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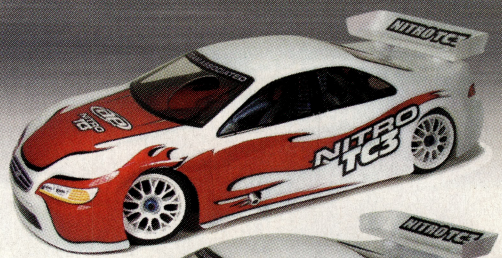

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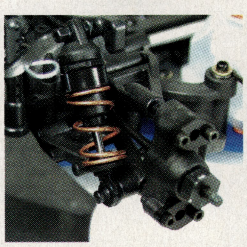

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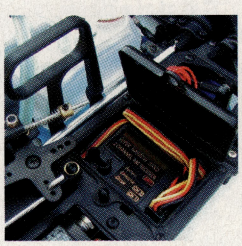
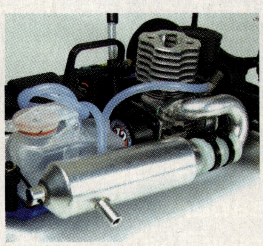


Enclosed receiver compartment for protection from fuel and dirt. Easily removeable radio tray detaches with just six screws.



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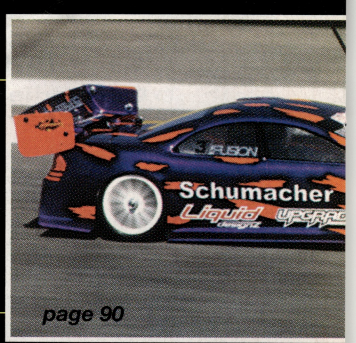

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R/C CAR

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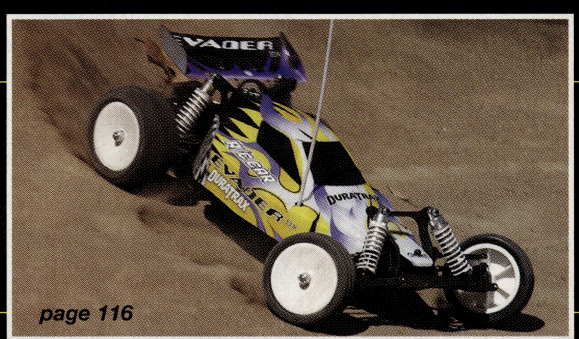
January 2003, VOLUME 6, NO. 1





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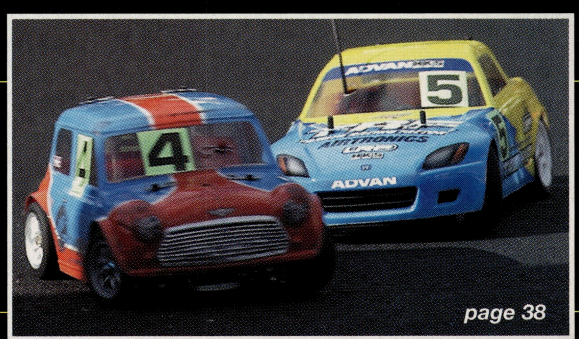

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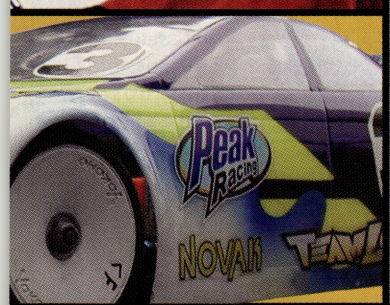



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[Drivers' Stand]

BY FRANK MASI

Why don't you cover...?

I'd like to share with you an e-mail I received recently regarding the November issue's "Editor's Choice Awards" feature.

"Why has oval racing been excluded from the Editor's Choice Awards? Why does your magazine exclude oval racing from any issues? This is an R/C magazine, right? You seem to hit on every other form of R/C racing but oval."

In response to this reader's concern, there were several categories of racing that were not included: besides oval, neither drag racing, 1/5-scale, rally cars nor mini/micro cars received their own category. This exclusion doesn't mean that we think less of these types of vehicles and the people who own them. This hobby is vast and diverse, and any type of awards article that covered the entire spectrum of R/C would have taken up the entire magazine. So if your particular area of interest didn't turn up, don't take it as a personal affront.

This reader letter did make me think about the dynamics of a relatively small industry such as ours. Do magazines create and drive the interest in a particular category? Or are the manufacturers solely responsible?

I don't know the exact answer, but I can tell you that it's a dangerous trap for an editor to think that he or she is bigger than the industry his or her magazine covers. I've seen editors who shun industry trends in favor of their particular area of interest—and quickly lose the attention of their audience. There's a line between showing all the available possibilities and cramming your own tastes down the throat of your audience.



So are the magazines responsible for oval racing (or any other smaller segment) not being more popular? No. If we dedicated half of our pages to covering oval, I doubt that the number of oval racers and the number of oval tracks would grow significantly. Why is this? Because manufacturers aren't really supporting the category aside from maintaining their current customer base. As a result, there's not much new product for the magazines to cover, and new products drive interest.

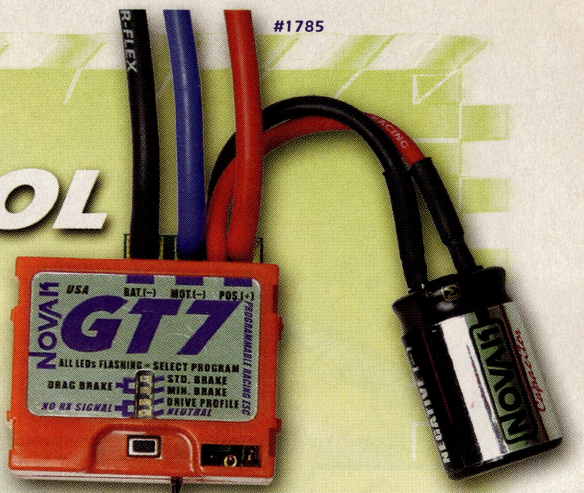
Why aren't the manufacturers developing more oval products? Because the return isn't there. If I were in charge of a company such as Team Associated, where would my R&D and manufacturing resources be best spent? Should I develop a new oval car for a market that is comparatively small, or should I spend the money on a new monster truck that will sell in the tens of thousands? Ironically, Associated is perhaps the largest supplier of oval racing cars.

If you are an oval racer, a drag racer or you own a 1/5-scale car, take heart: we aren't shunning you! We, like any other business, are here to make money. We do this by selling magazines, and this goal is best served if we cater to the largest possible audience. But this doesn't mean that we aren't dedicated to showing the entire range of the hobby. But if there aren't any new products or manufacturer support, there's not much for us to cover. However, if you'd like to see more of a particular class, writing in does make a difference, because ultimately, you are the people who drive the industry, and this includes what the companies make and what the magazines cover. Be a squeaky wheel.

#1785

1 SMOOTH SPEED CONTROL

7 THROTTLE PROGRAMS



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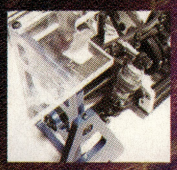
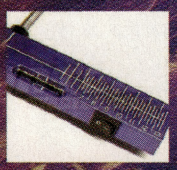
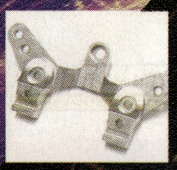




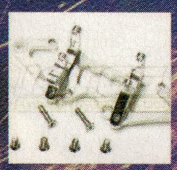

















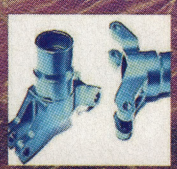


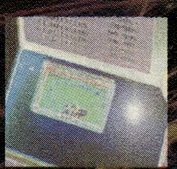












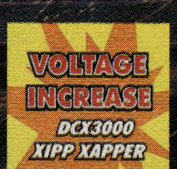






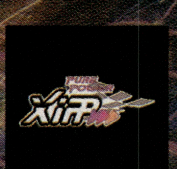



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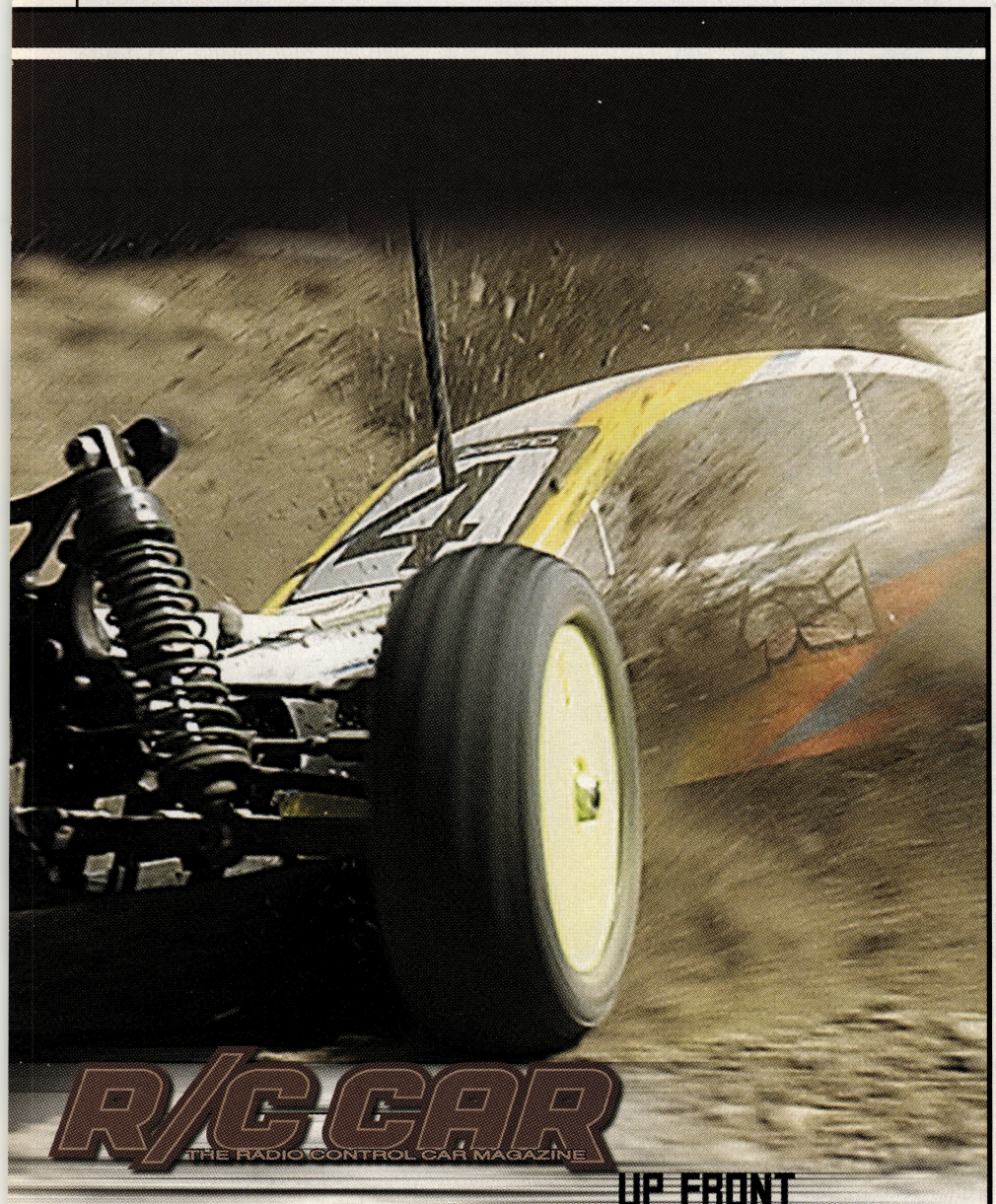
UP FRONT





UP FRONT

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[Readers' Projects]

Welcome to *R/C Car's* Readers' Projects. We receive many impressive "home-built" reader projects each month, so we decided to showcase some of them in each issue. How about you? Got a lot of pride in your ride? Snap some pics and send 'em to us here at *R/C Car* Readers' Projects, 25233 Anza Drive, Valencia, CA 91355. Hi-res digital images can also be emailed to tomh@hi-torque.com. Who knows, maybe you'll see your car or truck in an upcoming issue! And if we use yours, you'll receive a free one-year subscription!



PATRIOTISM: ALIVE AND WELL AT THE TRACK

Erik Hansen of proudly flies the colors of Old Glory on his Tamiya 414MII. Erik's sedan is controlled by Hitec radio gear and is powered by a Sanyo 2400mAh battery pack and a hot Trinity D2 11-turn single modified motor. Erik's car puts the power to the ground with minimal loss thanks to a full set of Sorex tires mounted on HPI wheels. The crowning glory of Erik's Tamiya sedan is its Pro-Line Crowd Pleazer body and its patriotic paint work. Erik loves his 414MII, and praises Tamiya for creating such a "great racing machine."







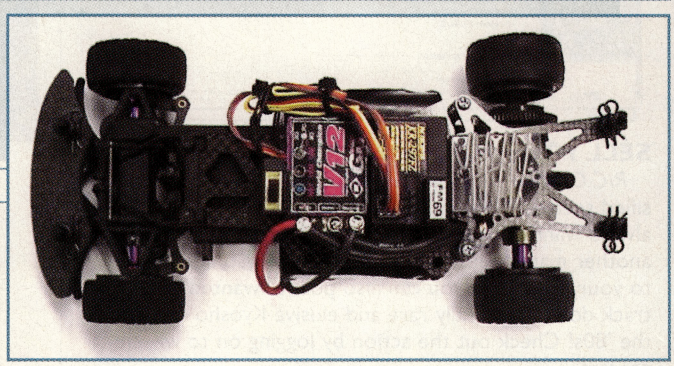
BEEFED-UP BRUISER

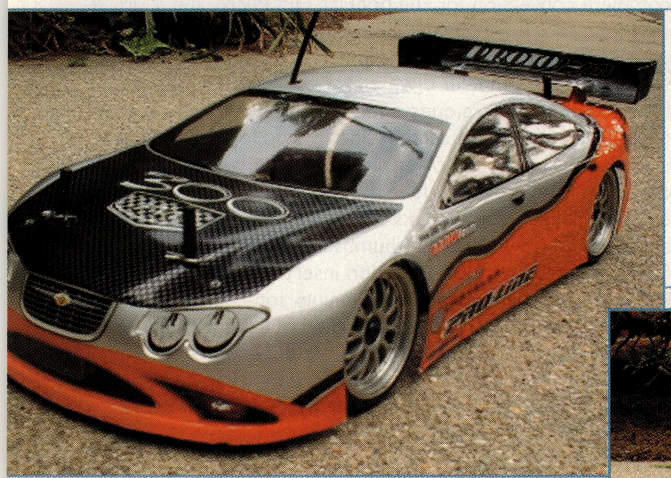
This awesome Tamiya Bruiser comes from Terry Cheatham of Mankato, Minnesota. Terry's truck is actually a combination of Bruiser, Juggernaut and various aftermarket pieces. The suspension mods consist of Juggernaut leaf springs and shackles and a set of DuraTrax three shocks (without springs, as the leaf springs handle that chore) attached to dual shock-mounts made by Kevin Good. The aluminum lower mounts were made by Notorious Off-Road. The stock Bruiser gearbox was pulled and replaced with a single-speed aluminum pulling transmission by Dave Engle. Terry added a custom appearance to his Bruiser by topping it with a Juggernaut 2 hard-plastic body that was modified and custom painted by Cory Bauman of Hotrodical Customs. He also added flat-panel electroluminescent strips in neon lime and orange from 3D Electroluminescent Cable. Terry controls his truck with a three-channel Traxxas TQ3 radio and receiver, and his hand-wound Fantom 17-turn triple motor is wired into a PDI Turbo Zeta 32 ESC. Steering is handled by a Hitec HS6454MG servo linked to Spacemutant heavy duty aluminum steering system. Rounding out Terry's awesome project are a set of "Juggsterr" aluminum wheels by Mark Thomson, Pro-Line Masher 2000 tires and a custom-machined aluminum front bumper made by Kevin Good. Terry also plans to have the chassis and axles chrome-plated.

MARGIOTTA'S MICRO

Rocco Margiotta sends us photos of his HPI Micro RS4, of which he is very proud. Rocco writes that he has been waiting for his Micro hop-ups for three months, and they've finally arrived. The backbone of Rocco's Micro is a CRF graphite chassis from Team Orion, which supports an eight-cell battery pack made from two Orion 1100mAh micro battery packs. The power from the battery is fed through a GM V12 ESC, then on to an Orion Elite modified motor. Other mods include a ball diff, motor pod and one-way diff from Team Orion, and a Hitec "mighty mini" steering servo. Rocco controls his macked-out Micro with a KO Propo EX-1 Mars radio.









X-RAY VISION

Daryl Thomas of Virginia Beach, Virginia, knows how to get his Readers' Project published. He says, "I love your mag! It's filled with informative info instead of a lot of fluff." Daryl wanted his X-Ray T1 to be different from all the others, yet still retain aerodynamic efficiency, so he chose ProtoForm's 190mm Chrysler 300M body shell. He visualized the paint scheme he wanted and drew it on his computer first. According to Daryl, the finished product is very true to the drawings. He runs two sets of wheels: the aluminum wheels provide a clean look, but he also wanted to achieve the opposite effect, so he painted a second set of Speedline wheels with Tamiya's Gun Powder paint to give them an intimidating all-business look. Daryl also wrote that he thinks the X-Ray is the most adjustable car on the market. His is equipped with a Futaba Magnum radio and FP-R103 micro receiver, and a GM ESC.



SELL YOUR STUFF ONLINE!

R/C Car magazine online has just launched its new classified section. Now you can find that dream ride you've always wanted, or sell your old stuff (one man's junk is another man's treasure, right?). You can also add photos to your listing, and you can also post a "wanted" ad to track down that really rare and elusive Kyosho car from the '80s! Check out the action by logging on to *www.rc-car.com*.





SPIED: HARDCORE GOES TITANIUM CRAZY

We spotted this prototype Micro RS4 chassis at Hardcore Racing, and we knew that we had to show you guys how cool it is. The as-of-yet unnamed chassis is a complete conversion for the popular HPI Micro, and it drastically lowers and widens the car's CG for what should be a pretty significant improvement in handling. The flat lower chassis is made from titanium (what else would you expect from Hardcore?) and offers quite a few possibilities for cell placement. The cells are installed in side-by-side format and are held in place by slots in the lower chassis and a titanium upper deck that is held tight by four thumbscrews. The production chassis will likely see the addition of an ESC "shelf" area to the battery hold-down, and the thumbscrews will likely benefit from the addition of locking nylon inserts to keep them from loosening. Also shown is a thin titanium top-deck that will be included with the kit. We also checked out the articulation of the rear suspension, and Hardcore has done a great job of designing a rear pod that has good damping characteristics.

Contact Hardcore Racing at (661) 294-5032 for more information.

MR. SCHWARZENEGGER, YOUR SERVO IS READY

In the market for a new steering servo for your T-Maxx, 1/8-scale buggy or 1/5-scale car? Look no further than JR Racing's new Z8450 Ultra Speed digital servo, which features unreal torque and speed - enough to handle just about anything you can throw at it. With a transit time of 0.08 seconds to 60 degrees and a whopping 188oz/in of torque (both specs are at 6 volts), there are few servos that can match the power and speed of the Z8450, let alone any that can boast such a small case size (1.32 x 1.53 x 0.73 inches). And with JR's digital technology, the Z8450 has the kind of centering power that will have your biggest, heaviest R/C models tracking arrow-straight.

Contact JR Racing at (217) 355-9511 for more

A HOTTER MICRO RS4 CAN BE YOURS

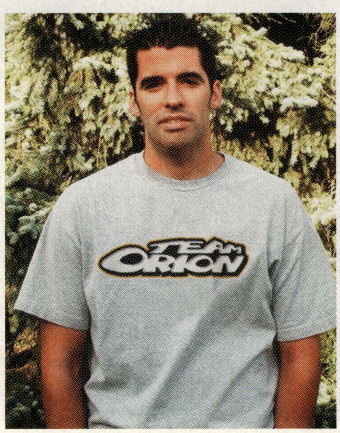
Hot Bodies is offering several new hop-up items for the ever-popular HPI Micro RS4. The most significant (this was difficult to choose!) are these new wheel, tire and insert combinations that are a radical departure from what we've seen offered for the Micro in the past. The one-piece aluminum wheels are larger in diameter than the stock (but they still fit underneath all Micro RS4 bodies - you might have to enlarge the wheelwells slightly), they offer a traditional 1/10-scale style of tire mounting. The new tires and molded inserts are very similar to the design of larger 1/10-scale rolling stock. This should open up a whole new dimension in Micro RS4 traction, as there is no limit to the types of rubber compounds or inserts that can be used, and the larger diameter will surely be the hot ticket for bumpier outdoor racing.

Also new from Hot Bodies are a new Micro RS4 motor mount and a set of very trick Micro RS4 front driveshafts. The motor mount is machined from aluminum and features a very nice heatsink plate that should definitely keep your Micro's motor running cool. The biggest news is that this mount comes with pan-car style ride-height inserts that allow you to alter the height of the rear axle, and as a result, the ride height of your Micro's chassis - something we've not been able to do until now. The new driveshafts are also significant because unlike most other Micro RS4 front U-joints, which are made from steel, these are made from lightweight aluminum. They also have threaded axles that allow the wheels to be secured with nylon locknuts rather than by the tiny screws that are used with the stock setup. The axles are of larger diameter, so you'll probably have to drill-out your stock wheels to fit.

Contact Hot Bodies at (909) 296-9340 for more information.

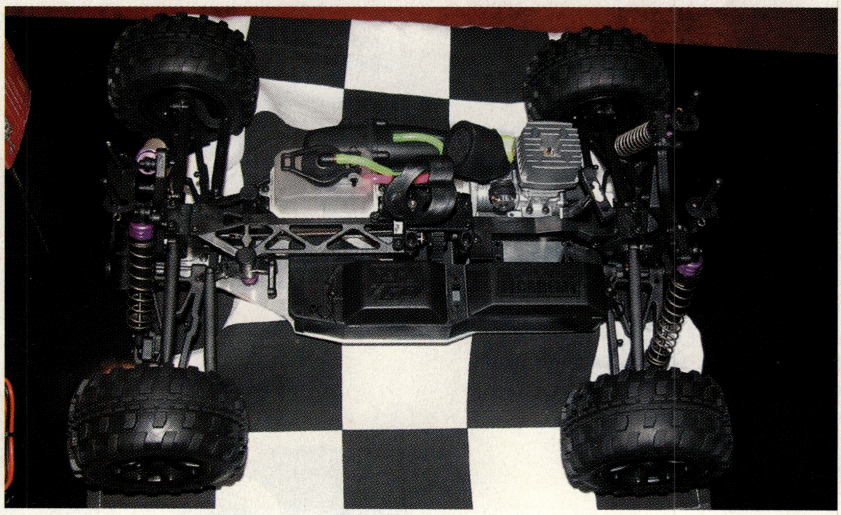






NEW FACES AT TEAM ORION

With a fresh new year quickly approaching, Team Orion has been busy planning out the upcoming race season. In the process of designing secret advanced product ideas, Team Orion has been silently building a talented race team. Now that contracts are signed they are letting the cat(s) out of the bag. US multi-National Champion Chris (Toso) Tosolini and extremely accomplished racer Mike McMahon have joined Team Orion. Chris and Mike are of the elite on-road racers in the world and Orion is very happy to have them finally driving under their logo. Orion hopes that in combining Tosolini's proven results with Mike's professional experience that they'll create a nearly unbeatable on-road racing alliance.



NITRO OFF-ROAD BECOMES ACADEMIC

New from MRC and Academy is the RT-4 GP 1/10-scale nitro off-road truck, which features a very nice .15 pull-start engine with a slide carb and composite tuned-muffler system for excellent throttle response. Also part of the package is a shaft-driven full-time 4WD system for exceptional traction on virtually any surface. A thick 3mm aluminum chassis plate combines with a molded upper chassis deck to provide a stiff backbone, while double-wishbone independent suspension guarantees a stable ride regardless of terrain.

Contact MRC at (732) 225-2100 for more information.

NEW RTRs FROM HOT BODIES

Hot Bodies has grown from producing desirable Lexan shells to being a major player in the accessory and kit markets. The first Hot Bodies vehicle releases are this stunning pair of RTRs. The first is the Lightning RR 1/8-scale buggy, which looks like a serious player. The Lightning features a powerful .21 big-block pull-start engine, full ball-bearings, a racing-style tuned exhaust, pre-glued tires and a "hot-looking" pre-painted and trimmed buggy body. A two-channel radio system comes pre-installed, and Hot Bodies even includes a fuel bottle and AA batteries to make this RTR truly ready to go straight from the box.





Also from Hot Bodies is the Tornado RTR nitro sedan, which looks very promising with its triple-belt 4WD system, pull-start nitro engine, ball-bearings and a two-speed transmission! Like the Lightning RR, the Tornado arrives fully assembled with a two-channel radio system, fuel bottle, pre-glued tires, a pre-painted and trimmed sedan body and AA batteries for the radio.

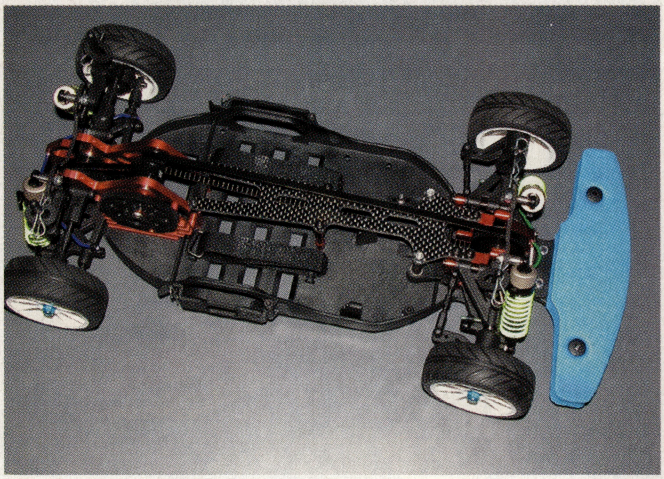
Contact Hot Bodies at (909) 296-9340 for more information.



STAGE YOUR OWN ROBOT WARS

Kyosho has done it again. Sure they have cars, trucks, surfers and R/C ATVs, but there was something missing in the Kyosho lineup: robots! What self-respecting Japanese company could think of not having mechanical fighting machines? The Gunwalkers, as they are called, are radio-controlled and use Kyosho's Magna-Traction System to provide lifelike movement on the combat field (combat field included; we just love saying that). Each robot model (there are three color variations) comes pre-assembled, although you will want to customize yours - who would want a look-alike death-dealing combat robot? The magnetic battlefield enables the Gunwalkers to achieve a truly realistic walking movement, and you can also adjust the length of the robot's stride from that of "old guy looking for aspirin at Kmart" to "Michael Jordan from the free-throw line."

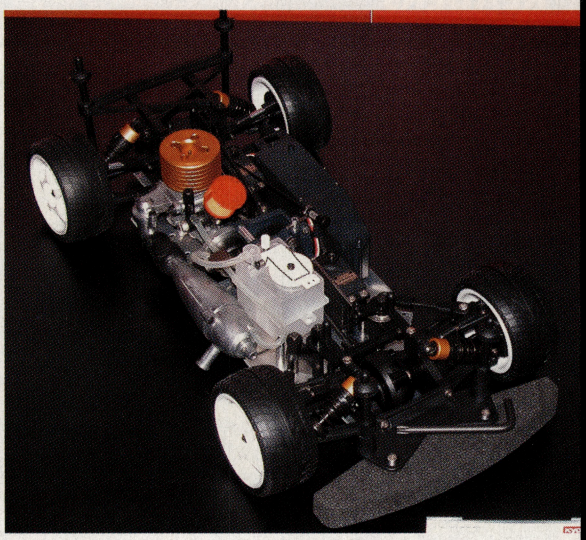
Contact your Kyosho dealer for phone (217) 398-6300 more more information.



ELECTRIC TIGER

With the success of the nitro TS-4n, it was only a matter of time before Thunder Tiger adapted that car's capable suspension to an electric format. The new TS-4e Pro (the "e" is for electric) is a sport-racing kit that features quite a few racing goodies such as aluminum shocks, front and rear ball-differentials, sway bars at both ends, aluminum suspension bulkheads, graphite shock towers and upper deck and much, much more. And if you're on a slightly tighter budget, Thunder Tiger will be offering the car in two additional trim levels: a RTR version with radio pre-installed (the TS-4e Sport) and a budget-priced TS-2e 2WD kit version.

Contact Thunder Tiger at (660) 584-7121 for more



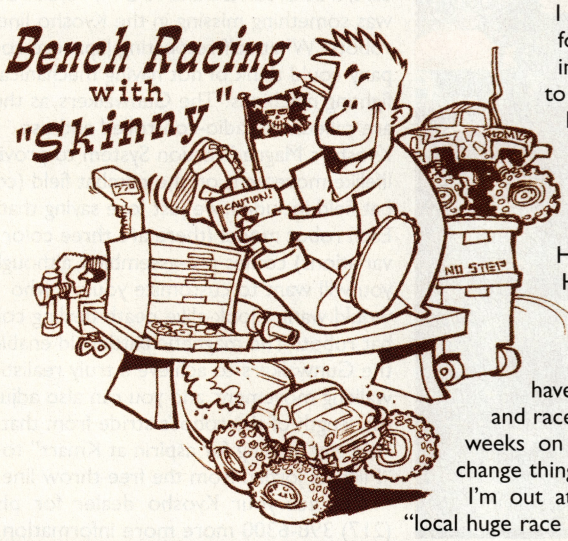
NITRO RALLY KYOSHO STYLE

Kyosho has adapted its very popular Inferno TR-15 to rally duties with this new chassis (shown at the Chicago Model Hobby Show). Like the Inferno buggy, the TR-15 rally chassis features a powerful Kyosho GS-15R engine with full-time 4WD provided by a rugged shaft-driven system that should easily withstand the rigors of scale rally racing. Unlike most so-called "rally" offerings, this is one car that will definitely be able to handle the dirt.

Contact your Kyosho dealer for phone (217) 398-6300 more more information.

[Truck Column]

Now where am I? Oh, right, I'm back at home in my cozy (but messy) office, once again bonding and passing pearls of wisdom to you, my friends of the monster truck persuasion. You guys are going to love this one!



I got home from my four weeks of touring, and then I went to the Chicago Model Hobby Show (see my report in last month's column) where I got to torture Damon from Hardcore Racing and Hippy (known as "not so Hippy"). Of course now that I'm back, I have to go to the track and race, right? I tell you, six weeks on the road sure can change things!

I'm out at KZ Speedway, my "local huge race track," and after the racing was done, I saw the local 1/8-scale boys breaking out their converted buggies-now-turned-monster-trucks. What the?! So, I guess it's now "cool" to have a monster truck. But mind you, it has to be a converted 1/8-scale. Heaven forbid any of us brain-dead SoCal guys should have an ultra tricked out T-Maxx or Terra Crusher or whatever. Nooo, we have to go all the way. We are so trendy here in La-La land.

It's funny, because these guys are not just average schmoes like me, they're pros like Steve Dunn and Marty Korn, to name two. I'm glad to see that in its third year of solid existence, the monster truck fad seems set to become (much to the chagrin of the core R/C people) a staple of the off-road world. I'm just glad to see other people enjoy what we have known all along, that big trucks are fun!

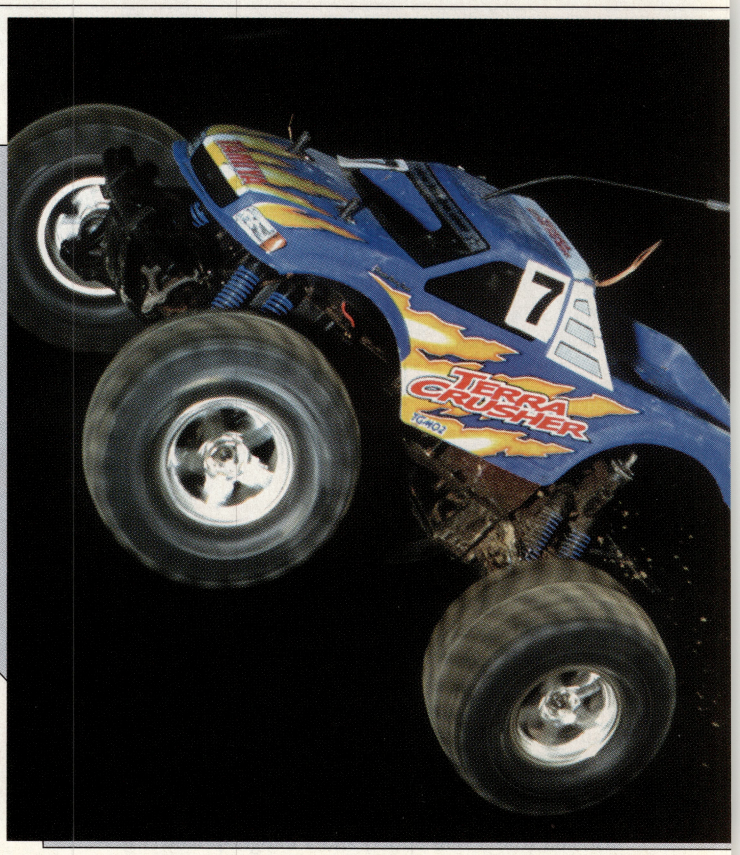
READERS WRITE

Hi, Skinny, I just read your column and article on the Terra Crusher in the October '02 issue. I bought a TC in May and run it almost every day. To say I am very pleased with it is an understatement! I believe it is the best of the best—well constructed, user friendly and almost bullet-proof. I say this with 50 years of R/C experience. Yes, I started way back in the beginning with a single channel (escapement) radio! I don't know if you are aware of it, but Tamiya has a homepage (www.tamiyausa.com) that has tech info that is not in the manual. Also New Era Models has many hop-up items for the TC (www.NewEraModels.com) that will help you when racing. I run my TC's engine at about 200 degrees Fahrenheit and got almost ten gallons of nitro through it before I replaced the piston/cylinder. I also have the large heat-sink head and two-needle carb from New Era. I replaced the body with a Parma Spider-Man, which allows for much cooler running. Hope this info helps. Keep up the excellent work; I am looking forward to your future articles.

Joe Maran
Grovetown, GA

Hey Joe, what do you know? Thanks for the e-mail. Boy, I thought I was old! Glad to hear the good word on the TC (see folks, I'm not the only one that likes this beast). I'm covering the New Era Parts this month. And thanks for the tip about Tamiya's site. Look for more coverage on the TC in the future from us, and remember, at the end of every straightaway, there's a corner.

—Skinny





BY BRIAN SKINNER

CRUSHING THE CRUSHER

Well, I've been trying to! To be sure, the TC is one tough cookie. I took the TC on the tour with me and have done five demos of insane jumping and bashing, plus I've gone bashing with the locals in the towns I've been to. So far it's been hanging tough. I have had some little things go wrong, and a few things break, but the Tamiya has performed well and has needed very little work. Here is a list of what has gone wrong and some fixes to help the TC stay together better, especially if you're thrashing it like I have been.

• The plastic ends on the rear tie-rods have broken three times. Solution: I changed to aftermarket pieces. The stock ones are too thin for extreme jumping and bashing.

• Thank goodness Tamiya includes extra driveshaft parts in the Terra Crusher box, because you will need them! I went through three driveshafts in as many days. If you're jumping hard or driving under hard conditions, they might let go. Hmm, I wonder if they knew this? They sure put a lot of spares in there!

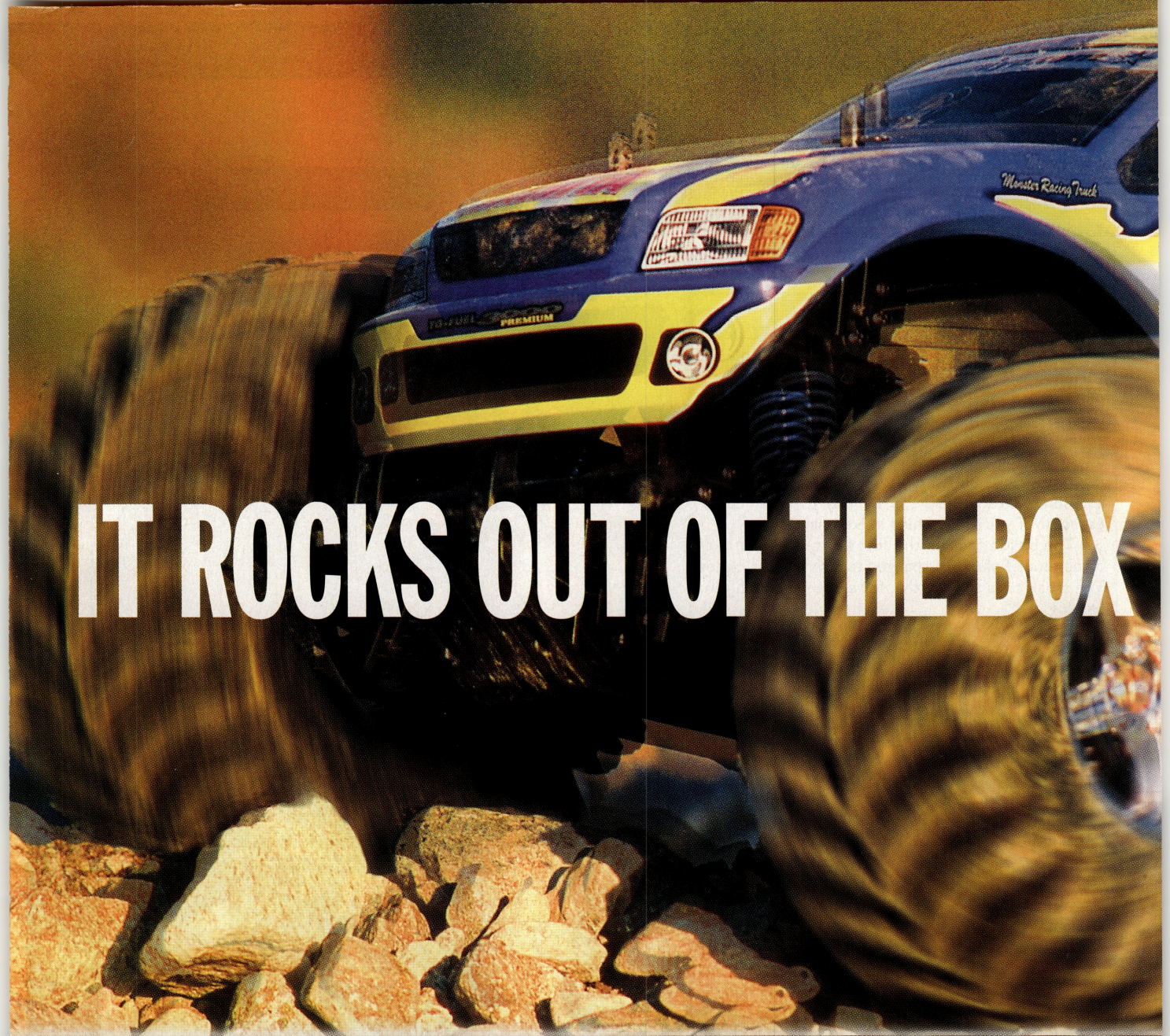
• Front and rear bumpers. Although the bumpers are very tough, multiple crashes will break them apart. I found that after a while the bumper/skid-plate connection, where the screw holds the two, will come apart and that the screws will bend. I found a cure! If you look on the skid, there are two holes on each side (why they are there I do not know). If you put a zip-tie through each hole and fasten it to the bumper, it will keep the whole unit together. As a bonus, you can smack things a lot harder and the bumper will take the impact instead of other more expensive parts.

• Check the setscrews for the driveshafts once in a while. They do come loose.

• Body mounts. Get rid of those darn body clips! I hate them! I'm talking about the ones that are under the body, not on top. Why companies use body clips to position the body is beyond me! The first couple of times you land on your lid, your body clips will tear through the body holes and your cool-looking body won't ever stay on the posts again. Solution: helicopter rubber skids. They are round and have a hole through them that's the same size as the TC's body posts.

This is what you do: remove those lower clips and throw them as far away as you can, stomp on them, yell at them. Then take your sweet new future spacers and cut them to where you want the body to be positioned, and then slide them on the posts and presto! Better mounts—all for a couple of bucks. Your body now has a better place to sit, and they are rubber and will flex some, and they're wider so the body hole will not split and tear. You will thank me later.





IT ROCKS OUT OF THE BOX





SCALE: ~~BIG~~ REALLY BIG, TERRA CRUSHER TAMIYA NITRO TRUCK
with 2-CHANNEL RADIO SYSTEM and ELECTRIC STARTER **Kit Number 43501**



True monster truck long travel suspension with proper geometry. This is not just a converted buggy!

Automatic, adjustable 2-speed transmission with reverse.

Special mechanical bell-crank system enables operation of the transmission with a 2-channel radio. Radio is included and installed.

An on-board starter system is standard on the .18 engine, making startup quick and easy. Plus, a big 150cc fuel tank for ample run time.



Rocks, Gas and the new 1/8 Scale Terra Crusher Nitro Monster Truck from Tamiya. Powerful ingredients for flat-out maximum fun. Mix in a a 2-channel radio with an on-board electric starter, automatic 2-speed transmission with on-the-fly reverse, full ball bearings, dual disc brakes, with NO assembly required, and you are cooking... instantly! And if that wasn't enough, you can already find aftermarket parts that fit this monster. So get to your local hobby shop and buy one this morning so you can start the fun this afternoon. For more info go to WWW.TAMIYAUSA.COM and start eating rocks like your parents told you not to.

TAMIYA

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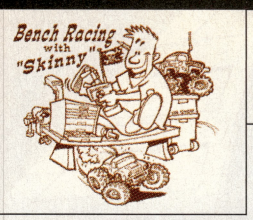


BENCH TEST: GET ON THE PIPE!

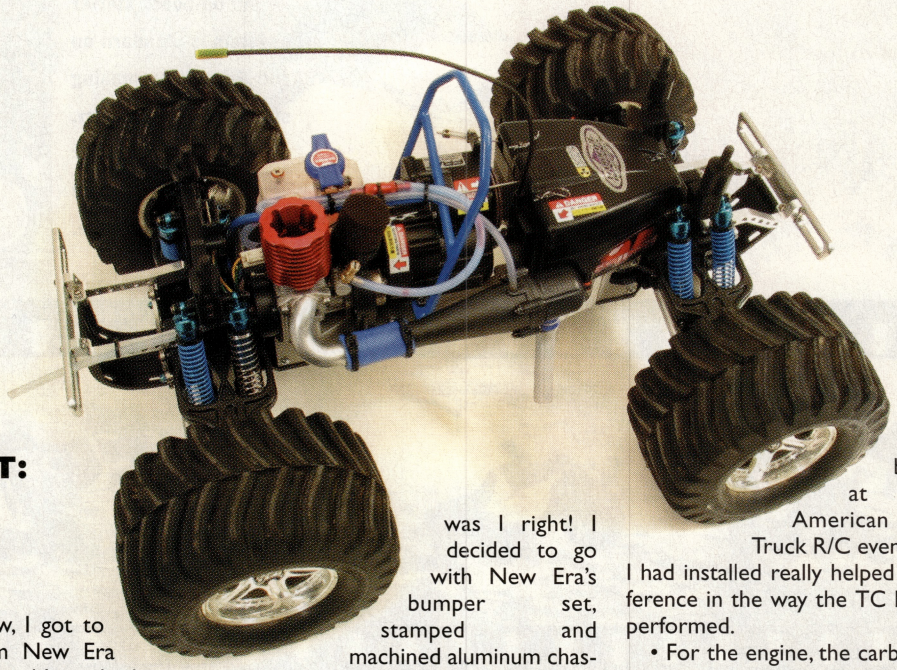
What do I mean by that? It's an old motocross term meaning to keep the motor in the power range, or to get off your butt and gas it! You see, RCR is a motocross and ATV company that has caught the mini monster truck bug. Unhappy with what current pipes do for nitro engines, and being a pipe manufacturer, RCR thought that they could do better—as well they should! After all, they have been making pipes for two-strokes for two decades.

I could go into details on how pipes work—how their shape, volume and velocity work, plus all the physics involved—but that would take half of this issue to explain, so I won't. But what I will say is that as funky as this pipe looks to you and me (an old throttle twister), see it as a thing of beauty and performance! And after testing it, it hauls butt!

The one I received is still a "work in progress" and is made of sheet metal (the production pipes should be of aluminum), and was designed for mid- to high-end punch. Boy howdy, does it deliver. I drag raced my buddy down our street. And at about ten feet off the line, when it got on the pipe, my truck was gone! I drop my pal like a bad habit. These guys know what they are doing.



What's cool about all this is that RCR could technically build a pipe for a specific engine to do whatever would be best for that particular engine, or extract optimal power out of said engine for maximum low-end punch, mid-range punch, etc. I think you get the idea. The best part is it's $49.95, and if you tell them Skinny sent you, they will give you a money back guarantee. Give RCR a call at (618) 644-3211—it's money in the bank, baby!



BENCH TEST: A NEW ERA FOR THE TERRA CRUSHER

At the Chicago show, I got to meet the folks from New Era Models; nice people, too! I was looking at the trucks they had on display, and noticed a bunch of new things for the Terra Crusher. Since my TC needed to be tricked out, I thought that what they had to offer looked like what I needed to make my TC ready for racing. Boy, was I right! I decided to go with New Era's bumper set, stamped and machined aluminum chassis braces, big-bore two-needle carb, big tube header, a trick-looking roll cage and finally, the best hop-up for the TC, their "forward-only" conversion kit.

After installing the parts, I headed up to Delta Raceway to do battle in the big block class at their All American Monster Truck R/C event. The parts I had installed really helped make a difference in the way the TC handled and performed.

• For the engine, the carb kit and the header turned the Tamiya .18 into a contender. It was dicing so nicely against the .21 trucks that after the race, the guys in the class were coming up to me and complimenting the truck and its ability to battle with their big-block trucks.

TRAXXAS®

New MAXX™ Monsters!



2WD Nitro Monster Truck!

The Traxxas SportMaxx is a new 2-wheel drive Maxx monster that focuses on the essentials of performance that made the T-Maxx the best-selling hobby class model of all time. The SportMaxx is a lighter weight, more athletic Maxx machine that's motivated with unreal power from the TRX 2.5 Racing Engine and the stability of its race-bred WideMaxx™ suspension. 30+MPH speed is possible from the single speed transmission. Adding features is easy with complete upgrade modules to install 4-wheel drive, two-speed or reverse capability (sold separately).

SportMaxx Features!

- 1/10 Scale Nitro Monster Truck
- TRX 2.5 Racing Engine
- More power and less weight equals quicker acceleration!
- Exciting 2WD performance!
- Ready-To-Race® with a 3-channel radio system.
- Quick and agile.
- Less expensive than T-Maxx

SportMAXX™

UPGRADE OPTIONS

2-SPEED

2-Speed Module - #5192X
2-Speed! Send speeds to 40 MPH!

4WD

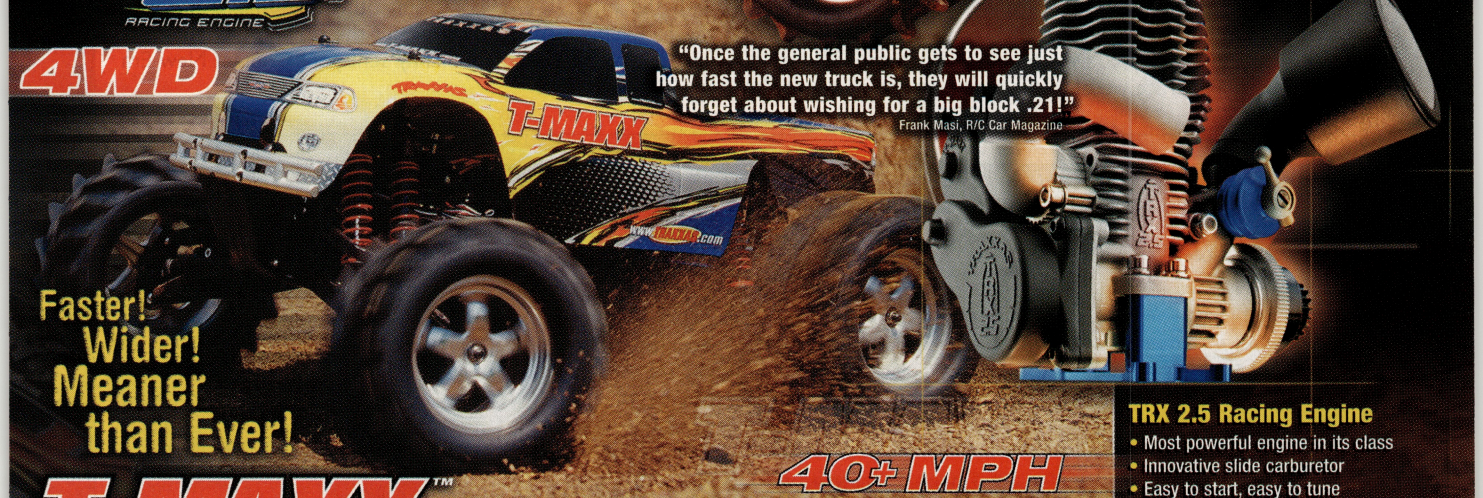
4WD Module - #5191X
4-Wheel Drive! Improves traction on any surface!

REVERSE

Reverse Module - #5194X
Reverse! Back out of trouble at the flick of a switch. Even the servo is included!



TRX 2.5 RACING ENGINE



"Once the general public gets to see just how fast the new truck is, they will quickly forget about wishing for a big block .21!"
Frank Masi, R/C Car Magazine

T-MAXX™



4WD Nitro Monster Truck!

1/10 Scale Nitro Monster Truck
40+ MPH! 4-Wheel Drive! Reverse!

Nitro with Reverse!

Only T-Maxx gives you two-speed forward/reverse nitro performance. Our patented design is the only one that delivers full proportional control of the throttle and brakes in both forward and reverse. Anything less is a compromise!

