvorak and Jack Johnson. Following driver introductions, the trucks were placed on the backstretch for the start.

Right off the bat, trouble befell Losi team member Jack Johnson, who's truck wouldn't fire up as the rest of the field flew off in clouds of exhaust smoke and dust. After the first lap it was Vince Stolo in first, with Gil Losi Jr. right on his tail, followed by Austin Dvorak and Nick Lasley. Things remained status quo until unlucky lap 13 when Lasley's truck broke, putting him out of the race and moving Dvorak up to third and then second when Gil Jr. pitted for fuel. Dvorak's pit stop on lap 22 showed he was doing a good job of conserving fuel, but his stop gave Losi a chance to move back into second behind Stolo, who was flying around the Ranch course seemingly without challenge from anyone else. Back in the pack, a terrific battle (the best of the day) was going on between Mike Bills and MIP's Eustace Moore. Again and again the two traded fourth and fifth place between them, a battle that had the crowd of onlookers cheering each lead change. On lap 81 Dvorak's truck lost a dogbone, and though it cost him three laps in the pits while his dad frantically repaired the problem, his lead over the rest of the field was enough to keep him in third.

With Stolo way out in front—actually two laps ahead of second-place Gil Losi Jr.—the crowd's attention was focused on the continuing battle between Moore and Mike Bills. As the race wound down, Bills had successfully wrested fourth place from Eustace Moore and was starting to extend his lead, though not by much. With lap times almost equal between Moore and Bills, it looked as though Bills was going to hang on for fourth, but on the last lap, Eustace pulled off a wild pass and got by Bills to take away fourth, to the delight of the crowd. As the buzzer sounded, Stolo was across the line with 100 laps, followed by Gil Losi Jr. two laps down, who in turn was followed across the finish line by a determined Austin Dvorak. A great finish to an exciting day of racing.

As the last engine was shut down, Allen Losi gathered the competitors together for trophy presentation, and received from those present their thanks and admiration for a well-run event. We'll add our thanks and appreciation, and look forward to a repeat performance in '96. ●

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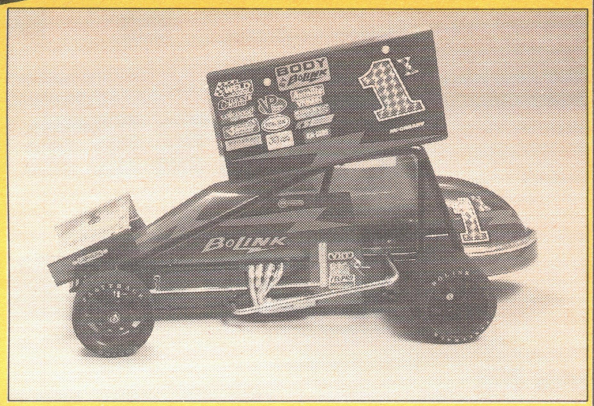

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TAMIYA CHAMPS CONT. FROM PAGE 73

seconds. Rookie driver Brandon McNally came in second place with 19 laps, 5 minutes, 12.69 seconds; and Larry Stone finished third with 19 laps at 5 minutes, 14.21 seconds.

The Front Wheel Drive Sedan class run-off had an exciting finish, with first place being captured by Alex Guerrero, whose 17 laps were clocked at 5 minutes, 14.33 seconds. He squeaked by second-place finisher Dante Hernandez, who roared across the finish line just .05 seconds later after completing 17 laps in 5 minutes, 14.38 seconds. Duan Dao crossed third with 16 laps at 5 minutes, 1.37 seconds. Starting at the back of the pack, Guerrero moved steadily forward throughout the race to overtake Hernandez, who had led from the start.

In a pure test of driving skill, the media boys ran with factory-prepared 4x4 race truck chassis, topped with Chevy S-10 or Toyota Prerunner bodies, which they had tricked out themselves.

CONCOURS

Best of Show in Formula 1 went to Dave Berger's F103-chassised Footwork Mugen Honda. Bob Sager's Opel Calibra with a TA02 chassis took top spot in the four-wheel drive sedan beauty parade. And Jay Thompson's Opel Calibra was judged best in the front-wheel drive category.

Brandon McNally took top honors in the F-1 rookie category and Brent Chan was top rookie among the FWD sedan entrants.