New wider suspension!

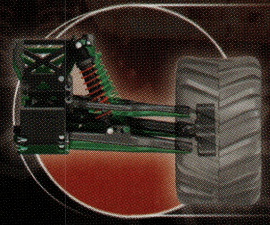
MAXXimum Adjustability! Tougher, wider suspension arms add over an inch of track width over the first generation T-Maxx for incredible stability. Multiple shock mounting positions (up to 10) on the arms and the new shock towers provide the widest range of adjustability. Set it for that famous, bottomless Maxx suspension travel and plush feel, or slam it low and firm for high-speed racing action!

Adjustable Caster

Only the T-Maxx features adjustable front caster for even more race-tuning precision.

TRX 2.5 Racing Engine

- Most powerful engine in its class
- Innovative slide carburetor
- Easy to start, easy to tune
- Push button electric starting with the all new EZ-Start™ system
- Engineered from the ground up for the most power and reliability possible
- Backed by the best service and support in the hobby industry



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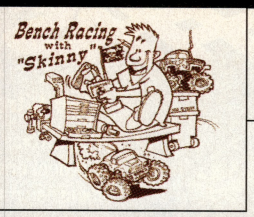
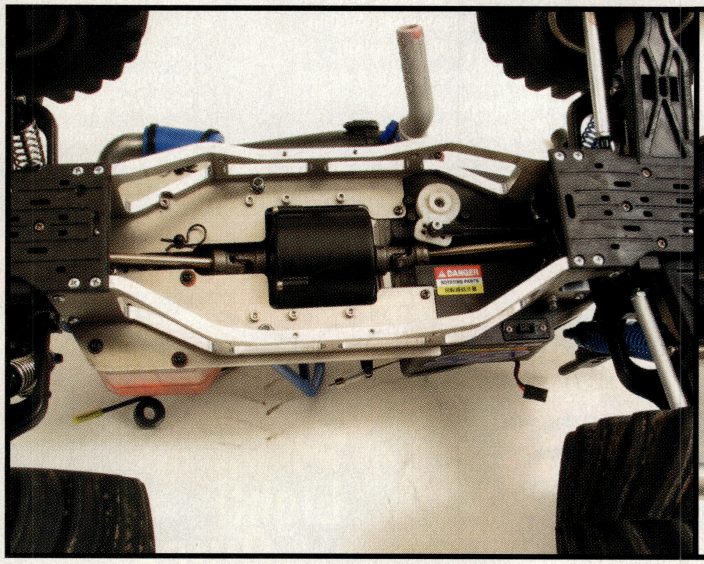
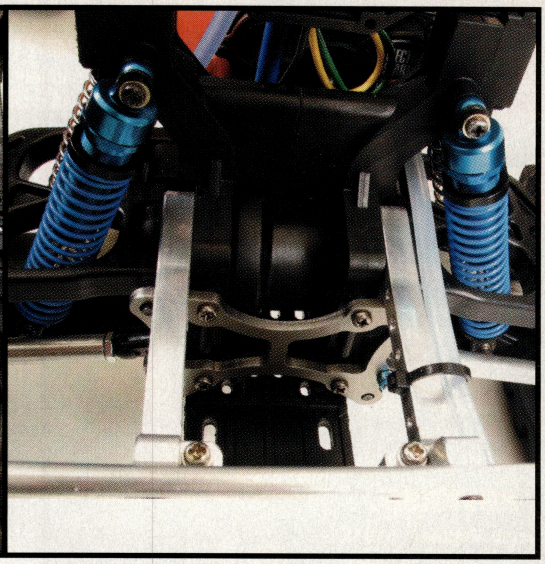
[Truck Column]







• The chassis braces really stiffened up the main frame and helped make the overall handling better. The stiffer chassis also seemed to help in getting the engine's power to the ground.

• The addition of the aluminum bumpers gave me peace of mind and added a cool factor to the truck. The bumpers also stiffened up the skid plate and helped keep that whole area together. The stock setup has a tendency to loosen up after several hard impacts.

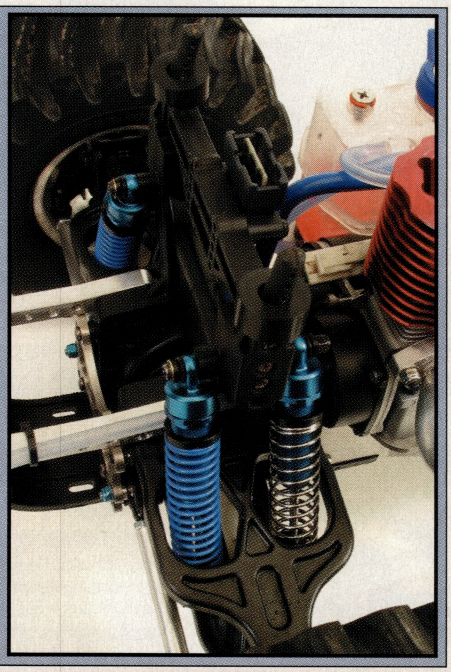
• Finally, the tranny conversion kit totally turned the stock tranny into a full race, pedal to the metal, get the power to the ground beast! This is by far the best hop-up you can do to the TC.

If you have or want to get a Terra Crusher and plan to race it or do some serious bashing, New Era has the parts for you! As for me, I'm sold: the hop-up parts from New Era made an already cool truck into a true race truck, worthy of playing with the mod .21 T-Maxxes and other big-bore trucks out there. While you're at it, check out the other parts New Era has to offer, and tell them Skinny sent you! Contact New Era at (603) 888-4453.

BENCH TEST: HIDDEN GEMS FROM TAMIYA

Tamiya is a huge hobby company, just like Ford and Chevy are huge car companies. Did you know that Ford and Chevy both make race packages for their top-end cars? I learned this when I was putting a "built" engine into my monster van. Likewise, I learned Tamiya makes hop-up parts for their cars too!

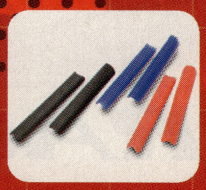
I was at Tamiya getting schooled on the TC and their new Wild Commando, when out of the blue, I asked if they had aftermarket shocks for the TC. To my surprise, Fred Medel (Tamiya's super hunch) said yes. Off he went into the "secret room," returning shortly with the "Super Low Friction Damper set (Long)" shocks (item # 53492). In my humble opinion these have to be the best shocks a guy can get for his truck. They are well made and the bushing/oil seal area is the most well thought-out system I have seen. Their way of sealing and supporting the shock shaft reduces shaft play considerably. Compared to other top-end companies that make shocks, this system blows them away. Also of note is the treated mirror finish that is inside the shock body; this, along with the "fluorine resin pistons" provide, well, super-low friction. But wait, there's more! They also come with threaded shock bodies, so you can dial in the spring pre-load till the cows come home. Same with the piston rebound; there are several different options here too. I used them, and plan on putting them on my T-Maxx as well. One thing you will need to do is to get some ball ends for the shafts, as the supplied ends will not fit all car makes. Two thumbs up on these little gems!



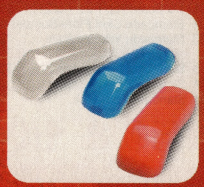
GET AGGRESSIVE



Introducing Hitec's NEW Aggressor 2 Channel AM & 3 Channel FM Pistol Grip Radios



You want performance, need reliability and gotta have style, so check out Hitec's all new, affordable Aggressor Radios. Be the first to customize your new Aggressor with thin or thick Grip Pads in three different colors for big or little hands. Then choose Tuning Covers from 5 different styles and colors to customize your new radio and make it "your own."

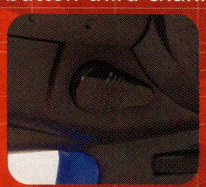




As always, Hitec loaded both radios with valuable features: dual rate steering, servo reversing, a built-in charging jack for optional rechargeable Nicads, and a rock solid signal for reliable control.

Need to be more aggressive?

The Aggressor 3 Channel FM features a push button third channel that can be used for shifting! For easy set up and maximum performance, we've also added throttle and steering end point adjustments (EPA's).



 # 125271 Aggressor 2 AM 27MHz w/two HS-311 servos and HAS-02MB receiver
 # 125751 Aggressor 2 AM 75MHz w/two HS-311 servos and HAS-02MB receiver
 # 125752 Aggressor 2 AM 75MHz w/one HS-311 servo, HAS-02MB receiver and Hitec's EZX-R Reversible Electronic Speed Control
 # 125753 Aggressor 2 AM 75MHz w/one HS-311 servo and HAS-02MB receiver
 # 126751 Aggressor 3 FM 75MHz w/one HS-325HB servo and HFS-03MM receiver

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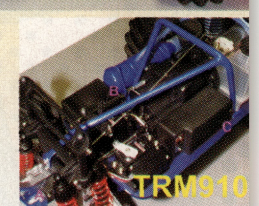



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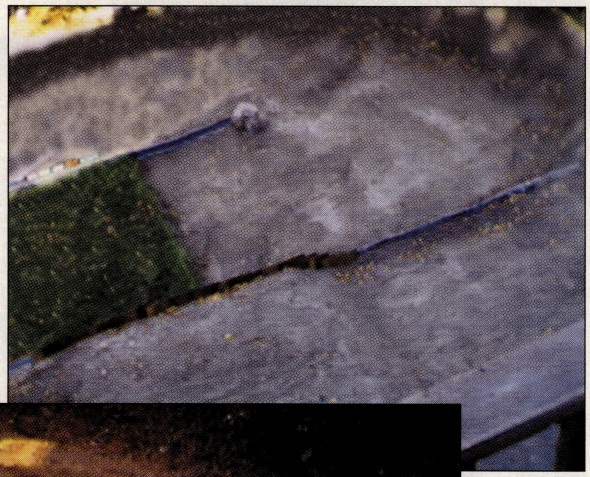



Never, ever use the word "ultimate" unless you are positive. Case in question, "The Ultimate Backyard Track" (October issue's "Feedback"). Having raced 410 Sprint Cars for ten years (bad bunch of hombres!), it is hard to be real kind with words at times, but I'll try. Now being the hardcore racer I am, I can't see tossing bucks at a digital camera when it could go for fuel or more Ti stuff. Therefore, excuse the quality of my pics. But although making the mag with our track would be great (not to mention seeing what you would call it, since 'ultimate' is used!), that's not our style up here. No, we want you to saddle up for a road trip to Santa Cruz and spend a weekend racing insanely hard in the midst of redwoods and the coastal breeze. Did I mention a creek ten feet below the track? Eight-foot lanes (minimum) and 14 feet of elevation difference from the low corner to the high end? Thirty-inch tall berms to ride and tabletops followed by drop downs? The real fun comes when you exit the top berm, side by side with a buddy, and shoot down a 30-degree grade, then launch off a 30-inch jump (still pointing 30 degrees downhill!) and pray you got the ponies to clear the second double some 15 or so feet downhill! By the way... don't rest here, because you immediately hit one of the berms and head back up to a single "pest" jump. I know it might suck a bit having to head down to the Pacific Garden Mall after a day like this, but it wouldn't be right not to treat you all to the finest Mexican Food around and a few Bandito's (similar to drinking 30-percent O'Donnell) to wash it down with. Finish up by catching Sammy, Smash Mouth, or one of the many hot bands that always come back to a unique joint called the Catalyst. So there you have it. Maybe you could bribe Kortz and another live one or two for a mini vacation as well. But there is a price. By the time you load up after day two you will have given input (and some sweat) into the last touches on this track to truly make sure it is the Ult....

P.S. This track was done by myself and my 11 and 5-year-old boys! I run a loaded 7.5 with either a Paris G1 Pro, OFNA O-1, or an O.S. RZ O1. Daniel, my 11-year-old, has a GT with all the goodies (Hardcore, PiggyBacks, KO Propo) and a "worked" CV-R .12 for power. And then there is A.J., or "Big Air" as we call him around here. T3 with all the graphite, LRP esc, Hitec 625 steering and his favorite motor is a 10 triple Orion with 3000 Sanyos. Hope to hear from you soon and thanks for letting me share my warped mind with you!

Carl Vucinich
Santa Cruz, CA



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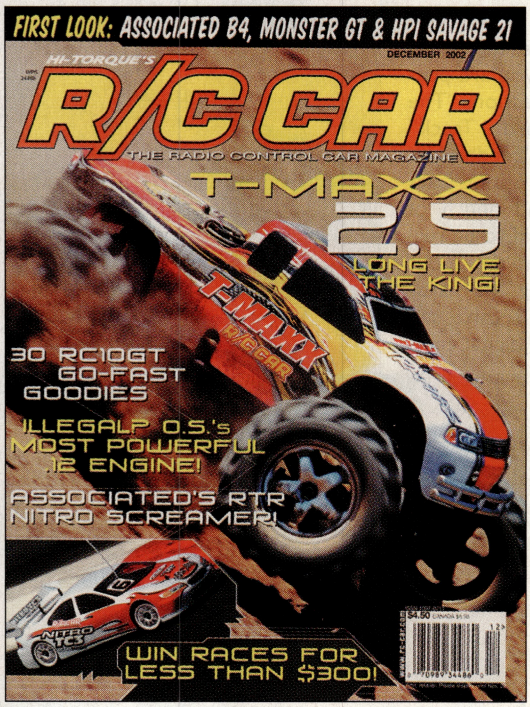

Thanks for the invite, Carl. You know, we might just take you up on it except, well, we avoid work like the plague, and don't like being womped by kids named "Big Air." But hey, your track looks great, and we'll officially call it the "Ultimate-Ultimate" (like the cheeseburger ads).

A "WELL DONE" FROM DOWN UNDER

Having become a bit disenchanted with one of your ad-filled and overly expensive competitors, I recently purchased a copy of your magazine and haven't looked back. You have hit upon the right blend of interesting articles, useful pit, setup and hop-up tips, and relevant advertisements. An especially hearty thumbs-up goes to Skinny for his T/E-Maxx and monster truck section, for because of him I have recently decided to order an E-Maxx and cannot wait to apply some of his tricks-of-the-trade. However, I believe there is some room for improvement. Your rating system for all tested cars is a great idea, but how about a summary once every six or twelve months broken down into category, e.g., touring cars, monster trucks, micros etc. This way, readers new to R/C can get an idea how each type of vehicle stacks up against its most common competitors. Secondly, how about suggested hop-ups. A lot of people shy away from a particular type of vehicle because they cannot find any easily accessible information on the amount and type of hop-ups available. The list doesn't have to be exhaustive, just enough to give someone an idea of how much after-market support they can look forward to before they buy their kit. Apart from that, don't change a thing. You've hit upon the ideal format and I highly doubt I am alone in my sentiment.

Sven Weichbrodt, webmaster
Remote Control Monster Trucks,
Australia

Thanks for the praise, Sven, and a double-thanks for the great idea. How about it, readers? Would you like us to use Sven's idea of compiling test data? Let us know.

E-mail your letters direct to the editors! You can get ahold of Frank Masi at evaone@pacbell.net. If you're going the old-fashioned route, send along your letters to R/C Car at 25233 Anza Dr., Valencia, CA 91355. Check us out on the Web at www.rc-car.com

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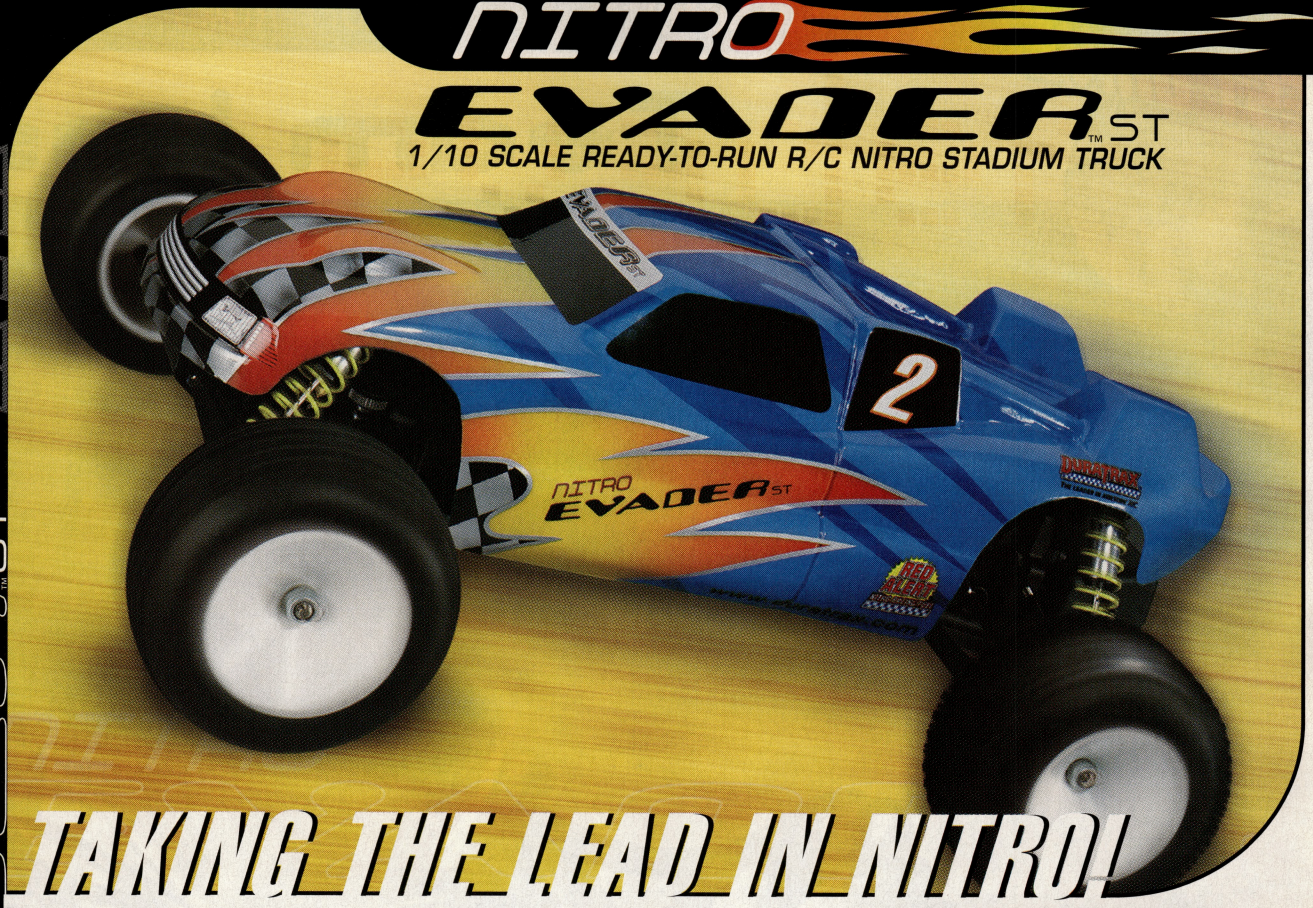

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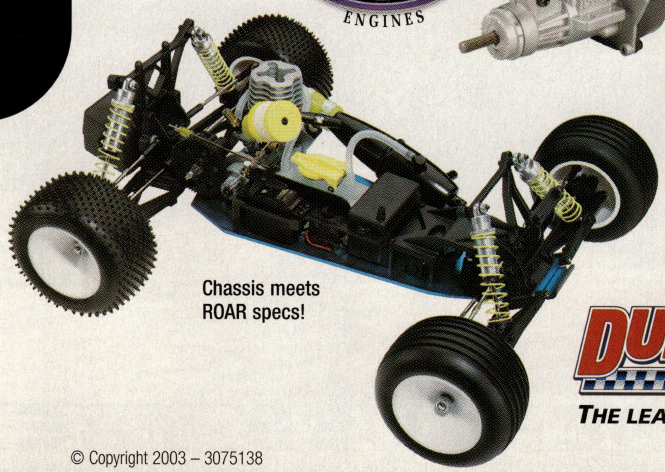

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Team Losi



LOSI RESCUES THE

XXX-4



We caught word about a year ago that Team Losi was developing an off-road car based on its new XXX-S touring car. Actually, the rumor was that team driver Brian Kinwald had handmade his own prototype and that the car was working well. Losi denied the existence of the "XXX-4" as an official project, however when more of the prototypes started showing up at local races, we became suspicious. And when Matt Francis top-qualified the 4WD class at the IFMAR world championships in South Africa driving a prototype XXX-4, we knew it was only a matter of time before Losi officially allowed the cat out of the bag.

Almost immediately following the car's stunning performance at the Worlds, a Losi press release crossed our desk. Yes, it read, the XXX-4 is an official Team Losi project, and the best news was that the production car was less than six months away from completion. The time has passed slowly, but in keeping true to their word, a box arrived at the *R/C Car* offices in which we would find a pair of XXX-4 production kits: one "clean" model for studio photography, and a second, rather well-worn "driver" car that had seen its fair share of abuse (mostly at the hands of overzealous editors from other mags!).

AiLing 4WD CLASS!

OUTSTANDING FEATURES

FROM SEDAN TO BUGGY

It's no secret that the XXX-S wasn't designed to be an off-road buggy, but when looking at the completed XXX-4, one can't help but believe that Losi had this car in mind from the beginning—it's that clean! How much of the XXX-S sedan DNA remains in the XXX-4? Pretty much everything except the suspension is identical between the two cars. Oh, there are some subtle differences in the drivetrain, but otherwise, the chassis and drivetrain of the XXX-S remains unaltered, and this is a good thing because Losi spent a lot of time and money designing these parts! Thankfully, they work just as well for the off-road buggy as they do for the sedan.

SUSPENSION: THE BIGGEST HURDLE, THE GREATEST TRIUMPH

According to Gil Losi Jr, the largest obstacle to the production of the XXX-4 was designing a suspension that could work with the lower ground clearance of the XXX-S platform. Why is this a problem? Why not just make longer arms and shocks? It's not that easy. You see, the maximum allowable ride height of an off-road car such as the XXX-4 is, or should be, determined by the angle of the driveshafts. And unlike the XX-4, which was designed first as a buggy and had smaller diffs, the XXX-S diff outdrives are much higher in the chassis (thanks to their larger diameter). Hence, the driveshafts are already at steeper angles to begin with.

This challenge was met, and conquered, by the Losi design team. Although early prototypes, even the ones that were raced at the IFMAR world championships in South Africa (including Matt Francis' top-qualifying car), suffered from suspension that bottomed-out all too easily. The geometry of the production XXX-4's suspension fixes this problem and solves the ride height issue; this can clearly be seen in the form of the front spindles and carriers, which extend far below the suspension arm. This helped to maintain the correct suspension angles without sacrificing ride height. And if you're particularly astute, you can detect a small amount of inboard toe-in at the front suspension arms—again, a little thing that, according to Losi Jr., helps prevent the car from bottoming.

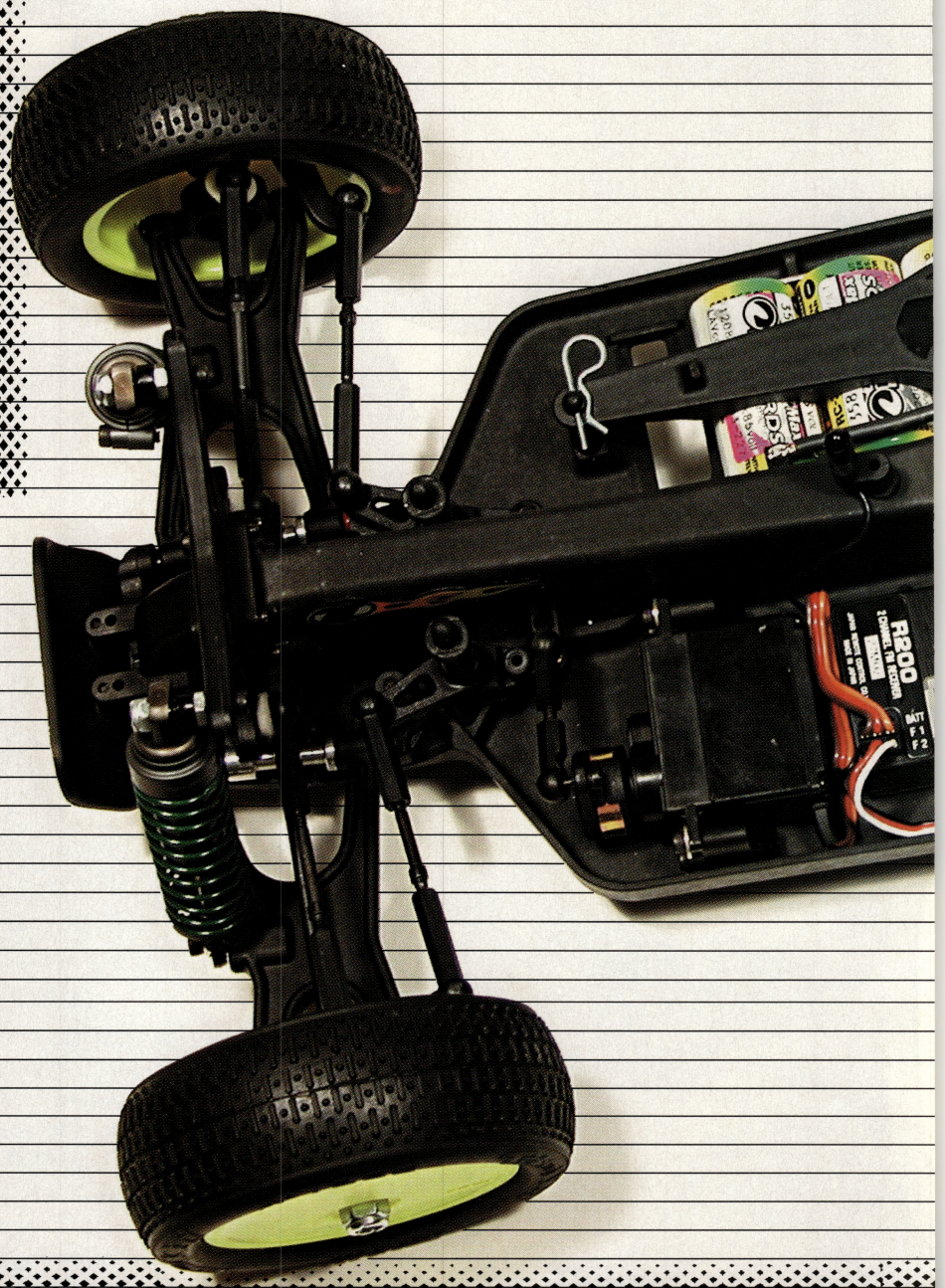
Gil also enlightened us about the true cause of the front suspension breakage that seems to plague 4WD buggies. Whereas



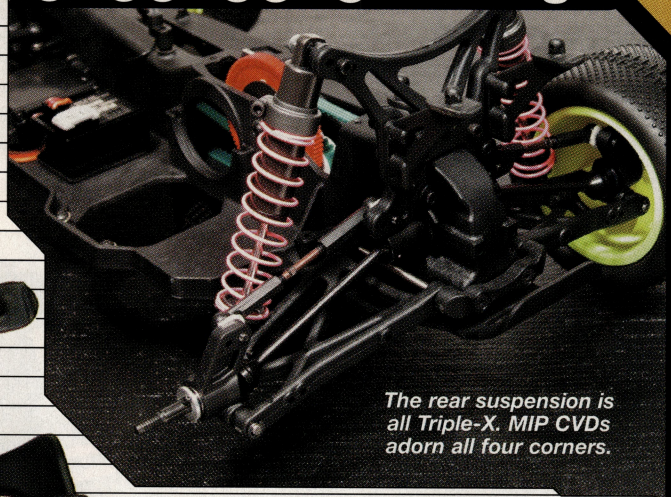
Losi designed all-new front arms to minimize breakage.



The spindles and carriers are all that the new car shares with the old XX-4







The rear suspension is all Triple-X. MIP CVDs adorn all four corners.

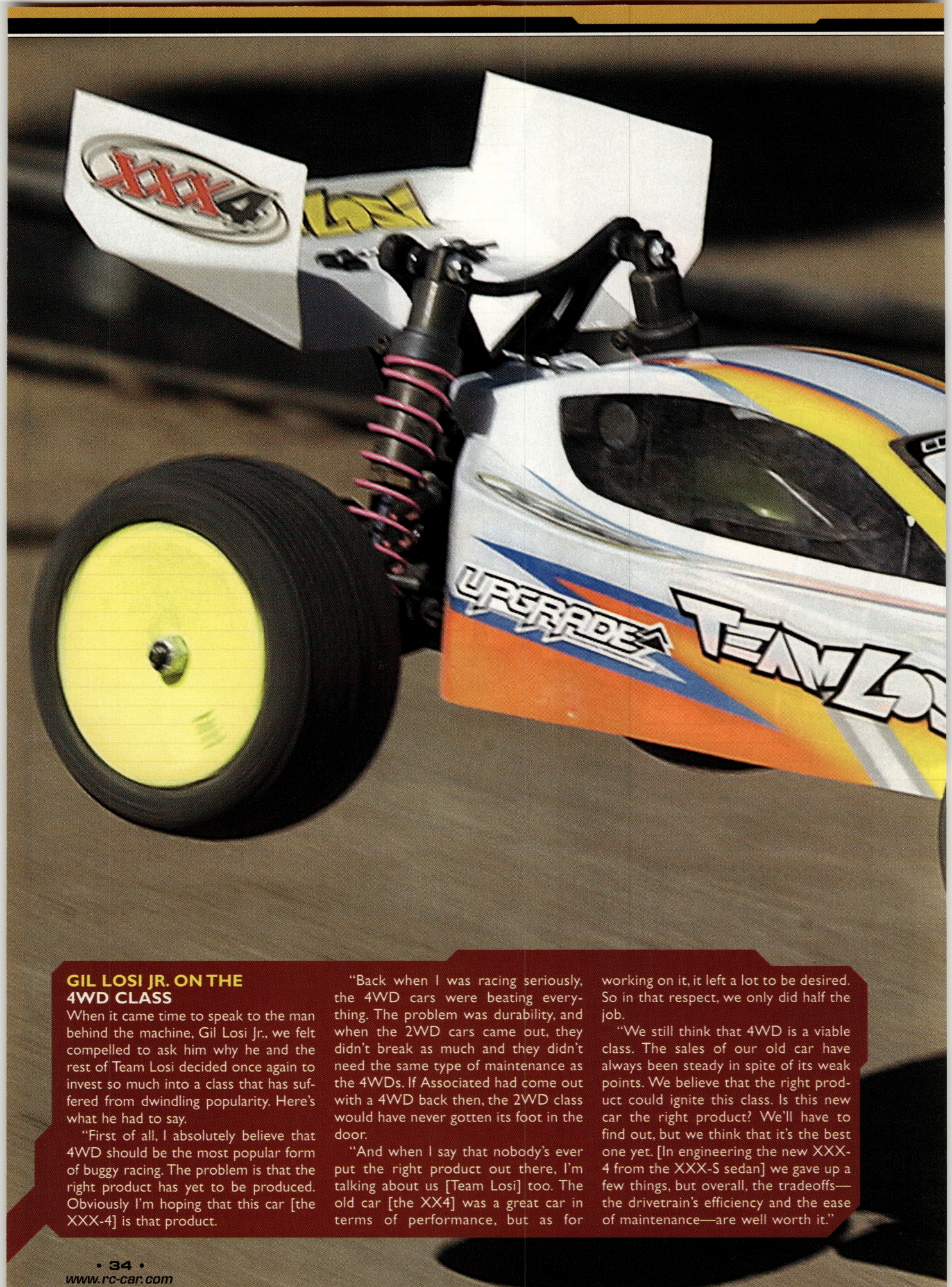
we had hypothesized that it was the accommodation of the front drivetrain parts that made 4WD cars fragile in the nose, it is in fact the angle of the front bulkhead— not the design or material of the suspension pieces— that is the most common cause of front-end breakage.

"A typical 2WD car has about 30 degrees of front kick-up," says Gil, "And when you hit something, the suspension arms are angled in such a way that the front shocks take the majority of the hit." A 4WD car usually has between seven and 10 degrees of front kick-up. "Now when a 4WD car hits something," adds Gil, "it is the suspension, the arms, bulkheads and spindles, that bear most of the brunt." So it's not that 2WD cars are designed to be that much stronger, it's all in the angle of the bulkhead and front suspension assembly.

Why not just design a 4WD car that has 30 degrees of front kick-up? "That's been tried," answers Gil, "The problem is that 4WD cars don't work with that much kick-up. If you had a 4WD car with a lot of kick-up, every time you gave it throttle the front end would lift until the front shocks were completely extended. There goes your steering and traction." And while a 4WD car would feel perfectly fine without any front kick-up at all, a little angle is needed to make the car work through bumps. This is why a buggy such as the XXX-4 has just a little front kick-up (from between five and 10 degrees, depending on the setting of the front arm mounts).

To handle the increased stress of a 4WD's shallower front kick-up, a new style of suspension arm was designed for the XXX-4. In fact, these new arms almost look as if they came from some other kit when seen on the XXX-4. Although they are made from the same Stiffezell composite material that is used for virtually all of the car's molded parts, the new front arms are designed to absorb much of the impacts that would otherwise cause breakage on a 4WD, yet in terms of overall rigidity, they seem to provide more than adequate support for the carriers and spindles. And to keep the front inner hinge-pins from bending during collisions, each is protected by an aluminum collar. Each collar uses a small grub screw to hold the pin in place, so no E-clips are needed.

The rear suspension is nearly a duplicate of that of the Triple-X 2WD buggy, with the only difference being the design of the lower arm mounts. This geometry works great on the 2WD and it did wonders for the multi-time national and world champion XX-4, so why mess with a good thing?



GIL LOSI JR. ON THE 4WD CLASS

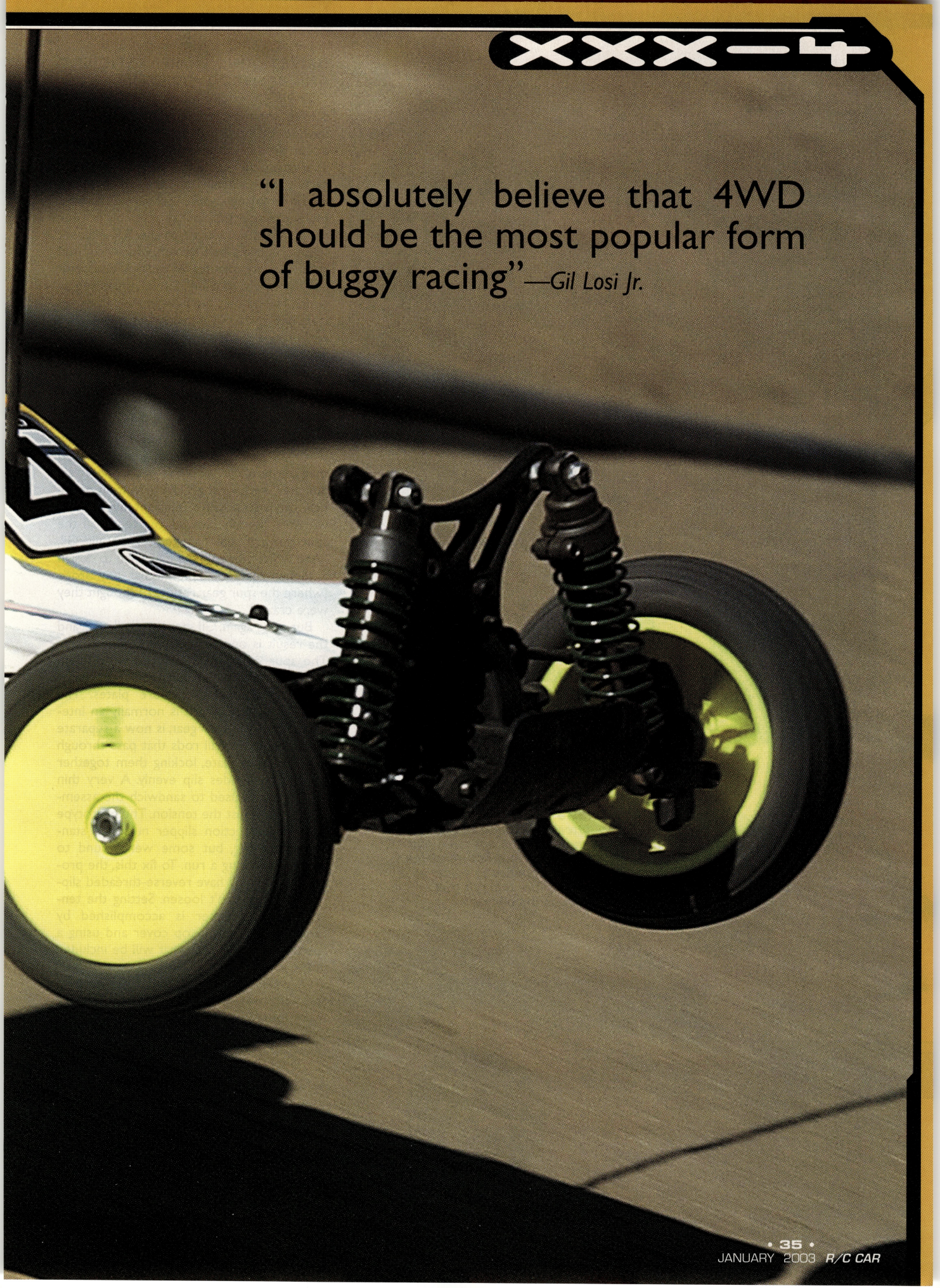
When it came time to speak to the man behind the machine, Gil Losi Jr., we felt compelled to ask him why he and the rest of Team Losi decided once again to invest so much into a class that has suffered from dwindling popularity. Here's what he had to say.

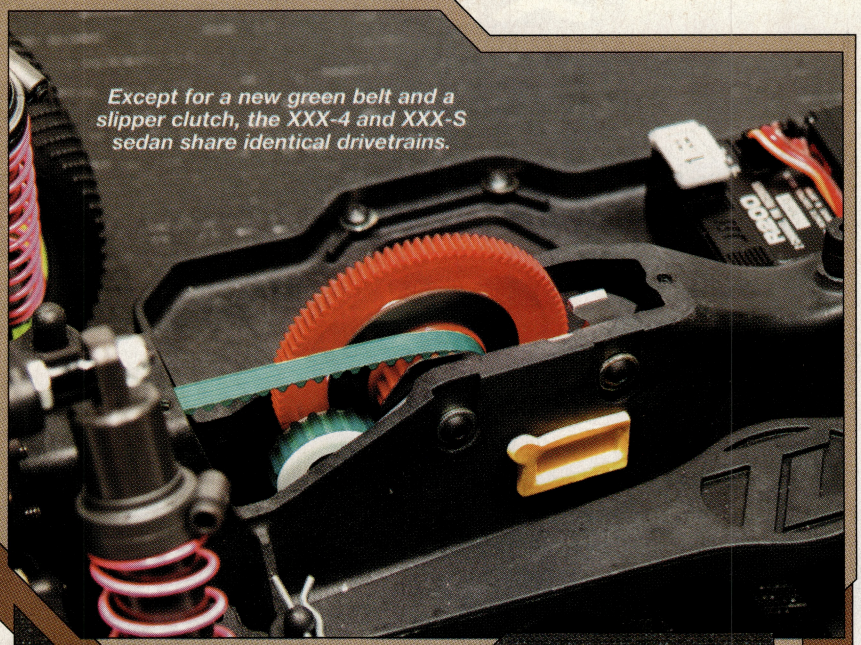
"First of all, I absolutely believe that 4WD should be the most popular form of buggy racing. The problem is that the right product has yet to be produced. Obviously I'm hoping that this car [the XXX-4] is that product.

"Back when I was racing seriously, the 4WD cars were beating everything. The problem was durability, and when the 2WD cars came out, they didn't break as much and they didn't need the same type of maintenance as the 4WDs. If Associated had come out with a 4WD back then, the 2WD class would have never gotten its foot in the door.

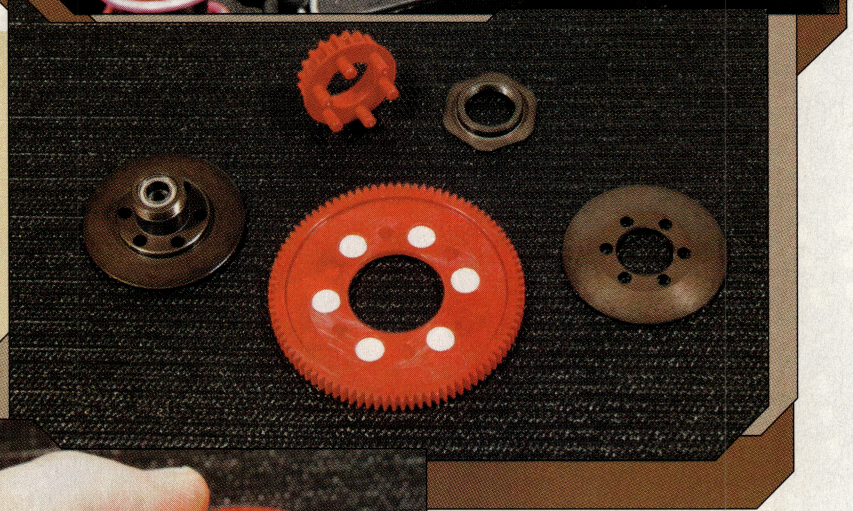
"And when I say that nobody's ever put the right product out there, I'm talking about us [Team Losi] too. The old car [the XX4] was a great car in terms of performance, but as for working on it, it left a lot to be desired. So in that respect, we only did half the job.

"We still think that 4WD is a viable class. The sales of our old car have always been steady in spite of its weak points. We believe that the right product could ignite this class. Is this new car the right product? We'll have to find out, but we think that it's the best one yet. [In engineering the new XXX-4 from the XXX-S sedan] we gave up a few things, but overall, the tradeoffs—the drivetrain's efficiency and the ease of maintenance—are well worth it."


XXX-4
"I absolutely believe that 4WD should be the most popular form of buggy racing"—Gil Losi Jr.



Except for a new green belt and a slipper clutch, the XXX-4 and XXX-S sedan share identical drivetrains.





The XXX-4 slipper is really quite clever. The spur gear is fitted with Teflon slipper pegs that ride against a pair of aluminum pressure plates. Tension is easy to adjust by turning the thin nut that clamps the plates.

DRIVETRAIN: MORE EFFICIENT AND EASIER TO MAINTAIN

The XXX-S's single-belt 4WD drivetrain is likely the most efficient belt system ever devised for a touring car, and it is without a doubt the easiest drivetrain to maintain. Six screws are all that stand between you and each of the car's diffs, and it's a simple matter of removing another six screws to have the entire spur gear/pulley assembly in your hands. A stark contrast to the XX-4/Street Weapon's triple-belt system, which required about twenty minutes of tedious disassembly just to get to a diff. So we're pleased as punch to find that the new single-belt drivetrain has made the transition to the XXX-4 with nary a change save a new belt and the addition of a slipper clutch.

"Aside from the suspension," says Gil, "The slipper clutch was probably the hardest thing to design on the XXX-4." The original design of the XXX-4 did not include a slipper—most XX-4 owners locked-up that car's slipper, so the designers assumed that the new car wouldn't need one at all, but they were wrong. "The drivetrain of the new car is so positive [efficient, direct] that we were literally blowing the teeth off the spur gears in the prototypes," recalls Gil, "And when they told me that I had to design a slipper that could fit in that tiny space [where the spur gear resides], I thought they were crazy!"

But once again, Gil met the challenge, and the result is one very clever slipper clutch. The spur gear, which is fitted with Teflon pegs, is sandwiched between two hard-anodized aluminum pressure plates. The main belt pulley, which is normally an integral part of the spur gear, is now a separate piece that has small rods that pass through each pressure plate, locking them together so that both sides slip evenly. A very thin locking nut is used to sandwich the assembly and to adjust the tension. The prototype and pre-production slipper nuts had standard threading, but some were found to loosen up during a run. To fix this, the production kits will have reverse-threaded slipper nuts that can't loosen. Setting the tension of the slipper is accomplished by removing the Lexan top cover and using a specially made wrench that will be included in the kit.

"Another reason we added the slipper," says Gil, "was to allow the belt to be set more loosely without worrying about skipping. A side benefit is that the slipper makes the car much better through the bumps."

XXX-S owners will notice that the XXX-4's belt is different from the one they're used to seeing. In fact, the new belt has been especially designed for off-road. It is made of the same material as that of the road-going XXX-S, however its cords are stronger to handle the added stresses of off-road, but as the buggy's drivetrain spins at less rpm than that of the sedan's, there isn't a tradeoff in overall efficiency.

XXX-4



REPORT CARD

Test location: Hot Rod Hobbies, Santa Clarita, CA

Test conditions: Newly made track (for the upcoming Reedy Truck Race of Champions) with many technical sections and challenging turns. Hard-packed conditions

Handling: A

The car was planted. Having not driven a 4WD electric buggy in quite some time, we were immediately able to get into a groove with the XXX-4. It's a definite point-and-go car; it can be placed exactly where you need it to be without any extra effort. It's much easier to drive than the old car.

High-speed cornering: A

Coming into a turn a little how was not a problem. Keeping it hot wasn't a problem either. It took a lot for the car to break loose, and we were running an 11-turn mod motor. The car appeared top-heavy, as its body would shift dramatically in a smooth, snake-like movement. This provided smooth, fluid handling that inspired confidence.

Low-speed cornering: A

The words "XXX-4" and "slow" go together like lamb and tuna—they don't (and if in your mind they do, then you have problems). When the track called for slower speeds, driving the XXX-4 was similar to driving a sedan, it was that hooked up.

Bumps: B+

As our test track had been freshly built, it was relatively smooth. However, the bumps that were on the track, such as they were, posed no challenge for the XXX-4—it ate them up without issue.

Jumping: A

This car had excellent jumping characteristics. We placed the battery towards the rear of the car because the car initially felt a little nose-heavy during jumping. Down-siding jumps was no problem as long as the timing was right. We noticed little evidence of the prototype car's reputation for bottoming. Losi has fixed the problem with the production car's suspension.

Durability: B-

We broke one right-front hub carrier and one front shock tower. In the XXX-4's defense, our test car had been thrashed by Losi's R&D department and two other magazines' editors prior to arriving at our office.

Accessories you'll need:

Two-channel surface radio system w/one servo,
ESC,
electric 05-size motor,
6-cell battery, charger,
paint for polycarbonate body,
CA cement for tires

SPECS

Price:	$269.99 (varies with dealer)
Length:	14.4in/367mm
Width:	9.4in/240mm
Wheelbase:	10.7in/272mm
Track (f/r):	7in/180mm(f); 6.1in/156mm(r)
Weight:	60.4oz
Chassis:	molded-composite tub
Suspension:	lower A-arm, adjustable upper link
Drivetrain:	single-belt-driven full-time 4WD
Diff(s):	adjustable ball diffs
Damping:	aluminum oil-filled shocks
Bearings:	sealed ball bearings
Tires:	Losi red-compound Taper Pin
Wheels:	one-piece yellow dish

Final Score

Highs: The XXX-4 has the incredibly efficient and easy-to-maintain drivetrain of the XXX-S sedan, and this alone takes away some of the stigma of the 4WD class. Although it's likely that the XXX-4's front suspension won't be as durable as that of the 2WD Triple-X, it appears to be an improvement over that of the old 4WD car.

Lows: There aren't many tracks that run 4WD programs, but hopefully this car will change things.

The verdict: We applauded Losi when they released the XX-4, and being closeted 4WD freaks, were are ecstatic about the release of the XXX-4. If this isn't the perfect 4WD car that will spark a new interest among racers, then it's as close as any car has ever come.

SOURCES

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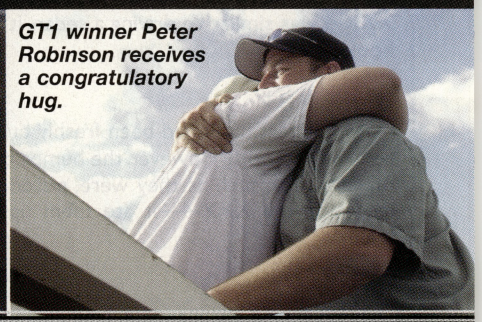
TAMIYA TCS NORTH



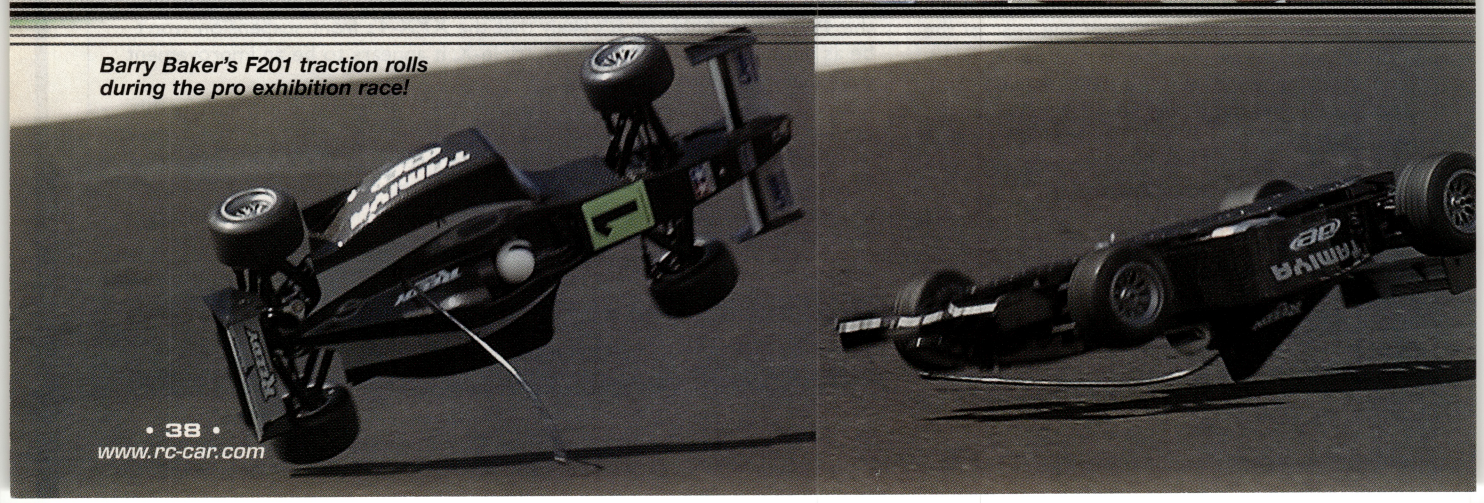
What happens when you turn the focus of a race away from the factory driver and towards the novice and sportsman racer? You get the 2002 Tamiya TCS North American Finals; a race that yearly attracts novice and sportsman drivers to fast and competitive racing and a great event.