The action turned truly unruly when 11 members of the automotive and RC press gathered on Sunday to defend the honor of their magazines in the first official race ever to be held on Tamiya America's new offroad desert track, which lies immediately adjacent to the onroad proving grounds.

It came as no surprise that first, second and third-place went to the RCers. With 15 laps timed at 5 minutes, 13.14 seconds, *Rc Car Action's* Frank Masi took first place. Ron Ponce, who raced for *RC Model Cars*, came in second with 15 laps at 5 minutes, 18.56 seconds. And the number-three spot went to Mike Valez of Xtreme RC, who crossed the line with 14 laps, 5 minutes, 10.64 seconds.

In a pure test of driving skill, the media boys ran with factory-prepared 4x4 race truck chassis, topped with Chevy S-10 or Toyota Prerunner bodies, which they had tricked out themselves.

This race was a preview of coming attractions, as next year's U.S. Nationals will include a 4x4 offroad truck class.

RCers barely get to rest before the action starts again for the road to next year's Tamiya Championship Series U.S. Nationals. Kicking off the 1995-96 RC season is an August 27th race hosted by Gary's Hobbies in Racine, Wisconsin. It will be followed by the September 25th race at Ebersole Hobby & RC Raceway in Wichita, Kansas. ●

ON TO JAPAN

First Annual Tamiya Championship Series

With 192 racers signed up for the Tamiya America first-annual Championship Series U.S. Nationals, held at Tamiya's factory track in Aliso Viejo, California, qualifying heats had to be staggered according to the classes entered. The system worked well, with no confusion or crowding to complicate the races.

RCers competed in one of three Tamiya vehicle classes, including Formula 1, Four-wheel drive sedan and front-wheel drive sedan.

The top finisher from each group would win an expense-paid trip to Japan to compete in the Tamiya RC world competition in November. When the last race had been run on Saturday, 90 racers had made the cut.

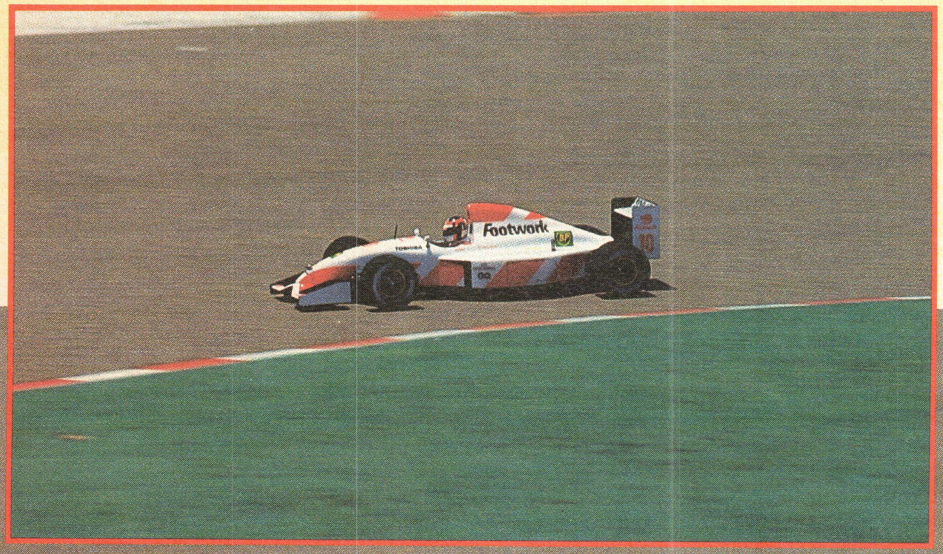
SUNDAY'S SEMIS

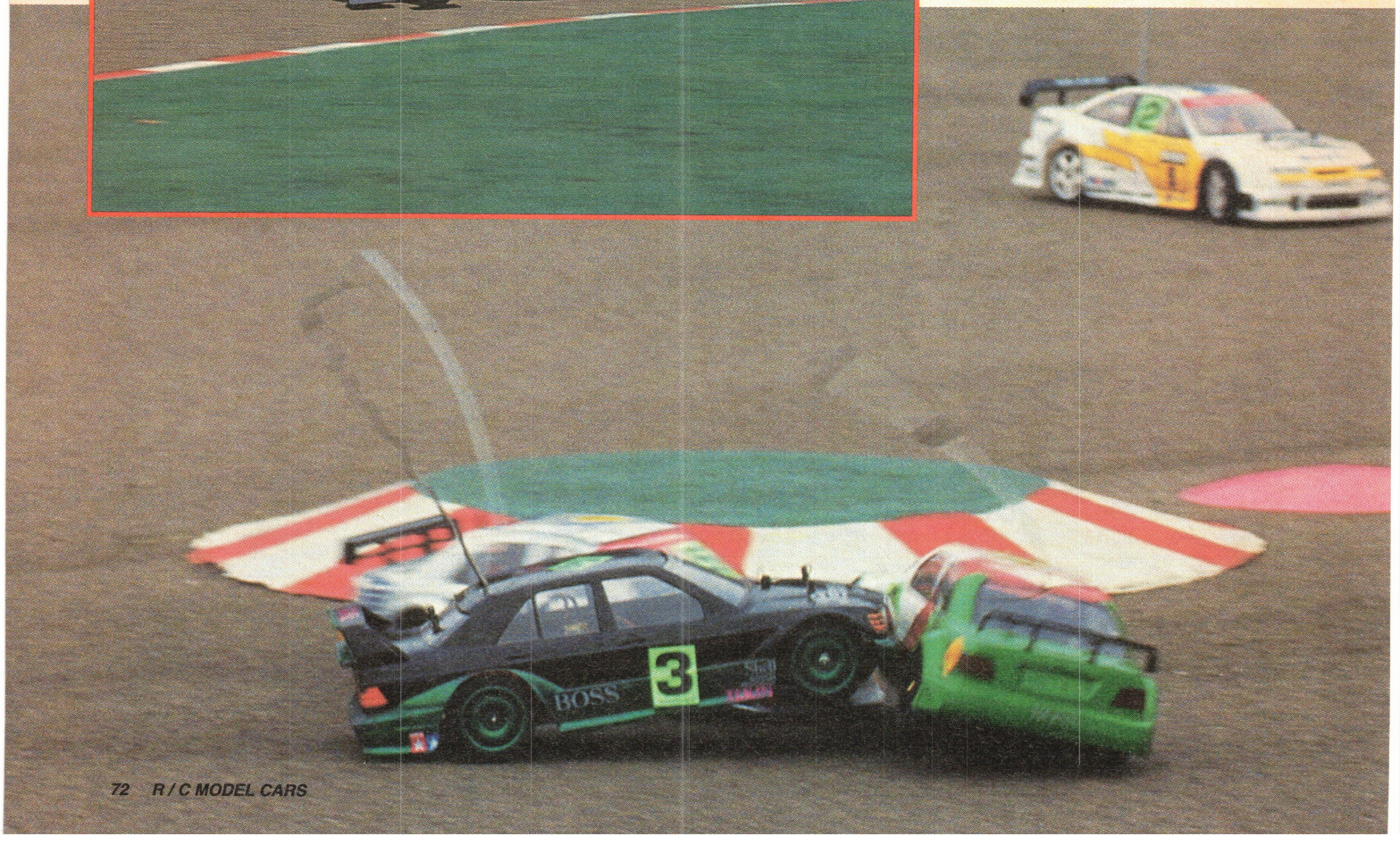
In the Fl class, Mark Rebek turned in 19 laps in 5 minutes 11.19 seconds to take the top spot. He was followed by Larry Stone and Brandon McNally who came in second and third, respectively.

Richard Dee led the pack in the 4WD Sedan semi-finals with 17 laps in 5

BY DOUG ADAMS

Fred Medel's Tamiya F1 Footworks racer takes a practice lap.





minutes 0.69 seconds. Mickey Cohen followed in second and Bob Sager came in third.