The 2002 Tamiya TCS National Championship was held on the permanent road course track of Tamiya's Aliso Viejo, California, headquarters. This event, however, was not a parking lot race. The track featured a fast asphalt surface covered in coke-syrup that offered most of the drivers a moderate amount of traction. It also consisted of concrete rounded borders that were mixed with wood and "dots" to designate the lanes of the track. The event itself was run by Tamiya's fabulous crew, who made sure to keep the races running at a fast and consistent speed. The race announcer for this event, Wisconsin's own Scotty Ernst (a former TCS winner), also did a great job in keeping fans and other drivers glued to the racing action on the track.





GT1 winner Peter Robinson receives a congratulatory hug.

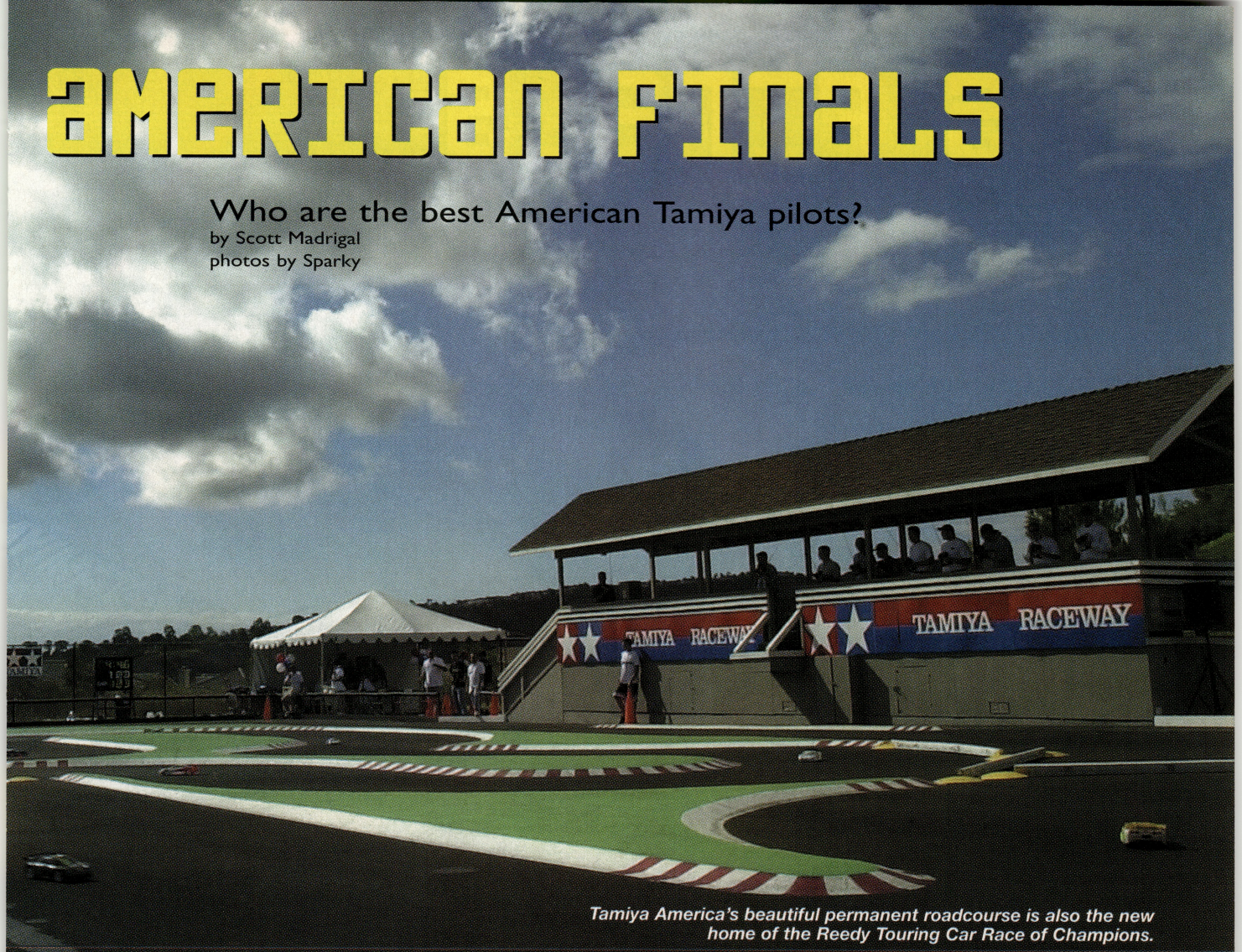


Barry Baker's F201 traction rolls during the pro exhibition race!

AMERICAN FINALS

Who are the best American Tamiya pilots?

by Scott Madrigal
photos by Sparky

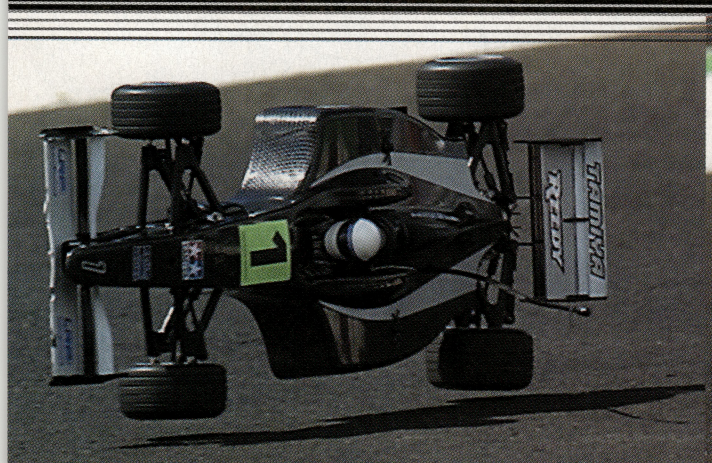


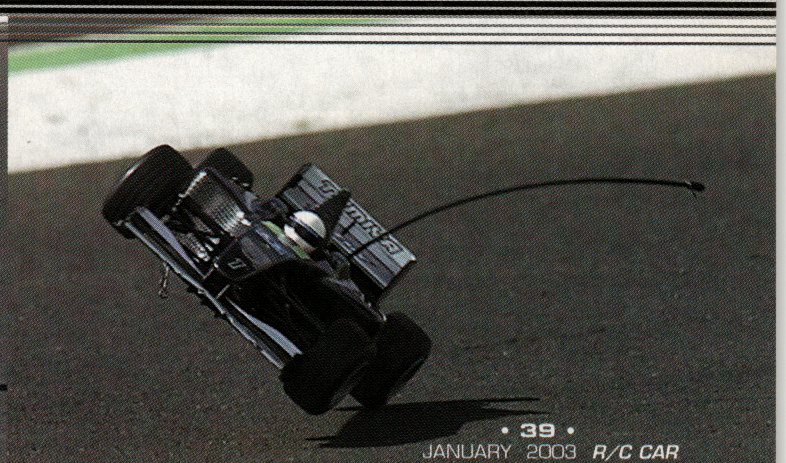
Tamiya America's beautiful permanent roadcourse is also the new home of the Reedy Touring Car Race of Champions.

RACE FORMAT

Although at first glance this might look like a normal race, it really is like no other. First of all, you can't just sign up to compete in this event; you have to qualify to run in it, and to do so you have to run in the TCS series, which is run all over the country. "If you qualify in the top ten, you automatically make the nationals" commented Frank Medel, Tamiya's TCS race organizer. "We also have spots open for those who didn't qualify, but at least participated, so they can participate in the last chance qualifier."

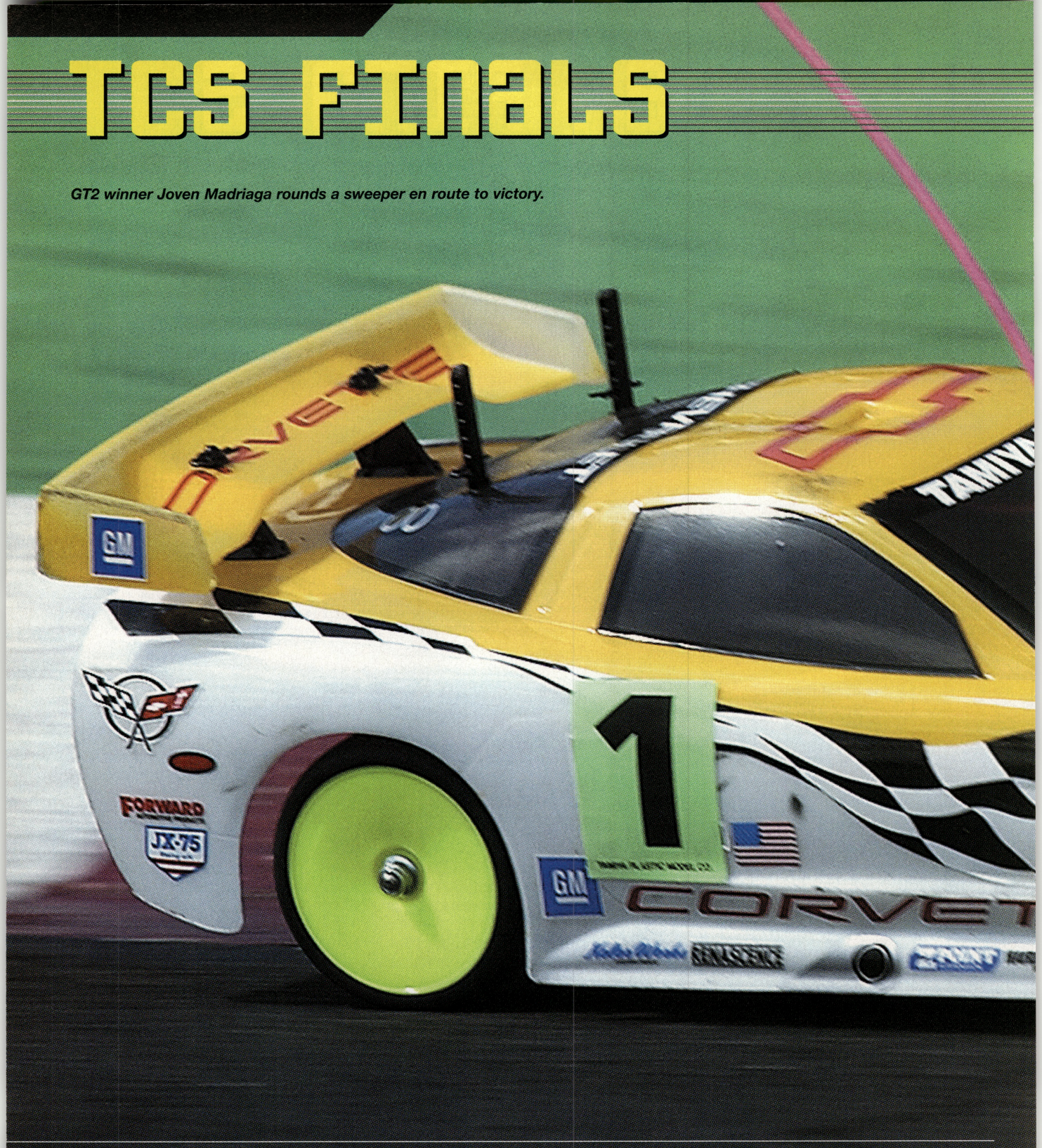
For this race, over 1000 drivers qualified and about 120 drivers made the trek to Tamiya's racetrack in order to race. Drivers competed in four different classes; F1, mini, modified touring (GT1), or stock touring (GT2). Mini and F1 drivers used hand-out stock Mabuchi motors. GT2 drivers used a hand-out 23-turn Mabuchi motor in order to level out the playing field. "It [the race] is mostly geared toward the sportsman type racer...we make the rules kind of tight, such as you have to use all Tamiya hop-ups...and we design it to be fun. Most important is what's at stake," Frank Medel says. "For the winners, for each class, the first place driver wins a trip to Japan. And what he wins is a chance to race in the Tamiya World Championships, held in early November, with the drivers who won in Europe and Asia."





TCS FINALS

GT2 winner Joven Madriaga rounds a sweeper en route to victory.



GT2

The GT2 mains started off chasing a TQ set by Joven Madriaga on the day before the rains. In the first main, Sam Hudson beat out Joven by only two seconds to take the first A-main victory. After the race he had this to say, "The guy who TQ'd [Joven] was really fast but I felt like I could drive faster than him, my car is the only double diff car out there and it's real stable in traffic." Everyone else was using a front one-way. However, in the end it was Joven who took the overall win by finishing first in the next two mains. "First I need to thank Tamiya for having a great race," said Joven. "Basically the track is awesome, people are nice here, just a great place to race. In the first main [the car] wasn't working that good for me, but I did okay in the second, tweaked my settings a little better, took the second main and did the same in the third." Like the other winners in this race, Joven looks to Japan in the future. "I still can't believe it...I'm looking forward to it."

After all was said and done, Joven Madriaga took home the win and the trip to Japan with Sam Hudson and Matt Pozel taking home second and third.

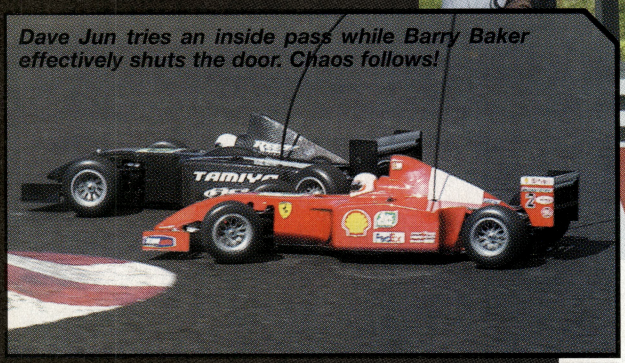


GT2 RULES

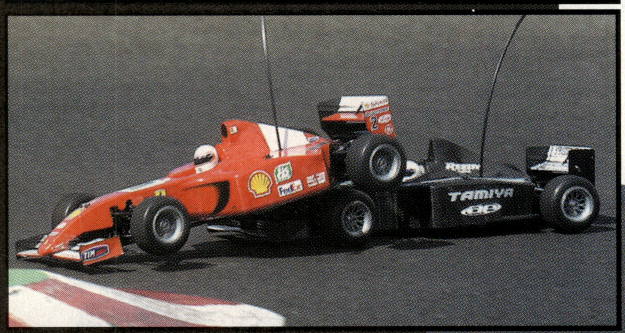
1. All Tamiya TA, TB and TL series sedan chassis (TA01, TA02, TA03, TA04, TL01, TB01, FF01, FF02).
2. Tub chassis only, no double deck chassis allowed.
3. Tamiya Hop-Ups allowed, no chassis lightening allowed.
4. Any ROAR legal 24-degree stock motor or kit-type closed-endbell silver can motor only.
5. Tamiya rubber tires only, no foam tires.
6. Any tire insert may be used.
7. Changing the camber positions on the car other than the way it was intended will not be allowed for the 2002 season. Cutting the front hub carrier to accommodate different camber angles will not be legal.
8. Camber links must be positioned in the mounting holes that they were originally drilled for. Drilling new camber link holes is not legal.

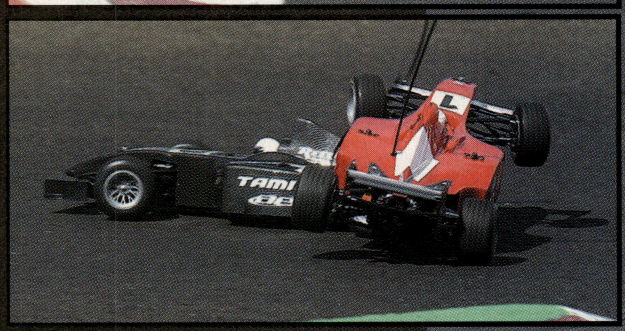
TCS FINALS





Dave Jun tries an inside pass while Barry Baker effectively shuts the door. Chaos follows!







PRO DRIVERS SHOW HOW IT'S DONE

Pro drivers were invited to participate in an exhibition race using Tamiya's newest F1 chassis, the F201. Notables included Team Losi's Todd Hodge and Richard Trujillo (our "Vintage R/C" columnist), Novak's Tyree Phillips, race announcer and former TCS champion Scotty Ernst, Orion/Peak's Rick Hohwart, Associated's Barry Baker and Tamiya drivers David Jun and Jimmy Jacobson. These talented drivers thrilled the crowd with their skill and sportsmanship. In the end, the two Tamiya pilots stood highest on the podium with Hohwart in third.





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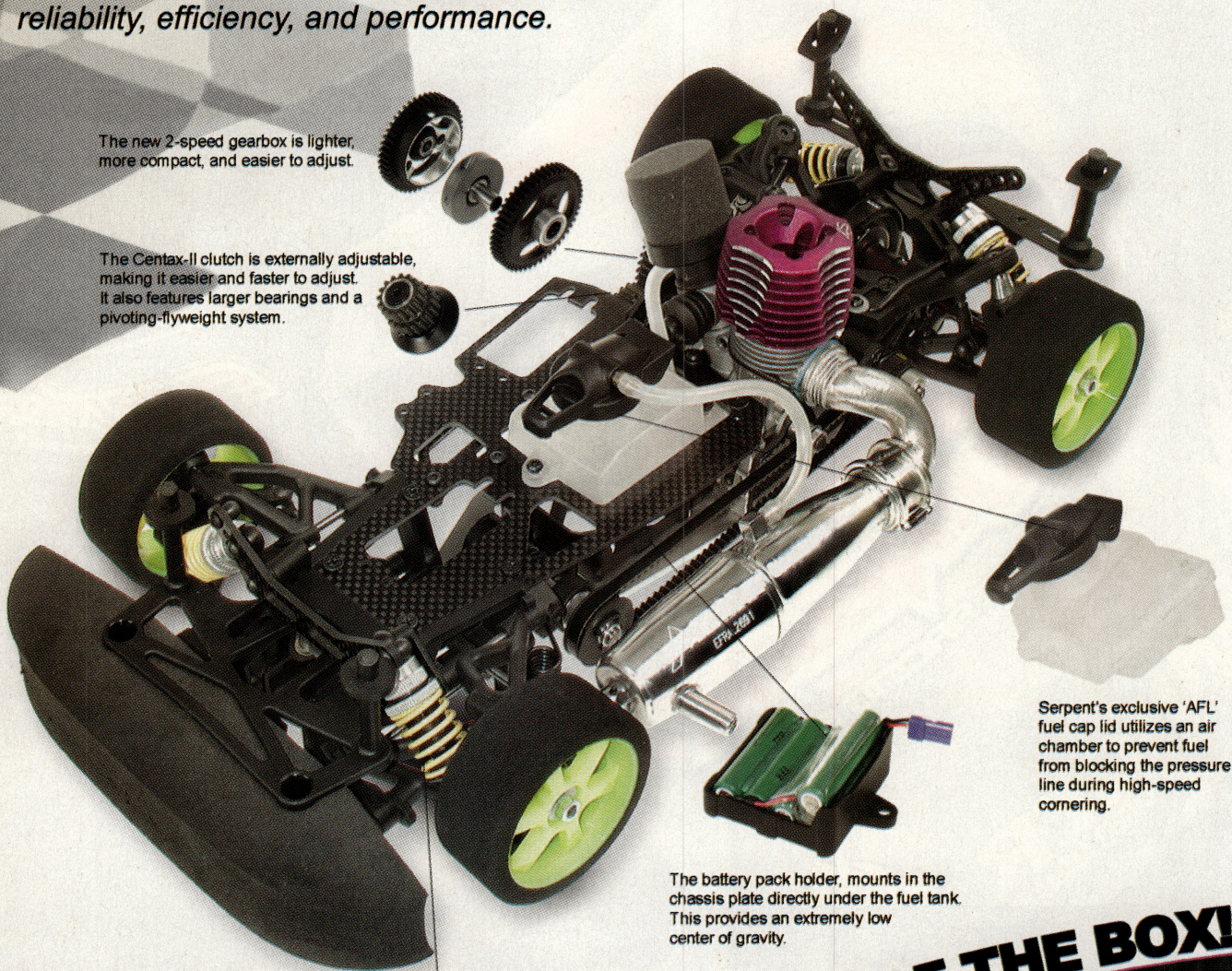

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TCS FINALS



M-CHASSIS (MINI)

The mini class was fairly well wrapped up by Dan Garber out of Seattle, Washington. He won the first A-main event with over 14 seconds on second place Jesse Shapiro. Dan had this to say after the race. "I've really enjoyed this race every year I come down here... the competitors are the friendliest part of it. [The race so far] has been great, everyone is friendly, and there is nice courteous driving that's enjoyable. [The first A-main] I got a good holeshot at the beginning, I was just watching second and third fight over position and I was trying to extend the lead as much as I could, knowing that the third place guy had some good batteries of mine in his car. I wanted to make sure I had a good enough lead that when he got away from second place he wasn't going to be able to catch me." Dan not only got a good enough lead at the beginning, but he held it through the entire day. Many of the spectators were left wondering what made his car so much different from the competition. "Preparation," answers Dan, "I came down Sunday night and I've been here since Monday tweaking on the car to get it right." In the end, the prep work paid off; in the







second A-main, Dan took a commanding lead over the field, and finished with a lap on second place Carl Feltro. "[Going into the race] I felt real confident that I wouldn't have a problem going out and getting away from everybody. During the last minute of the race, I just kicked back and cruised so I wouldn't hit any dots or anything." With this win Dan won the trip to Japan to compete in the worlds. "I'm excited, I can't wait, just got off the phone crying with my mom and dad."

Overall in Mini, it came to Dan Garber, Jesse Shapiro and Craig Richter taking the top three positions.

TCS FINALS

Media Madness

Each year, Tamiya stages a "media madness" event in which we magazine editor's get the chance to lay down the smack on our fellow journalists. This y ear, the weapons of choice were Tamiya's nitro Terra Crusher monster trucks. We're sorry to report that *R/C Car*'s representative Scott Madrigal finished in the bronze behind *Xtreme R/C Cars* editor Derek Buono and *Radio Control Car Action*'s George "G-Man" Gonzalez. We called Scott on the carpet for this, and he swore that his truck had no engine. Sure!



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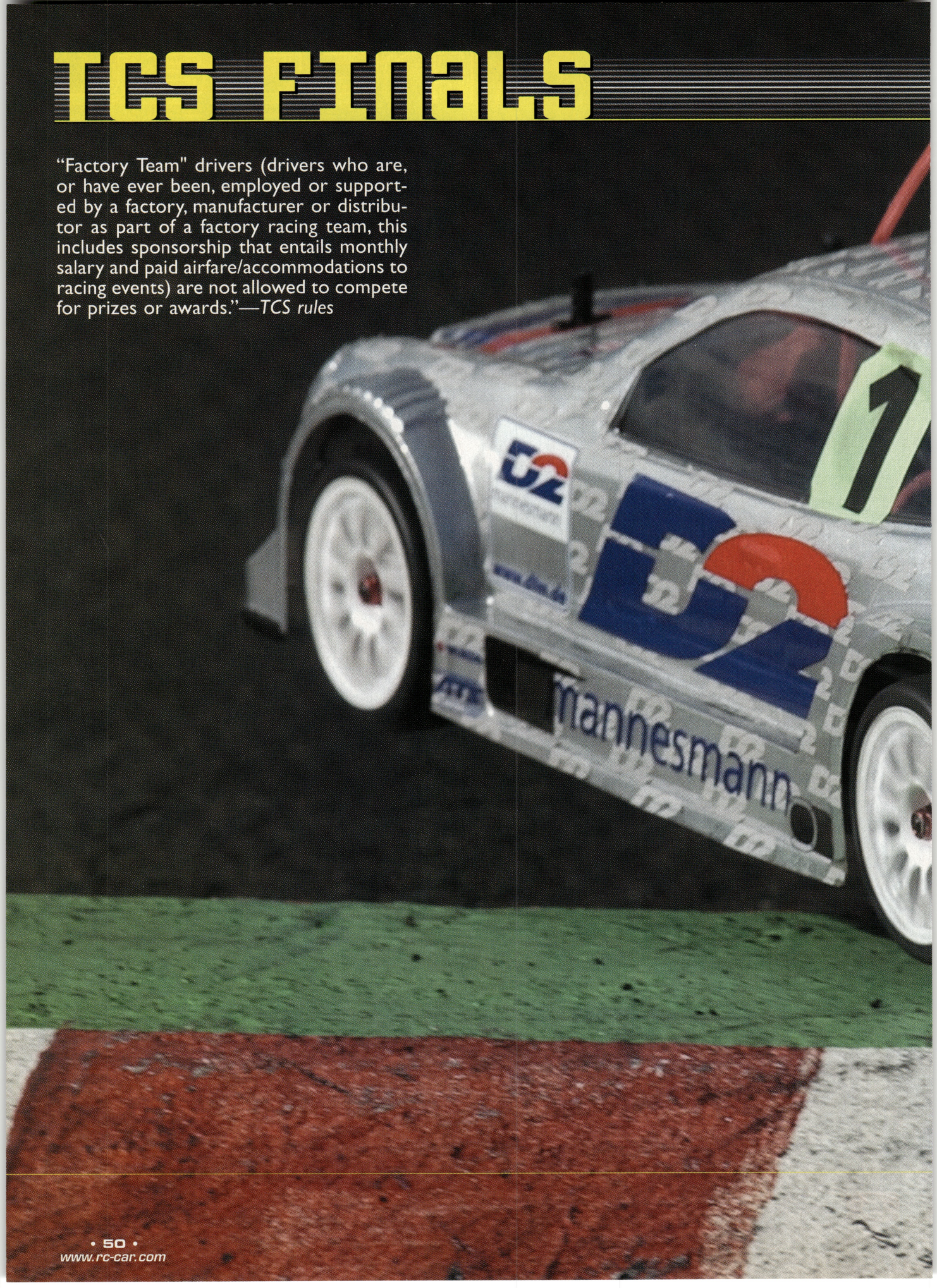
TCS FINALS

"Factory Team" drivers (drivers who are, or have ever been, employed or supported by a factory, manufacturer or distributor as part of a factory racing team, this includes sponsorship that entails monthly salary and paid airfare/accommodations to racing events) are not allowed to compete for prizes or awards."—*TCS rules*

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TCS FINALS

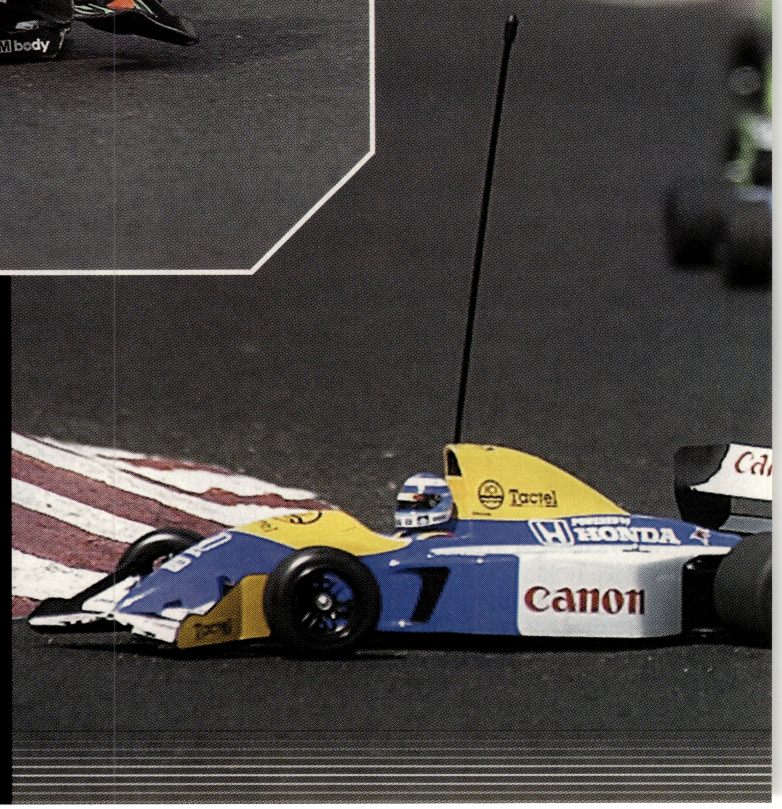




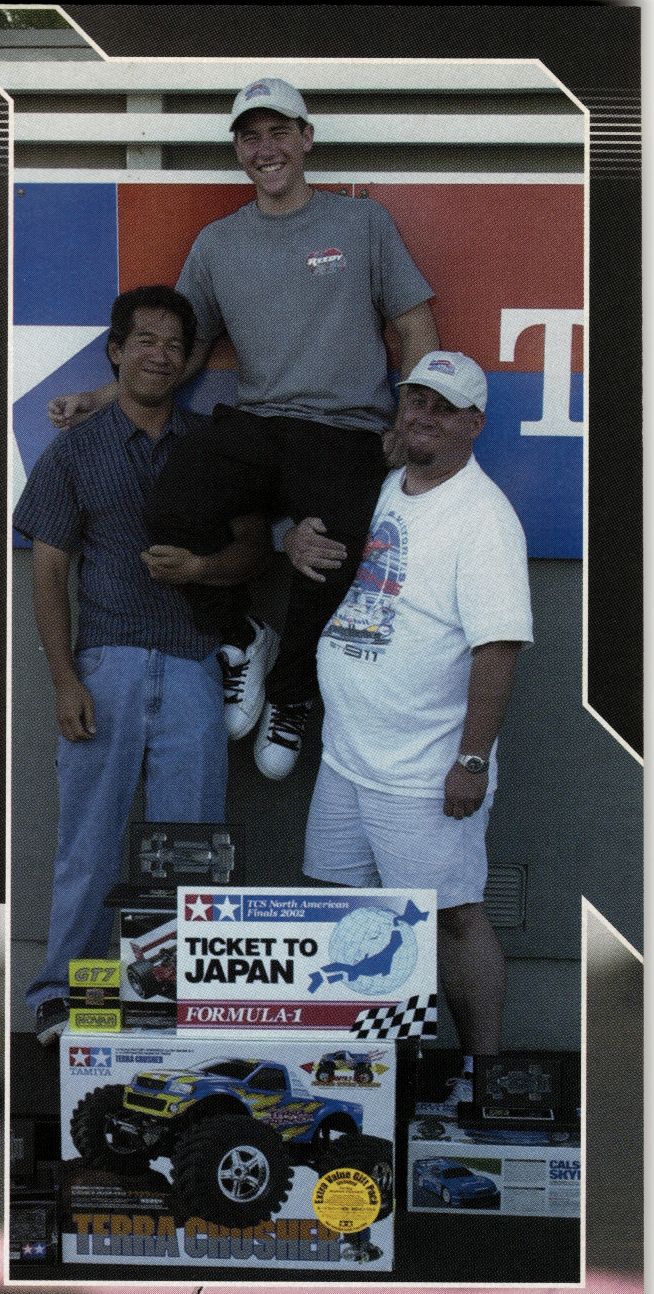
FORMULA 1

With mains day starting, Marty Hageman looked to be the man to beat, setting a TQ that would essentially be a lap ahead of the times in the main events. However, in the main it was all about first-time TCS driver Tom Hibler. Hibler came out in the first main to a close finish with Tom Kahl and Rodney Canare not far behind. After the second main, Hibler stated "I thought I'd get more of a challenge from Marty Hageman, who's been harassing me most of the weekend, but it turns out with the rain, the grip went down and you had to cope with it. I think this is a blast! This is my first year running [the TCS], and it's really fun, it's the best race I've been to so far."

Overall in F1 it was Tom Hibler, Rodney Canare and Tom Kahl rounding out the top three.



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GT7
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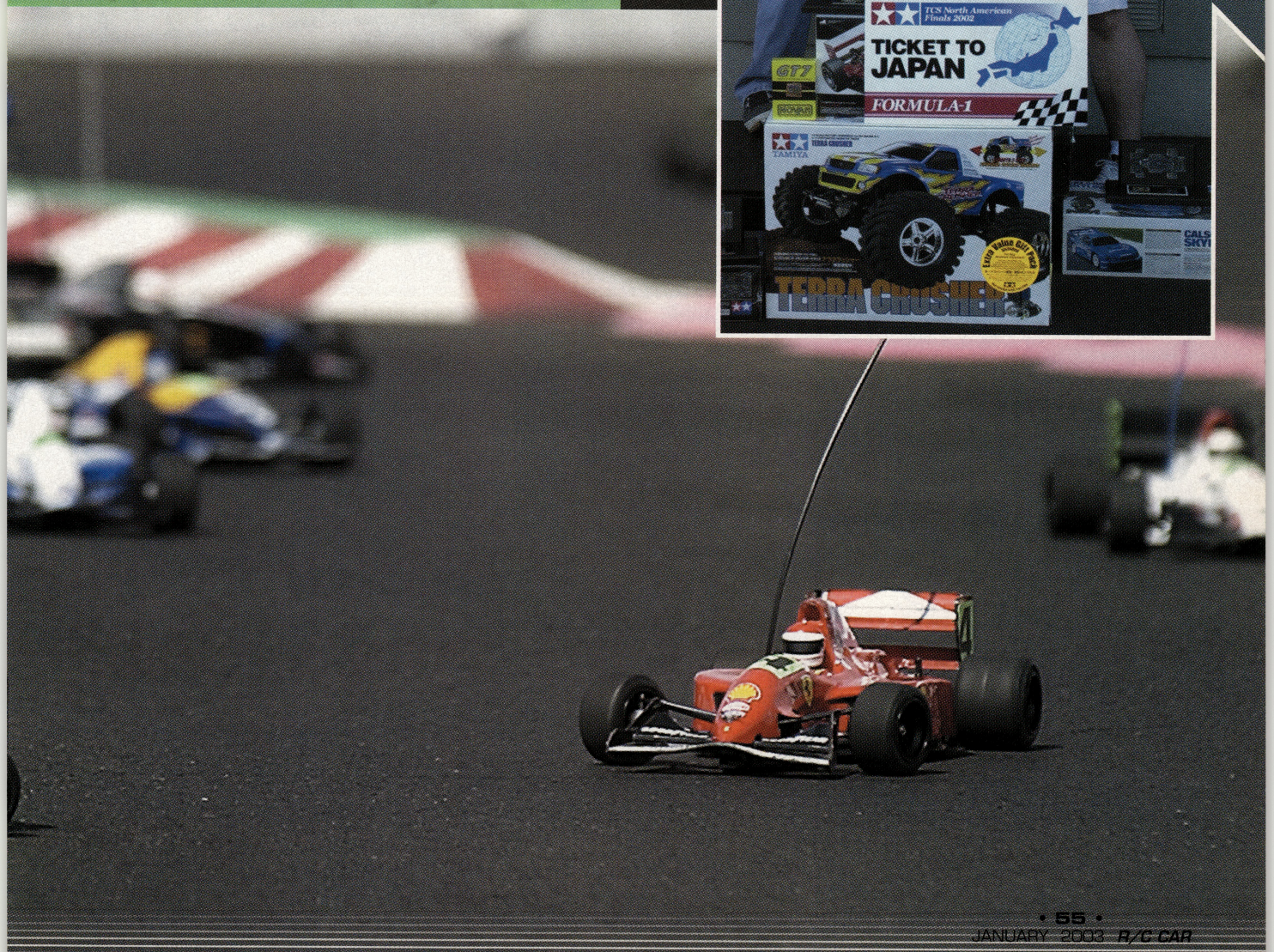


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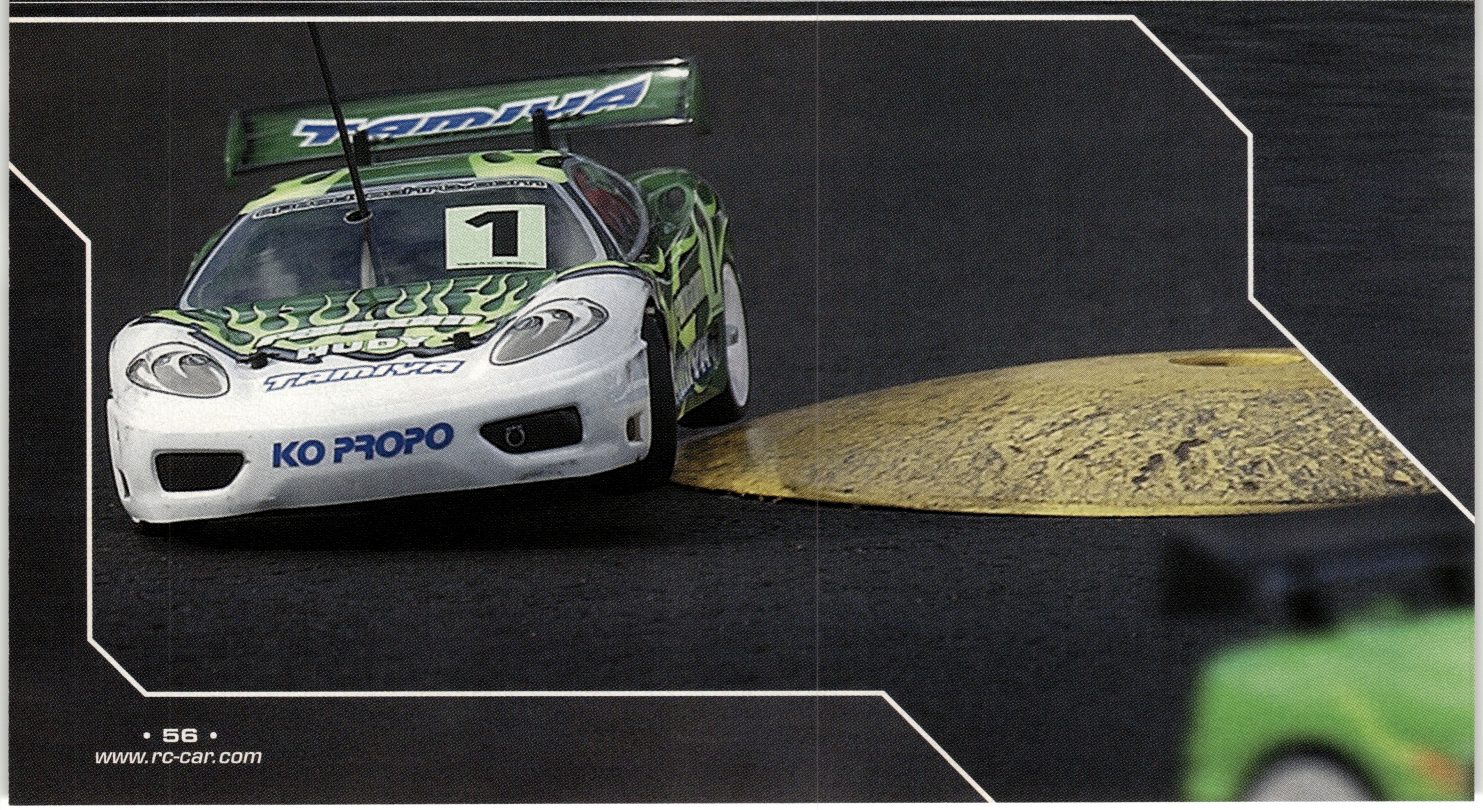
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TCS FINALS

GT1 RULES

1. All Tamiya TA, TB and TL series sedan chassis* (TA01, TA02, TA03, TA04, TL01, TB01, TB Evo. FF01, FF02).
2. Tamiya Hop-Ups and chassis lightening allowed.
3. Any ROAR legal stock or ball bearing modified motor is allowed.
4. Tamiya rubber tires only, no foam tires.
5. Any tire insert may be used.
6. Changing the camber positions on the car other than the way it was intended will not be allowed for the 2002 season. I.E. Camber links must be positioned in the mounting holes that they were originally drilled for. Drilling new camber link holes is not legal.

**414M/MII are legal as of May 5, 2002*

GT1

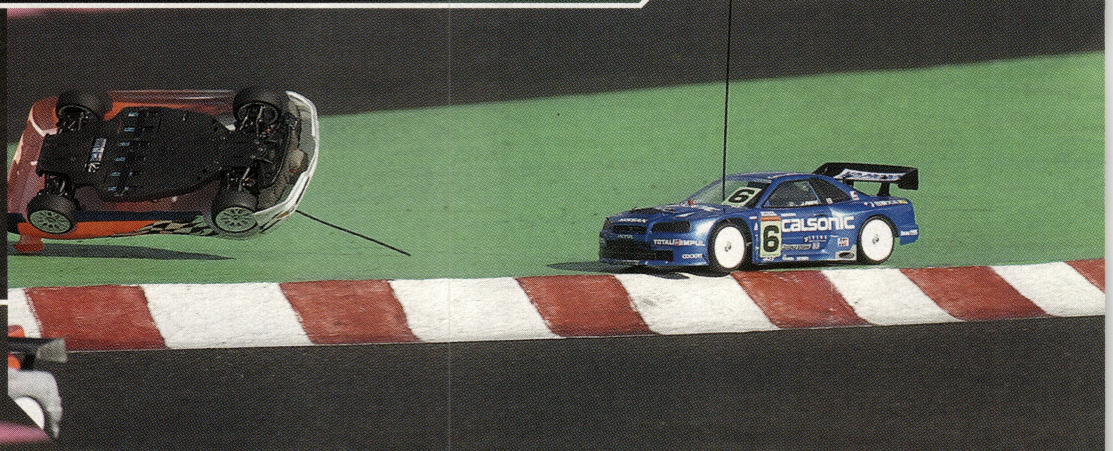
The GT1 drivers started mains day looking at the TQ set by Peter Robinson. In the first main, however, he was nowhere to be seen; Peter had car problems and only finished one lap, letting Michael Rydwell take the win of the first main. In the next main, Peter was back and took the win with four seconds on second place Jim Bishop. Adding to the mix was the fact that Michael took a DNS for the second A-main. For the third, the competition was wide open and many spectators were expecting the race to come down to points. In the end it was Peter Robinson taking the win of the third main over Ling-Kang Tong, and setting his spot as the overall winner. After the race an excited Peter stated, "It feels great, the last main I was leading from the start and the guy in the yellow car [Michael Rydwell] had me the most worried, and then he fell back a little bit and Lang caught up to me and I don't even know how to describe it, I just pushed my car as hard as I could to keep from letting him catch me. Then we got in some traffic and I got a couple cars in between us. That's what I used to my advantage and held him off like that. I like how the competition is always so close, and it's made for the more sportsman racer. The track is like none other in the country, I just love the track, I love the people here and I love the way the race is run. It feels great to go to Japan, I took Japanese in school dreaming of going to Japan after winning this race, now I'm going to have to go back and brush up on it a little bit but it's going to be great. I'm going to have to practice a little bit on carpet [for the World Finals], but it's going to be awesome. It's an experience of a lifetime."

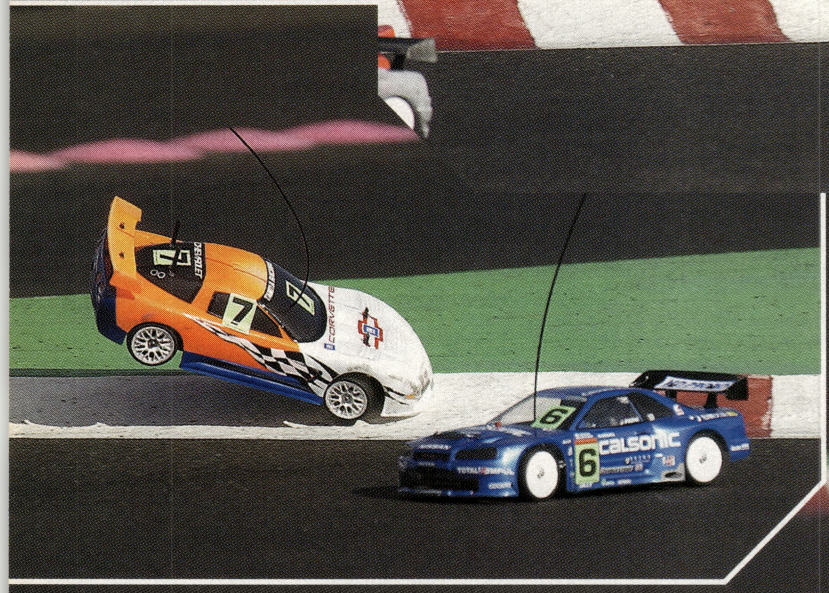
After the three mains, Peter Robinson is taking the plane to Japan, Ling-Kang-Tong took second, and Michael Rydwell took third.

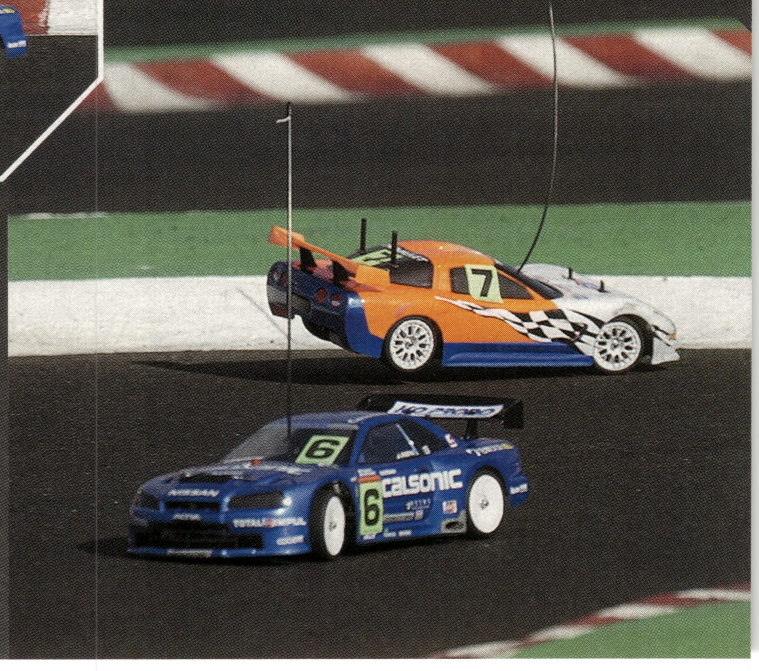


TCS FINALS









CONCLUSION

Overall the race was a huge success for Tamiya and for the drivers who competed. It's nice to know that there are events that are specifically geared for the novice and sportsman racers in the industry. It's also nice to know that when you have one of these events, you have competition that is not only strong, but also friendly and fun to race with. Congratulations go out to all of the drivers who competed in this race, especially the winners and their trek to Japan, and to Tamiya and the sponsors of this race for putting on such a great event.

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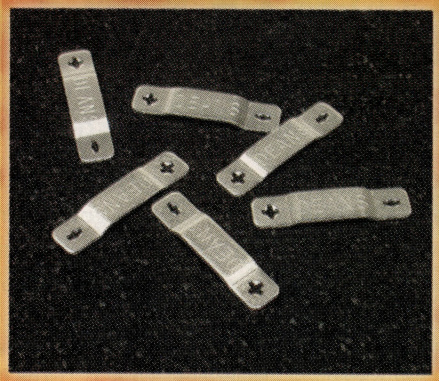

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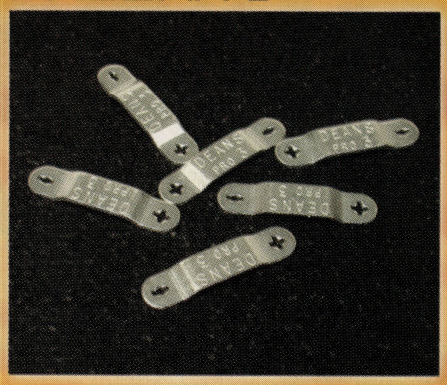

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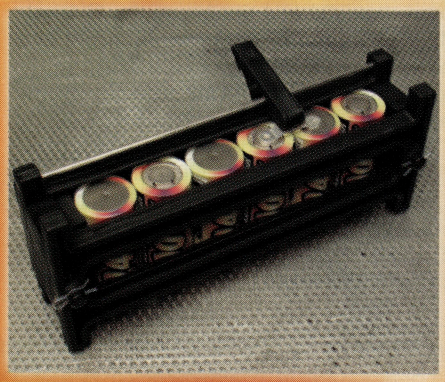

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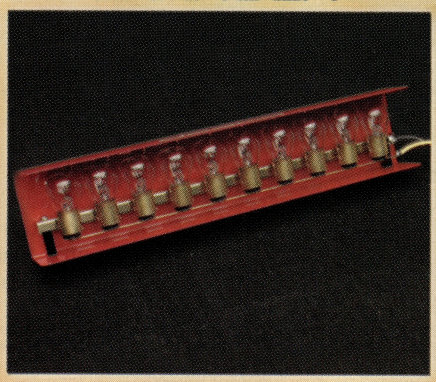

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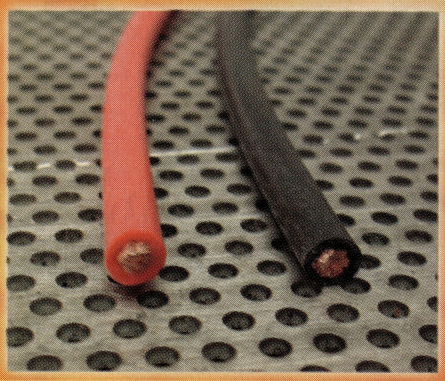

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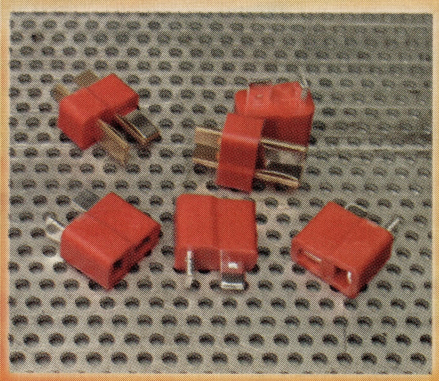

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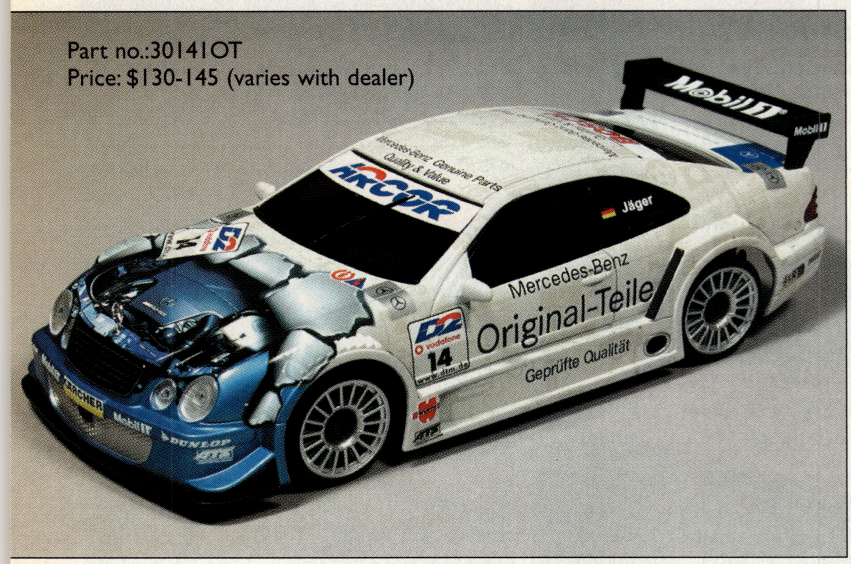
THE SWAG REPORT:

The latest gear for Kyosho's tiny terror

Welcome to the "Swag Report," a new feature in which we'll be looking at a slew of new goodies from the hottest manufacturers in the biz. In this installment, we'll be showcasing a batch of new Mini-Zs and accessories from the good people at Kyosho.



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Original-Teile AMG Mercedes CLK

The Mercedes-Benz DTM CLK bears little resemblance to the one you see driving on the street. The racing version features a tubular chassis frame clad with steel skin, an integrated safety cell and defined front, rear and side crash structures to prevent the driver from being injured. And unlike the stock street car, the racing CLK is a bit more powerful: its 4.0 liter V8 puts out about 450 horsepower! With its "exposed engine" hood treatment, the Original-Teile AMG CLK is one of the most distinctive and striking touring cars of all time.

Kyosho's latest 1/28-scale Mini-Z features a hard-plastic replica body of the number 14 CLK driven by German Thomas Jager. Based on the standard Mini-Z chassis, the Original-Teile CLK comes with Kyosho's Perfex AM radio system with a built-in electronics speed control for precise speed modulation, and a fully proportional steering system that emulates that of the larger 1/10-scale models.



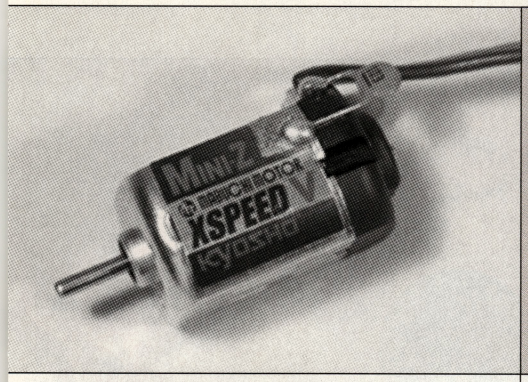
Part no.:30137WRC
Price: $130-145 (varies with dealer)

Mitsubishi Lancer Evolution VI WRC

In 1999, Mitsubishi produced over 2500 street-legal versions of its GroupA spec rally car. The reason for this was to meet the FIA homologation rule so that the car would be legal for WRC competition. What this meant was that if you were among the lucky few (most of whom were Japanese), you could buy and drive a car virtually identical to the ones being raced in the WRC. Unfortunately, from 2001 onwards, Mitsubishi only produces WRC-class cars for competition purposes—no more "streetified" versions for rally-crazed consumers.

This new Mini-Z from Kyosho is the Tommi Makinen number 7 car from the WRC series. Its beautiful hard-plastic body features the Team Mitsubishi red and white livery will full sponsor and event graphics. The body also features a realistic dual-plane rear-deck spoiler, side mirrors and translucent headlights and taillights for added realism. Of course, the chassis spec is typical Mini-Z, with solid rear axle, independent front suspension, gear diff and full proportional control via its included Kyosho Perfex radio system.

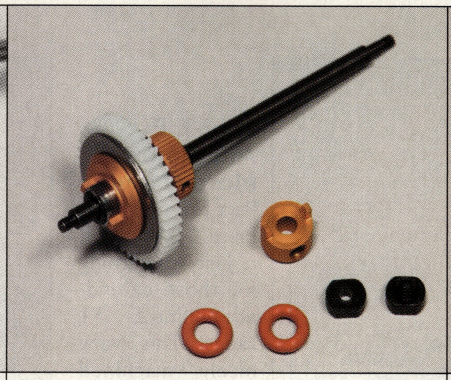
NEW MINI-Z GOODIES



X-Speed Mini-Z Motor-V

Part no.: LXUZ08
Price: $21.99

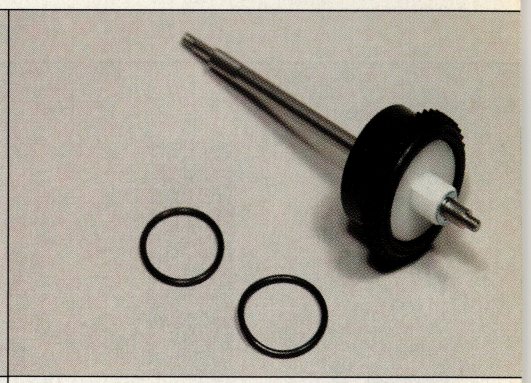
Out of the box, Kyosho's Mini-Z's are pretty quick for their size. But when you begin to add hop-ups to improve the capability of the chassis and its handling, well, this can often make the Mini-Z feel a little sluggish. What to do? Replace the stock motor with this X-Speed Mini-Z Motor-V from Kyosho. We're not sure of the motor's exact specs as compared with the stocker, but when equipped with the X-Speed motor, our Mini-Z felt about 20-30 percent faster, and with a marked improvement in acceleration. Kyosho recommends that you equip your car with ball-bearings to get the most from the X-Speed motor.



Mini-Z Ball Diff

Part no.: LXAVT7
Price: $40.99

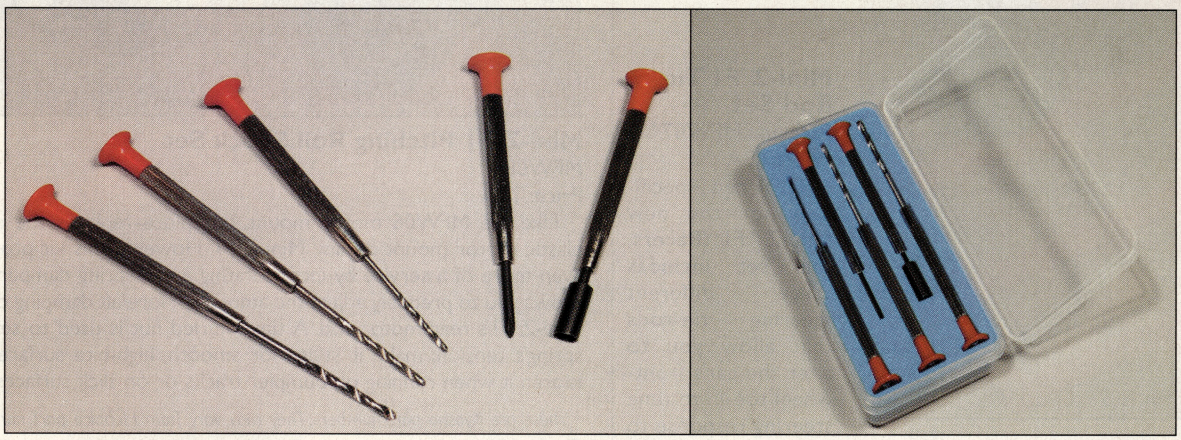
The Mini-Z comes with an open-style bevel-gear differential that allows the rear wheels to travel in different arcs when the car is cornering. The problem with open diffs such as this is that when one wheel loses traction, virtually all forward drive is lost until that wheel regains bite. This ball diff kit from Kyosho alleviates this problem by offering and adjustable limited-slip feature that maintains drive even if one wheel comes off the ground. This complete kit has everything needed to make the installation, including some nice gold-anodized aluminum parts.



Kyosho Team Traction Control Diff

Part no.: LXCNN4
Price: $25.99

Kyosho's Team Traction Control Diff offers the Mini-Z racer a lower-cost method of achieving a limited-slip rear diff without having to purchase a ball diff set. Basically, the Traction Control Diff is similar to the stock gear diff, but it uses a rubber O-ring to prevent either rear wheel from unloading and losing forward drive when traction is lost. Kyosho includes three different thicknesses of O-rings to enable the diff's limited-slip feature to be tailored to the running surface. The thickest O-ring essentially locks up the diff for high-grip surfaces, while the thinnest provides only a small increase in the stiffness of the diff's action for lower-bite conditions.

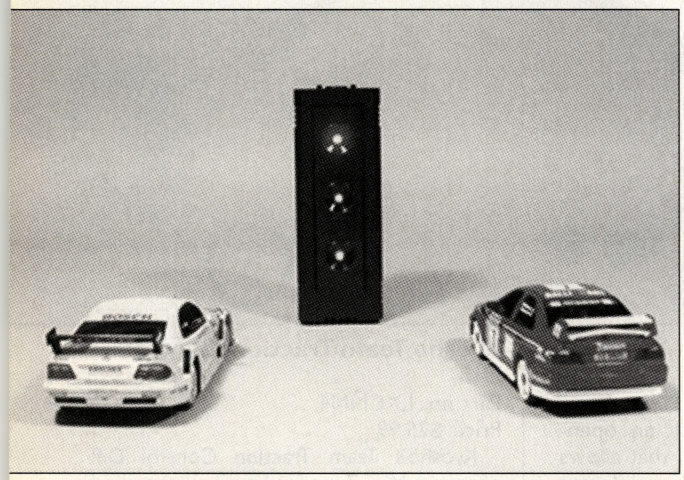


Mini-Z Tool Set

Part no.: LXBGJ5
Price: $24.99

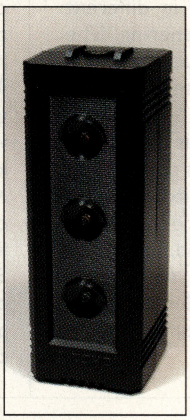
Why drag your big toolbox around when you're running your Mini-Z? Why not equip yourself with a mini-sized set of tools to match the stature of your car? Kyosho offers just such a toolset that includes a 5.5mm box wrench, a no. 0 Phillips-head screwdriver and a set of three small hand drills (2, 2.5 and 3mm diameters). The tools are nicely contained in a foam-lined plastic box for easy transport.

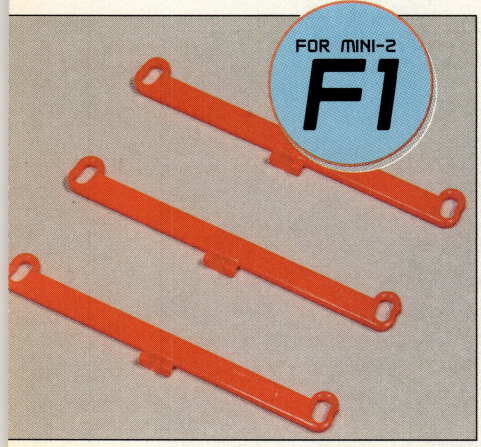
NEW MINI-Z GOODIES



Start Signal Mini-Z
Part no.: LXBXB5
Price: $41.99

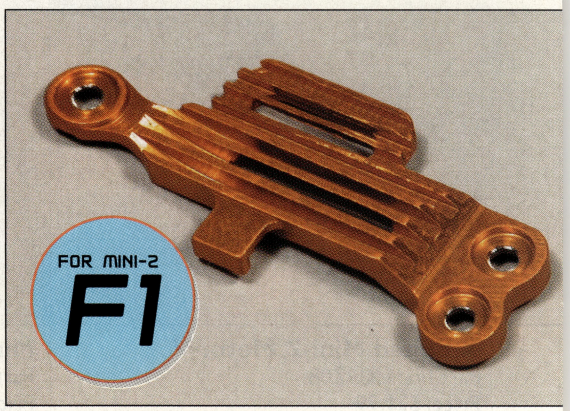
If you're too professional just to say "Go," then this Start Signal from Kyosho is up your alley! This is a small "Christmas tree" style starting box that lights red, then yellow then green and sounds a loud tone when it's time to go. The unit is powered by four AA batteries (not included), and is delay operated by a large pushbutton. We tested it, and the starter gives you just enough time to press the button and grab your transmitter before the race begins!





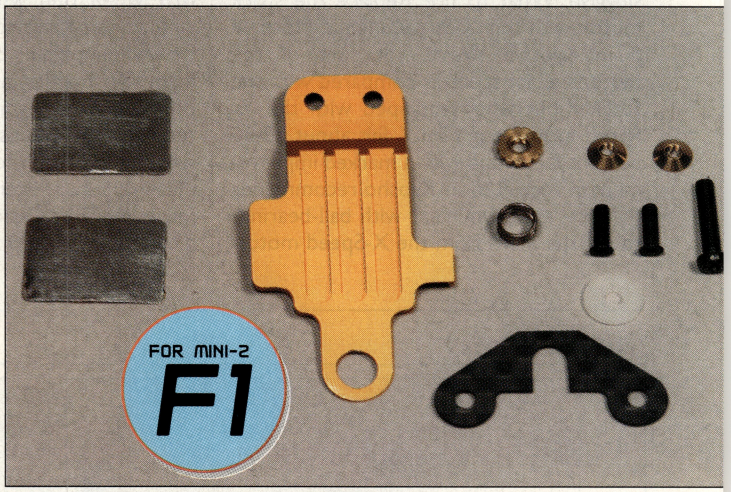
Mini-Z F1 Tie Rod Set
Part no.: MFW07*
Price: TBA

Designed specifically for the new Mini-Z F1 Racers, this set includes three different steering tie-rods that allow you to alter the car's front-wheel toe-in to tune steering response to your track conditions. The rods are designated 0.2, 0.4 and 0.6 millimeters, which translate, in order, to 1, 2 or 3 degrees of front toe-in for your Mini-Z F1.



Mini-Z F1 Aluminum Motor Mount
Part no.: MFW06*
Price: TBA

Just the thing for those extended Mini-Z F1 races. This very nicely machined aluminum mount replaces the stock plastic piece, and is not only substantially stronger, but draws a great deal of heat away from the motor during a run. A cooler motor makes more power and will last longer. The gold-anodized finish also tricks-out the appearance of your F1 racer for added pit-points.



Mini-Z F1 Pitching Roll Shock Set
MFW08*
Price: TBA

Like the MFW06 motor mount, this piece replaces the stock plastic motor mount on any Mini-Z F1. However, this kit provides even more of a service by incorporating a coil-spring damper that allows you to precisely adjust the amount of fore/aft damping of the Mini-Z F1's rear motor-pod. A tiny knurled nut is used to set the spring's tension; make it stiffer for smooth, high-bite surfaces, or loosen it when running on bumpier tracks or on slick surfaces.

** These are Kyosho part numbers. They may vary from Hobbico part numbers. Check with your dealer.*

SOURCES

Kyosho, distributed by Great Planes Model Distributors, 2904 Research Rd., Champaign, IL 61826-9021 • phone (217) 398-6300; fax (217) 398-0008

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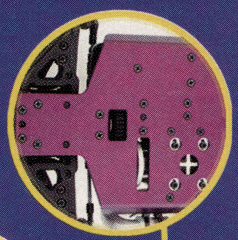

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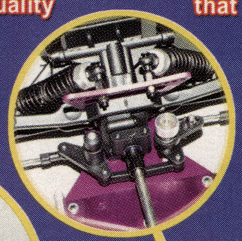





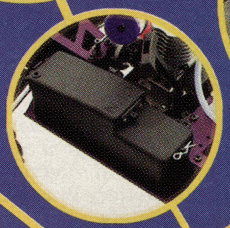



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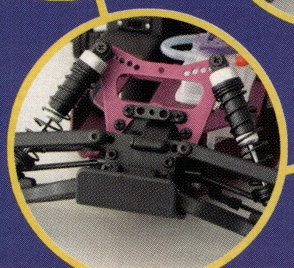



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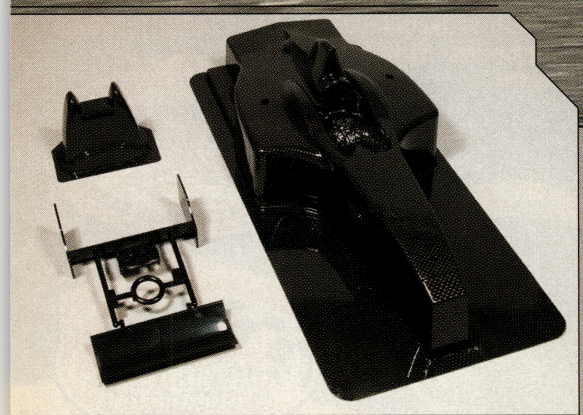
Second Opinion:

By Frank Masi

Say what you will about its 4WD - its fan base is growing!

I didn't get the chance to test the F201 during its first appearance in Ferrari F2001 guise - that honor went to another staff member. When we received the second kit—the F201 chassis set—I snatched it up without hesitation. After building, running and pondering Tamiya's latest F1 release, here are my thoughts.





Tamiya includes two bodies with the F201 Chassis Kit: a clear shell and a faux carbon-fiber body (shown).



We swapped the kit's black Sport Tuned stock motor in favor of an 11-turn Havoc machined-wound mod motor from Team Orion. The battery is a GP3300 VIS sport pack from Trinity.

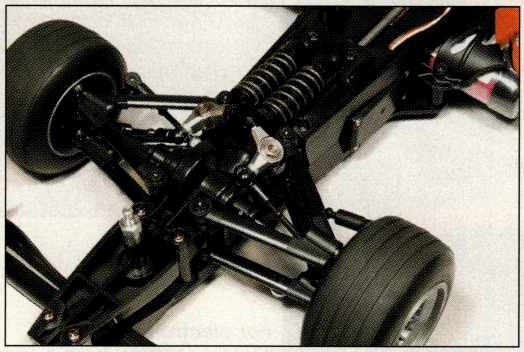
THE GOOD

Right about the time I was assembling the F201's double-wishbone suspension, I thought to myself that this is one of the coolest R/C kits I've ever built. No company does scale as well as Tamiya, and the F201 is the pinnacle of realism. Even if you're not an F1 fan, you have to appreciate what has gone into the kit, the way the suspension operates, the look of the monocoque chassis. It's nearly enough to make one forget about T-Maxxes, off-road trucks and standard touring sedans. Building and studying the F201 is nearly as satisfying as driving it. This is the stuff that will make a teenager dream of pursuing automotive engineering as a future.

Despite potential criticism from F1 purists, I understand and appreciate why this car has 4WD. Previous-generation Tamiya F1s were not suited for daily driving. They were finicky and worked well only on certain surfaces. They were not cars that you could run out on

Tamiya F201



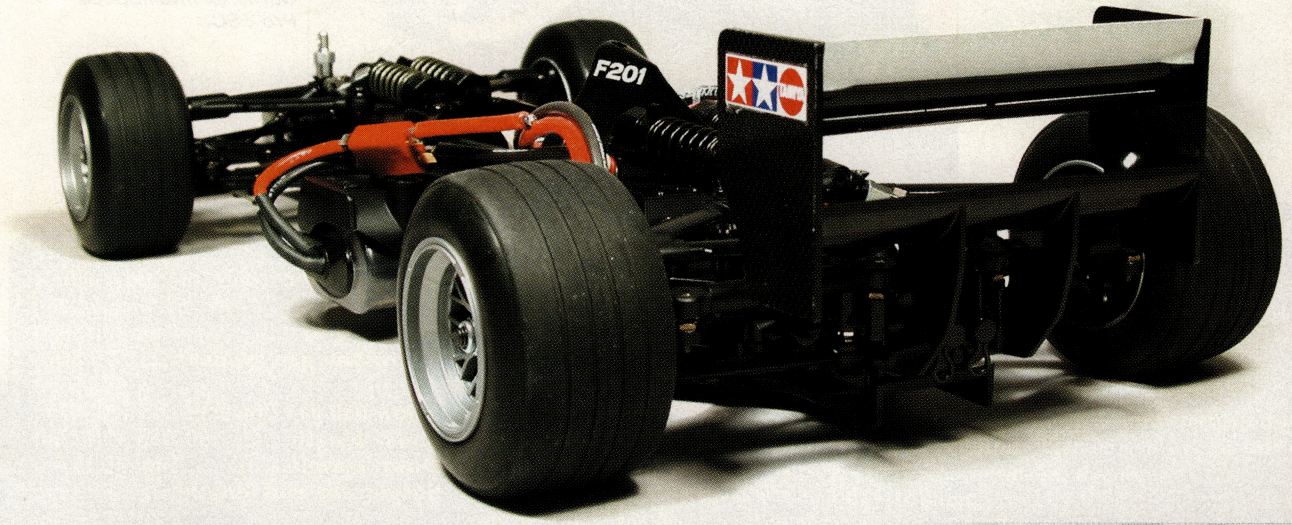


Tamiya went all-out to produce a new F1 chassis that has unreal scale appeal, yet is civilized enough to be easily driven by the inexperienced hobbyist.



FORMULA-1 ON THE WEB

If you're into F1 R/C models, then you have to check out Formula 1 R/C's website at *www.formula1-rc.com* for the latest info on new kits, tips, tricks and race results. Formula 1 R/C covers the F201 as well as most other brands and scales of R/C F1 models. This is the ultimate F1 resource for the R/C fanatic!



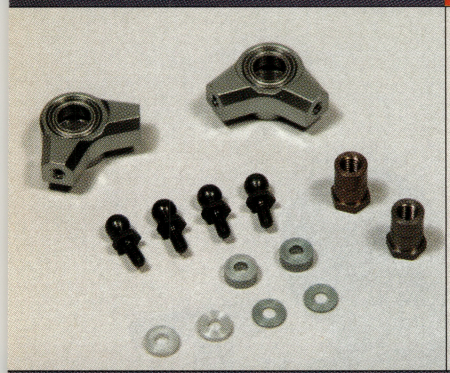
your street - unless of course your street had just been flawlessly re-paved. Unlike those earlier pan-car-style F1 chassis, the F201 is happy to run just about anywhere, and it is much easier to drive. The shaft-driven 4WD system might not be realistic for an F1 car, but the rest of the chassis is far and away a truer scale representation than any of the previous cars. To me, the F201 is more realistic and it's easier to drive.

THE BAD

The F201 is not easy to build. It's a Tamiya kit, so the instructions are near-perfect, but there are a lot of rather complex sub-assemblies - the suspension springs to mind - that may very well baffle some novice builders.

And someone needs to explain to Tamiya that electric motors get hot, and that encasing the motor in a shell of plastic chassis parts is not conducive to good airflow. At least my test car had an optional aluminum heat-sink mount - the stock kit's mount is plastic.

Tamiya F201



Aluminum Rocker Arm Set
Part no.: 53519
Price: $29.99 per pair (varies with dealer)

These rockers replace the stock plastic pieces and are much more effective at linking the shocks to the suspension. These aluminum mounts won't flex, and because they ride on smooth ball bearings, suspension slop is greatly reduced. Tamiya also provides three sizes of aluminum spacers, which are used to alter the lever ratio of the rockers - something that can't be done with the stock rocker arms.



Turnbuckle Shaft Set
Part no.: 53513
Price: $6.25 (varies with dealer)

These inexpensive steel turnbuckles replace the stock kit's threaded rods. Turnbuckles allow you to set the tie-rod's length precisely without removing it from the car.



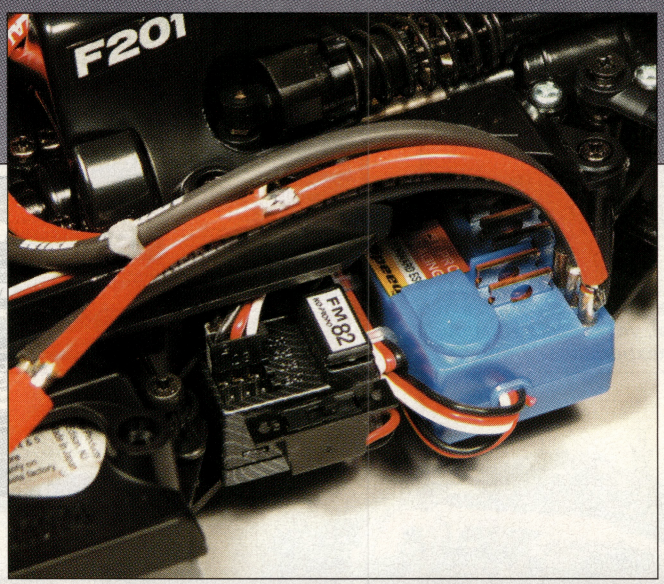
Racing Spring Set
Part no.: 53515
Price: $5.50 (varies with dealer)

A set of three pair of replacement shock springs: from soft (black) to medium (gold) up to firm (olive). Lets you tune the firmness of the suspension to suit track conditions.



Universal Shaft Set
Part no.: 53522
Price: $25.99

These steel universal driveshafts are a highly recommended hop-up as they are much more efficient at transmitting power to the wheels - especially the fronts, which can at times be placed at extremely binding angles during tight cornering.



For electronics, our F201 was fitted with a KO Propo Mars R radio system (with PS2001 servo) and a DuraTrax IntelliSpeed Pro ESC.

DAVID JUN'S F201 SETUP

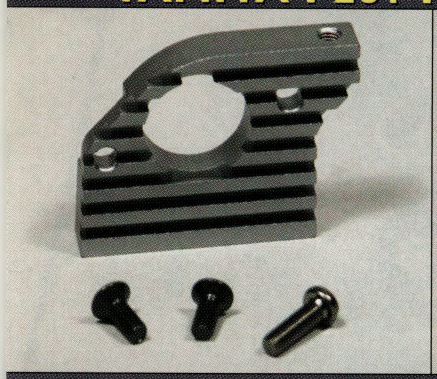
Tamiya employee and ace driver David Jun has been logging serious track time with the F201. Here is the setup he used at the recent TCS Finals that were held at Tamiya's Aliso Viejo, CA headquarters.

Front suspension:
Camber: .....1 degree negative (tops of wheels leaning inward)
Toe-in:.....none
Ride height*:.....4mm (0.157in)
Pillow-ball gap (upper):** 4mm (0.157in)
Pillow-ball gap (lower): ..5mm (0.197in)
Shock length (end to end):.....58mm (2.28in)
Down travel*:**.....5mm (0.197in)
Suspension-rod (shock push-rod) length: 49.7mm (1.96in)
Shock fluid: .....3000 wt.
Springs:.....Tamiya olive (firm)
Spring pre-load clips: .....none
Rocker arms: ...Tamiya 53519 aluminum w/2mm spacer on shock side
Differential: ....Tamiya 53521 lightweight diff joints; diff set tightly

*Notes: David did not use the fiberglass front stabilizer plate. *The overall ride height will be higher initially but will settle after the shock springs have been run a few times. **Pillow-ball gap is measured from the knuckle-arm to the suspension arm. ***Down travel is measured with the chassis placed on a tweak board. The distance between the bottoms of the knuckle arms and the board is the down-travel (the wheels are removed first, and camber should be set prior to measuring).*

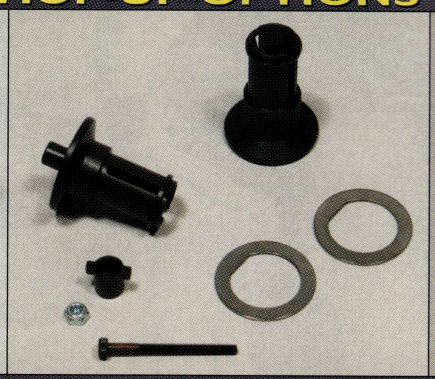
Rear suspension:
Camber: .....1 degree negative
Toe-in: .....2 degrees (the rod length is 51.3mm/2.02in)
Ride height:.....3.5mm (0.138in)
Pillow-ball gap (upper):.....3.8mm (0.150in)
Pillow-ball gap (lower):....5mm (0.197in)
Shock length: 80.7mm (3.177in)
Down travel: 5mm (0.197in)
Suspension-rod length:.....48.3mm (1.9in)
Shock fluid:.....3000wt
Shock springs:.....Tamiya black (soft)
Shock pre-load clips:.....3mm
Rocker arms:..Tamiya 53519 aluminum w/o spacers
Differential: ..Tamiya 53521 lightweight diff joints; diff set tightly but w/free action

TAMIYA F201 HOP-UP OPTIONS



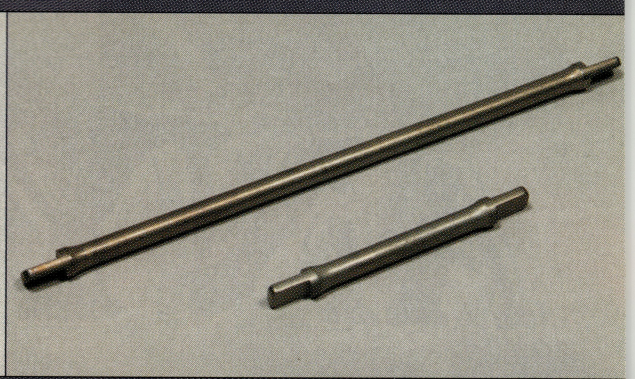
Aluminum Motor Mount
Part no.: 53518
Price: $15.99 (varies with dealer)

The stock plastic mount does little to help cool the motor. This finned aluminum mount pulls heat away from the motor while it provides greater support with reduced flexing.



Lightweight Diff Joint Set
Part no.: 53521
Price: $19.99 per pair

Installing these plastic diff joints in your F201 will shed 0.10 ounce from each diff assembly. Less weight means quicker acceleration and greater efficiency. Each pair of diff joints come with D-rings that are keyed into place so that the diff can be set looser without slipping. Each pair also comes with two sets of plastic collars that prevent the ends of the joints from separating.



Reinforced Prop Shaft Set
Part no.: 53514
Price: $6.99 (varies with dealer)

Although heavier than stock, these replacement prop shafts are much thicker and won't "spool up" like the thin stock shafts. When using hotter motors, consider these shafts an important upgrade.



Compared with the speed of the previous-generation F1s, which were direct-drive pan-cars, the F201 is a slug. The old cars ripped with just the stock 540 motors, while the F201 has more weight and many more drivetrain parts to spin. The stock gearing is also way too low. The 20/55 ratio is actually better suited to hotter motors. Heck, I used the stock gearing with a machine-wound 11-turn motor, and it felt just about perfect (okay, maybe a little tall, but the car was a rocket!). As with many Tamiya kits, the gearing is fixed, so you can't make subtle changes. The only option is to find a different pinion/spur ratio that will work with the stock mount. (Hint: Tamiya's TB-01 and TB Evolution spur gears fit the F201!), or switch to an aftermarket adjustable mount (I hear that Cross makes one).

THE VERDICT

So what if F1 isn't as popular in the US! The F201 is hands-down the best combination of scale realism and high-performance that you'll find anywhere. If you've got a pulse at all, just looking at the F201 will surely make it rise. Driving it (with more horsepower, of course) will bring you to redline!

TAMIYA'S F201 CHASSIS KIT

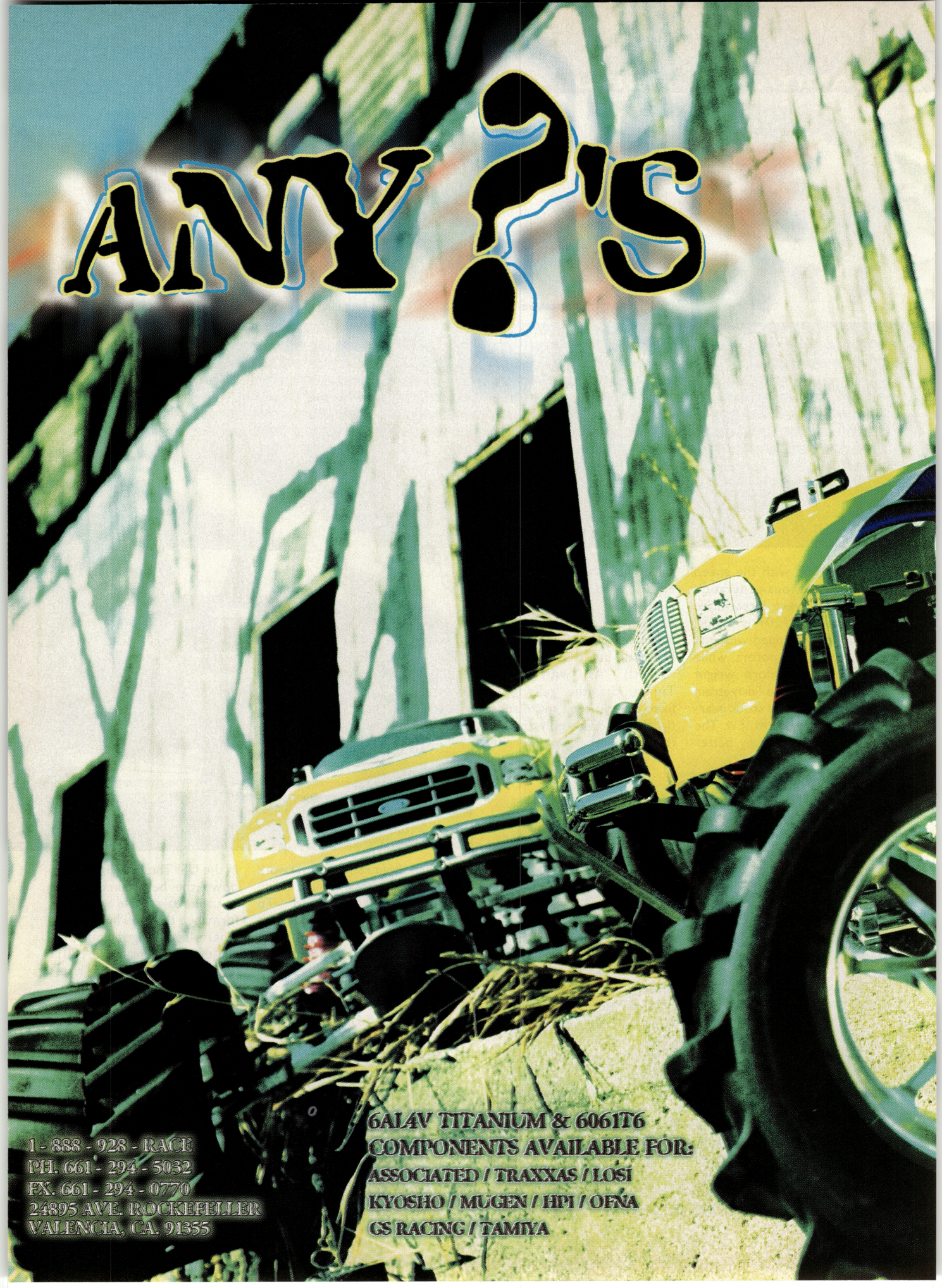
Scale: 1/10
Price: $189.99 (varies with dealer)
Length: 16.7in/425mm
Width:
Wheelbase:
Track:
Weight: 51.7oz (w/o body)
Chassis: plastic monocoque
Drivetrain: shaft-driven full-time 4WD
Diffs: adjustable ball diffs
Bearings: shielded ball bearings
Suspension: ind. double-wishbone
Damping: oil-filled inboard plastic shocks
Tires: grooved rubber slick w/foam inserts
Wheels: BBS mesh-style

Accessories included: Tamiya black Sport Tuned motor; two original Tamiya F1 bodies - one clear and one pre-printed "carbon fiber" look

Accessories you'll need: Two-channel surface radio system, small ESC (electronic speed control); 6-cell stick battery; charger; CA cement for tires

SOURCES

DuraTrax, distributed by Great Planes Model Distributors, 2904 Research Rd., Champaign, IL 61826-9021 • phone (217) 398-6300; fax (217) 398-0008
Tamiya America, Inc., 2 Orion, Aliso Viejo, CA 92656-4200 • phone (949) 362-2240; fax (949) 362-2250
Team Orion, 22601 LaPalma Ave., Suite 103, Yorba Linda, CA 92887 • (714) 694-2812; fax (714) 694-2815
Trinity Products, Inc., 36 Meridian Rd., Edison, NJ 08820 • (732) 635-1600; fax (732) 635-1640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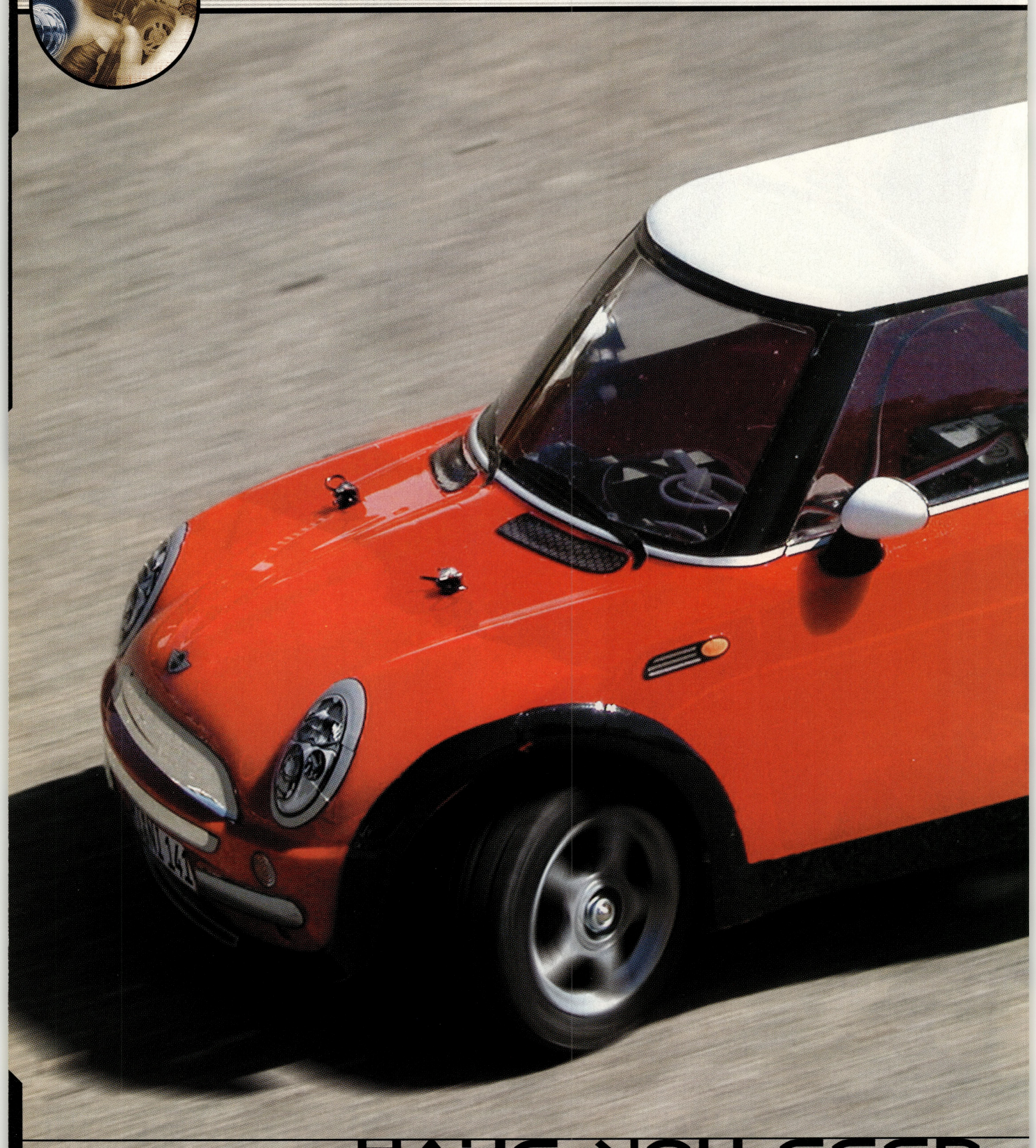
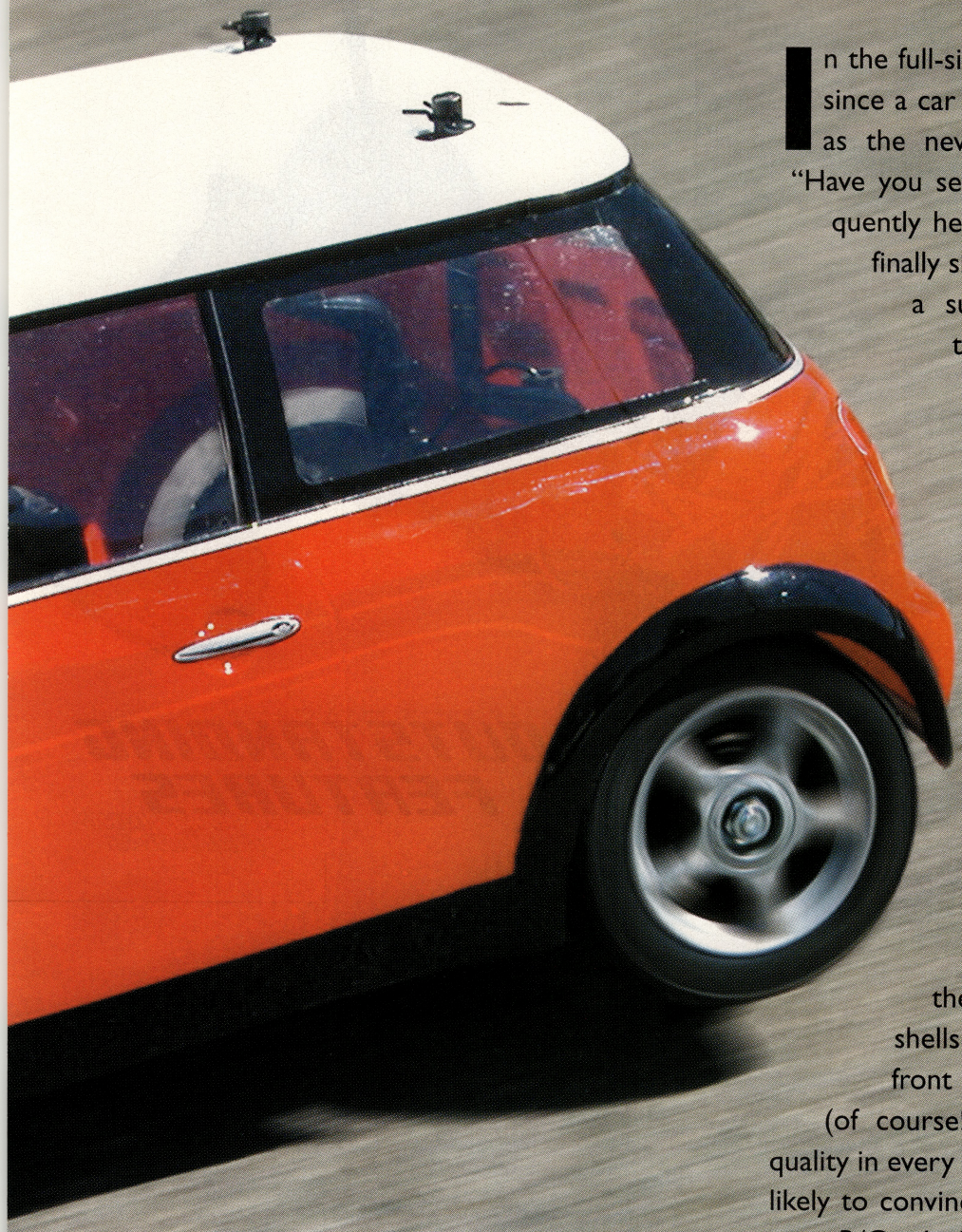


HAVE YOU SEEN

Mini Cooper

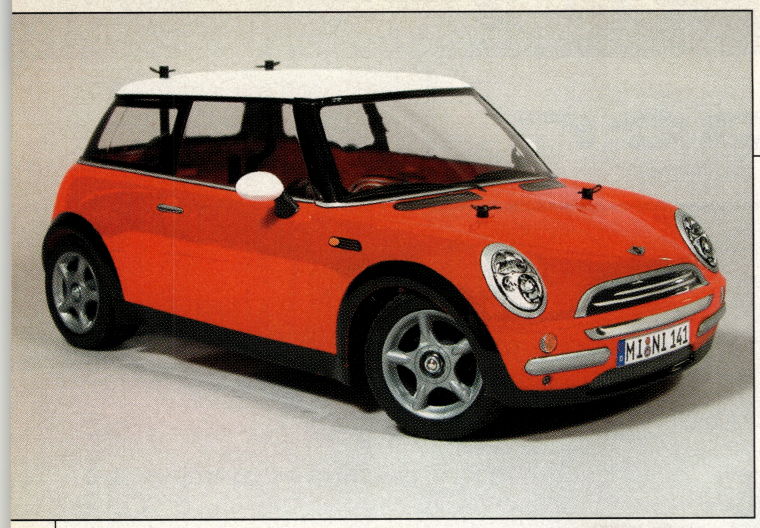
By Jim Algar



In the full-size car world, it's been a while since a car has caused quite as much stir as the new Mini Cooper from BMW. "Have you seen one yet?" has been a frequently heard question as examples are finally showing up on the street. After a successful showing of prototypes and car show examples, production models are finally available...but be prepared to put you name on a long waiting list, and be ready to fork out considerably more than the suggested sticker price. Yep, they're that popular.

Or, if you just can't wait to be the first on your block to drive a Mini Cooper, Tamiya is here to help. They have released a 1/10 scale electric version, wearing one of the most eagerly awaited body shells in the Tamiya lineup. With front wheel drive like the original (of course!) and the expected Tamiya quality in every part and assembly, this is a car likely to convince folks who've never looked at an R/C vehicle to give the hobby a try.

ONE YETP



OUTSTANDING FEATURES

WHAT'S UNDER THE HOOD?

Tamiya's Cooper rides on the company's M-03L chassis. The M chassis has been around for a while and has been used under the earlier Rover Mini Cooper (for a short history of the Rover/BMW connection, see sidebar), the BMW M Roadster and a couple of Suzuki and Toyota wagons in the Japanese market. This versatile chassis can be either front or rear drive, and can be stretched to a longer wheelbase with a center chassis insert, thus the "L" in the nomenclature. Suspension is by wishbones front and rear, with coil spring friction-damped shocks. Power is provided by Tamiya's omnipresent sport motor driving through a bevel-gear diff and dogbone axles to power the front wheels. A standard six-cell battery pack sits sideways in the chassis for easy access, and power delivery is controlled by a three-speed mechanical speed control, although we opted to outfit our example with a Novak ESC.

Tamiya knows that regardless of the quality of the stock kit (and with Tamiya that quality is a given), there are going to be folks looking to have not only the first, but the fastest Mini on their block. The company obliges with a number of available hop-ups, including a ball differential, oil-damped shocks, full ball bearing sets and a hotter motor.

"HAVE YOU SEEN ONE YET?"

But it's what this chassis is wearing as its "street clothes" that has everybody talking. The molded Lexan body is up to Tamiya's usual standards—which is to say, perfect—and captures the chunky but endearing look of the Mini with absolute fidelity. Street pattern tires mounted on accurately rendered five-spoke wheels support the car in the hunched-down, "go-kart" look that Mini fans love. The sticker set, though not as extravagant as those for models in full race livery, accurately recreates the exterior trim and markings of the full size car. With its characteristic contrasting roof color, this is one car that will turn the heads of even non-R/Cers, and you're sure to hear this refrain: "Hey, isn't that the new Mini?"

Mini Cooper



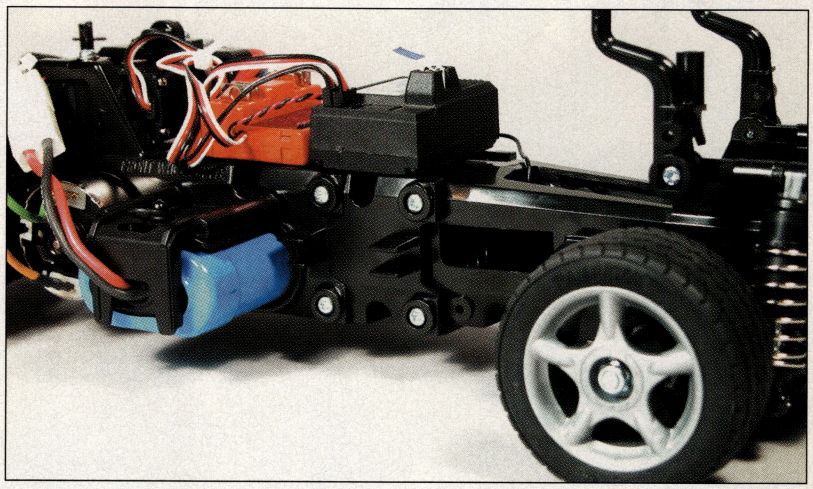
A MINI HISTORY LESSON

The idea behind the Mini originated in the mid 1950's from a desire by the British Motor Corporation (BMC) to add a small, economical but practical car to their offerings. They gave the task of designing the new car to one man, Sir Alec Issigonis, who had previously designed the very popular Morris Minor. He came up with a radical design, with the engine mounted across the front of the car, and the transmission in the engine's oil pan casting. This made good use of space and the result was a car only 10 feet long, 4 feet 7 inches wide, but able to hold four adults and their luggage. The Mini also had extremely good roadholding and handling, with its front wheel drive, rack and pinion steering, and independent suspension.