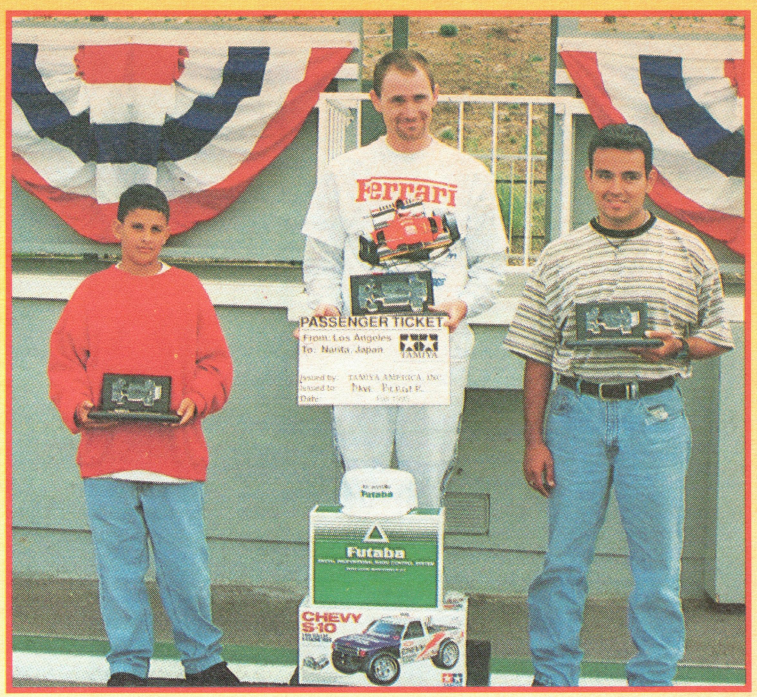
Dante Hernandez went 17 laps in 5 minutes, 22.80 seconds to take the top semi-finals position in FWD Sedans. He was followed by Duan Dao and Steve Nguyen in second and third place.

WINNING WAYS

By late Sunday afternoon, three men had emerged victorious from the final round of competition: Dave Berger in the FI class, Mickey Cohen, 4WD Sedan and Alex Guerrero, FWD Sedan. This is the trio that will represent the United States at the Tamiya World Competition in Japan.

Tamiya RC National Champions In Formula I, Dave Berger's 19 laps took first place in 5 minutes, 8.12