The Mini was launched in August of 1959. Initial public response was cautious, but the car's appeal soon spread, becoming as much a part of British popular culture as Big Ben and the Beatles. The Mini was manufactured for 41 years, with the last British-manufactured model rolling off the line in 2000. BMC had by then gone through many changes and was now called the Rover Group. Rover was bought by BMW, who began the design of a "new" Mini. The purchase of Rover turned out to be a financial disaster for BMW, and after only a few years BMW sold Rover back to a British investment group—but they held on to the rights to the "Mini" name. That's why you can by the new Mini, an updating of a classic British design, at your local BMW dealer.

SPECS

Price:	$107.99 (varies with dealer)
Length:	13.5in/343mm
Width:	6.4in/163mm
Wheelbase:	9.3in/235mm
Weight:	48.3oz
Track (F/R):	5.4in/136mm
Chassis:	plastic monocoque
Suspension:	lower A-arms with upper links
Drivetrain:	gear-driven front wheel drive
Diff(s):	Bevel gear
Damping:	coil spring friction-damped shocks
Tires:	tread patter rubber with foam inserts
Wheels:	five-spoke BMW Cooper



SOURCES

Tamiya America, Inc., 2 Orion, Aliso Viejo, CA 92656-4200 • phone (949) 362-2240; fax (949) 362-2250


SAVAGE 21
POWER FUEL
4X4
Front and rear hardened metal differential gears
Large 160cc fuel tank with primer
Adjustable 2 speed transmission
Enclosed radio box for protection of electronics
8 long stroke oil-filled coilover shock absorbers
Complete set of rubber sealed ball bearings
Composite tuned pipe and aluminum rear exhaust header
Rigid aluminum TVP chassis (Twin Vertical Plates)
Front and rear skidplate bumpers
Chrome 5 spoke wheels and all-terrain tires (with inner foam)
The powerful .21 rear exhaust big block engine features ABC chrome sleeve construction, a dual needle 7mm slide carburetor, an aluminum heatsink head, and a convenient pullstarter.
FOUR WHEEL DRIVE
4WD
MAXIMUM TRACTION ON ANY SURFACE
Wide-track suspension (nearly 17 inches wide!)
21 POWERED



SAVAGE 21

HPI Racing is proud to introduce our biggest truck ever, the powerful 1/8th scale Savage 21! Designed to take the giant nitro truck class to a new level of performance, the Savage 21 is a completely new design.

The Savage 21 is not just a small truck with a "big block conversion", it was designed from the outset to be able to handle the massive horsepower generated by the Nitro Star 21BB engine. A high performance exhaust is included, using a high flow aluminum tube exhaust header and a large dual chamber composite tuned pipe. A durable shaft drive system powers all four wheels for long tire life and maximum traction on any surface. The engine is mated to a two speed transmission that shifts from low to high gear automatically. The longest shock absorbers and suspension movement in its class allows the Savage 21 to soak up rough terrain with ease. The suspension arms are HUGE, and the dogbones and hinge pins are nearly twice as thick as the ones found on our Rush truck. A rigid aluminum TVP chassis (Twin Vertical Plates) gives the truck a strong and stable platform for extreme performance, in addition to realistic monster truck looks!



The Savage 21 is factory assembled and ready for unbelievably high performance right out of the box. ORDER YOURS TODAY!



FACTORY RECOMMENDED

HPI RACING

See the Savage 21 in action at . . .

www.hpiracing.com

NOVAK GT7

Lighter, smaller and easier to program

As Novak Electronics was the company that basically invented the full-featured programmable speed control, it's only natural that they would be the company responsible for taking this technology to the next level. But rather than add more features and choices, Novak has instead created a high-end ESC that takes the best programmable features from its Cyclone and Atom ESCs and presents them in a compact, easier to use format: the GT7.

As its name would imply, the GT7 comes with seven pre-programmed performance profiles (the Cyclone had only four profiles), and the biggest news is that you no longer need an external device to access and create a custom profile using the GT7's seventh program. So when you're at the track and want to do a little experimentation, it can all be done trackside using just the tip of your finger.



EXTERNAL FEATURES

• Smaller size. At 1.37 x 1.11 x 0.66 inches in size and just 0.93 ounces in weight, the GT7 is a full 30 percent smaller and lighter than the Cyclone series (Novak's previous top-of-the-line ESCs). At first, we were bummed that the GT7's case wasn't molded from translucent orange plastic as was shown in the original press release. But according to Novak, it was extremely difficult to mold the case from this plastic, so it was decided that the GT7's case would be molded from the standard Novak orange plastic instead.

• Improved power capacitor mount. We've always wondered why ESC manufacturers brag about the small size of their newest models, yet still require us to use behemoth power capacitors that are nearly as large as the ESC itself. According the Novak, a power capacitor smoothes out "ripples" caused by the high-frequency switching of its racing ESCs, and the ESC could be damaged if used without the capacitor—even with stock motors. What's more, Novak claims that the power capacitor can increase the rpm of the motor at partial throttle (by about ten percent) and reduce the ESC's operating temperature (from between ten to 15 degrees).

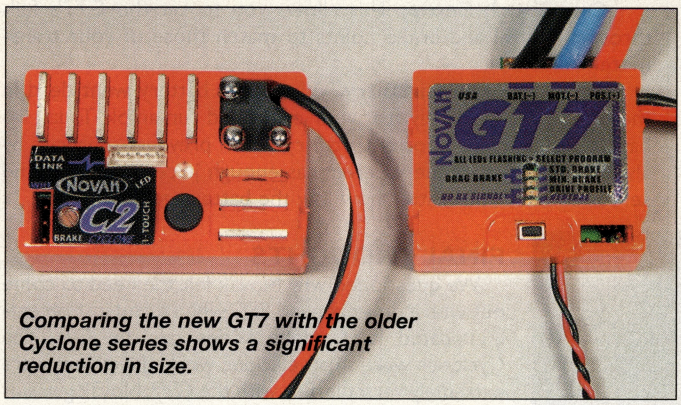
On previous Novak ESCs, such as the Cyclone, the power capacitor was something that was installed by the owner. Of course, we're sure that more than a few users felt the capacitor to be superfluous and didn't bother to use it (and probably damaged their ESCs). With the GT7, Novak ensures that the power capacitor will be used by pre-wiring it to the ESC's circuit board. But to solve the problem of mounting the capacitor, the GT7's case now includes a slide-in bracket that allows the capacitor to be installed to either side of the case and secured with zip-ties for security.

• Improved solder tabs. Novak repositioned the GT7's solder tabs to the side of the case (the Cyclone's tabs were located atop the case). This not only reduces the risk of short-circuiting the ESC (caused by solder running down inside the case), but Novak also claims that this new location allows the GT7 to be more efficient because of a reduction in on-resistance.

EASIER PROGRAMMING

The Cyclone and Atom offered unparalleled degrees of programming; however, making use of this feature required an external programming device (Novak's Pit Wizard or the new Millennium Pro charger) and an extensive knowledge of ESC lingo. Now, thanks to feedback from some of the world's best drivers—including Jukka Steenari, Brian Kinwald and Greg Hodapp—the GT7 contains seven throttle profiles that should cover all of your racing bases.

To program the GT7, we are given a single pushbutton and a series of four LEDs. Each LED is a different color (red, green, yellow and blue), and each has a different meaning depending upon which function you are programming. For example, to select a throttle profile, you press and hold the



Comparing the new GT7 with the older Cyclone series shows a significant reduction in size.

button until all four LEDs are flashing (the number of times they flash indicates the profile selected). Or if you wish to set the GT7's minimum brake value, you hold the button until all four LEDs turn solid color. Then, you move the throttle trigger to the full brake (while still depressing the button), which will cause the blue LED to remain lit—the number of times it flashes indicates which of the five preset values is selected. It seems rather complicated, but once you figure out the logic of the system, it gets easier (and Novak supplies a handy laminated prompt card for quick reference.

Profiles	1	2	3	4	5	6	7*
Drive Freq. (kHz)	23	15	11	7.5	4.5	3.5	2
Minimum Drive (%)	1	3	2	2	4	3	3
Brake Freq. (kHz)	5.5	3.5	4	5.5	5.5	1.5	3
Minimum Brake (%)	20	20	20	20	20	20	20

* Profile 7's parameters are set



A slide-in bracket allows the power capacitor to be securely fastened to either side of the GT7.

CREATING A CUSTOM PROFILE

Of the seven built-in profiles, only the seventh can be accessed and changed to create a custom performance profile. Thankfully, Novak has simplified our options to just four functions.

• **Drive Profile**. This incorporates several variables that were programmed as separate functions with the Cyclone and Atom. The Drive Profile includes the drive frequency, the minimum drive and the number of steps for the transmitter's throttle/brake throws. The GT7 has five separate Drive Profile settings from which to choose.

Application: Novak has simplified Drive Profile selection by placing them in order from the most extreme "punchiest" profile to the mellowest profile. If you are running on a high-bite surface and you want the most punch, profile 1, which has a drive frequency of only 1kHz and a minimum drive of three percent, is for you. The slower frequency will make the motor feel more responsive, and the higher minimum drive will get the vehicle up and rolling with less trigger movement. If, on the other hand, you are using a low-turn mod motor or are running in slippery conditions, then profile five, which has a frequency of 20kHz and a lower minimum drive (two percent) will help you control wheelspin (and make your batteries last longer, thanks to its higher frequency). Higher frequencies "smooth out" the feel of the motor, while a lower minimum drive percentage rolls the power on more smoothly.

• **Brake Profile**. This contains five settings for the brakes' frequency and the number of braking steps for the brake throw.

Application: This is just like the drive frequency, but for the brake function. A lower brake frequency (profile 1 is 2.5kHz) will make the brakes less smooth, but more responsive. A higher braking frequency, such as that of profile 5 (11kHz), will make it easier for you to control wheel lockup under braking, such as when you're racing on a slick surface or if you're using a front one-way in your sedan.

• **Braking Type**: The GT7 offers two types of braking: standard, in which the brakes are applied when the transmitter's trigger is moved past neutral and into its brake travel. Drag braking can also be selected, which applies a degree of braking force while the trigger is in the neutral position. This is used to slow the car without requiring the driver to actually push the trigger into braking.

Application: With stock motors, you won't want any drag braking (these motors already have a good amount). But with modifieds, you may want to dial in a little drag braking to use the motor to slow the car for tight turns. This way, you won't have to waste time and effort braking manually with the throttle trigger.

• **Minimum Brake Percentage**. This controls how much braking is applied initially, in a percentage of total braking force. There are seven percentages from which to choose, ranging from 20 to 55 percent of total braking force.



Novak includes this handy "prompt" card to help first-time programmers

Application: Just as with the minimum drive value, the minimum brake percentage controls how much of the brake's total travel is engaged initially, when you first move the trigger from neutral to braking. For on-road or high-grip surfaces, you many want a higher percentage so that the brakes will respond more immediately to your input. For slick off-road tracks, a lower percentage will let you use more finesse during braking to avoid wheel lockup.

Drive Profile	1	2	3	4	5
Drive Frequency (kHz)	1	5.5	12	15	20
Minimum Drive (%)	3	3	3	3	2
Brake Profile	1	2	3	4	5
Brake Frequency (kHz)	2.5	3.5	5.5	8	11
Drag Brake Freq. (kHz)	2.5	3.5	5.5	8	11

ADDITIONAL FEATURES

• **Transmitter Check Mode.** The GT7 can also be used to check that your transmitter has enough forward and brake throw to provide the best performance. In this mode, the GT7 "reads" the signal given by your transmitter when its trigger is moved all the way forward and all the way through its brake travel. If the GT7 detects inadequate travel, you may need to alter the settings on your transmitter.

• **One-Touch Setup.** This allows you to set the GT7's full-throttle, neutral and brake points to match those of your transmitter.

• **Radio Priority Circuitry.** When your battery went dead in the old days, it was likely that your car would run amok. Today, we have Novak's Radio Priority Circuitry, which prevents runaways by always ensuring that the receiver has enough juice to operate the servos and ESC, no matter how low the battery gets.

FINAL THOUGHTS

We questioned why Novak felt the need to come out with a new high-end ESC when it had just recently updated its Cyclone series (to the C2). The Cyclones were small, efficient, worked well and were extremely versatile. But with the GT7, Novak gives us an ESC that's better in nearly every category. Not only is the GT7 smaller and lighter, it doesn't require a PhD in ESC to be successfully programmed—nor does it require an expensive, peripheral programming device. With nearly twice the number of built-in performance profiles, the GT7 can be used in virtually all types of applications without the user ever having to create a custom profile. But should you desire to experiment with your own settings, the GT7's new interface and software make it easier than ever to tailor its performance to your exact specifications.

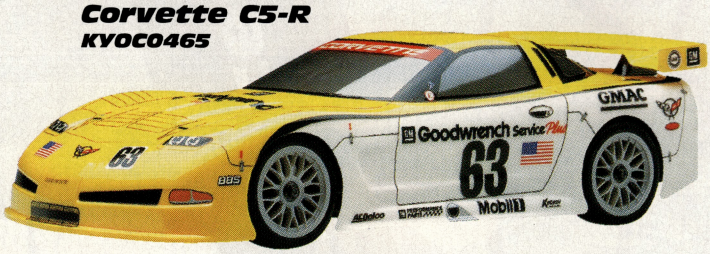
SOURCES

Novak Electronics, Inc., 18910 Teller Ave., Irvine, CA 92612 • (949) 833-8873; fax (949) 833-1631



"This could be the best-handling sport nitro sedan ever!"

Corvette C5-R
KYOC0465



V-ONE S™

Calsonic Skyline
KYOC0467



D2 Mercedes
KYOC0466



- **Length:** 15 in (377mm) • **Width:** 7.9 in (200mm) • **Height:** 4 in (100mm)
- **Wheelbase:** 10.2 in (260mm) • **Front/Rear Track:** 6.9 in (175mm)
- **Approx. Weight:** 3.5 lb (1600g) • **Gear Ratio:** 7.26:1 • **Engine:** GS-15R (included)
- **Requires:** 2-channel radio w/2 servos, fuel, field equipment

The above quote is from R/C Car Magazine — and it's an opinion that everyone will share after putting the V-One S through its paces.

The sturdy chassis is 3mm-thick anodized aluminum with countersunk screws. A newly developed 3-bevel sealed gear diff adds durability and improves the car's overall performance. The included GS-15R engine's output and traction are maximized by the V-One S's Kevlar 3-belt 4WD system, and the car is fully ball bearing equipped for friction-free operation. Plus, the radio box is sealed to keep dust and debris away from on-board gear, with two different covers to accommodate a flat or hump receiver pack.

If you're an up-and-coming racer, you owe it to yourself to check out the advantages that the V-One S has to offer. Chances are, you'll agree that it's the best-handling sport nitro sedan ever designed...and a sure-fire ride to the winner's circle.

For more information, and the location of the Kyosho dealer nearest you, visit our web site at: www.kyosho.com or call 1-800-682-8948 and mention code number 2947K.

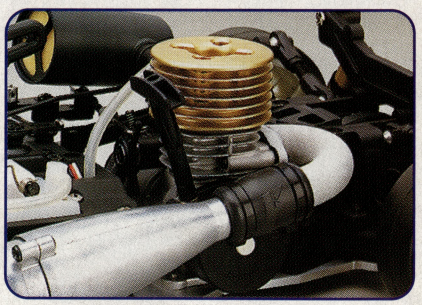


KYOC0463

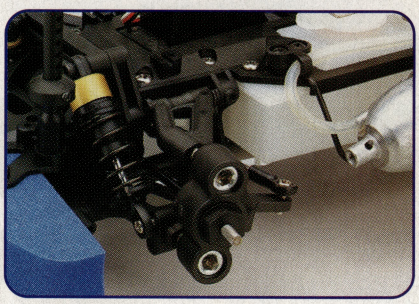


KYOC0464

Besides the sleek Corvette C5-R, D2 Mercedes and Calsonic Skyline pictured above, there are also V-One S kits available with Castrol Mugen NSX and McLaren BMW FA bodies. All include authentic sponsor decals that replicate full-size touring cars.



The powerful GS-15R recoil-start engine cranks out plenty of torque, and comes with a header and tuned Silent Streak muffler.



The front suspension is fully adjustable for caster, camber, track, toe, preload and up-and-down suspension arm travel. Adjustable, oil-filled dampers at all four wheels deliver excellent shock absorption, and the tall rear hubs reduce the effects of chassis roll.

KYOSHO®
THE FINEST RADIO CONTROL MODELS
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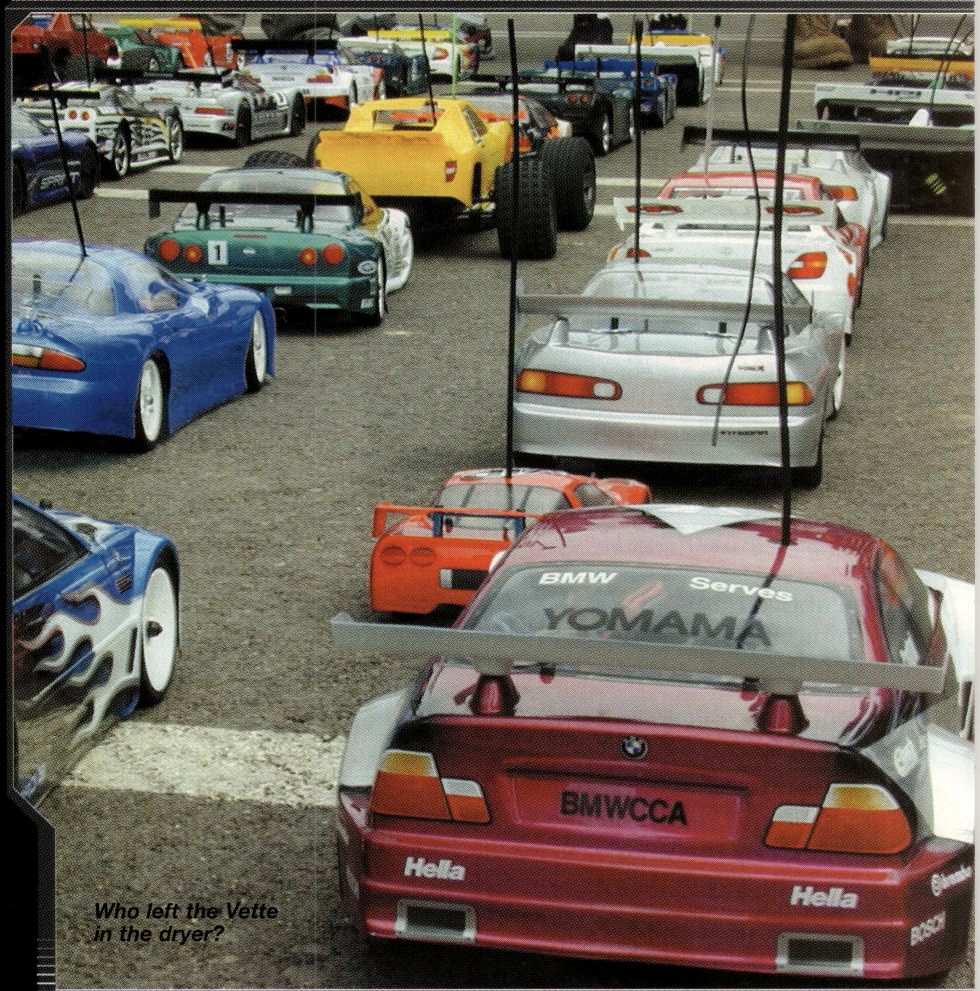
SOUTHERN CALIFORNIA

The 2002 series goes out with a bang!

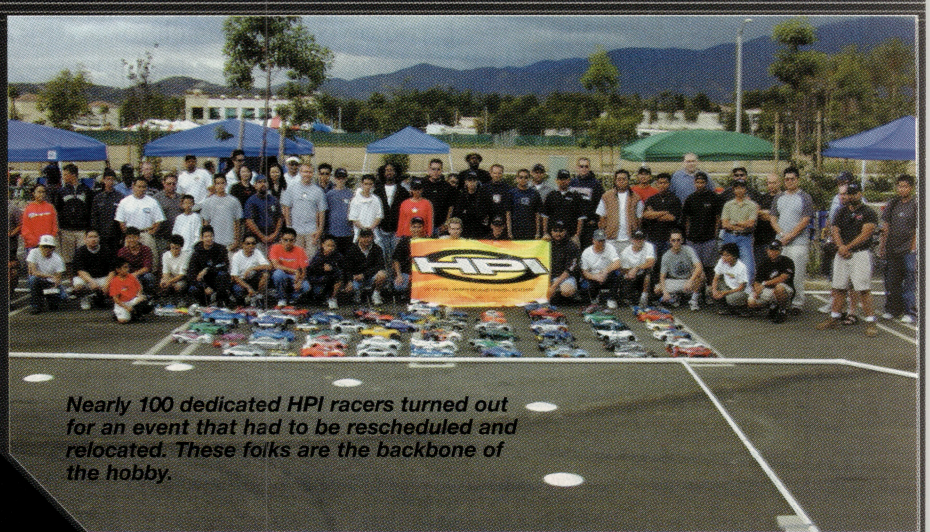
September 28-29, 2002—Nearly 100 racers braved the cloudy weather to attend the last HPI Challenge race of 2002, held September 28-29 in Rancho Santa Margarita, California. Normally a quiet south Orange County suburb, the local shopping mall was turned into an R/C car track by HPI reps Frank McKinney, Wes Mott, Efrain Manzano and Andrew Hillman.

Local business T-Mobile Communications provided the space, legwork and permits to make the event happen, and Yokohama Tire once again supplied prizes and banners for the racers, and in addition, HPI gave away free custom HPI Challenge hats and HPI bodies for all the racers. David Harris of T-Mobile also provided coupons from the area businesses, including a masseuse, free soft drinks and coupons at local restaurants.

While the 1/10-scale and Super Nitro classes ran on the full track, which measured an area of 120 by 50 feet, the Micro classes enjoyed a smaller version of the track all to themselves during practice and racing. Wooden jumps made just for the event by HPI's Steven Baker were carried onto the track for the Rally and HPI Truck classes. The Rally cars and trucks even ran the track backwards on Sunday! Some classes offered a chance to attend the HPI Challenge World Finals in Japan, which are taking place in November! Every class featured plaques for the top ten racers, as well as for the top three in the B and C mains.



Who left the Vette in the dryer?



Nearly 100 dedicated HPI racers turned out for an event that had to be rescheduled and relocated. These folks are the backbone of the hobby.

HPI Challenge

By Ryan Thomas







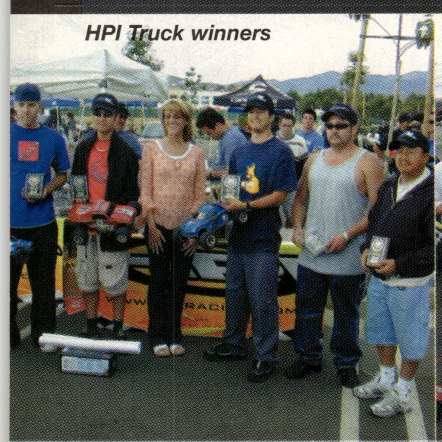
HPI Challenge

RACING ACTION

In Electric Stock, Nestor Rinonos made it look easy by winning with nearly a lap on the field. Electric Pro TQ Mark Dawson, along with Orlando Sherman, had a rough time with lapped traffic in their main event, falling behind and then catching up, until Orlando's motor came to an untimely end right at the end of the race! Luckily for him (and unluckily for Mark), Orlando's Pro 3 managed to cross the finish line under its own power and take the win! In Nitro Stock, Alvin Francisco held off the other racers in the A-main to win with two laps on everyone else. Dereck Butterfield in the Nitro Modified class made the best of Freddie P's misfortune at the start of the race to finish many laps ahead of the field, although Freddie made a hard charge up to third by the end of the ten-minute race. Dereck also took the win in Super Nitro Modified, one lap ahead of Freddie's sister Debbie.

Other winners included Irwin Lau in Micro Stock, Oliver Alfonso in Micro Modified, Giancarlo Agar in Rally and Chris Arellano in HPI Truck. The triple-A main format of the Micro Pro Invitational featured Team Epic's Orlando Sherman, Penguin r/c's Charlie Barnes, and a team of HPI drivers including Nitro 3 designer Erik Shauver and racer Thad Garner. With round-robin starts and six-minute races, Thad was able to take the win in all three races with his Penguin-equipped Micro, while Erik, Andrew Hillman of HPI and Orlando battled it out for second and third. In the end, the finishing order was Thad, Orlando and Erik in this light-hearted event.

After it was all over, the track taken down, and the prizes handed out, it was easy to see why the HPI Challenge is such a popular event for racers to attend. Not only is it a big one-make series, it features fun races like the Blindfold and Top Speed Challenge races, a Saturday night racers dinner, great prizes, lots of free stuff and a laid-back atmosphere. Here's hoping an HPI Challenge takes place near you in 2003! For more information about the HPI Challenge series, visit *hpiracing.com* for complete rules and schedule information.



HPI Truck winners



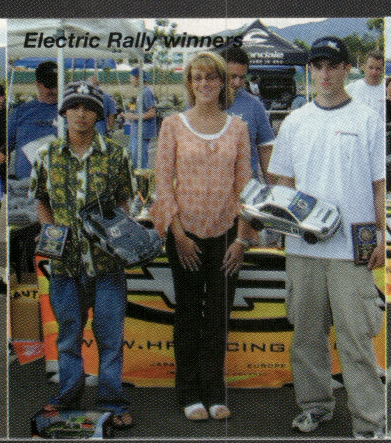
Micro RS4 Stock winners



Electric Stock winners



Micro RS4 Mod winners



Electric Rally winners



Electric Pro winners





Concours winners



Blonde guy: I'll give you $200.
Kent: It's not for sale!
Blonde guy: Make it $300



Super Nitro winners



Electric Stock winners



Nitro Mod winners

WINNERS

Micro Stock
- Irwin Lau
- Bill Meyn
- Danny Olivares
- Justin Kuzmanich
- Chuck Oliveres

Micro Mod
- Oliver Alfonso
- Wijaya Lim
- Roy Imahara
- Chanjwon Park
- Steve Lai

Micro Pro Invitational
- Thad Garner
- Orlando Sherman
- Erik Shauver
- Andrew Hillman
- Chris Nicastro

Electric Rally
- Giancarlo Agar
- Michael Boule
- Kanji Takagi

HPI Truck
- Chris Arellano
- Jason Shirley
- Eric Arellano
- Mac Macasero
- Devin Perez

Electric Stock
- Nestor Rinonos
- Joe Macasero
- Howard Hodges
- Anthony Tran
- Bobby Powell

Electric Pro
- Orlando Sherman
- Mark Dawson
- Charlie Barnes
- Irwin Lau
- Greg Bauchat

Nitro Stock
- Alvin Francisco
- Chris Agloro
- Alexander Imahara
- Trevor Dyck
- Dennis Chew

Nitro Modified
- Dereck Butterfield
- Chris Bussert
- Freddie Phumirat
- -
- Freddy Lagmas

Super Nitro Modified
- Dereck Butterfield
- Debbie Phumirat
- Joedy Flores
- Nestor Rinonos
- Nam Nguyen

THE SWAG

The hottest new stuff from Tamiya

Welcome to the "Swag Report," a new feature in which we'll be looking at a slew of new goodies from the hottest manufacturers in the biz. In this installment, we'll be showcasing the contents of a big box that came to us from the folks at Tamiya America.



R/C Maintenance Stand

Part no.: 49224
Price: $20.59 (varies with dealer)

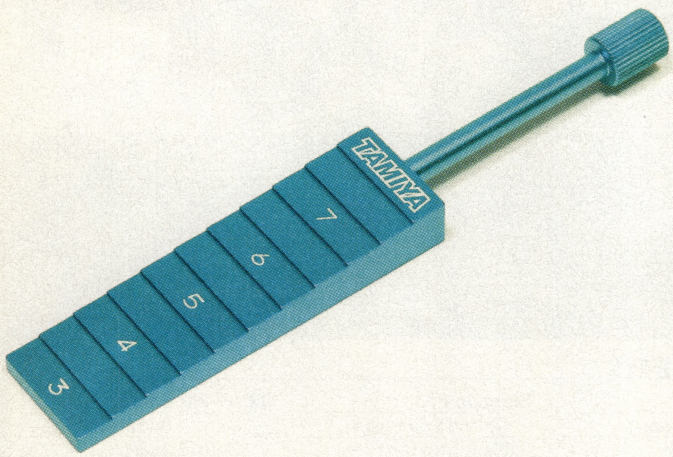
Show your Tamiya allegiance at the track with this car stand made from blue-anodized aluminum. The stand features four rubber feet for stability and a pair of foam strips that prevent the car from slipping as you're working on it. Four holes in the top of the stand are for when you're working on your shocks, and the Tamiya logo is screened on the side of the stand for a full-factory look. For on-road cars only.



TGM-02 Aluminum Hex Hubs

Part no.: 53496
Price: $15.19 (varies with dealer)

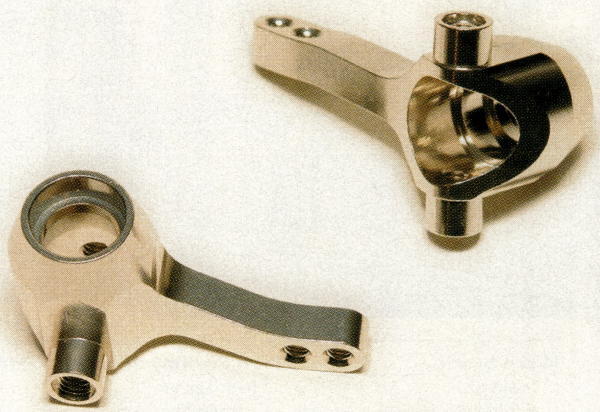
What's a TGM-02? Why it's Tamiya's internal code name for the Terra Crusher's nitro 4WD monster truck chassis. Like most monster trucks and sedans, the TC's hex-hubs tend to come off with the wheel, leaving the drive pin free to drop out onto the ground. These blue-anodized aluminum hex hubs clamp onto the axles, so that they'll only come off when you want them to. Aluminum construction also means that these hubs will spin truer than the stock plastic hubs.



Height Gauge

Part no.: 49226
Price: $15.69 (varies with dealer)

This slick new ride-height gauge reads from between 3 and 8mm, with each step representing 0.5mm. Simply slide the gauge beneath your sedan's chassis and the ground and read which step most closely fits. An extended handle, which ends in a knurled knob, allows the gauge to be slide past suspension assemblies. The gauge is machined from blue-anodized aluminum and features the Tamiya logo.



Aluminum Front Upright Set (M Chassis)

Part no.: 53523
Price: TBA

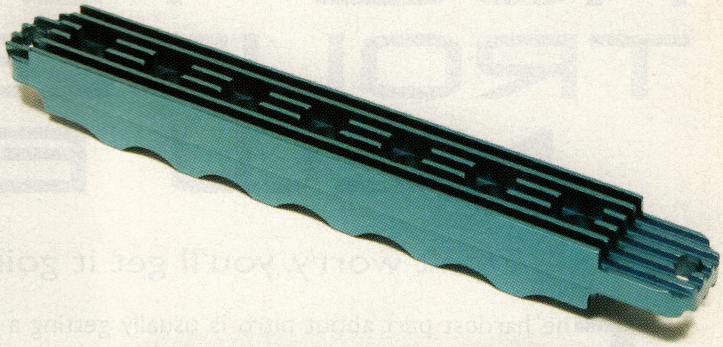
For use with Tamiya's M03 and M04 series of "mini" chassis, these aluminum uprights replace the stock plastic pieces and provide a vast improvement in rigidity to the car's front suspension. With less flex, your M Chassis will have better steering and more consistent handling. Also includes hardware that will enable the hubs to be used with the TL-01 and FF02 touring sedan chassis.



Camber Gauge

Part no.: 49225
Price: $16.99 (varies with dealer)

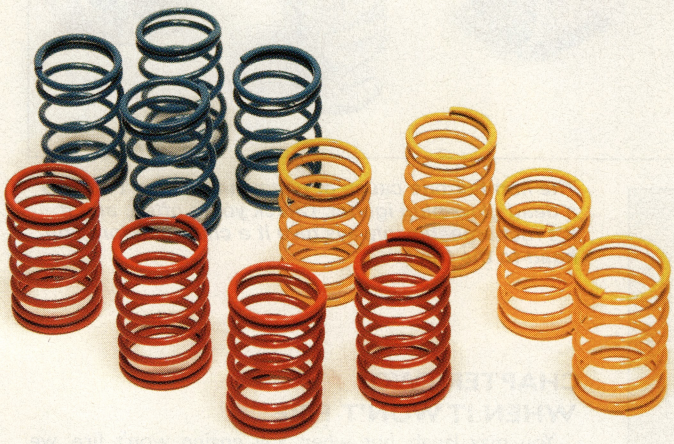
Set your car's camber 10 degrees in either direction with this lightweight molded-plastic gauge from Tamiya. A large base translates into more accurate readings, while a graduated scale on both sides of the gauge make it easy to read from the left and right side of your car.



TXT-1 Aluminum Battery Holder

Part no.: 53516
Price: TBA

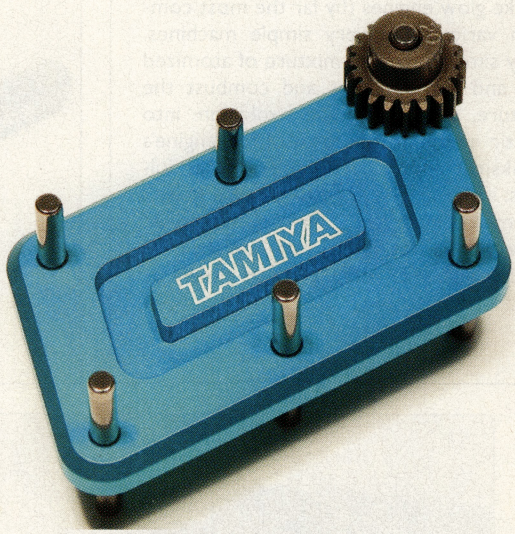
Replace the stock plastic battery strap in your Tamiya TXT-1 with this intricately machined aluminum holder. Designed to fit either stick or side-by-side battery configurations, this blue-anodized holder has plenty of surface area to draw heat away from the battery pack. A cool pack makes more power and will likely last longer.



Matched Spring Sets

Part no.: 49240 (soft); 49241 (medium); 49242 (hard)
Price: $6.99 per set of 4 (varies with dealer)

Tamiya sells these springs in sets of four, and each has been carefully matched in both length and rate to provide the most consistent handling possible from your sedan (the springs are designed for Tamiya, but should fit most on-road shocks). Most springs are fairly well matched, but Tamiya has taken spring consistency a step further. Each spring is color-coded for easy identification.



Pinion Gear Holder

Part no.: 49228
Price: $17.59 (varies with dealer)

This nicely machined pinion-gear caddy is made from aluminum that's been blue-anodized, and holds 12 pinions (six on either side) on its steel shafts. Quit losing those gears inside the vast chasm that is your toolbox! The Tamiya logo is etched into the holder to let everyone know which car you're driving.

SOURCES

Tamiya America, Inc., 2 Orion, Aliso Viejo, CA 92656-4200 • phone (949) 362-2240; fax (949) 362-2250

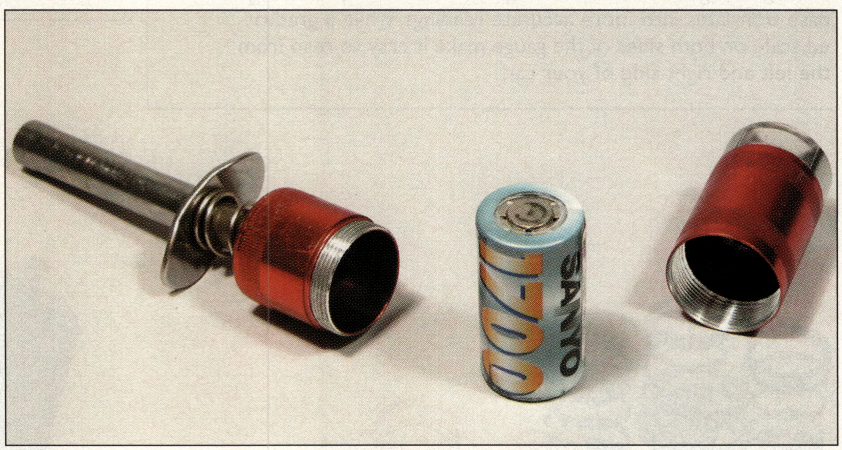
HOW TO START TROUBLESOME NEW ENGINES

Don't worry, you'll get it going!

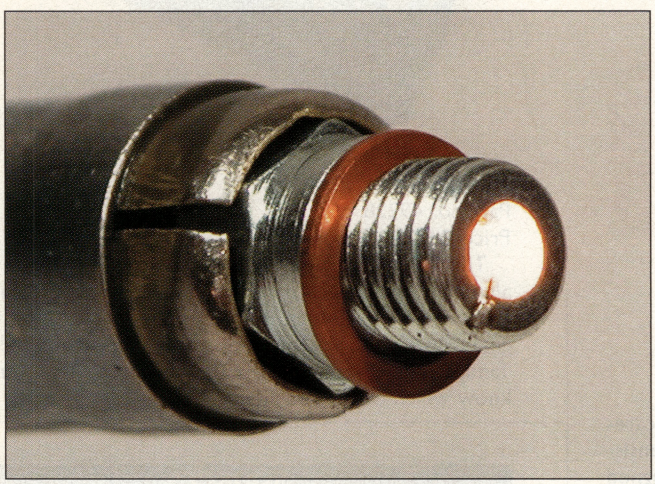
The hardest part about nitro is usually getting a new engine started for the first time. Virtually all new engines come preset from the factory, and this is usually a pretty good place to begin. However, it's fairly common for such variables as fuel brand, air temperature and humidity (as well as altitude) to cause a new engine to be a little difficult to start. Here are some simple steps for you to follow if you are having a bit of a hard time with that new nitro mill.

CHAPTER ONE: THE RULES OF GLOW ENGINES

Contrary to popular opinion, two-stroke glow engines (by far the most common variety) are very simple machines. They simply take in a mixture of atomized fuel and air, compress and combust the mixture, and turn that explosion into kinetic energy in the form of the engine's crankshaft rotating. The rules are as follows: if the engine is getting fuel, if it isn't assembled incorrectly or broken, and its glow plug is hot, it will run—or shall we say is capable of running. It's as simple as that.



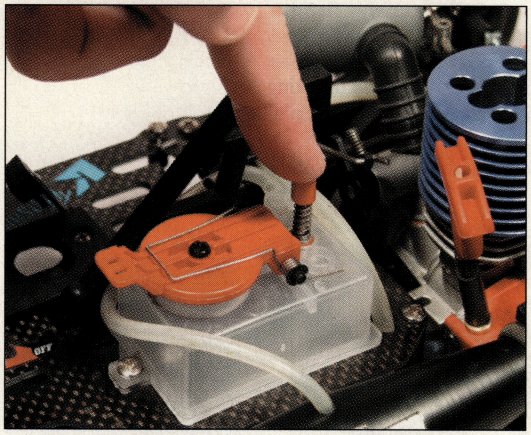
The number one cause of engines that won't start is a dead glow-plug igniter. Check yours often, and if it's rechargeable, always give it a charge before you head to the track.



A healthy glow plug will have an element that glows red-hot throughout its entire length. A partial glow may not be enough to fire your engine.

CHAPTER TWO: WHEN IT WON'T FIRE

You may laugh, but when any engine won't fire, we always try a new glow-plug igniter. And guess what? Nine times out of ten, this fixes the problem! However, for those times when it still won't fire, the next step is to remove the plug and verify that it is working by placing it in the glow-igniter. If the plug is in good shape, and the igniter is working, the plug's element will quickly glow red-hot. If the plug doesn't glow, and you're certain that the igniter has juice (test it by trying it with a spare plug that you know is good), then the plug is bad. Some plugs may be in varying states of "bad." If only a few coils of the element glow, the plug may need to be replaced.

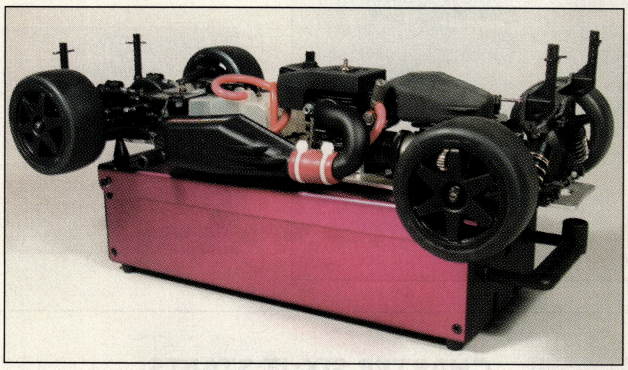


Got fuel? Pressurize your tank by pressing the plunger primer a few times.

CHAPTER THREE: GOOD PLUG, NO SPARK

If you're sure that the plug is good, but the engine still won't fire, the next suspect to investigate is the fuel system. In other words, is the fuel getting from the tank to the carb, and is the carb allowing the fuel inside the engine?

If your fuel tank has a plunger primer, press it until you can see the inlet line fill with fuel all the way to the carb. If you don't have a primer, crank the engine (either by pulling the starter or spinning the flywheel on a starter box). You can expedite this process by blocking the exhaust's outlet with your finger. Once the fuel reaches the carb, continue priming for about a second or two to allow the fuel to enter the carb. Avoid over-priming, as this will often flood the engine and cause a condition called hydraulic lock—often the cause of broken starter cords and burned-out starter motors.



Spinning the engine on a starter box will also pressurize the fuel tank.



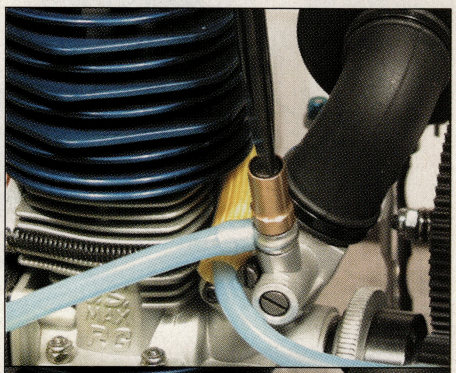
When using a starter box or pull-starter, blocking the exhaust outlet with your finger will speed up the tank pressurization.

CHAPTER FOUR: IT'S GETTING FUEL, BUT...

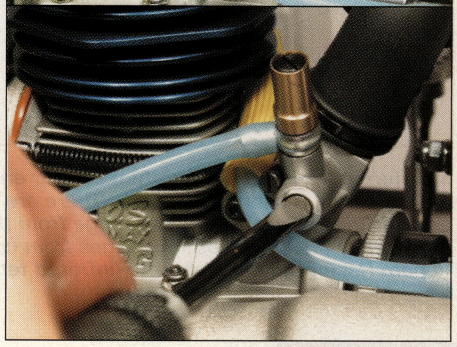
If you've confirmed that the fuel is reaching the carb, but the engine won't start, it's possible that the engine's low-speed needle is either screwed in too far—in which case the engine isn't getting enough fuel to run—or the needle is screwed out too far, which allows too much fuel into the carb. In either case, the engine won't start. Another possibility is that the engine's idle-stop screw isn't turned in far enough to allow adequate mixture to reach the crankcase.

Again, most engine manufacturers include "base" settings for the carb, e.g., "two-turns out from closed" for the low-speed needle. If you have this information, you're in the ballpark. If you don't have it, all is not lost. Turn each needle inward until the needle adjustment is closed. Don't forget that the needles can be easily damaged if you turn them in too far. Close the needles gently, and when you feel resistance, don't turn them any further—they're closed.

It would be impossible for us to list in this article the settings for each type of engine; however, there are some base settings common to most engines. If you set the low-speed needle at about 1-1/2 to 2 turns out from closed, the high-speed needle about 2-1/2 to 3 turns out, and set the idle-stop screw so that the carb opening is around 1.5 to 2 millimeters, you should be able to get the engine running. Once running, the engine will tell you where you need to go with fine-tuning.



Your engine's high-speed needle controls the mixture at full speed, but it also affects all other needle adjustments.



The low speed, or "idle" mixture is used to set the mixture when the engine is at idle. It also affects the acceleration of the engine from low rpm.

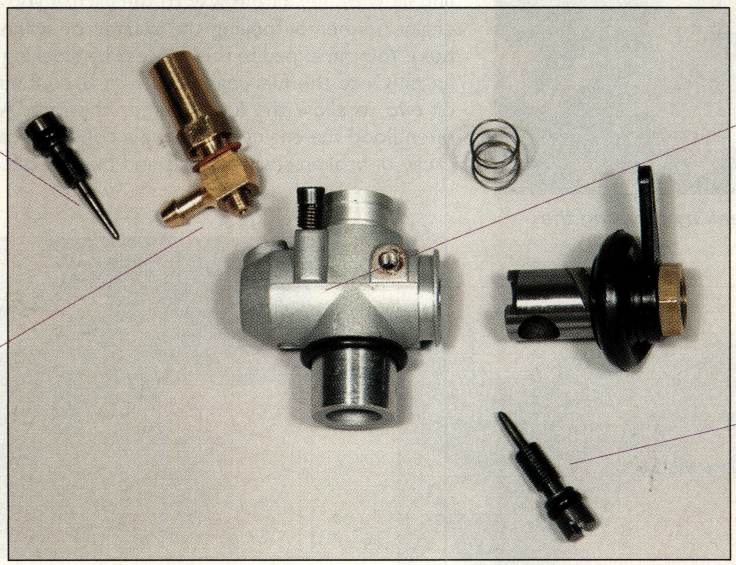
CHAPTER FIVE: IF ALL ELSE FAILS

If the engine still won't fire, then it's possible that there could be some debris in the carb that is blocking fuel flow. The only way to address this is to disassemble the carb and clean each part carefully, paying careful attention to the inlet holes and the needle tips and seats.

If you still can't get the darned thing to start, it's possible that the engine could be assembled incorrectly, e.g., the sleeve could be installed backwards.

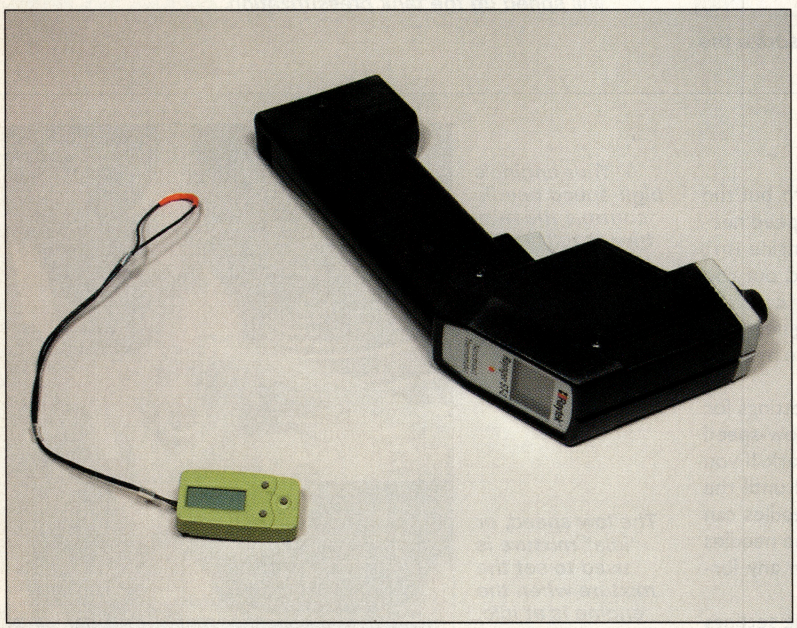
The main culprit of blocked fuel flow is usually the main needle, which is the first place debris can become lodged.

Here's the fuel inlet. Any dirt and debris that gets into the fuel tank will find its way into this area first. Always use great care when disassembling these sensitive areas of your carb.



The seat or spray bar for the low-speed needle is located within the body of the carb. Inspect this area for nicks, wear and debris.

Here's your low-speed needle valve. Like the main needle, you should check its end for damage and wear. While the carb is apart, inspect the needles' O-rings for damage.



Monitoring the head temperature of your engine is one of the best ways to ensure that it is running properly. There are several types of gauges available for this purpose, and they range from the free (the old spit test!), to the moderately priced (on-board gauges from companies such as MIP and Venom Racing) to the elaborate (infrared temperature guns).

CHAPTER SIX: IT STARTS BUT WON'T STAY RUNNING

Most of the new engines we test start up easily, but many don't stay running for very long. Usually, we find that it's necessary to lean the high-end needle slightly to get the engine to idle reliably. Once the engine is idling, it's usually possible to richen the high-speed needle back to where it was so that the engine will receive enough liquid-cooling (the unburned fuel passing through the engine carries away heat as well as any debris such as metal shavings).

We usually allow new engines to idle through a full tank of fuel before we drive the vehicle. During this first tank, as well as throughout the break-in procedure, it's vital that you monitor the engine's temperature to ensure that it doesn't become too hot. A drop of water placed on the cylinder head should sizzle away in about three to five seconds. If it boils away instantly, richen the engine to reduce its temperature.

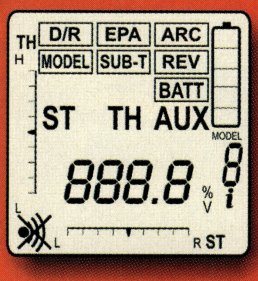
CONCLUSION

Remember that most of the information given in this article is intended to serve as a set of guidelines, and it should not be used to replace the information provided in your engine's instructions. After you've had a little success with your new engine, you'll gain the confidence you'll need to become a future nitro genius.

MX-3

THE ULTIMATE MAXX UPGRADE

3 FM Channel





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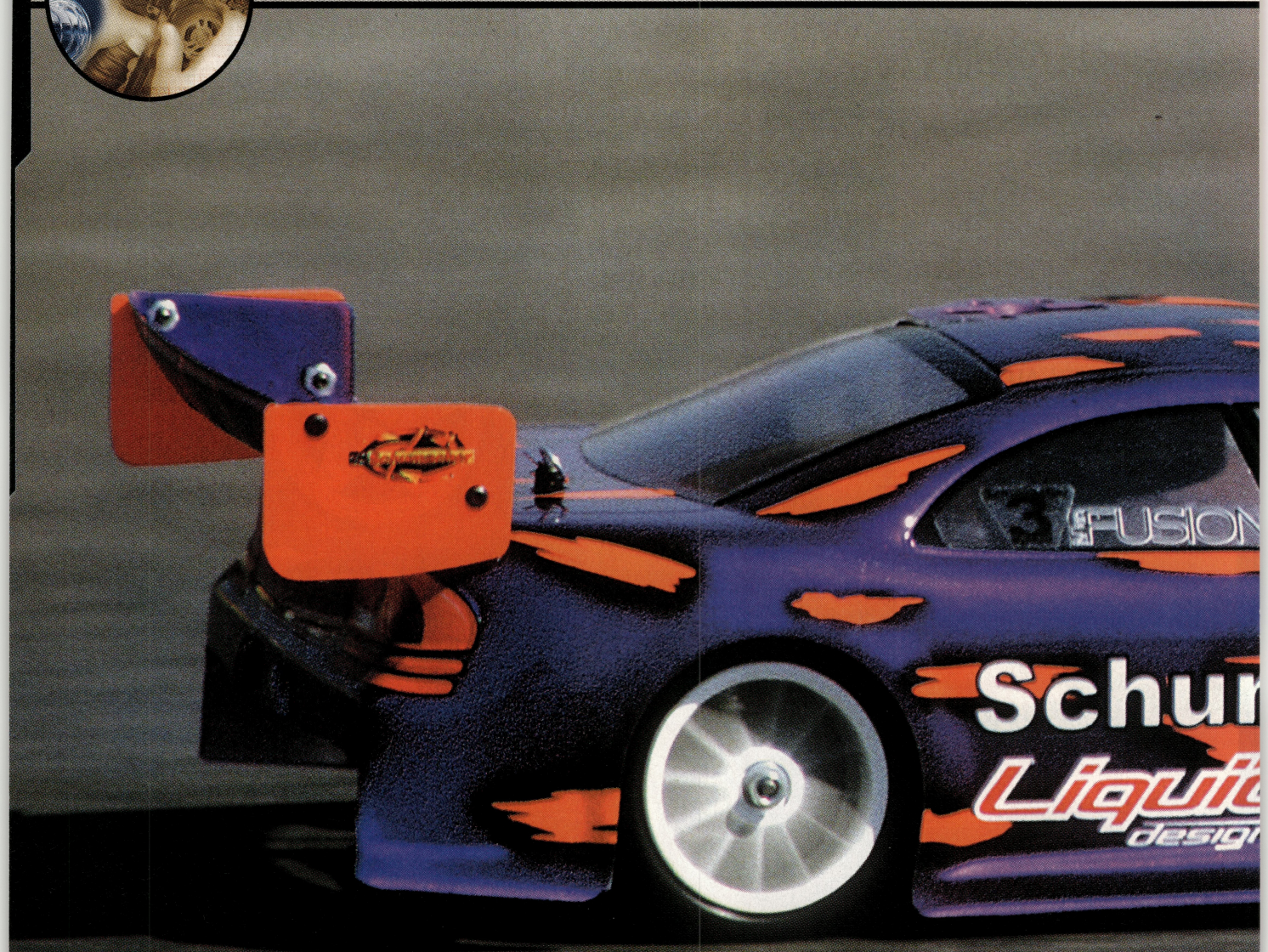


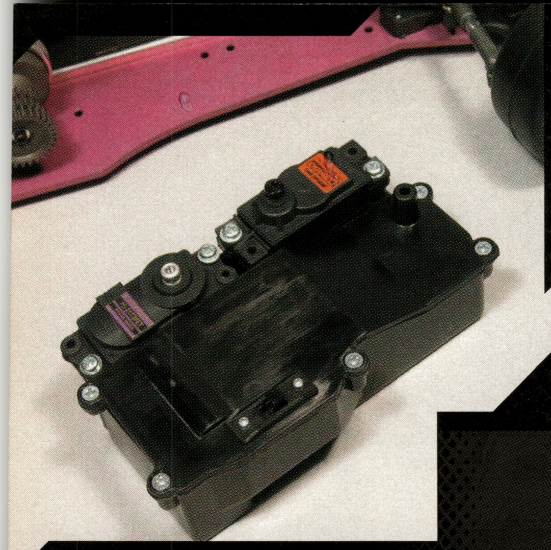
THE HYPER-DRIVE

NITRO FUSION



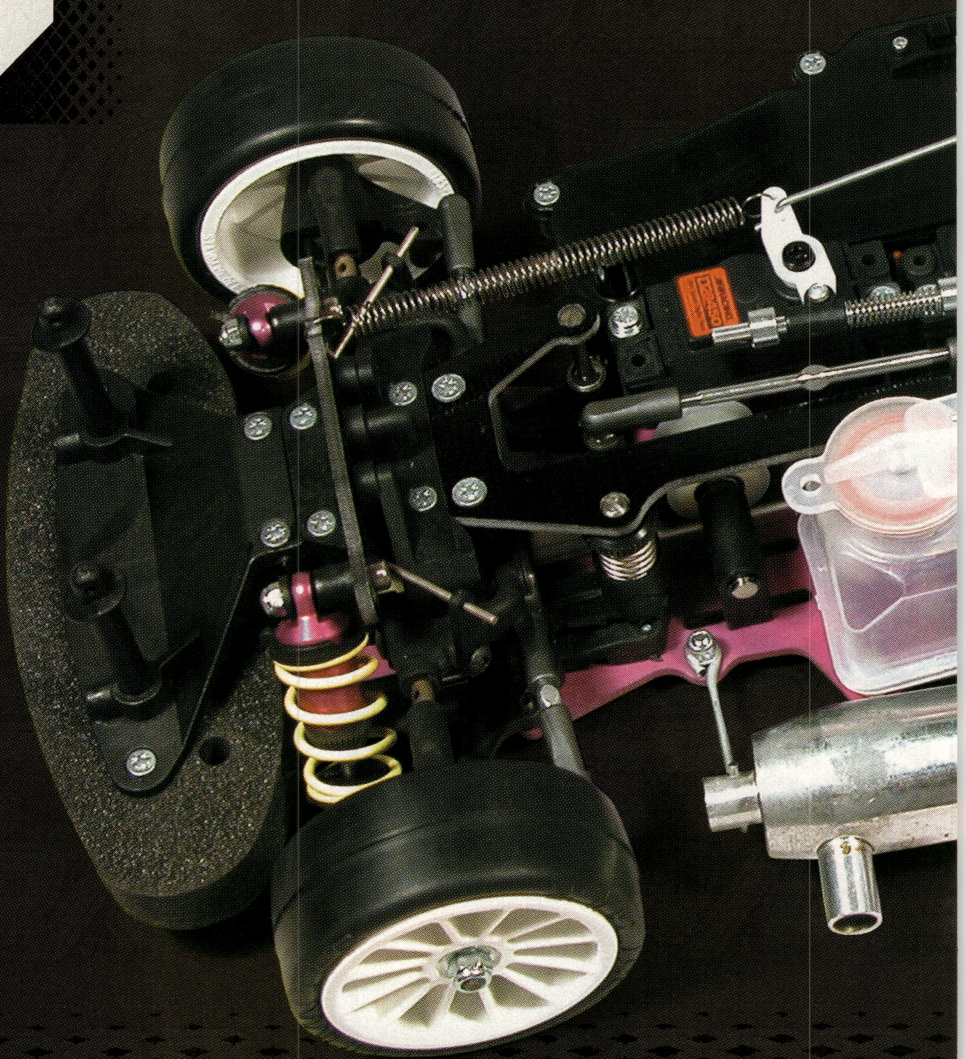
Blame Thunder Tiger. They started this insanity by installing a .70 two-stroke engine into a 1/8-scale nitro truck (the EK4). Overkill? You bet, but throngs of R/C maniacs flocked to their hobby shops to sign up. In the same vein, Schumacher gives us the Nitro Fusion, which in terms of sheer power-to-weight, might be even crazier than the EK4! The formula for the Nitro Fusion is one part 1/10-scale touring car, a dash of belt-driven 4WD traction and a huge chunk of engine—a big-block .21 to be exact! Add to this mix a three-speed transmission (yes, three speeds!), and you are left with a car that, according to its manufacturer, is capable of speeds of up to 80 mph. If this claim is true, the Nitro Fusion is the fastest-ever out-of-the-box nitro sedan.

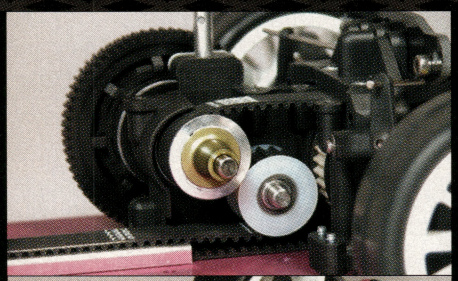
HAS BEEN REPAIRED!



CHASSIS & DRIVETRAIN

The Nitro Fusion is built on a very solid foundation of a 4mm-thick aluminum chassis plate that provides fantastic rigidity. The chassis is purple-anodized and features a fully countersunk underside to prevent scraping. To further stiffen the car, an upper deck made from 2mm fiberglass spans the entire length of the car from suspension bulkhead to suspension bulkhead. The upper deck is braced in the middle by the steering bellcranks and an aluminum standoff. A large molded box holds all the electronics, from servos to receiver and battery. The receiver and battery are protected within the box, and the entire package can be removed with just four screws.



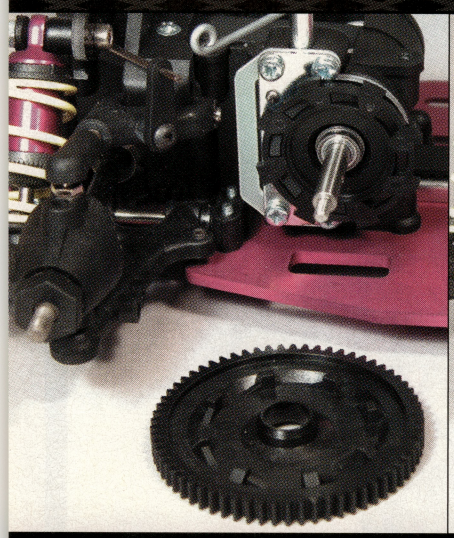


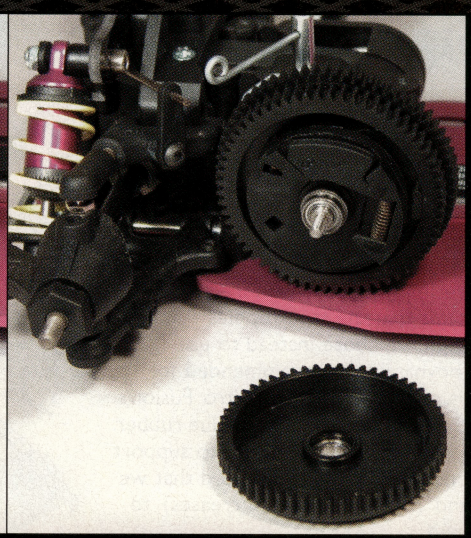


The drivetrain, which provides full-time 4WD, is unique among all nitro sedans. Similar to the Losi XXX-S, the Nitro Fusion uses a single cogged rubber belt to take the power from the engine and distribute it to the front and rear wheels. How is this possible, you ask? Considering that all other belt-driven 4WD nitro cars must use three belts to route power past the engine, the use of a single belt is no small feat. Here's how they did it. The belt wraps around the front and rear diffs as normal, but the top of the belt is routed low to the chassis, just above the bottom of the belt. This is accomplished by wrapping the belt first around a top pulley, which is connected to the transmission's main input shaft, then around a second pulley that's just below the first (in an S-shape). To protect the belt from rubbing against itself as it passes beneath the engine, the lower part passes through a U-shaped metal guide. Up front, the top part of the belt runs beneath another pulley before rising up again to wrap around the front diff. This pulley can be loosened and slid forward or backward to alter the tension of the belt.

The belt itself is 10mm wide to handle the horsepower of the big-block engine, and this extra drag, combined with the severe bending of the belt (to clear the engine) makes this, shall we say, a drivetrain that is not exactly that efficient. In fact, Schumacher itself admits this fact, saying that this drivetrain is tailored to work only with the big-block engine, and therefore must be beefy but less efficient. But we're pretty confident that the .21 engine will have no trouble spinning past the added friction.

NITRO FUSION

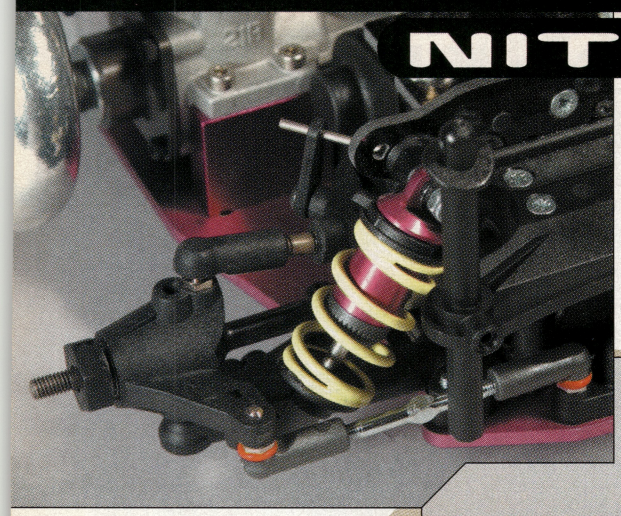




Aside from the larger engine, a three-speed transmission helps propel the Nitro Fusion to warp-factor speeds. It works much in the way a typical two speed works, but the first gear spur gear is mounted on a ratcheting hub. As the gears are spun, the first spur gear eventually is thrown away from the hub and is disengaged. At this point, the second gear ratio kicks in, and when the right rpm is reached, the unit shifts automatically into third (and the Nitro Fusion goes into hyper-speed). Schumacher currently offers three pinion gear combinations. The stock pinions have 21, 25 and 29 teeth, and there are a low-ratio 15-19-23 pinions as well as the "80-mph" 24-28-32 pinions.

Other drivetrain features include 34 ball bearings for smooth, low-friction operation, plastic Blade-style driveshafts (Schumacher's proprietary low-friction driveshaft design) and adjustable ball diffs with hard-anodized aluminum outdrives.

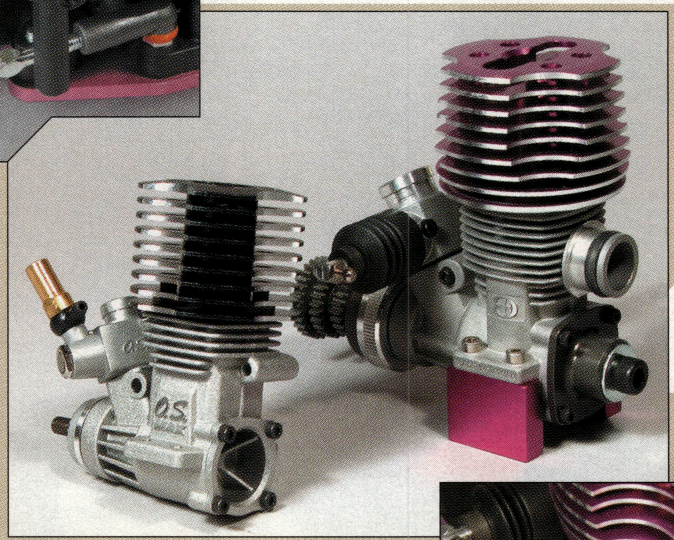
NITRO FUSION



SUPERSONIC SUSPENSION

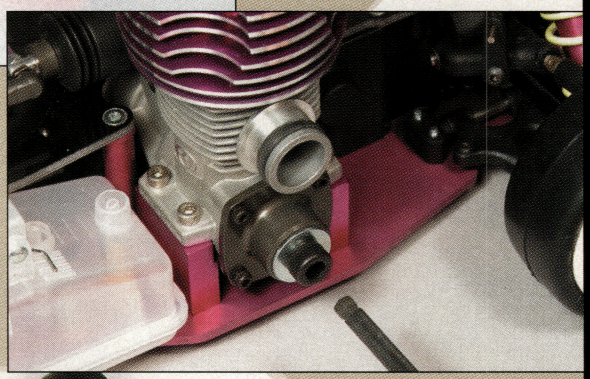
The Nitro Fusion's four-wheel independent suspension is lifted straight from Schumacher's SST electric sedan. Molded from engineering polymer, the suspension has been pushed out 10mm to give the car a width of 200mm—the wider the better, especially when 80 mph is the targeted speed. Every little bit of the suspension can be tuned. From caster, camber and toe-in (front and rear) to anti-squat, roll-center and wheelbase, few cars offer the range of the adjustment of the Nitro Fusion's SST-based suspension.

Damping is handled by a set of four purple-anodized aluminum shocks with Schumacher's closed-cell foam volume-compensaters (which keep the air and oil separated). Each end also benefits from an anti-roll bar to keep the chassis level during cornering.



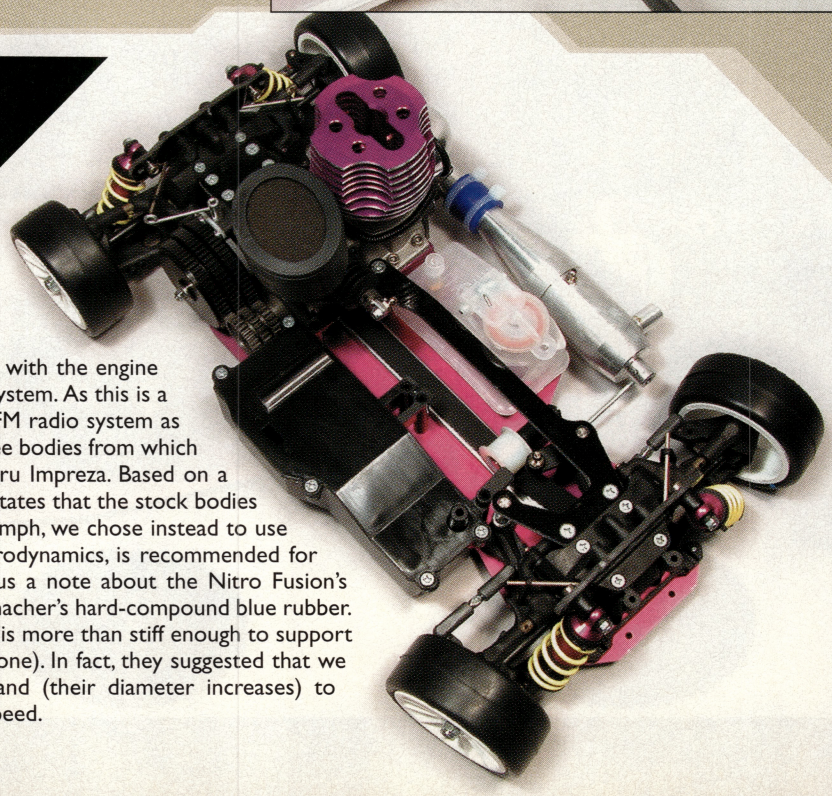
TWO POUNDS OF HAM IN A ONE-POUND BAG

The heart of the Nitro Fusion is its engine, a 3.5cc beast from Thunder Tiger. This Pro .21 comes with ABC (aluminum piston with chrome-plated brass sleeve) and a large purple-anodized aluminum heat-sink head. Schumacher got rid of the added weight of the pull-starter and added its "E-Start" system, which allows the engine to be cranked by using a cordless electric drill (the drill isn't included, but a driver bit is). The engine sits on purple-anodized aluminum mounts, but to clear the belt (which passes beneath), the engine is raised off the chassis by about 5mm more than usual. Rounding out the power package is an aluminum pipe and header combo that looks a little smallish for a .21, but as this is a 1/10-scale car, there's not much extra room for a larger pipe. The pipe's stinger appears to have been enlarged to handled the expelled gases from the big mill.



Accessories included: Thunder Tiger Pro .21 engine, aluminum manifold and tuned pipe, BMW, Subaru or pickup body shells

Things you'll need: 2-channel radio system, on-board battery pack, cordless electric drill, CA cement for tires, paint for clear body



CHOOSE YOUR WEAPON

The Nitro Fusion comes 90-percent assembled, with the engine already in place. You have to add your own radio system. As this is a very fast car, we recommend that you choose an FM radio system as well as a fairly strong steering servo. There are three bodies from which to choose: an F155 pickup, a BMW M3 or a Subaru Impreza. Based on a note from Schumacher's R&D department, which states that the stock bodies (in our case the BMW) become unstable after 65 mph, we chose instead to use a ProtoForm Stratus 2.1 which, because of its aerodynamics, is recommended for higher speeds. Likewise, the R&D guys dropped us a note about the Nitro Fusion's rather odd tires, which are slicks made from Schumacher's hard-compound blue rubber. According the Schumacher, the rubber of the tires is more than stiff enough to support the weight of the car without inserts (there are none). In fact, they suggested that we use the kit tires for speed testing, as they expand (their diameter increases) to increase the car's rollout and, as a result, its top speed.

3...2...1... BLAST OFF
READY-TO-RUN
MICRO SIZED ACTION

This new pocket-sized rocket from Dynamite® may not take you to strange new worlds, but it will open a new frontier at home. With the super-speedy 1/24-scale Rocket Racer Ready-To-Run, any wood or tile floor, concrete basement or patio—even a pool table—can be your racetrack. It fits right in the palm of your hand and comes out of the box with everything you need to start racing immediately (except alkaline batteries).

In addition to its durable, double-decked fiberglass chassis; spring-dampened front suspension; direct-drive spur/pinion setup and the latest high-tech onboard goodies, the Rocket Racer features a pistol-grip transmitter with adjustable steering rate, so you can fine tune the handling to conform to whatever track you're racing on. And it looks very cool too, available in six colors and four of racing's most popular body styles. You can even customize it with authentic race sponsor decals (sold separately).

No RTR is more complete and able to race in so many locations and settings. Compact, easy to store and carry and a cinch to control, the Dynamite Rocket Racer is your vessel to exploring those undiscovered home racetracks.



DYN8101: SX-GT1

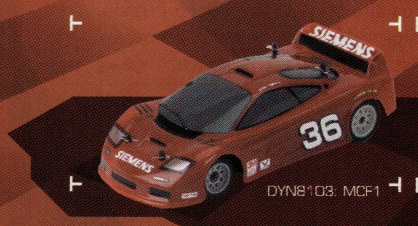
1/24-SCALE ROCKET RACER RTR
SHOWN ACTUAL SIZE

Specifications for 1/24 Rocket Racer RTR

Length:	5.9-6.3in
Wheelbase:	4.13/4.33/4.53in
Front Width:	2.95in
Rear Width:	3.19in
Chassis:	Double-Deck Fiberglass
Motor:	FK-130SH
Gear:	Ball Thrust Differential
Drivetrain:	2WD
Decals:	Sold Separately

Required for Completion

8 "AA" Alkaline Batteries (for Transmitter)
4 "AAA" Alkaline Batteries (for Car)



DYN8103: MCF1



DYN8104: C-DTM



DYN8102: P-GT1

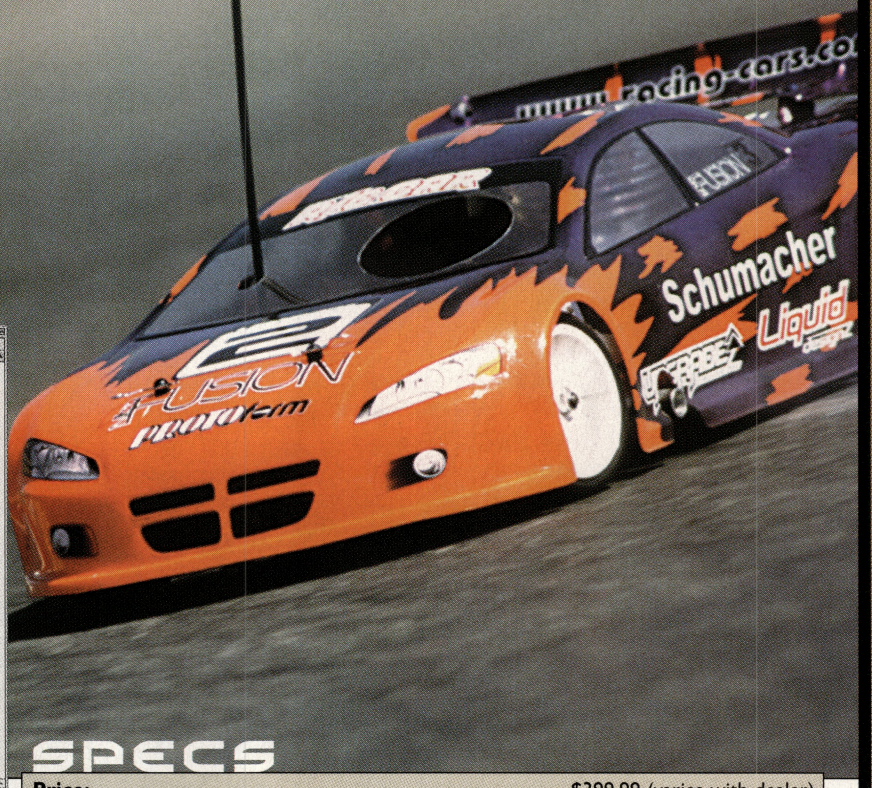
HORIZON HOBBY

©2002 Horizon Hobby, Inc.

DYNAMITE®

5257

NITRO FUSION



REPORT CARD

Test location: KZ Speedway, Sun Valley, CA
Test conditions: world-class 1/5-scale-sized permanent asphalt roadcourse with sweeping lanes and a 200-plus-foot back straight.

Getting going: B

The NF comes about 90-percent built from the factory, and all you have to do is install your radio gear. A word of advice: use good stuff; this thing is dangerously fast and an out-of-control situation would be, shall we say, undesirable!

Engine: A

The Thunder Tiger .21 in this car is the best one we've tried. The engine was very easy to start and ran like a champ throughout the test. The carb was reliable and accurate, and we really like Schumacher's E-Start system (we hope this is the same type of unit that will come on the Associated Monster GT, which we believe shares this powerplant).

Handling: B-

Schumacher makes no bones about the fact that the NF is designed to go fast. However, we were surprised at how well the car handled the fast KZ Speedway layout (we had to drive the entire course to get the main straightaway for speed runs, right?). Even with the hard compound "speed" tires, the NF had decent traction and it handled well.

Speed: A

This is why you bought the Nitro Fusion! A .21 in a 1/10-scale sedan, what at first seemed ridiculous, actually turned out to be a pretty drivable car that just happens to be the fastest production nitro sedan on the planet. When the stock gears are used, Schumacher claims that the NF will hit a top speed of about 65mph. Our radar gun had the car pegged at just under 60mph on the long KZ straight. Unfortunately, the NF eats up real estate rather quickly and we ran out of room just before the car could top out. Our estimate is that the car will most likely top out at Schumacher's claimed 65mph. And as for the boast of 80mph that you've probably seen in Schumacher's ads, we'll be taking the geared-up NF out to a drag strip in next month's issue to see if it can live up to the claim.

SPECS

Price:	$399.99 (varies with dealer)
Length:	16.5in/420mm
Width:	7.87in/200mm
Wheelbase:	10-10.2in/256-260mm
Track (f/r):	6.9in/176mm
Weight:	1850g
Chassis:	aluminum plate
Suspension:	double-wishbone, independent
Drivetrain:	belt-driven 4WD
Diff(s):	adjustable ball diffs (F/R)
Damping:	aluminum oil-filled shocks
Bearings:	34 ball bearings
Tires:	Schumacher blue compound rubber slicks
Wheels:	12-spoke white nylon

Final Score

Highs: The Thunder Tiger .21 turned out to be a great match for the Nitro Fusion chassis; the power is awesome, but doesn't make the car an undrivable monster. The quality and adjustability of the chassis is also very high.

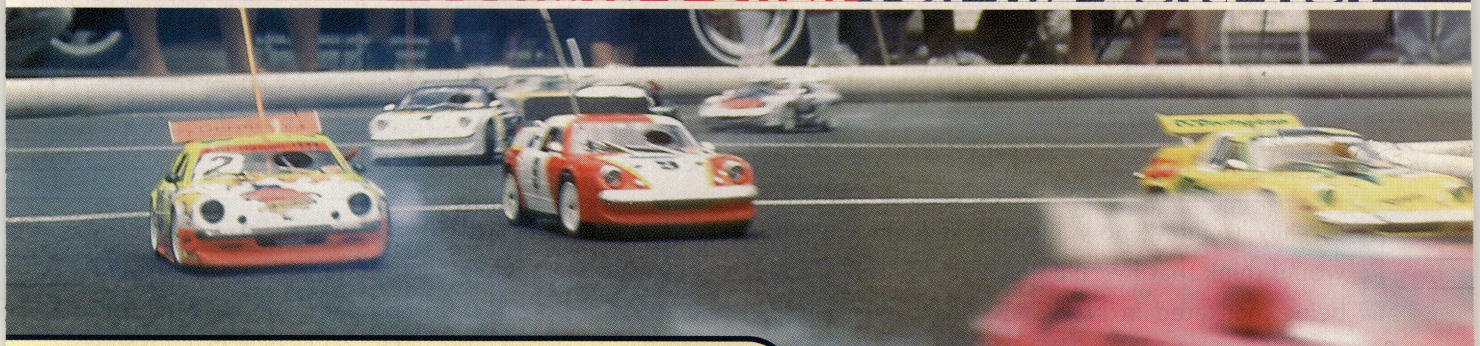
Lows: While the kit tires are claimed to be good for speed runs, they do leave a little to be desired everywhere else. The 3-speed tends to shift to early from first to second, and we could not adjust it to shift later.

The verdict: If you're a street racer, then we can guarantee that no other car on your block will ever be able to shut down the Nitro Fusion. What we thought was going to be a speeding oddity turned out to be a very fun and easy-to-drive nitro sedan—just with twice the power!

SOURCES

Airtronics, 1185 Stanford Ct., Anaheim, CA 92805 • (949) 978-1895; fax (949) 978-1540
JR Racing, distributed by Horizon Hobby Distributors, Inc., 4105 Fieldstone Rd., Champaign, IL 61821 • (217) 355-9511
PROTOform Race Bodies, P.O. Box 456, Beaumont, CA 92223 • (909) 849-9781
Schumacher USA, Inc., 6302 Benjamin Rd., Suite 404, Tampa, FL 33634 • (813) 889-9691; fax (813) 889-9593

TOP RANKED TOURING POWER FOR THE LONG RUN



12TR Series

Any engine looks good when it's brand-new. But how's it going to look a few months from now, after the "new" has been burned out of it? After it's been leaned out (maybe a little too much?) and repeatedly been asked for race-winning performance?

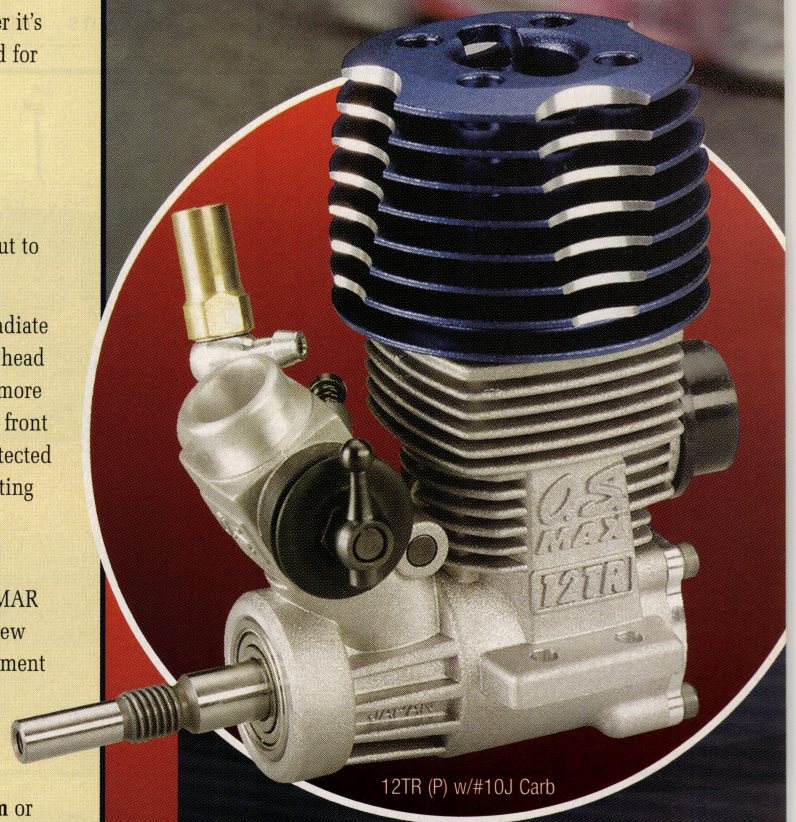
If it's an O.S. 12TR, it's going to look like one of the best investments you've ever made.

With a top end of 1.1 bhp, 12TRs offer 10% more touring power than .12CV-Rs. And 12TRs will hold that edge, because O.S. has gone all out to defeat heat and wear — even to using color to cool better.

The high-hat, flow-through head is a dark blue, because dark colors radiate heat more efficiently than light colors. Everything from the top of the head to the crankcase is finned, for the simple reason that more fins equal more cooling area which equals better performance now and later. The D11 front bearing has been redesigned to reduce friction still further, and is protected against binding by heavy-duty webbing that prevents heat from distorting the crankcase. A chrome-plated piston liner is the last line of defense against heat and wear — but just the first of the performance features.

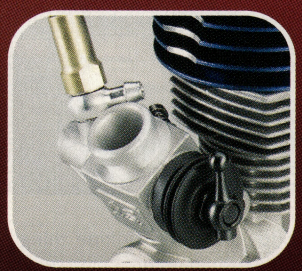
Others include carbs with 5.5mm bores (the maximum allowed by IFMAR rules), plus a screwdriver-adjustable needle valve, mixture control screw and throttle stop screw — a balanced blend of brute power and adjustment finesse. A #102 Air Cleaner is standard equipment, and so is a front-intake/rear-exhaust configuration that all but does away with turbulence.

To get a grip on the touring engine that lasts, visit **www.osengines.com** or call 1-800-682-8948 and mention code number #2947P for the location of the dealer nearest you.

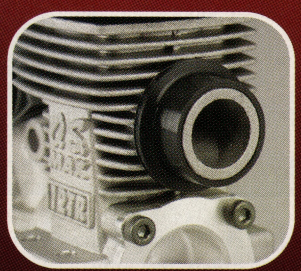


12TR (P) w/#10J Carb

OSMG2001 12TR w/#10M Rotary Carb
OSMG2002 12TR w/#10J Slide Valve Carb
OSMG2003 12TR (P) w/#10M Rotary Carb
OSMG2004 12TR (S) w/#10J Slide Valve Carb



12TRs for 1/10 scale touring include a model with a #10J slide valve carb and built-in pilot shaft, and one with a #10M rotary carb for short-shaft applications.



The straight line between front intake and rear exhaust let air pass through naturally. The round rear exhaust port is ready for a performance-boosting manifold and tuned pipe.

O.S.® ENGINES

www.osengines.com

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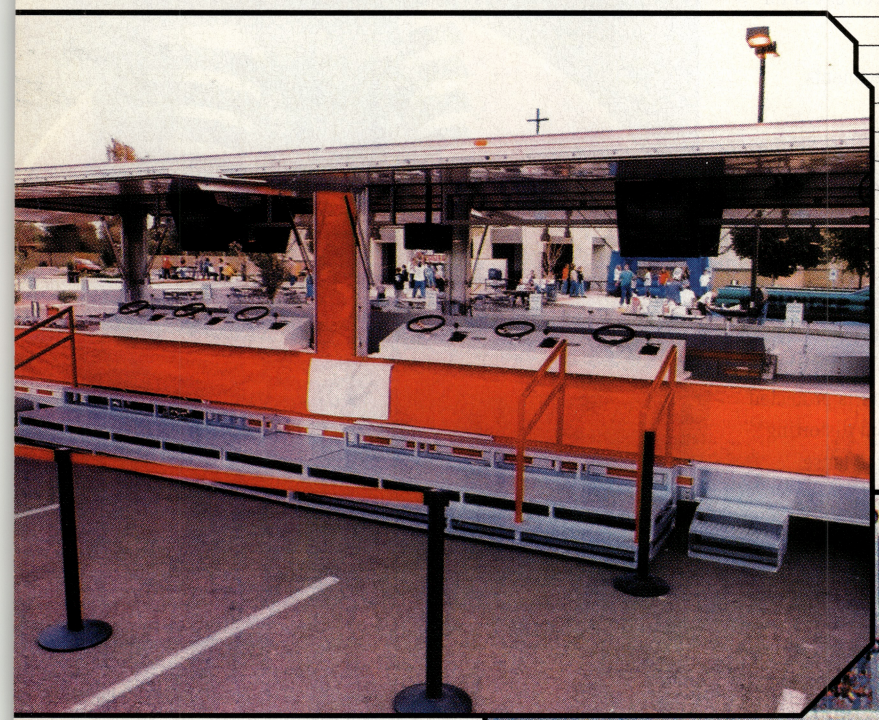
R/C Cars as

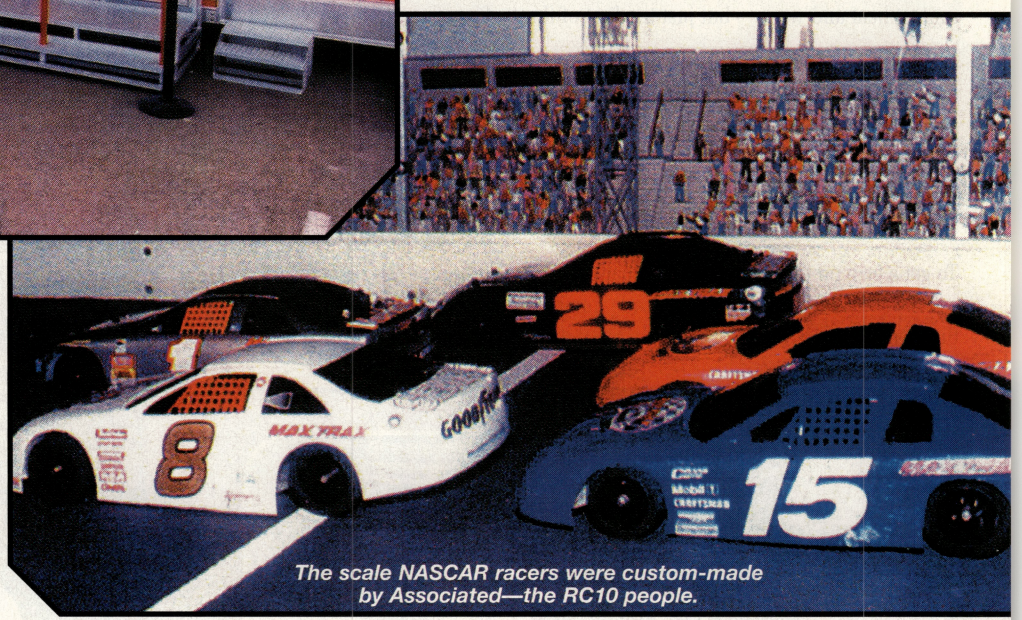
Max Trax Racing thinks so

It really is funny how intertwined life is. Who would think that I would find a story on R/C cars being marketed in NASCAR at a bicycle shop? See what I mean? It's like the Kevin Bacon connection. I keep trying to tell you that the recreational world is more connected than you might think.

My good friend Dennis Davis, who owns Europa Bicycles [(818) 883-4735, for good bike deals], told me a while back that his long-time friend had started a promotion company and he was now a partner in the company. He told me a little about it a few months ago, and just now it dawned on me (I'm a slow thinker sometimes) that this would be of interest to you.



Self contained: the Max Trax trailer opens up to reveal a scale R/C oval racetrack complete with "grandstands."



The scale NASCAR racers were custom-made by Associated—the RC10 people.

Enter Max Trax Racing. They have come up with a unique mini-mobile R/C raceway that is housed in a cool-looking tractor-trailer rig. The trailer is 55 feet long and folds out into a 40-foot scale banked oval, complete with an announcer area, TV monitors and six driver stands. The track itself is very detailed and looks like a real raceway complete with race pits. There are even spectators cheering in the stands! You see, John McGinley used to work for Paramount Pictures doing special effects, and has always loved car racing, so put the two together and out comes this unique thing called Max Trax.

What is it, then? It's a lifelike miniature auto-racing attraction that is used at large events such as NASCAR races, county fairs, trade shows and anywhere a potential sponsor wants to get exposure on an interactive level. Take, for instance, Brand X. They are going to the Daytona 500 (I'm sure you have been to something like that before). As you know, Brand X will have to compete for

Marketing Tools?

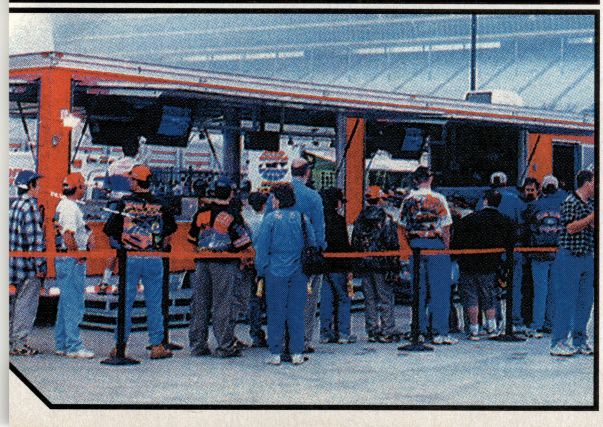
By Brian Skinner



Better than the ice cream man: hearts race when the Max Trax semi pulls into town.

Below: traditional handheld radios have been replaced by full-sized automotive controls.





Attention Companies!

You too can reach this demographic. Max Trax is now working on its 2003 schedule and they want to hear from you. And Dale Earnhardt Jr., I know you love R/C cars and read our magazine. So call your marketing boys and tell them to jump on board. Besides, it will give you a chance to dice with the local guys and not waste your half-million dollar or more car doing so. Contact Max Trax/John McGinley at (408) 423-1205 or visit them on the web at *www.max-traxracing.com*

your attention against a hundred other brands. Well, what better way to get the public's attention than to have a scale raceway that gives people the chance to be just like their favorite racer, competing on a track for prizes!

The 1/10-scale cars (which were specially designed for Max Trax by Associated) are set up to look like the current NASCAR field out on the track. Six people at a time step up to the drivers' stand and race against each other for two minutes, while people, families, children and friends are watching and cheering on the racers. In the meanwhile, an announcer is calling the race and calling out Brand X as a sponsor—just like in a real race.

I don't know about you, but I would rather go race and have some fun than just walk around and look at booths. Although there are some other interactive displays out there, nothing I've seen compares to the Max Trax experience, or gets so many people involved at once—all thanks to R/C cars. So next time you're at an event, you might just get lucky and get a little track time in yourself!

Thunder Tiger

EK4-S2 ARTR

THE BADDEST MONSTER TRUCK GETS BETTER!

EK4-S2

The EK4 has stacked up an unprecedented reputation for rock throwing brute power coupled with excellent handling for a truck of this size.

Now with new goodies driven by your input such as a completely new Pro-70BX Nitro engine, a new head design, and new carburetor design for easy tuning. We didn't stop there; we redesigned the differential cases to handle even more torque along with the new engine back starting plate. Top that package off with your choice of three fully painted and detailed truck bodies. Install your favorite two-channel radio, batteries, fuel, and attach the included starter probe and head for the dirt.

Like aftermarket pretty parts? Check out the Thunder Tiger ERGAL 7075-T6 anodized optional accessories designed specifically for a precision fit with beauty.



Features

- New Pro-70BX Nitro Engine, w/New Carburetor
- New Differntials
- New Starting back plate
- 1/8 Scale Factory Painted Bodies (Red, Blue, Purple)
- High Performance Manifold and Tuned Pipe
- 7 Large Capacity Shock Absorbers, 3 Front, 4 Rear
- Double Disk Brake System
- High Performance Optional Parts Available in 7075-T6 Aluminum

ALMOST READY TO RUN ARTR



No. 9447
Pro-70BX Engine

New Color Bodies



No. 6216-A1 Purple

No. 6216-A2 Blue

TTR6216-A (1,2,3)
EK4 S2 Monster Truck

Shown with red body No. 6216-A3, Wheelbase: Adj. from 315mm to 320mm, Front Track Width: Adj. from 295mm to 305mm, Rear Track Width: 300mm, Front Kick-up: 5°, Front Caster: Adj. from 18° to 25°, Rear Anti-dive: 2°, Rear Toe-in: 1°, 2°, or 2.5°, Weight 3200g/7lbs. without engine, tuned pipe, servos.

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START THE NEW YEAR RIGHT WITH A GREAT SELECTION

New! EK4-S2 ARTR

Thunder Tiger

1/8 Scale Off-Road Monster Truck 4WD

The EK4 has stacked up an unprecedented reputation for rock throwing brute power coupled with excellent handling for a truck of this size.

Now with new goodies driven by your input such as a completely new Pro-70BX Nitro engine, a new head design, and new carburetor design for easy tuning. We didn't stop there; we redesigned the differential cases to handle even more torque along with the new engine back starting plate. Top that package off with your choice of three fully painted and detailed truck bodies. Install your favorite two-channel radio, batteries, fuel, and attach the included starter probe and head for the dirt.



No. 6216-A1 Purple 572.99



No. 6216-A2 Blue 572.99



No. 6216-A3 Red 572.99

DT-10

1/10 Scale Off-Road 2WD Stadium Truck

Thunder Tiger's 1/10th Scale Off Road Stadium Truck and Buggy are offered in Almost Ready to Run or RTR. The (ARTR) version comes 90% assembled including the Pro15BX pull start engine. The RTR is 100% assembled, all you need is fuel and batteries for the radio. The glow driver, fuel bottle and plug wrench are included as well.



No. 6701 F-150 Model . .198.99



No. 6702 F-150 Model .198.99



No. 6707 Buggy Model .198.99

READY TO RUN RTR

TTR6701-F4 DT-10 Sport RTR 272.99
TTR6702-F4 DT-10 Sport RTR 272.99
TTR6707-F4 DT-10 Sport RTR 272.99

1/5 On-Road Competition Motorcycle

Thunder Tiger



TTR6529-F FM-1e 268.99

TS-4n PRO

Thunder Tiger

1/10 4WD Nitro On-Road Touring Cars

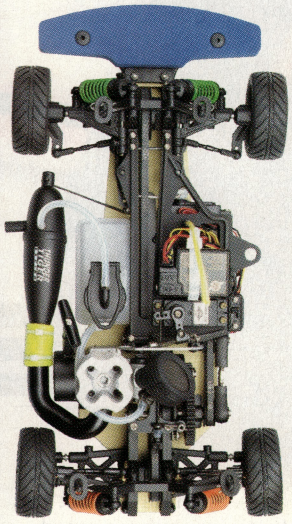


TTR6190 TS-4n Pro Kit 242.99

TS-4n SPORT SC SUPER COMBO

Thunder Tiger

1/10 Nitro On-Road Touring Cars



- 100% Assembled
- 2-channel radio installed
- Painted body w/decals
- Strong, fiberglass rein forced composite parts
- Low center of gravity
- Double foam air-filter
- Steel hubs/dog bones
- Adj. belt tension cam
- Roll-over bar/car handle
- Color coated springs
- Full array of option parts
- Triple belt, four wheel drive train(4WD)
- Single belt, rear wheel drive train(2WD)

READY TO RUN RTR

TTR61XX TS-4n Series 312.99



2-Channel Radio



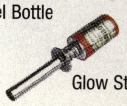
Pro-12BXSP



600cc Fuel Bottle



5-Way Wrench



Glow Starter

All Thunder Tiger painted bodies w/decal are available for TS-4 and Associated NTC-3.



Honda Acura
2N ■ No.6170-F42C
4N ■ No.6180-F42C
PD1396 Painted Body



Dodge Viper
2N ■ No.6176-TF11
4N ■ No.6186-TF11
PD1074 Painted Body



Benz AMG C32
2N ■ No.6170-F41C
4N ■ No.6180-F41C
PD1393 Painted Body



Mercedes Benz
2N ■ No.6171-TF11
4N ■ No.6181-TF11
PD1099 Painted Body



Subaru Impreza WRC
2N ■ No.6170-F45C
4N ■ No.6180-F45C
PD1405 Painted Body



BMW M3 GT
2N ■ No.6170-F43C
4N ■ No.6180-F43C
PD1399 Painted Body



Dodge Viper GTS-R
2N ■ No.6170-F44C
4N ■ No.6180-F44C
PD1402 Painted Body



Porsche 911 GT3
2N ■ No.6170-F46C
4N ■ No.6180-F46C
PD1408 Painted Body



Dodge Stratus
2N ■ No.6174-TF11
4N ■ No.6184-TF11
PD1091 Painted Body



Alfa Romeo
2N ■ No.6172-TF11
4N ■ No.6182-TF11
PD1101 Painted Body



Ford Focus
2N ■ No.6173-TF11
4N ■ No.6183-TF11
PD1065 Painted Body



Subaru Impreza
2N ■ No.6178-TF11
4N ■ No.6188-TF11
PD1068 Painted Body



Volvo S-40
2N ■ No.6170-TF11
4N ■ No.6180-TF11
PD1097 Painted Body



Opel Astra V8
2N ■ No.6170-F47C
4N ■ No.6180-F47C
PD1411 Painted Body



Peugeot 206
2N ■ No.6177-TF11
4N ■ No.6187-TF11
PD1071 Painted Body



Honda Accord
2N ■ No.6175-TF11
4N ■ No.6185-TF11
PD1095 Painted Body

MRP

1/10 Scale Off-Road Buggies



Features:
- Super Suspension
- Recharging Jack
- Air Filled Rubber Tires
- Front Wheel Steering Trimmer
- Turbo Speed

Ask your dealer about our full line of MRP products.

Batteries not included.