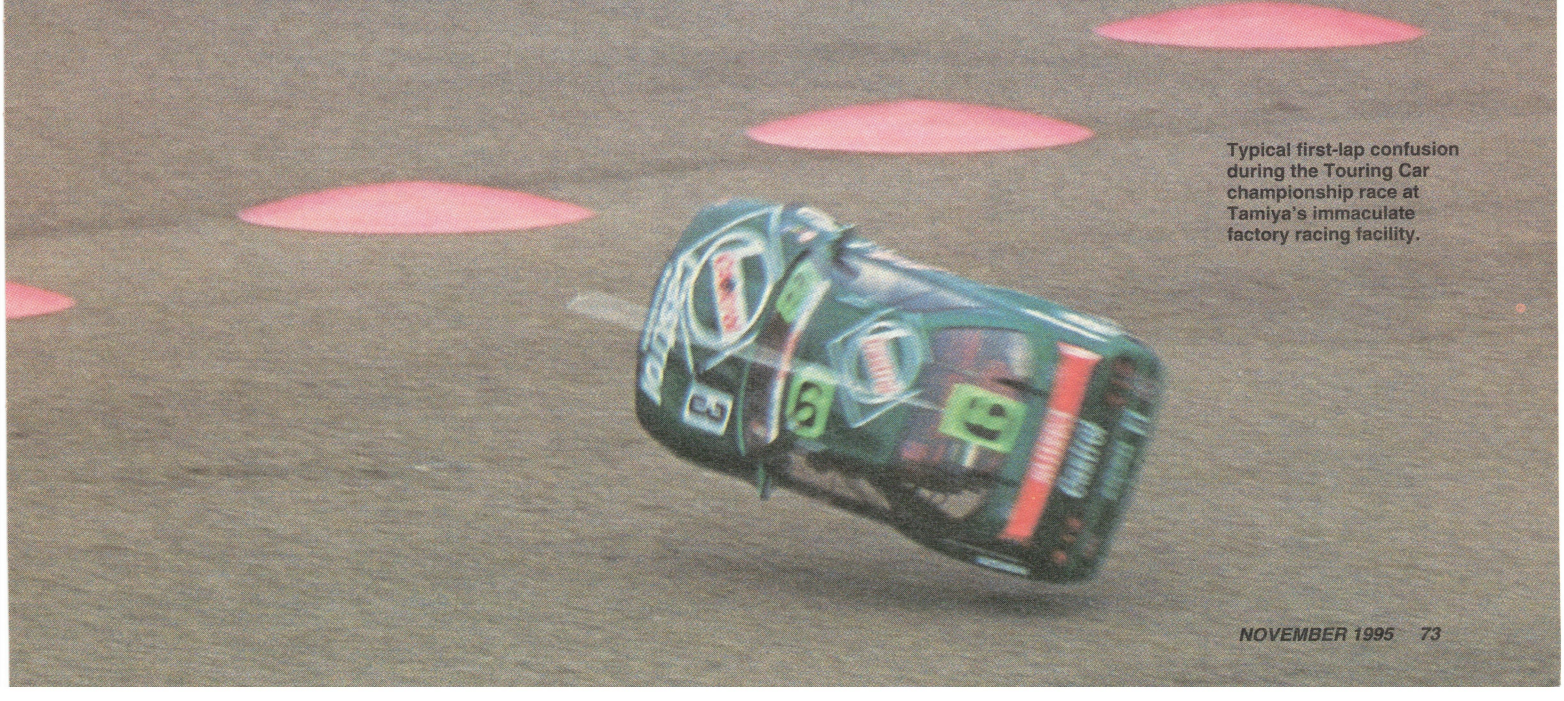
continued on page 71







■ RIGHT: Formula One victors at Tamiya's First Annual U.S. Nationals: Dave Berger (center) first-place finisher and winner of a trip to the RC Worlds Competition; second-place, rookie Brandon McNally (left); and third place, Larry Stone. ■ BELOW RIGHT: Jim Warashina (left), Tamiya America's executive vice president, and Masayuki Tamiya (far right), Tamiya America's President, flank winners of the Tamiya Iron Man competition: Rick Hohwart, second; Richard Trujillo, first; and Aarib Binner, third. Sponsored drivers were barred from regular TCS competition, so the pros vied for Iron Man title. ■ BELOW: Formula One Ferrari has hit an unforgiving curb which sent it flying nose-first into the pavement. No damage inflicted.



Typical first-lap confusion during the Touring Car championship race at Tamiya's immaculate factory racing facility.

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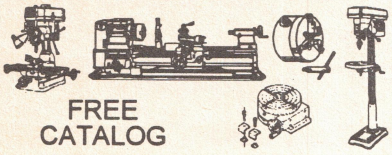
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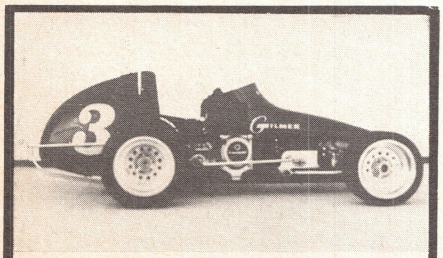
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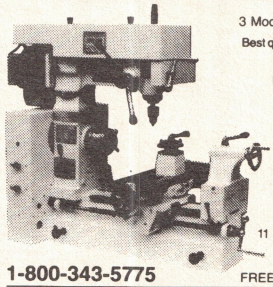
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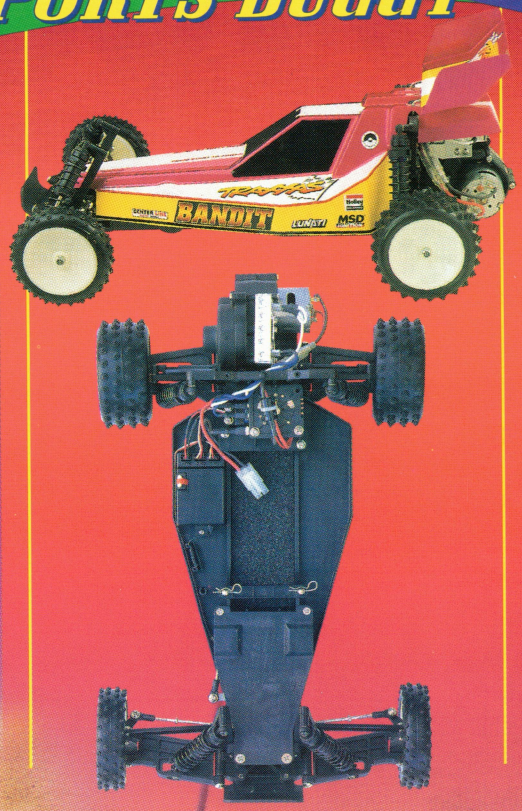