TB909B Mad Hero Off-Road Buggy 72.99
TB912S Wild Raider Off-Road Buggy 72.99
TB1001 Battery Set w/Charger 14.99

MRP

1/12 Scale R/C Sport Cars

TBA904BK-A
Mercedes-Benz CLK-LM



TB898Y-A
Porsche 911 GT1



TB910B-A
BMW Z8



TBA898S-A
Porsche 911 GT1



MRP 1/12 Scale R/C sport cars line are a great gift for the junior modeler. They are completed by Thunder Tiger high level process, durable PET vacuum-form, ABS injection and equipped with high quality radio. Pick a MRP 1/12 scale car today from your local dealer and have fun immediately right out of the box.



TB1001 Battery Set w/Charger Included
9.6V 600mA, 120V AC .18 A Charger, 9V Dry Battery

MRP 1/12 Series . .66.99

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DURATRAX INTELLISPEED

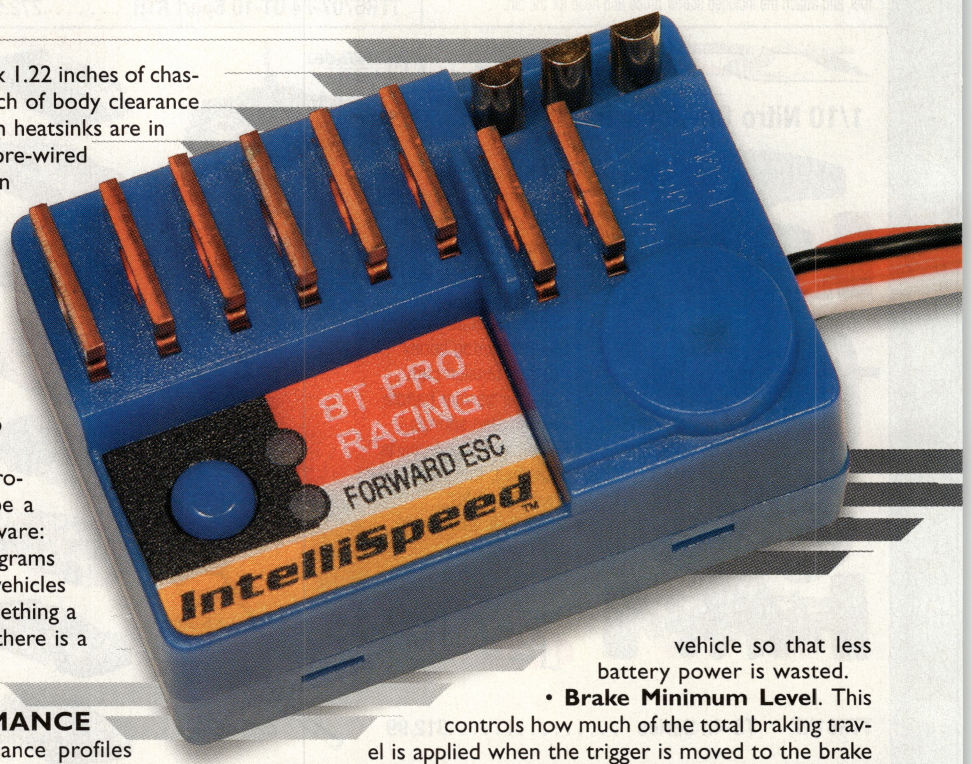
Budget-priced programmable ESC

The line between a sport-level ESC (electronic speed control) and ones that are suitable for racing applications has always been well defined. Lower-priced ESCs share many common traits such as simple forward and reverse operation, easy setup and simple plug-in installation. On the other hand, budget speed controls generally lack many of the programmable racing features found in racing ESCs, are rather large, and are often not compatible with lower-turn modified motors. DuraTrax has blurred the line between sport and racing ESCs with its new IntelliSpeed 8T Pro, a sub-$100 programmable ESC that offers versatile programming options, high efficiency and the ability to handle motors down to 8-turns.

INTELLIGENT FEATURES

The compact 8T Pro takes up only 1.73 x 1.22 inches of chassis real estate, and it only requires 0.71 inch of body clearance (slightly more when the included aluminum heatsinks are in place on the MOSFETS). The Pro comes pre-wired with an input harness for the receiver, an external on/off switch and a power wire for use with KO Propo FET-boosted servos. Unlike just about every other budget-priced ESC, however, the 8T Pro comes with solder posts that allow you to install battery and motor wires of any length you desire, and you can always change them later should you install the 8T Pro into another vehicle.

As mentioned, the 8T Pro is a fully programmable ESC, but you don't have to be a computer wizard to utilize its software: DuraTrax provides four factory-preset programs that have been tailored to suit a variety of vehicles and track conditions. And if you want something a little different than the provided settings, there is a fifth profile that can be fully customized.



PRO-PROGRAMMED PERFORMANCE

The 8T Pro's factory preset performance profiles are accessed in the Track Set-Up Mode. What makes this ESC unique is the way it is programmed: the ESC's push-button is used in conjunction with the transmitter's throttle trigger (or stick, if that's your thing). The button selects the function to be changed, and the trigger is used to scroll up (throttle) or down (brake) to select the value.

The 8T Pro offers six variables for each program.

• **Turbo**. This feature disables the ESC's current-limiting feature when the throttle is held in its wide-open position for a certain period of time. When the throttle is returned to neutral, the current limiter once again becomes active.

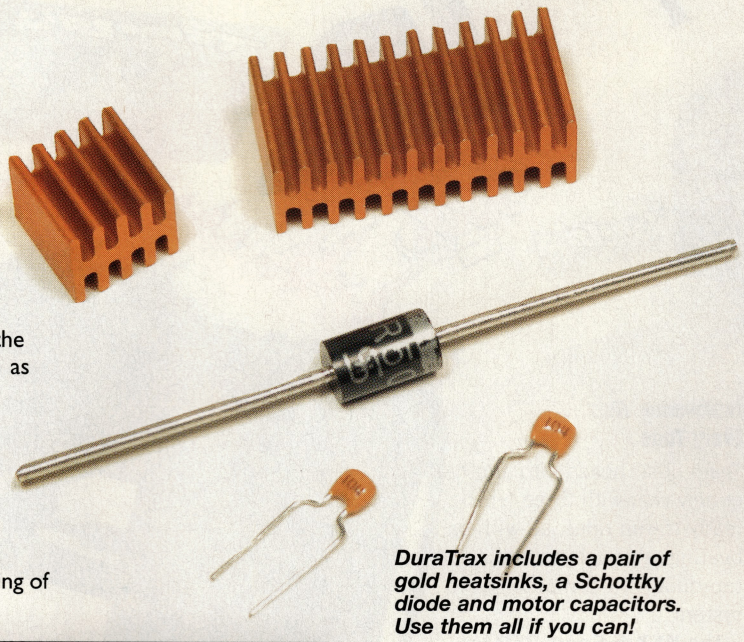
• **Current Limiting**. This limits the amount of current that can be drawn from the battery by the ESC. This ranges from 40 amps all the way to 100 amps. Current limiting is useful to control wheelspin and increase the efficiency of the vehicle so that less battery power is wasted.

• **Brake Minimum Level**. This controls how much of the total braking travel is applied when the trigger is moved to the brake position. The 8T Pro applies minimum brake in a percentage of the total brake travel. For example, the stock touring car program has a minimum brake value of 20 percent, which means that when you apply the brakes, they begin at 20 percent strength.

• **Brake Maximum Value**. This limits the brake travel, and is given in terms of a percentage of the total brake travel. For example, in the 1/12-scale On-Road profile, the brake maximum value is 40 percent of the total brake travel. This is useful in providing braking force that is more controllable for lighter vehicles or for when running on slippery surfaces.

• **Quick Start Level**. This is basically the opposite of the ESC's Turbo feature. With Quick Start, the current limiter is briefly bypassed for a predetermined period of time. The Quick Start is activated by holding the trigger in full brake for 10 sec-

8T PRO



onds before the start of your race. At the start of the race, the ESC will deliver maximum current. As soon as the trigger is moved back to neutral, the Quick Start is disabled.

• **Operating Frequency Level**. Selectable from between 244 and 15,600Hz, this changes the frequency of the ESC's duty cycle—the rate at which the transistors are turned on and off. A higher frequency smoothes out the power delivery, while a lower frequency provides a feeling of having more punch.

DuraTrax includes a pair of gold heatsinks, a Schottky diode and motor capacitors. Use them all if you can!

Program	1/12 On-Road	Stock Touring	Mod Touring	Off-Road	Default (5)
Turbo (sec.)	1	0	0.24	0.54	0
Current limit (amps)	40	100	80	60	20
Brake min. (%)	0	20	10	10	0
Brake max. (%)	40	80	60	100	100
Quick Start	Off	On	On	On	Off
Variable Freq. (Hz)	15,620	3,900	7,810	7,810	3,900

MANUAL SETUP

If one of the four factory preset programs doesn't quite meet your needs, you can make your own custom profile by accessing the fifth, factory default profile. Any of the six variables can be changed to suit your needs. And performing the actual programming is pretty simple and logical: each variable is assigned a number (1 through 6). When you enter the program mode, you use the trigger to scroll through the variable functions, confirming each selection with the pushbutton.

• **Turbo Level**. There are nine settings available from "off" to a three-second delay.

• **Current limiting**. There are ten possible current limiting settings from between ten amps all the way up to 100 amps.

• **Brake minimum**. The 8T Pro offers 11 possible settings from between zero and 100 percent of total brake travel.

• **Brake maximum**. The same options as the brake minimum settings are available.

• **Quick Start**. There are ten options for this setting, including an "on-road" and an "off-road" setting, as well as eight additional time-delay settings (in seconds).

• **Operating frequency**. There are six frequencies available from 244Hz up to 15,600Hz.

DRAG RACING

Although it's not officially called drag brakes, the 8T Pro's Auto-Brake Mode performs the same function as drag brakes on most other racing ESCs. This is a simple "on or off" feature that applies a small amount of braking when the throttle is in the neutral position. The amount of brake applied in the Auto-Brake Mode is the same as the value of the minimum brake that is selected in the profile.

FINAL THOUGHTS

With a street price of less than $90, the IntelliSpeed 8T Pro offers features and performance simply not available in any other ESC in its class. This ESC combines a compact case, high efficiency and tons of programmable features that are easy to access. If you are looking at a potential racing career, but aren't ready to make a full financial plunge, there are very few ESCs that can match the performance, efficiency, programmability and value of the IntelliSpeed 8T Pro.

Part no.: DXTM1080
Price: $87.99 (varies with dealer)

SPECIFICATIONS

Input power: 7.2 to 8.4 volts (6 to 7 cells)
Operating frequency: 244, 976, 1950, 3900, 7810 or 15620Hz
BEC: 6 volts/3.0 amps
On resistance: 0.0005 ohms
Max. constant current: 120 amps
Max. peak current: 470 amps
Motor limit: no fewer than 8 turns
Case size (w/heatsink): 1.73 x 1.22 x 0.71 inches/44 x 31 x 18mm
Weight: 1.45 ounces (w/heatsink)

SOURCES

DuraTrax, distributed by Great Planes Model Distributors, 2904 Research Rd., Champaign, IL 61826-9021 • (217) 398-6300; fax (217) 398-0008

Here's Wh

There's no finer gift than one you your track buddies, treat your-



Team Losi
XXX-T Sport RTR

READY-TO-RUN

Engineering Wins... Every Time

Team Losi® heads into another new year with three terrific ready-to-run rides, all with ball bearings throughout and a top-quality JR computer radio system.

The **XXX-S Sport RTR** features a sealed, single-belt drivetrain with easy access diffs, MIP™ CVD driveshafts for smooth, solid power transfer to all wheels, a race-quality 19-turn open endbell motor, GM Racing's V3R reversible ESC, and more.

READY-TO-RUN



Team Losi
XXX-S Sport RTR

The **XXX-T Sport RTR** uses Losi's exclusive XXX-T suspension system with hard-anodized oil-filled shocks, a rigid molded chassis with dropped center, and a fully adjustable slipper clutch that lets you tweak to track conditions. Add a top-notch 19T motor to the accuracy of GM Racing's V3R, and you've got an electric RTR truck that doesn't just exceed your expectations—it redefines them.

RC *Car Action's* 2002 Nitro Truck of the Year, the **XXX-NT Sport RTR** boasts an aircraft aluminum chassis, low stacked 4.11:1 tranny, super-tough suspension and a potent Mach .15 engine that'll have you tearing down the straightaways at a blistering 40mph.

		List	Our Price
LOSA0280	XXX-S Sport RTR w/JR Radio & GM V3R	369.99	219.99
LOSA0090	XXX-T Sport RTR w/JR Radio & GM V3R	419.99	269.99
LOSA0880	XXX-NT Sport RTR w/JR Radio & Mach .15	499.99	339.99

ACCESSORIES FOR XXX-S & XXX-T SPORT RTRs

		List	Our Price
DYN1000	Dyna-Sport™ 1500mAh 6-Cell Flat	21.95	16.99
DYN1005	Dyna-Fun™ 1500mAh 6-Cell Ni-Cd	13.99	13.99
DYN4010	Mega 1™ AC/DC Quick Charger	41.95	29.95
DYN4045	Vision Peak™ AC/DC Charger	59.95	39.95

ACCESSORIES FOR XXX-NT SPORT RTR

		List	Our Price
DYNSTART2	Gas Car Starter Pack w/Fuel	58.33	46.95

Another Championship Buggy

TQ'ing for Matt Francis at the 2002 IFMAR Off-Road World Championships, the new **XXX-4 4WD Competition Buggy** Kit is the best out there, featuring single-belt design, exclusive tuned suspension package, full ball bearings, easy access diffs and much more. Its combination of incredible performance and proven simplicity of maintenance and adjustment is unique to off-road racing, providing the thrill and performance of 4WD with the ease of 2WD.



Team Losi
XXX-NT Sport RTR

READY-TO-RUN

		List	Our Price
LOSA0014	XXX-4 4WD Competition Buggy Kit	449.99	269.99

ACCESSORIES FOR XXX-4

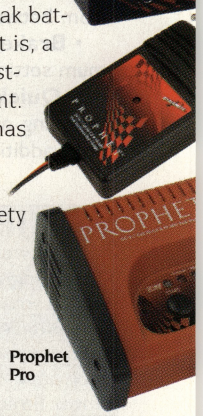
		List	Our Price
TRIP9110	P94 Modified 10T Single Motor	95.00	59.99
NOV1785	GT7 ESC	249.00	169.99
ASCLRP8082	Quantum Competition ESC	299.99	214.99
JRPSZ8450	Z8450 Ultra Speed Digital Steering Servo	159.95	114.95
TRINT3106	Panasonic 3000 VIS Team 6-Cell	134.99	84.99

Predicting A Perfect Charge

The Prophet series is Dynamite's latest wave of peak prediction chargers, the result of advanced peak prediction circuitry that calculates exactly when the peak battery voltage will occur—that is, a 100% charge—and stops fast-charging at exactly that point. The AC/DC **Prophet Plus**™ has versatility, flexibility and style, letting you charge a wide variety of packs from 600mAh receiver packs to 3000mAh Ni-MH car packs at

Prophet Plus





Prophet Pro

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You can shop at a **store**: call **1-877-504-0233** for a hobby shop near you, by **phone @1-800-338-4639**, or **online @horizonhobby.com**

To get on our mailing list: Call us toll-free to get our Quarterlies and catalogs. **To order direct:** Order online or call toll-free. We accept American Express, VISA or MasterCard. For mail-in orders, we also accept personal checks or money orders, but personal checks will be held for bank approval. Sorry, no COD. Please add $6.95 shipping and handling charge. Sales tax applicable to CA and IL residents. Next day and two day air shipments available for an additional charge. International orders, call for shipping charges. Prices valid through January 31, 2003. Price, availability and specifications are subject to change. Horizon Hobby is not responsible for inadvertent errors in this ad.

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		List	Our Price
DYN4008	Prophet DC Peak Predict Charger	29.99	24.99
DYN4036	Prophet Plus AC/DC Peak Pred. Chgr	59.99	39.99
DYN4047	Prophet Pro DC Peak Pred. Chgr	69.99	49.99



Team Losi XXX-4 4WD Buggy

Stylin' Systems

Now there are two new updated computer systems that provide the precise, unparalleled control synonymous with JR. If you want to go all out, the top-of-the-line 3-channel, 10-model memory **R-1 Pro FM** selectable radio offers a 128 x 64 dot matrix LCD screen with over 8000 points, as well as new progressive steering rate, optional fast frame rate and gold accents. The 3-channel, 3-model memory **XR3i FM** adds new expanded software to its competition-ready array of features like servo travel adjustments and JR's unique Direct Access Trims™. Plus, the tried-and-true **XR2 AM** gives you a 2-channel, 2-model memory system you can count on.



Prophet

		List	Our Price
JRP3340**	R-1 Pro FM TX & RX Only w/Module	559.95	399.95
JRP3342**	XR3i FM Pistol, 1-Z590M & 1-Z250	599.95	439.95
JRP212127	XR2 AM Pistol, 2-Z250, 27MHz	129.95	99.95
JRP212175	XR2 AM Pistol, 2-Z250, 75MHz	129.95	99.95
JRP212675	XR2 AM Pistol, 1-Z250, 75MHz	229.95	169.95
JRP232175	XR2 AM w/ESC, 1-Z250, 75MHz	229.95	169.95

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3.2.1.. Ignition!

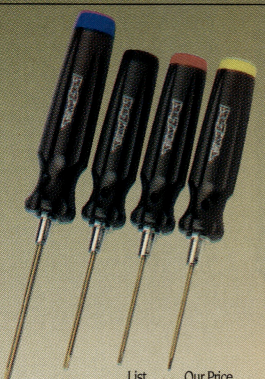
Dynamite's **1/24-scale Rocket Racer RTRs** fit right in the palm of your hand and come completely ready to race from the box, including a fiberglass chassis, pistol grip radio, body clips and more. Handling can be adjusted with the radio's steering rate dial, so you can get quicker turning response on tight S-turns, while not overcranking on big sweeping oval courses. Available in six colors and four painted body types, decals sold seperately.

		List	Our Price
DYN8101	Rocket Racer: SX-GT1	199.99	139.99
DYN8102	Rocket Racer: P-GT1	199.99	139.99
DYN8103	Rocket Racer: MCF1	199.99	139.99
DYN8104	Rocket Racer: C-DTM	199.99	139.99



Dynamite 1/24 Rocket Racer RTRs

Team Losi Race Wrenches



Team Losi's hard-anodized Race Wrenches feature drill-blank steel tips with tough titanium-nitride coating. Available in sets or individually.

		List	Our Price
LOSA99100	Losi Race Wrench: 1/20in		13.99
LOSA99101	Losi Race Wrench: 1/16in		13.99
LOSA99102	Losi Race Wrench: 5/64in		13.99
LOSA99103	Losi Race Wrench: 3/32in		13.99
LOSA99104	Losi Race Wrench: U.S. 4-Piece Set	49.99	44.99
LOSA99105	Losi Race Wrench: 1.5mm		13.99
LOSA99106	Losi Race Wrench: 2.0mm		13.99
LOSA99107	Losi Race Wrench: 2.5mm		13.99
LOSA99108	Losi Race Wrench: .03mm		13.99
LOSA99109	Losi Race Wrench: Metric 4-Piece Set	49.99	44.99

Bad H.A.R.M.

A road-ripping new **Formula 1** racer is the latest on the H.A.R.M. 1/5-scale scene. With a powerful 23cc Solo 2-stroke gas engine, this big daddy stretches 35 inches in length and can roar at speeds of at least 40 mph. It boasts a tough billet aluminum chassis; durable pushrod suspension; coil-over, oil-filled shocks that provide exceptionally crisp corner handling; clear polycarbonate body and more. You may have already sneaked a peek at the price tag and noticed it's got a value to match its size. However, once you take an up-close look at the H.A.R.M.'s massive chassis, sweet Solo engine and rear diff beltdrive, you'll understand why it's worth so much.

		List	Our Price
HRE1521030	1/5 FX-1 w/Hydraulic Brakes: Solo	4399.99	2799.99



H.A.R.M. 1/5 FX-1

5325

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HORIZON HOBBY



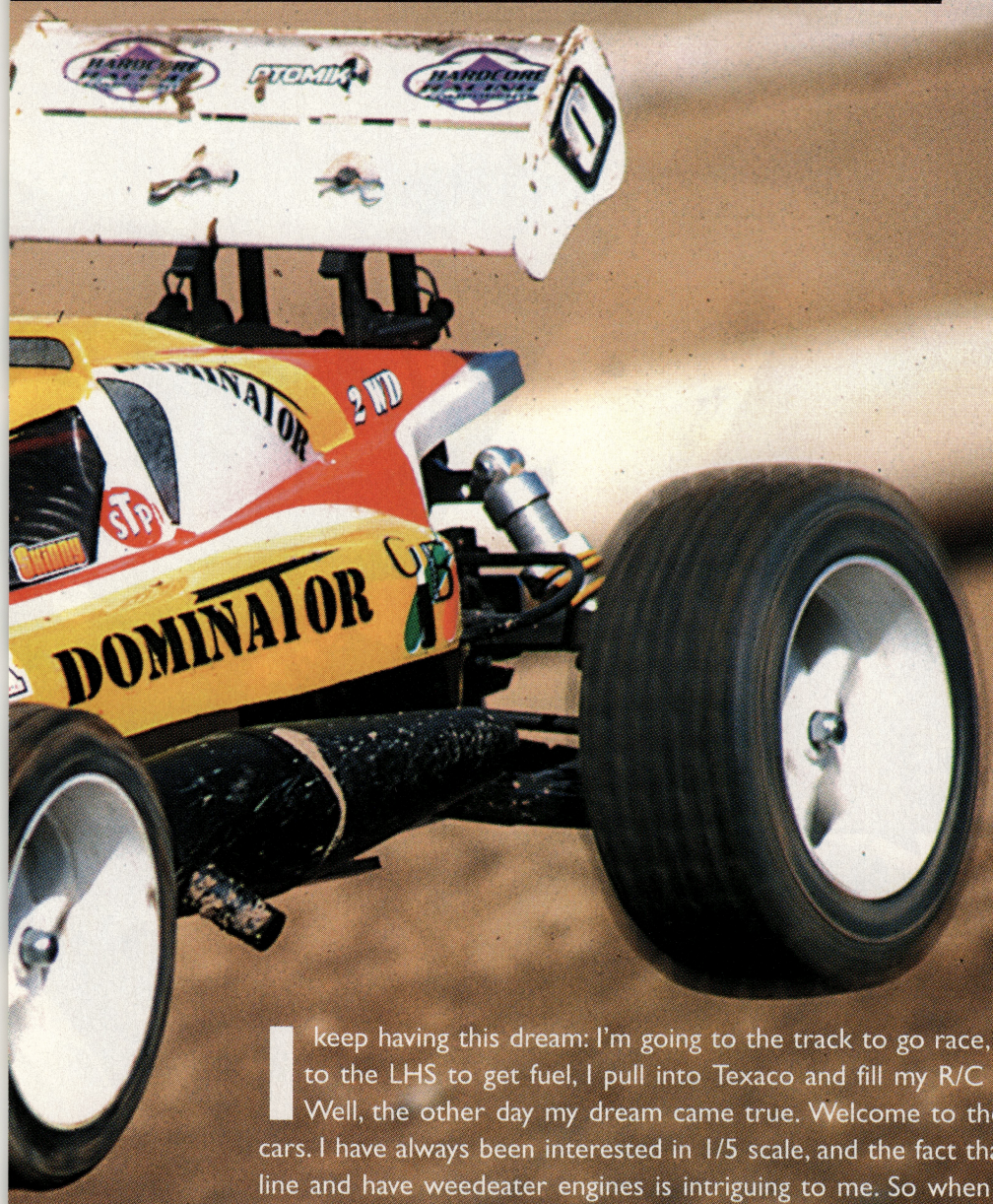
Bergonzoni

By Skinny



THE 1/5-SCALE

Dominator



I keep having this dream: I'm going to the track to go race, but instead of going to the LHS to get fuel, I pull into Texaco and fill my R/C car from the pump! Well, the other day my dream came true. Welcome to the world of 1/5-scale cars. I have always been interested in 1/5 scale, and the fact that they run on gasoline and have weedeater engines is intriguing to me. So when I ran into "Smoley" from GB Direct, I just had to get my hands on their new 1/5-scale Dominator off-road buggy. I just had to test and share this mostly European sport with you guys.

Because they aren't that popular here in the states, I am not familiar with 1/5-scale cars. In fact, I've never even heard of a 1/5-scale off-road event here in the U.S. of A., but in Europe they are big (literally)! I really do not know why this is, but after you see this beast, maybe we Yankees will jump on-board and take over the sport. When the Dominator showed up at my door, I was excited to say the least. I took the car out of the box and looked it over; it's big and it is intimidating. It looks like a 1/8-scale buggy that sat too long in Mr. Burns' nuclear plant in Springfield.

1/8-SCALE BUGGY!

WHAT COMES ON THAT CHEESEBURGER?

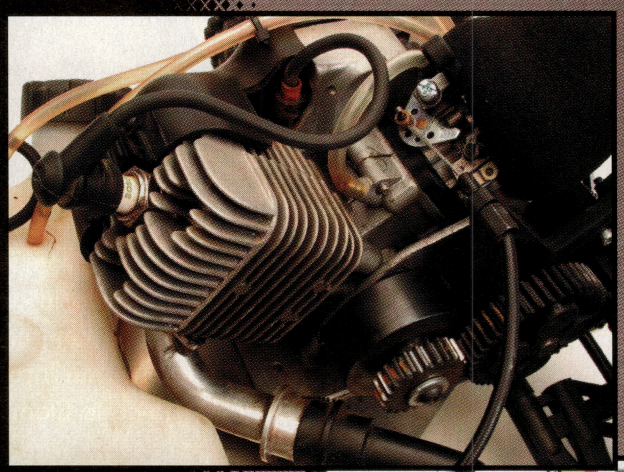
The Dominator comes in two versions: a starter model, called oddly enough, the Dominator Starter, and the one tested here, the Dominator Pro. The Dominator Pro is the hopped-up version, and comes completely built with a 23cc Boss engine, a 4mm-thick aluminum chassis, aluminum upper deck, wheels, Lexan body and wing, and gas tank. All you need is the radio equipment and some gas and you're ready to go play. All for an amazing $1075.

GASOLINE: THE LIFEBLOOD OF AMERICA

Yes, gasoline. Since this is a 23cc two-stroke engine (just like a motorcycle), you just stop at Texaco and fill up your gas can, add a little pre-mix oil and you're ready to go. Now here's the good part: gas is at most three dollars a gallon (I went for the 101 high-octane stuff), but normally it is less than two bucks a gallon. Now do the math: nitro is $25 a gallon, while super unleaded is, let's say, $2 a gallon. Hmmm? That's 12 gallons of gasoline (and hour and hours of running) for $25 versus a single gallon of nitro fuel for $25. This Dominator looks good already.

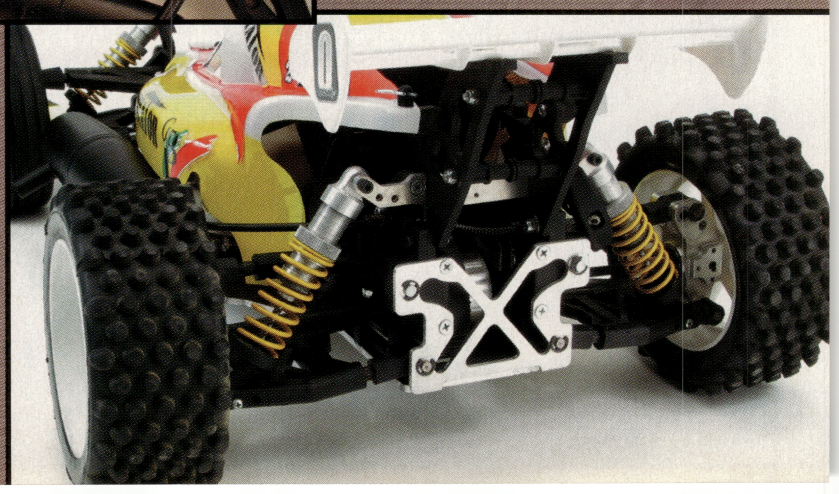
FIRE UP THAT BABY!

That was the first thing out of the guys' mouths when I showed up at the track. The Dominator comes pre-built with a 23cc engine by Boss, which looks similar to the engine in your weedeater. Breaking in the engine is easy: just pre-mix your fuel and go play! Although you do want to take it easy for the first tank—you do need to let the engine's parts seat. I might add that this baby comes with a carbon-fiber gas reed intake. To you non-throttle twisters out there, I'll make it simple: this means...more power!



Starting the engine is a dream. In fact, after you start one of these, I don't think you will want to go back to starting your nitro engine. It's like starting your lawnmower. Yes, it's that simple and easy. Our test buggy started every time on the first or second pull.

Man, oh man, what a sound, too! The Boss engine sounded mean, like a Honda CR 125. Overall, the Boss engine is great and has more power than a person knows what to do with! Most of the time I was just blipping the throttle, but if you lay into the engine, it hits warp-speed quickly and most of the time I wound up spinning out.



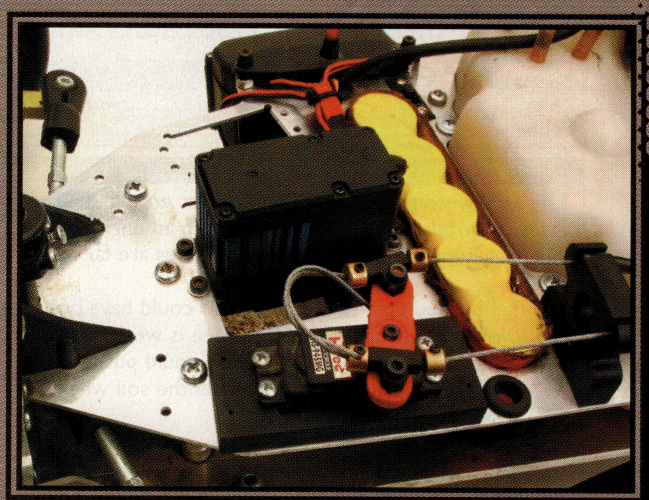
Dominator

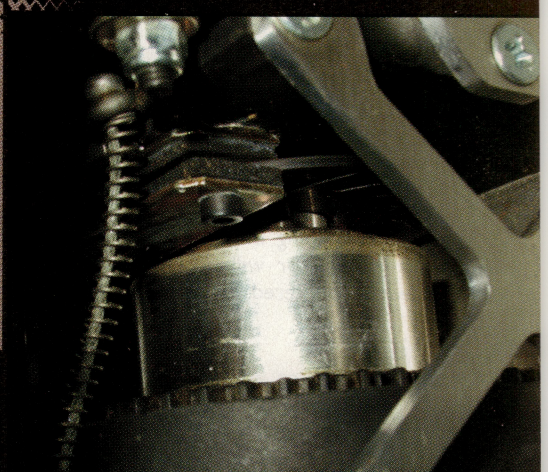


DOMINATOR IN MOTION

Time to hit the dirt! Since this thing is so big, I went to KZ Raceway [(818) 771-1003 or *kzspeedway.com*] to put in some hot laps, and of course, KZ has the largest dirt track in the country, with a straight-away that's close to 200 feet in length. I figured it would be safe to run there. Once on the track, I got goosebumps going around the track—this thing is so fast! It was hard to keep it on the track. Once it hooks up, the two-wheel-drive wants to just spin out. It puts down way too much power for hard-packed and dry conditions. I decided to water the track and try it again. It was a night and day difference! Now the Dominator was cooking, it was truly dominant now. In its element, the Dominator inspired more confidence and could be driven harder.

Trying to compare the Dominator to any other type of vehicle is hard, but here goes. It feels like a very heavy but wildly powerful 1/8-scale buggy. I'm told that wet conditions are what they race in across the pond, as Europe is a lot moister than the States, and the Dominator shows it. Surprisingly, the Dominator felt really good in the air! At 22 pounds, it was surprising how agile it felt when flying.





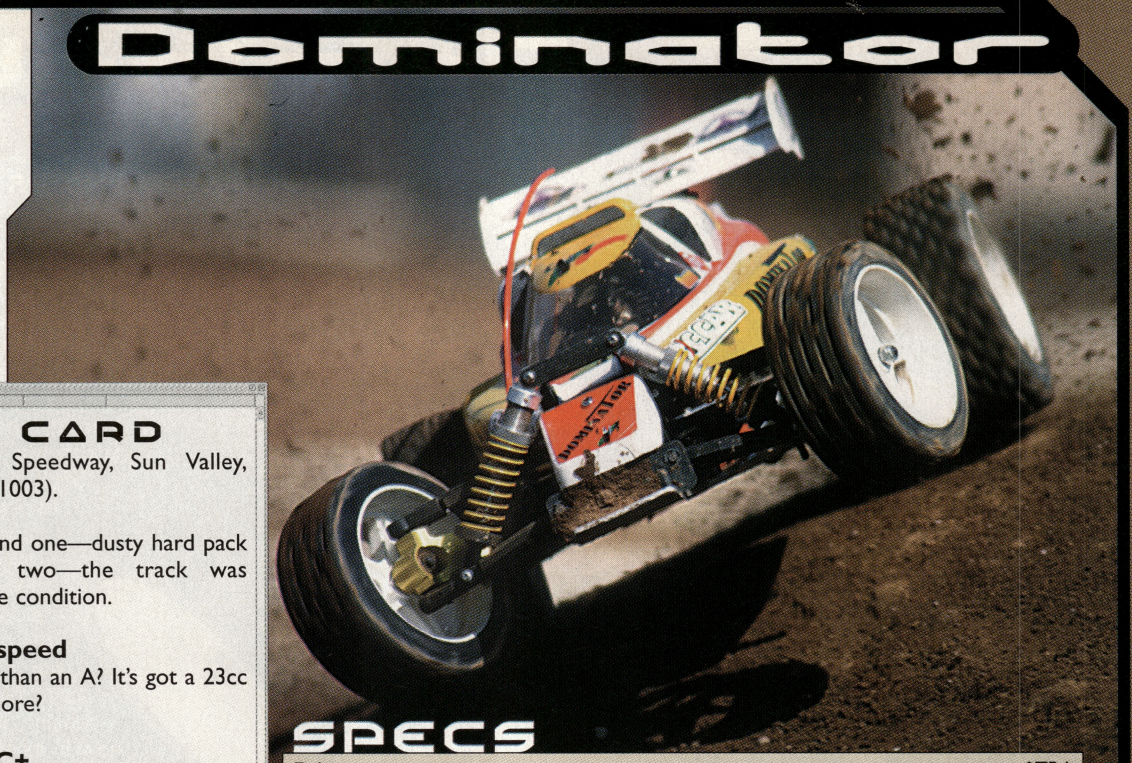
SUSPENSION: THOSE SPRING THINGS

When you look at the suspension, you know this beast is BIG. The shocks are very stiff and dwarf those found on a typical 1/8-scale buggy. By the way, did I tell you this thing weighs 22 pounds? I guess that explains why the shocks are so stiff. Once in motion, they work very well, but at slower speeds they are a little bouncy. Not really knowing how to set up a 1/5-scale off-roader, I took a stab at the setting the buggy up like I would a 1/8-scale buggy, and this seemed to do the trick. Overall, the Dominator handled predictably.

THIS THING HAS DISC BRAKES?

Well there is a disc brake setup on there, and it looks really nice, but out on the track, it was poochy! The brake sort of worked for about 30 seconds, and that was the last I saw of it. After a run, the photo guy and I had to look to see if the brake was still there—maybe it had gone to the Bahamas to rest. I tried everything to make it work, but to no avail. Sadly, this was the main problem I had with the Dominator, and to really make it work, you would have to tear down the whole back end to re-work the system. Unfortunately, we here at the mag just did not have the time to do that, so what's a boy to do?

Dominator



REPORT CARD

Test location: KZ Speedway, Sun Valley, California. (818-771-1003).

Test conditions: Round one—dusty hard pack conditions. Round two—the track was watered and in prime condition.

Acceleration and speed

Can you give higher than an A? It's got a 23cc engine. Need I say more?

Low-speed turns: C+

Overall it turned the corners well...but you had to be in the right groove. If you were gassing it, it would push. If you rolled into the corner, it would take more room to make the corner than my full size Ford 4x4 van!

High-speed turns: A

On the track at speed, the Dom tracked like it was on rails, on or off the gas. This Buggy needs momentum to make it carry through the corner. I should mention that in dry conditions, turning at both slow and fast speeds was not up to par. Out in the desert or in a large field, that's a different story.

Braking: Ahhh... Riiight (Say it like Doctor Evil)

The brake on our test vehicle was not working well at all, so I called GB Direct and they informed me that it is weak. There is a production change going on at the factory, and your future Dominator will not have the problems that we encountered. End of story.

Air time: B+

The Dominator was a rock in the air; it was stable and handled well for its size. I would not recommend doing flips or anything, but for racing or playing, it was predictable and stable.

Durability: B

At 22 pounds, you have a lot of momentum behind you. One would think that the plastic parts on the Dominator would break or have problems, especially when you get out of shape. Not so! Shhh, people; don't tell GB Direct, but I really worked the Dominator. Even to the point that I was jumping a seven-foot fence! I was doing a demo at a Monster truck race at Delta R/C Raceway up in Antioch, California. It was ugly!

SPECS

Price:	$TBA
Length:	18.75in/476mm
Width:	15.5in/394mm
Wheelbase:	14.6in/371mm
Track (f/r):	6.9in/176mm
Weight:	22 lbs
Chassis:	aluminum plate
Suspension:	double-wishbone, independent
Drivetrain:	gear/belt-driven 2WD
Diff(s):	planetary gear diff
Damping:	aluminum oil-filled shocks
Bearings:	ball bearings
Tires:	block tread (rear); multi-ribbed (front)
Wheels:	white nylon

Final Score

Highs: Awesome power from the 23cc engine; the handling and suspension are very good; at just over a grand with an engine, the Dominator is a pretty fair deal. Runs on pump gas, and run times are far longer than with nitro vehicles.

Lows: I burned up two clutches. This could have been my fault, but I'll deny any involvement. The wing-mount area is weak—I broke it right away. The header bolts came out quicker than I could put them back in. I also broke the front skid, which has a tendency to till the soil whenever the Dominator's front suspension is compressed.

The verdict: The Dominator also has potential. GB Direct does have hop-ups for the Dominator, such as front and rear disc brakes or a dual-disc rear brake setup (buy them!). They also have different bodies, made with Lexan or ABS, clutches, a race diff gearing set, and I hear they will be coming out with different tire compounds (that could help the hard-packed dirt issue). Lastly, they have a conversion kit to allow the use of T-Maxx tires. That would be interesting! Lastly, and remember now, this is a hobby; you're supposed to tinker and tweak on things; I'm sure that with some tweaking, this over-sized buggy could get so dialed that all the negative things (however few) would be negated. Well, anyone want to go 1/5-scale racing with me?

SOURCES

Airtronics, 1185 Stanford Ct., Anaheim, CA 92805 • (949) 978-1895; fax (949) 978-1540

GB Direct Inc., 2591 N.Forsyth Rd. Unit C, Winter Park Fl. 32807 • (407) 671-8833

JR Racing, distributed by Horizon Hobby Distributors, Inc., 4105 Fieldstone Rd., Champaign, IL 61821 • (217) 355-9511

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...except dust.

Futaba® 1 Year Warranty

MC400CR ESC w/Reverse



shown actual size

Start fast!

For 4-7 cells, stock motors and modifieds with as few as 10 turns.

- *Reverse for sport driving — reverse lock-out for ROAR-legal racing.*
- *Automatically reverses after a full stop — automatically switches to neutral after 8 seconds of reverse.*
- *Fully proportional braking for better control*
- *Easy, push-button set-up*
- *High-frequency 2.5kHz operation for smoother, cooler operation*
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- *All connectors factory-installed for fast, easy hook-up*
- *5V BEC to eliminate need for a separate receiver pack*
- *Ultra-compact "footprint": just 1" x 1" x 0.62"*
- *Weight without wires: 0.62 oz.*

MC800C ESC Pro



shown actual size

Finish strong!

Programmable performance for the pro racer

- *For 4-7 cells, top-level racing and modified motors with 5 turns or more*
- *Program for performance with push-button ease*
- *Sets up for instant, full-power starts with Power Start*
- *Digitally masters acceleration and traction with Power Control*
- *Adjusts braking action to track surface with Hyper Brake — provides independent settings for minimum and maximum*
- *Releasing throttle "taps" brakes — great for split-second slowdowns before cornering.*
- *Advanced SMD MOSFETS reduce weight to just 0.62 oz.*
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- *Brute, 12-gauge leads*
- *Includes heavy-duty 5.8V BEC and Futaba J receiver connector*
- *Fits on virtually any chassis — measures 1" x 1" x 0.61"*

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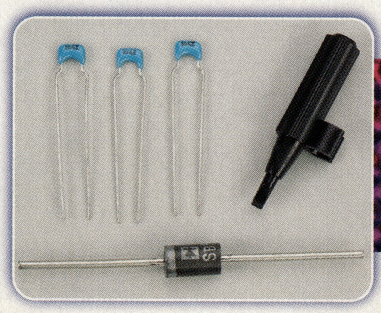

Both controls include an on/off switch, mini screwdriver, 3 capacitors, Schottky diode, double-sided tape, zip straps and instructions.

www.futaba-rc.com

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TEST DRIVE

Ferrari 360GT



In only its third season, the Rolex Sports Car Series has established itself as the premier American sports car championship. It is in the GT class in which the number 33 Ferrari of Washington 360GT races. GT (Grand Touring) machines are based on road-going street cars, but underneath the skin they are all business. The GT division, which does not allow turbocharging, is home to BMW M3s, Ferraris, Corvettes, Mazda RX-7s, Mosler MT900s and a variety of Porsches, including the GT3 R. Tamiya has faithfully reproduced the Ferrari 360GT that was raced for the first time at the Rolex 24 hours of Daytona.

"Daytona Version"



The Washington 360 did not have the best of luck its first time out. After only 32 minutes on the track, the team suffered a tire failure. It took an hour to retrieve the car, and by that time, they were 28 laps down. Once the tire was fixed, they were one of the fastest cars on the track and were making up laps quickly until a transmission problem ended their chances of a podium finish. If they had not lost three hours of time on the track to the transmission and tire failure, it is very likely they would have been contenders for the win. Since the 24 hours at Daytona, The Ferrari of Washington has gone on to win consecutive races.

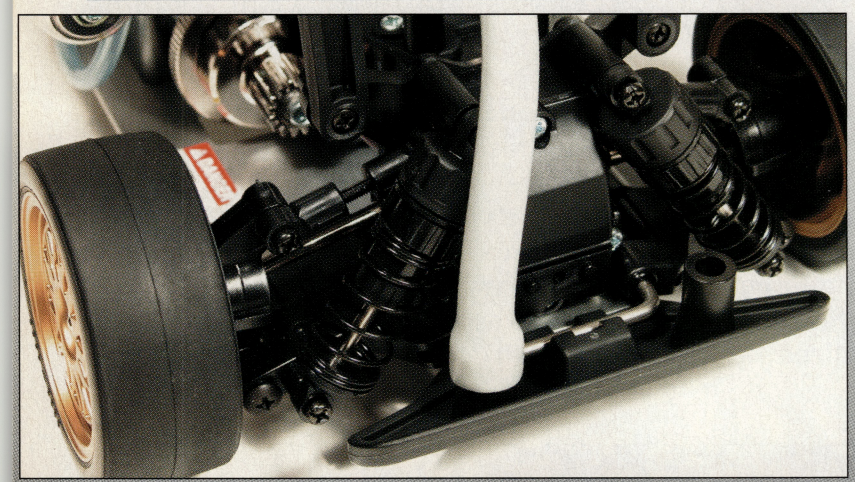


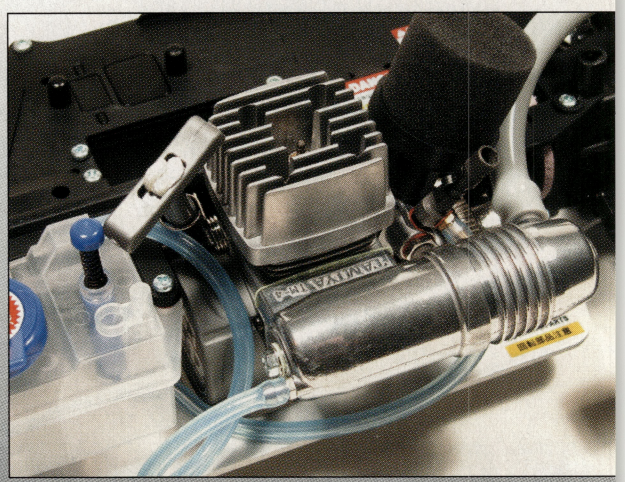
GT Class Specs

- Factory-built race cars
- Solid roof and roll cage
- Rolex Series homologated bodywork
- Aerodynamic wing
- 18x12-inch wheel diameter and width
- Working headlights and brake lights
- Six-speed transmission
- 6.0-litre maximum engine displacement
- Weight: 1,850 to 2,650 pounds, depending on engine size

OUTSTANDING FEATURES

OUTSTANDING FEATURES





Ferrari 360GT





BENEATH THE SKIN

The Ferrari 360 GT "Daytona Version" is based on Tamiya's TG-10 Mk.1 Nitro Touring car. This drivetrain has been used in several models in the past, and features a shaft-driven 4WD system that drives though gear differentials. Power is supplied by Tamiya's FS-12LT pullstart engine. Though not the most powerful engine on the market, it's a great beginner's engine, as it is easy to start and tune. The TG-10 also features a durable 2.5mm-thick aluminum lower chassis that is supported by a molded upper deck chassis plate to increase rigidity.

Past versions of the TG-10 came with bronze and plastic bushings, but the 360GT comes with full bearings. After reading our last review on the TG-10 and its lack of bearings, we would like to think that Tamiya followed our suggestion. Probably not, but we'll take the credit anyway.

Highs: Full ball bearings, incredible Ferrari 360GT body and stickers, engine included is easy for the first time nitro driver to get up and running, did we mention bearings?

Lows: We still want adjustable turnbuckles, still has play in the suspension, if you run the body in the suggested mounting holes it looks more like a rally car than a GT car.

SPECS

Price:	available at $289.99
Length:	5.9in/449mm
Width:	7.3in/185mm
Wheelbase:	10.1in/257mm
Track:	6in/152mm(f); 5.75in/146mm(r)
Weight:	3lb., 12oz.
Chassis:	aluminum plate
Bearings:	shielded ball bearings
Drivetrain:	shaft-driven full-time 4WD
Diff(s):	gear diffs front/rear
Damping:	oil-filled plastic shocks
Tires:	rubber slick w/foam inserts
Wheels:	BBS mesh-style

Accessories included: Tamiya FS-12LT pullstart engine

Accessories you'll need: Two-channel surface radio system w/two servos, glow fuel and fuel bottle, glow-plug igniter, paint for polycarbonate body, CA cement for tires, 12 AA batteries for the radio system

The verdict: The Tamiya TG10-Mk.1 is a great beginner nitro touring car. The excellent instructions help make it easy to build, and even easier to start and tune. It may not be a serious competitor out of the box, but with some hop up parts you can get very close. If you are a Ferrari fan, or just want to take a jab at Nitro touring, the TG-10 Mk.1 Ferrari 360 GT "Daytona Version" is the car for you.

SOURCES

JR Racing, distributed by Horizon Hobby Distributors, Inc., 4105 Fieldstone Rd., Champaign, IL 61821 • phone (217) 355-9511

Tamiya America, Inc., 2 Orion, Aliso Viejo, CA 92656-4200 • phone (949) 362-2240; fax (949) 362-2250

TEST DRIVE

DURATRAX



Now that RTRs (ready to runs) have nearly taken over the hobby world, manufacturers are on the lookout for the next category of vehicle to receive the RTR treatment. We already have plenty of RTR gas trucks, monster trucks and nitro sedans, but what about 2WD off-road buggies? To the best of our knowledge, the first RTR buggy was Kyosho's Ultima RB Sports, but since its release and subsequent "rise" to relative

BUILT-UP BUGGY!