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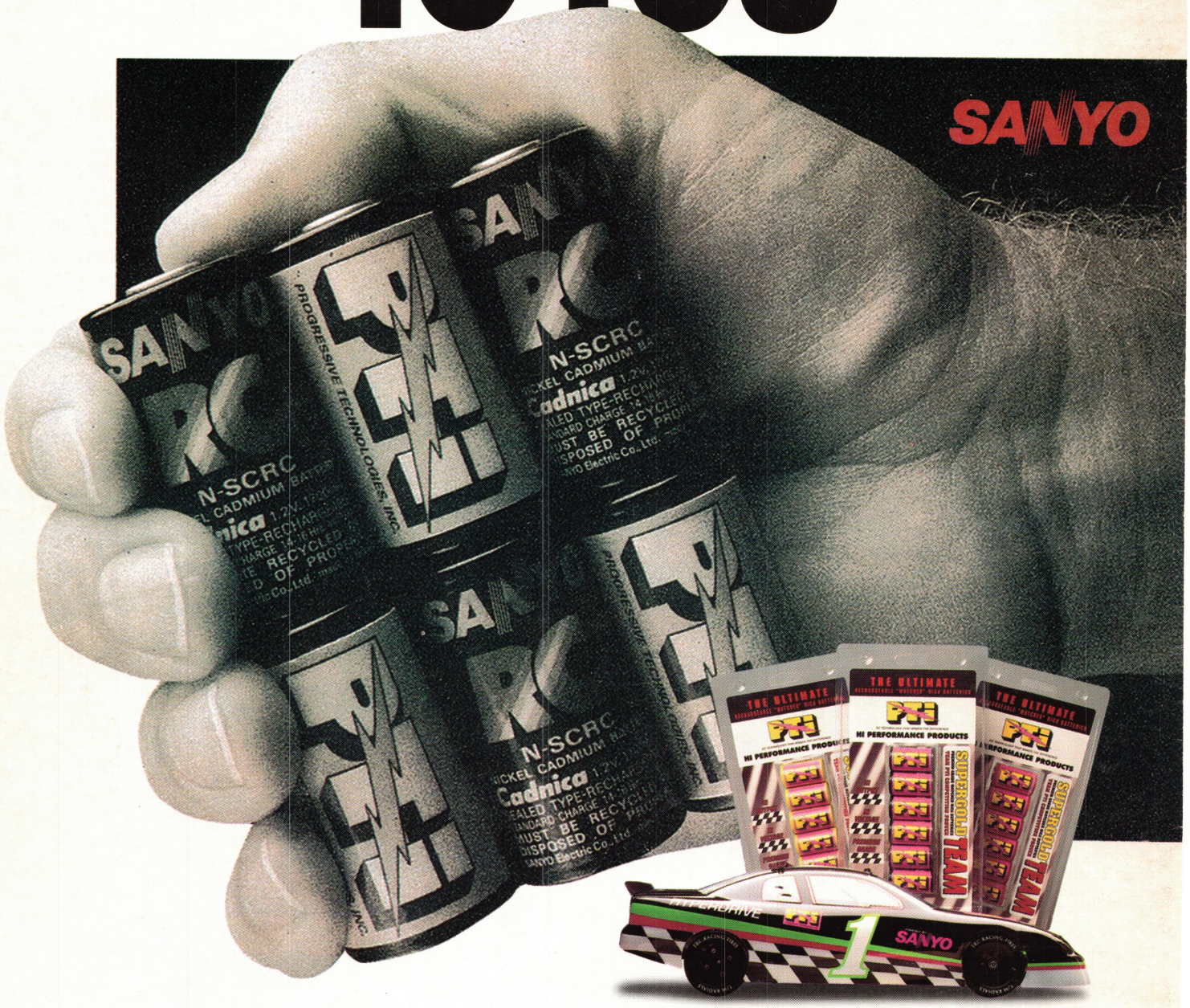

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