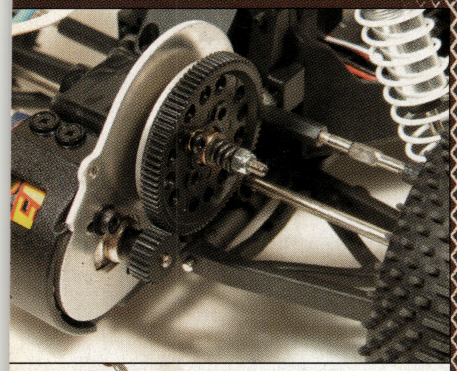
EVADER BX

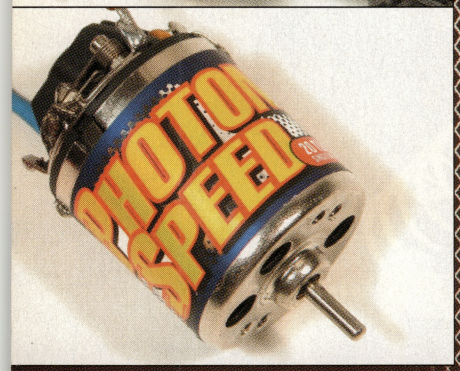


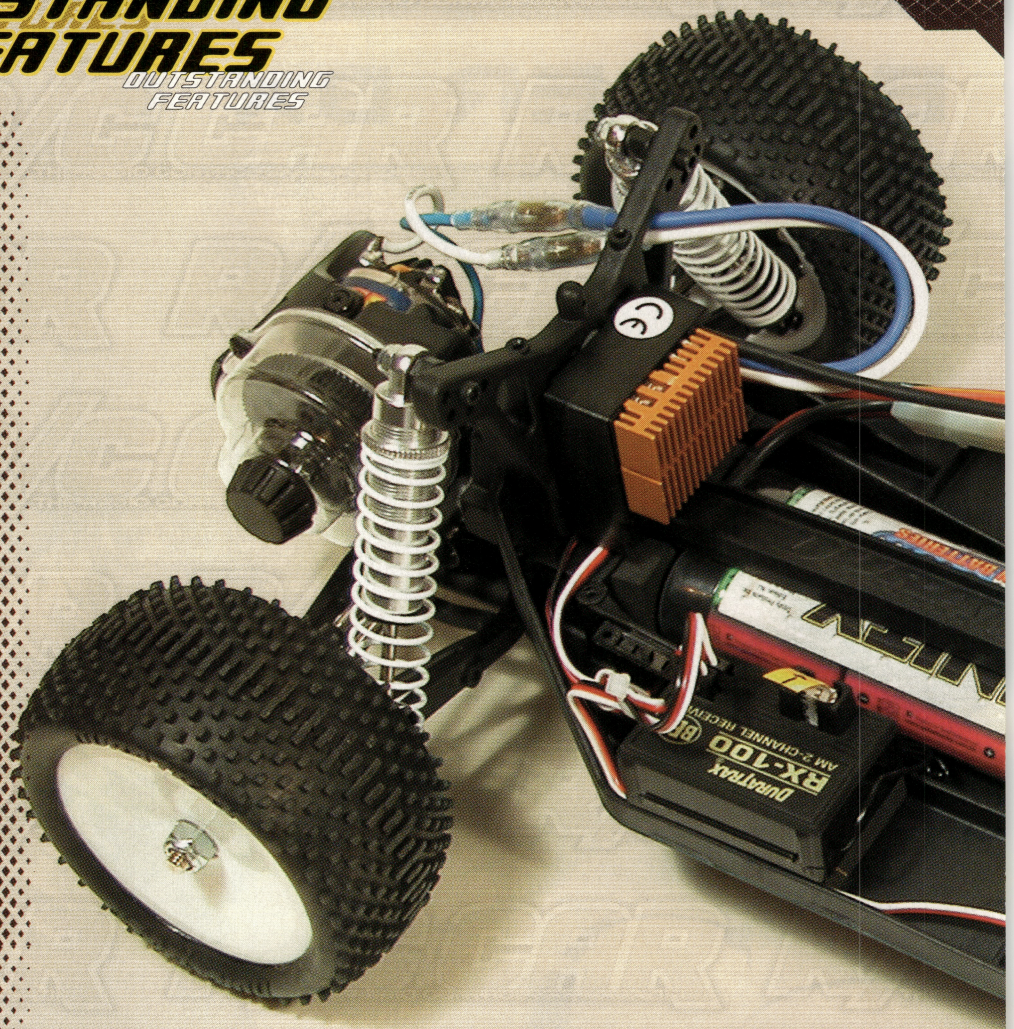
obscurity, there haven't been any additional attempts to create what could be a very popular class of vehicle. Now, DuraTrax has given us its Evader BX—a "buggy-ized" version of its Evader ST electric truck—which has the looks, the features and, most importantly, the low price to make an impact. There are two versions of the BX—a pre-built kit and a full RTR. DuraTrax sent us one of the RTR versions for a full test. Here's what we found.

OUTSTANDING FEATURES

OUTSTANDING FEATURES







DURA-TRAIN

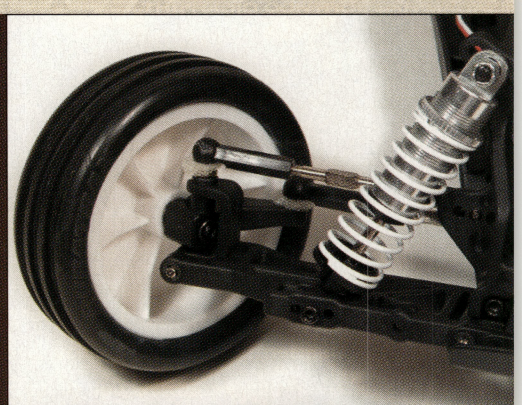
Those looking for a budget-priced buggy to begin their racing careers will find that the BX's drivetrain is loaded with features found on more expensive buggies.

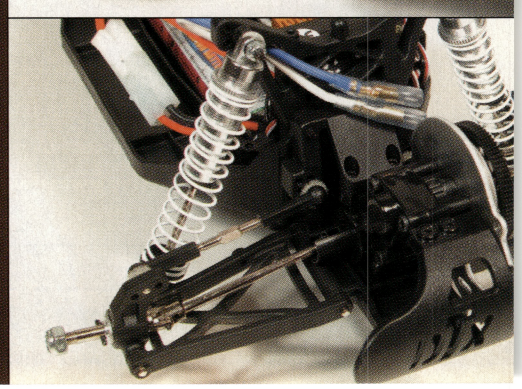
Inside the BX's sealed gearbox is a typical three-gear off-road transmission complete with an adjustable ball diff. All three gears are supported by ball bearings. In fact, the wheels are also equipped with ball bearings. It looks like the old bushing days are long gone. On the outside of the gearbox is an adjustable slipper clutch (it's a single-disc design rather than a Losi-style dual-disc) that's mated to an 81-tooth 48-pitch molded spur gear.

DuraTrax even provides a mild modified Photon Speed 20-turn motor. Unlike most kit motors, the Photon Speed is an open endbell, rebuildable racing motor. To protect the motor from rear-end collisions, the BX comes with a large molded motor guard. The included 23-tooth pinion gear is a nice touch (it provides a good ratio for the 20-turn motor), as are the steel universal-joint driveshafts that send power out to the rear wheels.

RACE-READY SUSPENSION

When your skills as a driver improve, the BX will grow with you, thanks to its fully adjustable suspension. All of the molded pieces fall under DuraTrax's Stress-Tech one-year warranty, so if you break it, DuraTrax will replace it. You can set the car's shock position (in both the tower and the lower arm) and thanks to the included steel turnbuckle tie-rods, camber and front toe-in are a snap to change. If you really want to become a chassis-tuning guru, the BX offers several different positions in which to mount the upper camber rods. The front hubs have a combination ball-stud/kingpin that is the current rage among off-road race vehicles. Altering the placement of the two plastic spacers that position the rear hubs in the lower arms can also change the car's wheelbase. Damping is provided by DuraTrax's Rapid-Tune aluminum shocks, which have threaded cylinders that let you change the springs' preload (and the car's ride height) by turning a knurled aluminum nut.



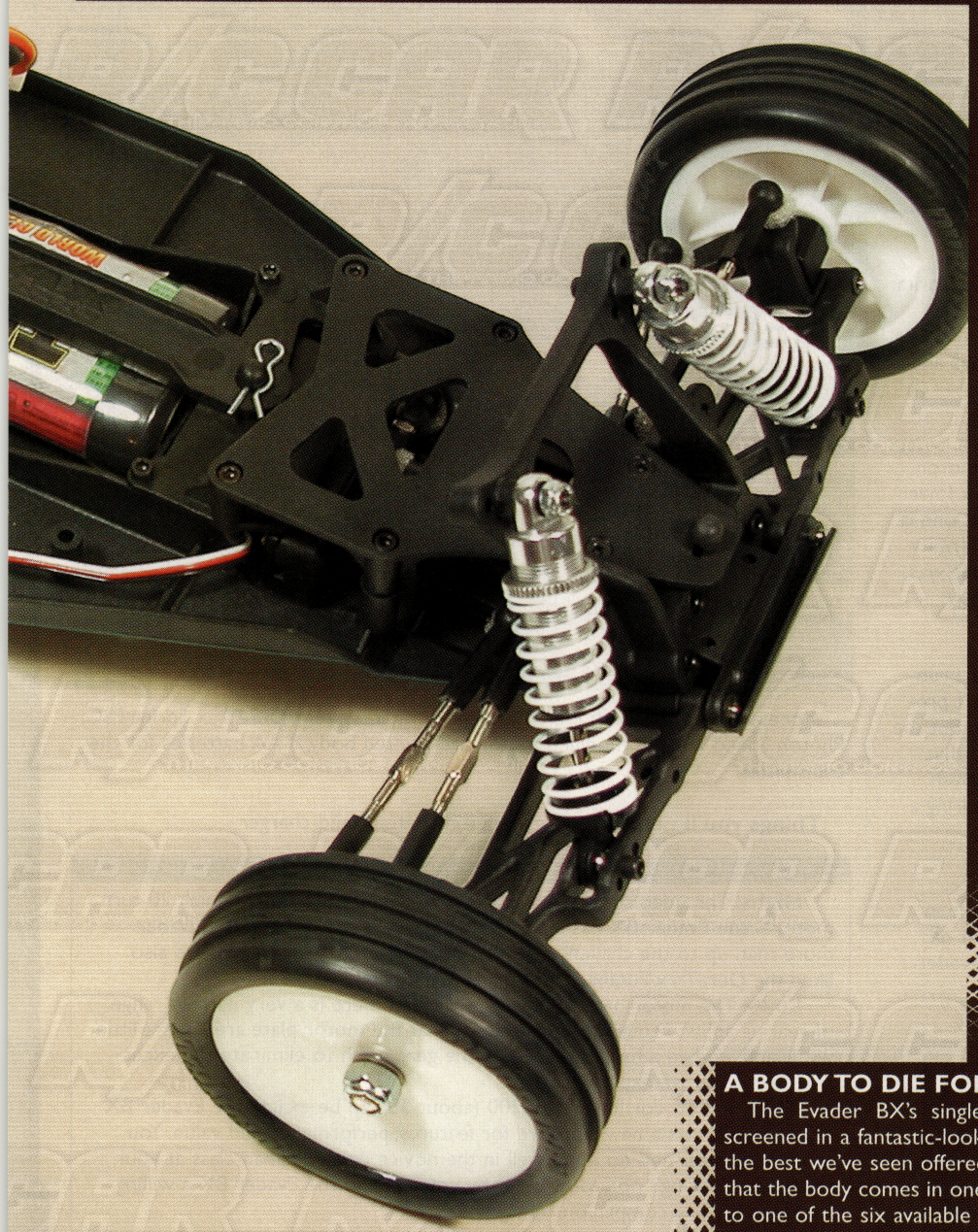


EVADER BX

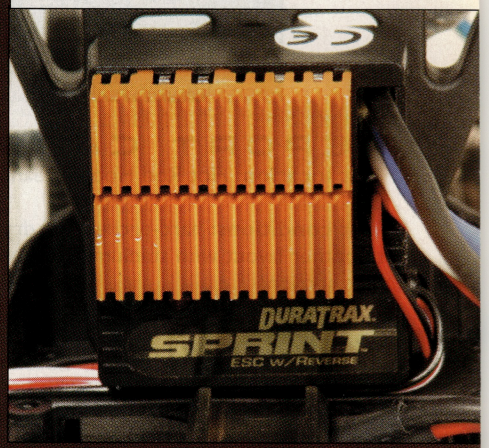
SUNKEN TUB

When we first saw the Evader ST truck, we instantly recognized the source of its inspiration, the old Team Losi Double-XT truck. With the Evader BX, we had the same reaction, except that it resembles the old Double-X buggy. But because neither vehicle is a carbon copy, nor are they similar to the new Losi Triple-X vehicles, we don't see the harm in judging them on their own merits.

The BX has a shorter version of the ST's molded-composite tub-style chassis, which has a central battery "tunnel" that places the battery pack closer to the ground while keeping the sides of the chassis higher so that they won't scrape during cornering. The front suspension bulkhead and rear suspension plate are separate pieces so that in the event of a catastrophic crash, the main chassis should endure. A molded upper deck that also stiffens the steering bellcranks braces the front portion of the chassis







PISTOL-PACKIN'

Included with the RTR version of the BX is a Futaba-made two-channel radio system that includes a high-quality pistol-grip transmitter with such features as dual-rate steering, servo reversing and an LED battery-status indicator. The RX-100 AM receiver and SX-100 steering servo come pre-installed, as does the included DuraTrax Sprint reversing ESC, which has a JST (Tamiya) plug for the battery and a pair of bullet-style motor connectors for easy motor maintenance.

A BODY TO DIE FOR

The Evader BX's single-seater buggy body comes pre-screened in a fantastic-looking custom paint scheme—one of the best we've seen offered with a RTR. What's really nice is that the body comes in one of six colors, each corresponding to one of the six available 27-band frequencies. For example, our yellow test car is on 27.145mHz, so if we were at the track and saw another yellow BX, we'd know that it was on the same channel as ours.

EVADER BX



REPORT CARD

Test location: Hot Rod Hobbies, Santa Clarita, CA

Test conditions: hard-packed and dry dirt, smoother layout with stadium-style jumps and tech sections

Speed: B+

The Evader and its 20-turn Photon motor can really churn up the dirt! Unlike most lower-turn motors included in some RTRs, this one is a real open-endbell screamer. With the Trinity GP3300 pack we had installed, the Evader was easily as fast as a racing 2WD stock buggy.

Traction: B-

As we had thought, the relatively hard rubber tires and ultra-stiff foam inserts don't provide too much bite on hard-packed dirt. But the tires weren't as bad as we had imagined that would be. The Evader could easily be driven around the technical track without requiring a feather-light touch on the throttle

Jumping: A

The Evader flies well and is very stable in the air. Finally, someone made a RTR that has the right damping out of the box. The Evader soaks up big landings with ease.

Cornering: B-

With a comparatively weak steering servo and hard-rubber tires, the Evader doesn't carve corners quite as well as a full-race buggy, but it is respectable. Our test driver came back to the pits with good things to say about this car's handling.

Durability: A

DuraTrax has a good suspension material. The Evader's Stress-Tech suspension pieces might flex like Arnold, but the upside is that all that "rubberiness" translates into one tough hombre! Plus, there's a one-year warranty against breakage.

SPECS

Price:	$119.99 (pre-built); $169.99 (RTR)
Length:	15.5in/394mm
Width:	9.875in/251mm
Wheelbase:	10.6in/270mm
Track (f/r):	7.6in/193mm; 6.4in/163mm
Weight:	58oz
Chassis:	molded-plastic tub
Suspension:	lower A-arm, adjustable upper link
Drivetrain:	three-gear sealed transmission
Diff(s):	adjustable ball diff
Damping:	threaded-aluminum oil-filled shocks
Bearings:	ball bearings
Tires:	4-rib fronts, low-profile "bar" rears
Wheels:	white one-piece nylon, 2.2 inch dia.

Accessories included: DuraTrax/Futaba radio system, DuraTrax Sprint ESC, Photon Speed 20-turn modified motor, pre-painted body, 8 AA batteries for the transmitter

Things you'll need: 6-cell rechargeable battery and charger

Final Score

Highs: Threaded shocks, full bearings, a slipper clutch and a quick 20-turn motor – the Evader BX has a full feature list. Novices will find the Evader more than up to the challenge of curb-hopping and big-air ramps. We also liked the DuraTrax/Futaba radio; a high-quality unit!

Lows: The motor barely fits in its space, so there is a very narrow range of gearing adjustments. We also thought that the motor plate area was a little weak, and we had a hard time setting the gear mesh to eliminate the excessive gear noise we experienced.

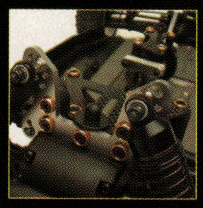
The verdict: For less than $200 (about $30 to be exact), the Evader BX is a RTR that sets a new standard for features, performance and value. You can take this car and do quite well in the novice or sportsman class at your track, and if racing's not your bag, baby, you will find the Evader BX a willing backyard bashing companion.

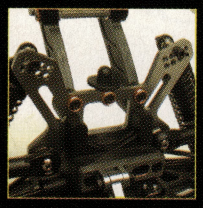
SOURCES

DuraTrax, distributed by Great Planes Model Distributors, 2904 Research Rd., Champaign, IL 61826-9021 • phone (217) 398-6300; fax (217) 398-0008

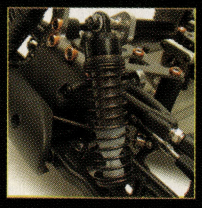
Trinity Products, Inc., 36 Meridian Rd., Edison, NJ 08820 • (732) 635-1600; fax (732) 635-1640

STORM PRO





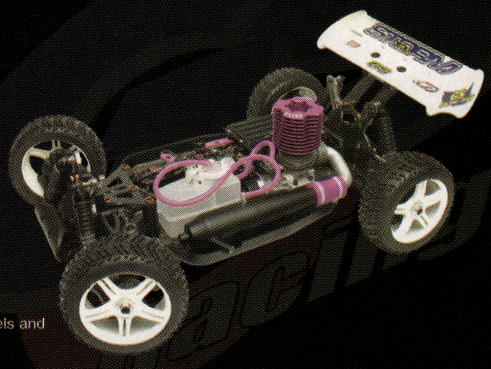




FEATURES

- 7075 T6 MAIN CHASSIS
- 7075 T6 FRONT/REAR SHOCK TOWER
- 7075 T6 FRONT UPPER SUSPENSION HINGE PIN HOLDER
- 7075 T6 3° LOWER SUSPENTION HINGE PIN HOLDER SETS
- ADJUSTABLE SERVO SAVER PIPE SET
- 7075 T6 FRONT/REAR CHASSIS BRACE
- UNIVERSIAL FRONT/REAR AND CENTER DRIVE SHAFTS
- HARD ANODIZED WHEEL HUB SET (4)
- ALUMINUM RADIO TRAY POST
- ALUMINUM WING JOINT
- HEAT-SINK ENGINE MOUNTS
- HIGH PERFORMANCE FRONT/REAR SHOCKS
- GRAPHITE RADIO TRAY, FRONT SUPPORT PLATE AND BRAKE PLATE
- FUEL TANK SPLASH GUARD
- BRAKE SPLASH GUARD
- DUAL DISK BRAKES

GS Racing



Radio, engine, exhaust, wheels and tires not included.

GS RACING

STORM PRO | 1/8 SCALE BUGGY



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Rally

The ground floor of the next big thing

Repeat after me: "FIA World Rally Championship." No, it's not some beer-guzzling fraternity chant, or some secret code for "let's get jiggy with it." Instead, it is an organization that's highly sophisticated and focused on one thing: the world rally racing circuit—undoubtedly the most kick butt, off the hook, spine tingling, gut-wrenching, most dangerous form of motor racing ever devised.



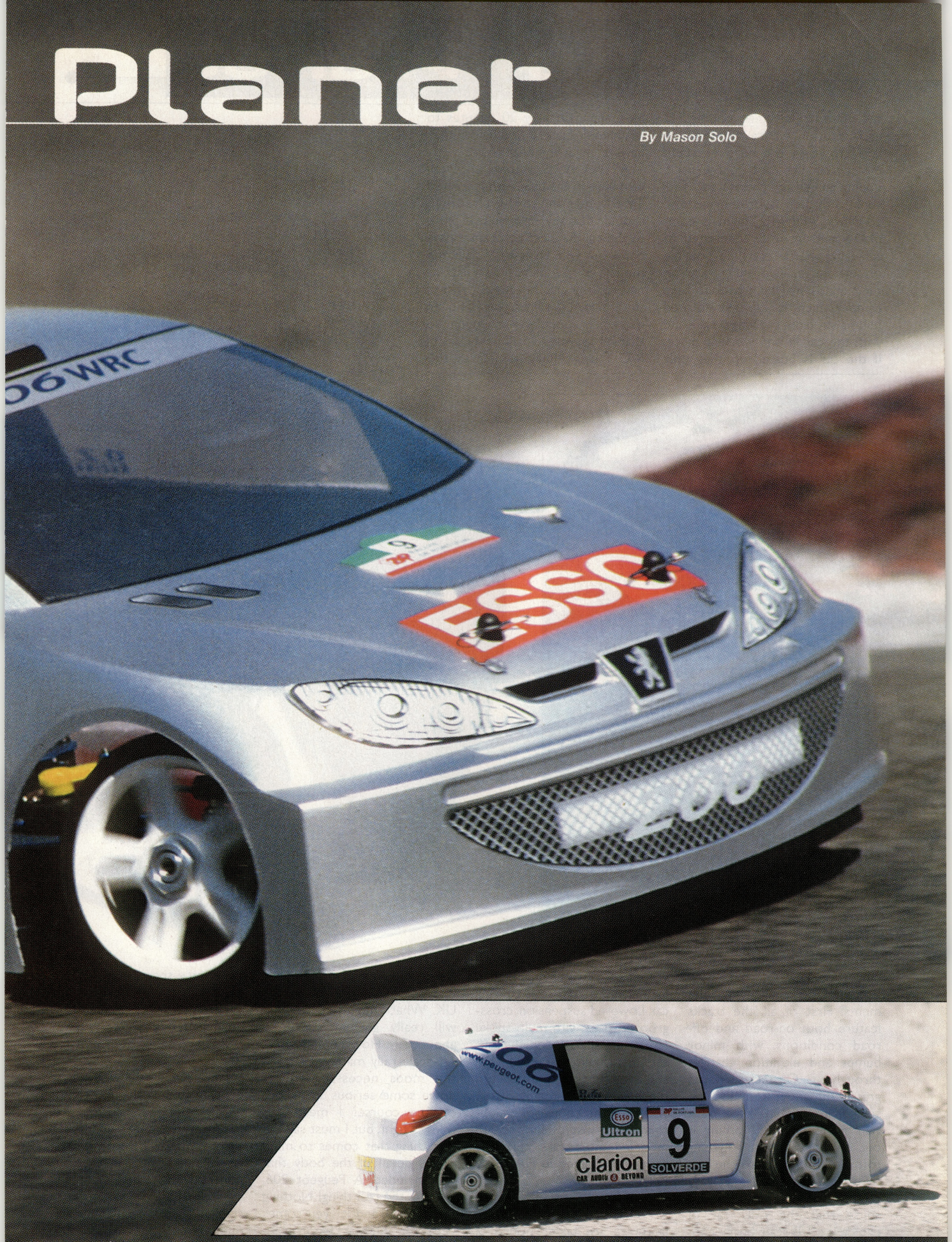
Rally racing started back Europe during the mid '40s, with the locals having fun, time trialing through the surrounding narrow mountain and canyon roads, driving nothing more than the family car—no matter what the weather or safety conditions. Since then, the FIA/WRC has become the fastest growing motorsport on the planet, especially across Europe and the UK. And for good reason. You see, rally racing has many unique qualities not shared by any other type of auto racing. The vehicles are off-the-shelf sedans or coupe hatchbacks (such as the Ford Focus, the Subaru WRX, or the Peugeot 206) with many performance mods that any Joe Six Pack can buy (if they have the dollars, of course). As for the race course, pick your favorite canyon or fire trail and find a willing co-driver to read you detailed course notes so you don't slam into a tree or, worse yet, sail off the edge of a 2000-foot cliff at 120 mph. And oh, don't forget your stopwatch, because it's all about how much faster you are than the next guy.

Now I've totally simplified the concept, but in pro FIA/WRC, you will need a lot more to play with the big boys. Three if not four working cars with full parts and supplies for each. Two helicopters for film coverage and team support, five super-size transport rigs—two of them for staff and command headquarters—and a mobile hospital and a custom-built design and fabrication rig.

Now take ten top manufacturer teams and four independent teams, including all of that stuff and staff, and ship it or fly it to 14 different exotic countries, as each month's race is in a different part of the world. At each location, the teams must

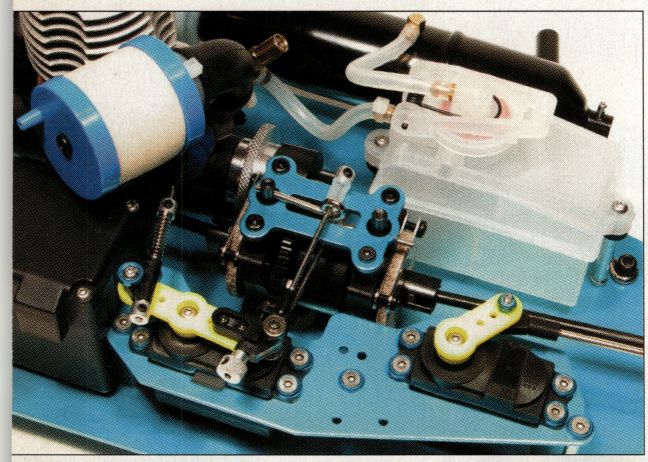
Planet

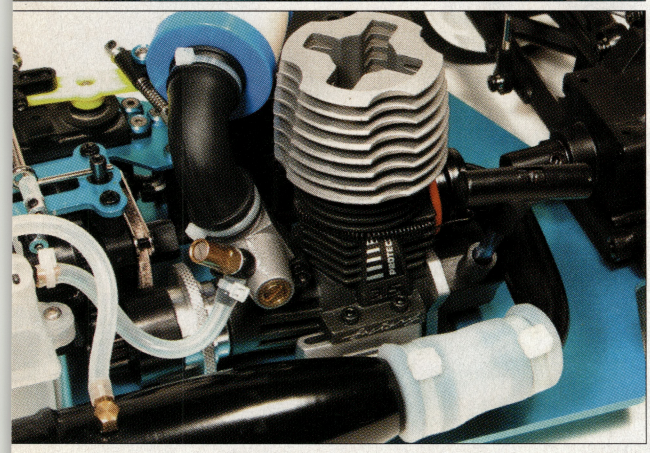
By Mason Solo

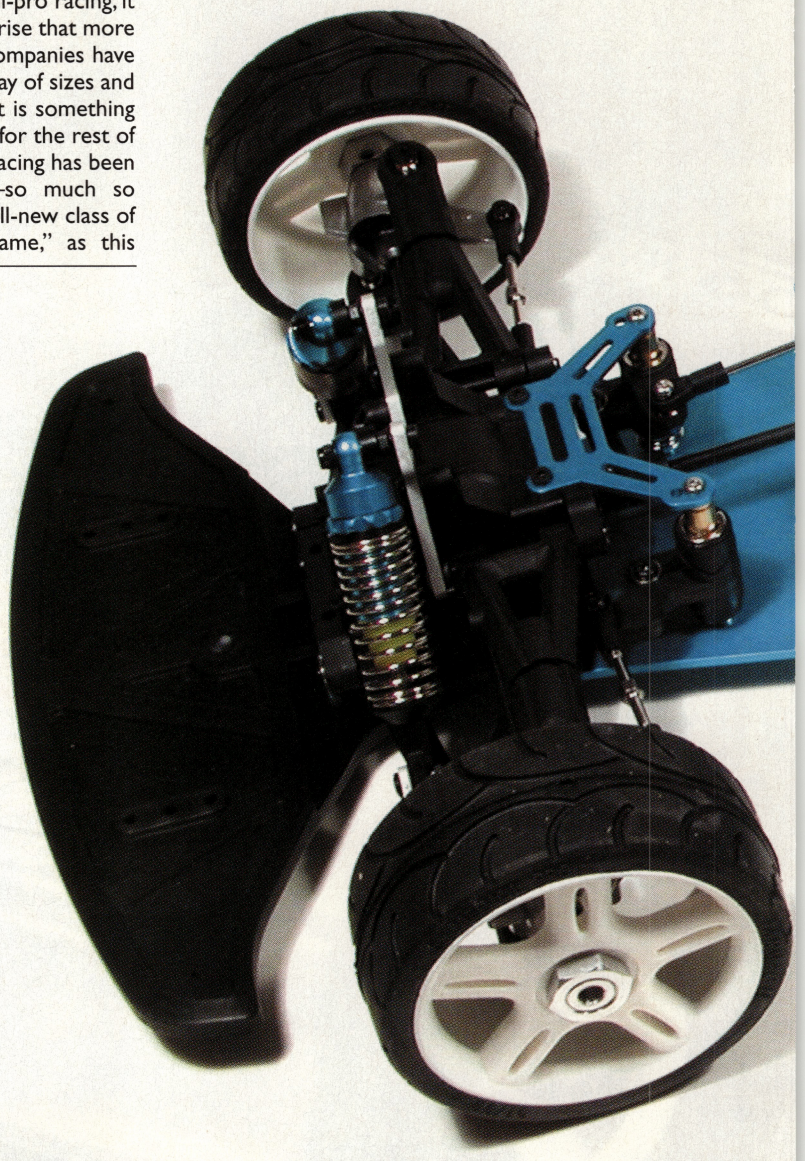


set up multiple stage courses at each location, where thousands of fans crowd at the edge or stand directly on the race course itself, hoping to get an up close and personal with their favorite driver and co-driver. And each team is completely and fearlessly dedicated to achieving the fastest time possible on the stage. Two things are on their minds: making it back to base camp (which is typically located miles away from the stage) alive and with the car in one working piece. If the car is busted up, they only have approximately 20 minutes to ready their backup ride before they have to be at the next stage.

As FIA/WRC gathers momentum here in the U.S., with increased TV coverage and semi-pro racing, it shouldn't be any surprise that more of the top R/C car companies have come out with an array of sizes and models of rally kits. It is something new for the U.S., but for the rest of the world, R/C rally racing has been extremely popular—so much so that it's spawned an all-new class of R/C racing. "Rally game," as this





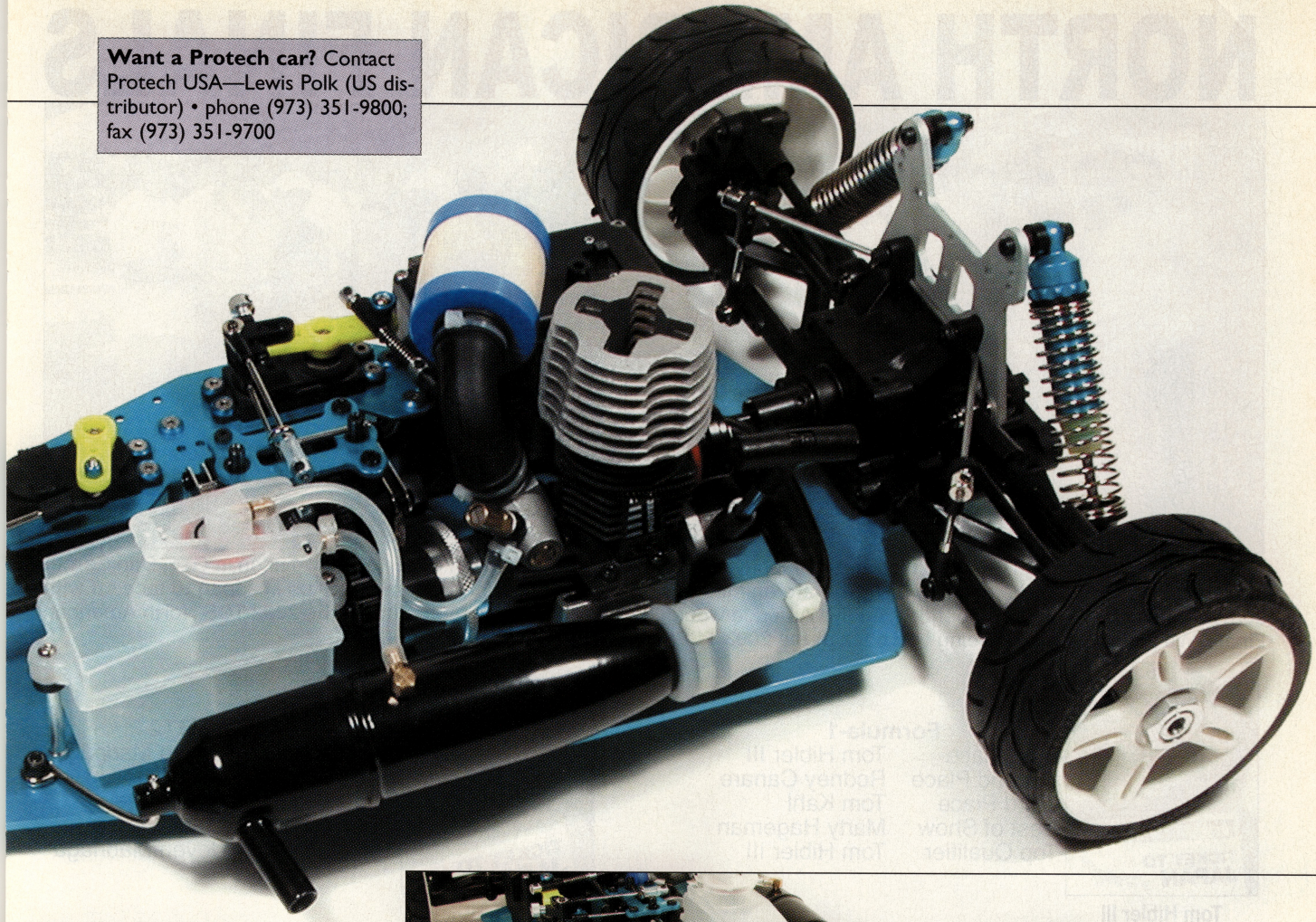


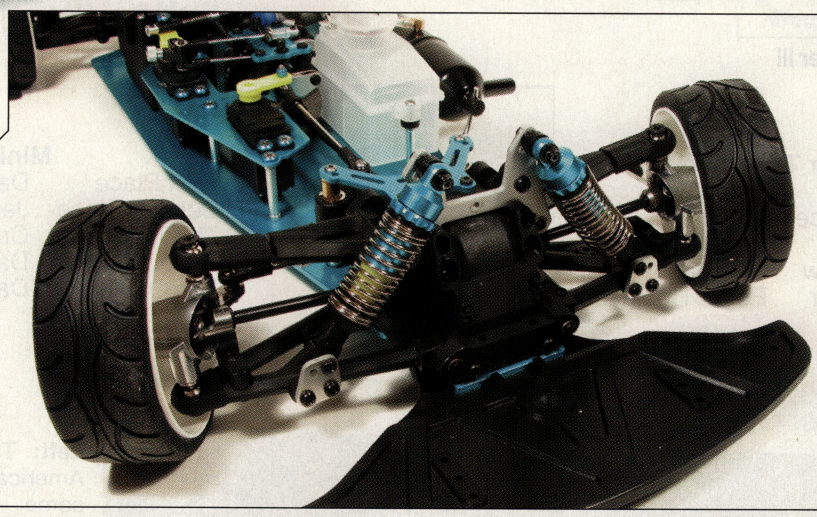
new class is called, has many exciting and challenging elements. First of all, the tracks feature both on-road and off-road conditions, with minor bumps and elevation changes throughout. Obstacles, water, grass and snow can also be seen from time to time on a rally game course. Nothing is out of the question. Anything to make it as close to the real thing, that's the saying in rally game. If that's the case, it makes sense that the rally car of choice is a 1/8-scale buggy, converted to more of an on-road format, like a 1/10-scale touring car. Lowered suspension, cross-grooved tires with multi-spoke road rims that widen the offsets, front and rear sway bars and a longer chassis are part of the equation. To top it all off, you have the choice of an on-road body, just as long as it's modeled after cars currently being campaigned in FIA/WRC rally.

As I said before, more manufacturers are taking notice of rally game. One such company is Protech Racing, out of the UK. What they've cooked up will really get you tweaked about rally. How about a RTR 1/6-scale rally machine with all the mods necessary to lay down some serious spank out on the course? I mean this thing is tight, but I must say the first thing that comes to mind is the detail of the body that was included. A Peugeot 206, just like the real thing! Nothing was missed, and it even comes with the big fat bad-to-the-bone race-spec wing. Not to mention a three-foot-long sticker sheet with all the proper decals and window treatments to really give it that finished look.

Upon a more detailed review of the Protech rally car, it became more apparent that this car was longer and wider than a typical 1/8-scale buggy: it's 1.25 inches longer than any rally conversion I had seen and a half-inch wider. Talk about a stable stance! The 6061 T6 aluminum flat chassis on the

Want a Protech car? Contact Protech USA—Lewis Polk (US distributor) • phone (973) 351-9800; fax (973) 351-9700





Protech isn't just longer than that of a 1/8-scale buggy, it's thicker at 0.180 inch. That extra material is going to help to make the car more stable and far more durable, and with rally, you want the car to be as bulletproof as possible. Sitting atop the chassis is basically a 1/8 buggy's singlespeed drivetrain with some minor changes. The sealed oil-filled center gear diff is suspended between to stout composite diff mounts, with sealed bearings and a stiff aluminum diff brace. Two over-sized composite brake disks and steel brake cams ensure the positive and precise braking needed for bigger cars like the Protech. Connecting the front and rear diffs to the center diff are two large diameter, hardened dog bones. This feature is very important, as you don't want any flexing coming from the drive shafts, when bending or snapping under heavy torque can mean disaster.

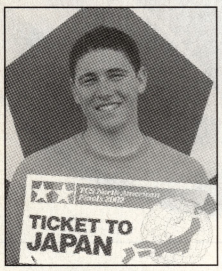
Stainless-steel universal shafts span between the diffs and the wheels. These display the same quality and durability as the center dog bones. They don't bind or click and clack, and when you roll this car on the ground, it just wants to keep on going with no binding or rubbing of any kind. The fact that this RTR Protech comes with bearings and not bushings really adds to the quality and value of this package.

Powering the Protech is nothing less than one of their signature pull-start, race tuned .21 slide-carb engines, which is capable of 50-plus mph with plenty of torque and smooth acceleration. On top of the Protech engine is a decent sized cooling head that's been glass-beaded to allow for increased heat dissipation. A nice touch on the Protech engine is an aluminum slide carb. Aluminum keeps the fuel cooler and the tuning more consistent. To fine tune the Protech .21, there are adjustments for booth high and low end.

NORTH AMERICAN FINALS



Above: Earning the top prize in each of their respective classes, Joven Madriaga in GT2, Peter Robinson in GT1, Dan Garber in M-chassis, and Tom Hibler III in Formula-1 are on their way to the Tamiya World Championships in Japan to face off with some of the World's best competition.Tamiya America would like to thank every competitor in the 2002 TCS North American Finals. We look forward to seeing you back at the 2003 TCS North American Finals



Tom Hibler III

Formula-1

First Place	Tom Hibler III
Second Place	Rodney Canare
Third Place	Tom Kahl
Best of Show	Marty Hageman
Top Qualifier	Tom Hibler III



Joven Madriaga

Touring GT2

First Place	Joven Madriaga
Second Place	Sam Hudson
Third Place	Matt Pozel
Best of Show	Jon McLean
Top Qualifier	Joven Madriaga

Super Touring GT1

First Place	Peter Robinson
Second Place	Ling-Kang Tong
Third Place	Michael Rydwell
Best of Show	Eric Hansen
Top Qualifier	Peter Robinson



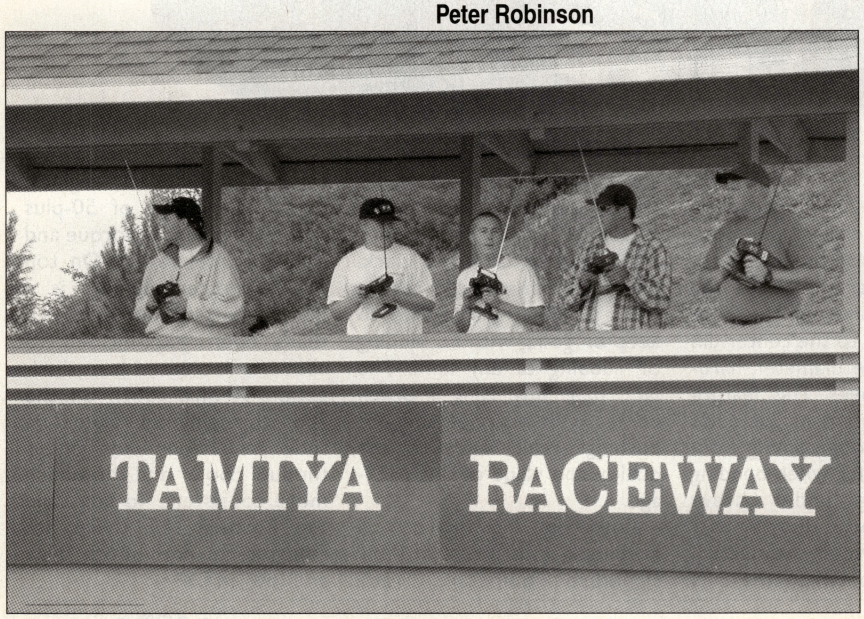
Peter Robinson

Mini

First Place	Dan Garber
Second Place	Jesse Shapiro
Third Place	Craig Richter
Best of Show	David Weir
Top Qualifier	Dan Garber



Dan Garber



Left: The 2002 TCS North American Finals showed some intense competition and superior sportsmanship from all of this year's competitors.

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TEAM LOSI TECH-TALK

Tech Tips #10

When at the track we are regularly asked "what's the best gear ratio for my XXX-S with a stock motor? Or, "how should I gear my XXX-NT with a Picco engine?" Team Losi prints a recommended gear ratio chart in the front of their kits but this information is only a guideline since motor technology is always changing. Usually the best answer for the particular track you are at is really another question! Look around and watch the racers running the same car or truck as you and note their performance. When they get done running take a moment to introduce yourself and ask them what type of motor and gear ratio they are running. Most racers are really very nice and appreciate your position having been there themselves at one time or another. To be safe, ask more than one racer and then "average" the answers. As an example, if the first response is 22/88, the second 21/86 and the third 23/90 you need only do the math (a cheap calculator helps) to learns that these fellows are running a 4.00:1, 3.90:1, and 3.91:1 primary ratios. Can you see where you want to start yet? You got it, some where between 3.90 and 4.00 to 1. The only thing you need to beware of is the occasional misinformation. It's easy to get confused and think your running 22/84 when in reality your geared 24/82. That's the difference between 3.81:1 and 3.41:1 which makes a big impact on performance and motor life. Without a doubt, the best way of optimizing the gear ratio after you have established a starting point is to try different ratios on the track for a simulated four or five minute run. Always start with a little lower (like 4.1 as opposed to 3.8 to 1) ratio for the first run. After the run check the motor to be sure it did not over heat. If everything looks good try gearing up to say 3.9 to 1 for another run. You will find that at some point the performance will drop of before the end of the run. This is usually due to the motor getting hot and losing power. At that point you need to stop running let the motor cool and change back to the previous ratio that performed well. It is also very important to note that you should not run the model until the batteries dump unless the motor is not getting overly hot. Most of the better stock drivers will only run 4minutes and thirty seconds to five minutes at a time in practice to keep from overheating the motor and potentially diminishing the power of the magnets.

Nitro racing is a lot easier since we have a clutch to work with and can make carburetor adjustments on the fly to compensate for temperature. Unless you are running on a real big track you will want to stick with a 17, 18 or 19 tooth clutch bell. Again use the same method of establishing a starting point but try going up and down one tooth to get a feel for the difference it makes. If the track has jumps right after a tight turn you may find running the 17 instead of the 18 better. This lower ratio will give you better acceleration for clearing the jump although the straightaway speed will be a little less. It still comes down to how fast and consistently you make a lap not just get down the straight. Another consideration is the engine you are running. There is a noticeable difference in the power between some of the lower priced engines and the more expensive Italian engines. You may need to run a smaller clutch bell keep the engine in an rpm range where it's happy and makes good power. One last tip you may wish to try on a slippery track is to go up one tooth on the clutch bell. This is like starting off in high gear in your real car. This tends to slow down the acceleration until the truck has gained speed and helps keep the rear wheels from breaking loose. It also means you may not be able to clear a set of doubles but that the trade of for not spinning the tires and loosing traction.

ADVERTISEMENT

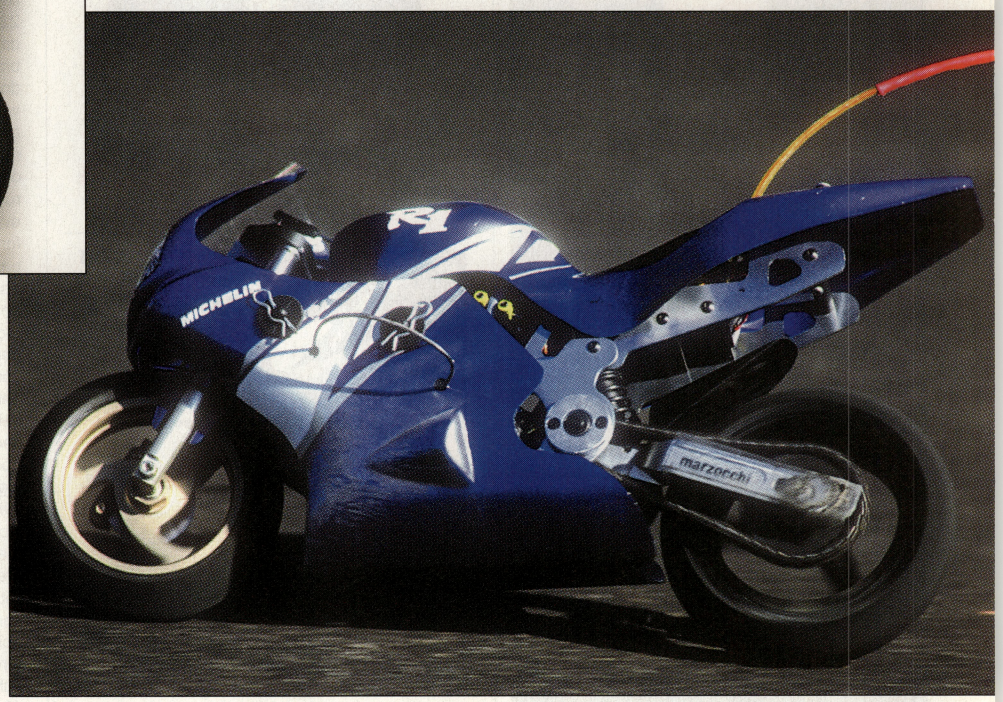
Thunder Tiger FM-1e

By Shannon Hudson

Project 2 Wheel

Most of us here at *R/C Car* do other sports besides R/C. Although playing with "toy" cars is number one on our list, we do indulge in other activities. Frank and I both race motocross, and Skinny is one heck of a downhill mountain-bike racer. I have been mountain biking a lot these days, and it just so happens that an awesome mountain bike suspension company called Marzocchi is located in the same industrial complex as Hi-Torque, our publisher and the publisher of such titles as *Motocross Action* and *Mountain Bike Action* (see a correlation here?). To make a long story short, the Marzocchi forks on my bike were leaking pretty badly, so I took them in for some repairs. I started talking to Ronnie Dilan, the head tech, and I told him I was a contributing author for this mag. He said, "Oh yeah, I love R/C," and he quickly rattled off a list of all the stuff he owns. He started by telling me he has a Losi Triple-XT, a Triple-X buggy, a XXX-S, an HPI Micro RS4, an OFNA Ultra MBX and what perked my ears up was a tricked out Thunder Tiger FM-1e motorcycle and a Kyosho NSR 500 motorcycle. I had to call Frank and tell him about this certified R/C nut and his two motorcycles. Frank replied with a "sounds cool. That can be your next assignment." So here we go; let's see what makes these two bikes trick!





NOSE-WHEELIES: SOUPED-UP FM-1e

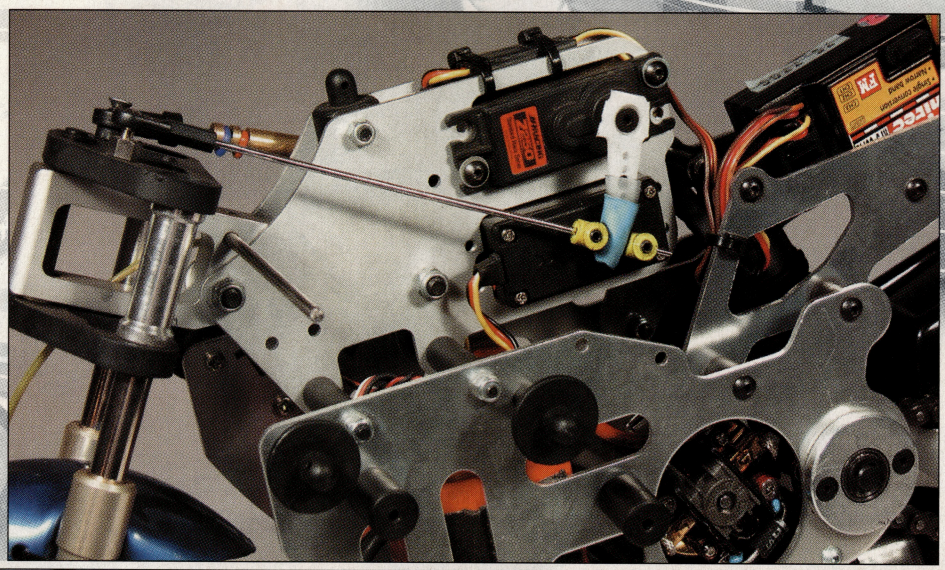
We'll start with the Thunder Tiger as it is the bigger of the two and the most realistic. Here is a quick list of what Ronnie has added to it and what gear he's using.

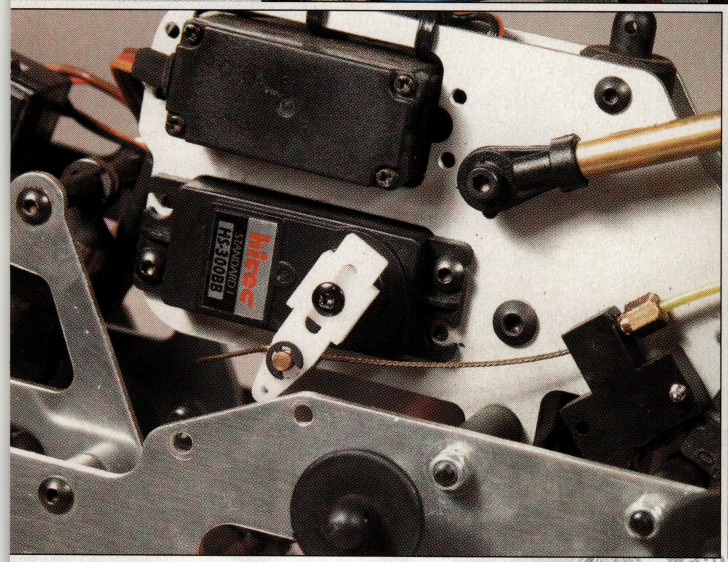
The most significant modification is the addition of a Nuova Faor mechanical front disc-brake kit. This hop-up includes the caliper, brake pads and a chassis mount for the additional servo. Yes, a second servo is needed, but the chassis mount makes for a super-clean install. The brake servo is driven off the second "throttle" channel through a Y-harness, and it works in conjunction with the ESC's brakes, which only affect the rear. The cable-activated front disc brake more than doubles the stopping power of the bike—as any gear-head will tell you, due to weight transfer, it is the front brakes that provide most of the stopping power.

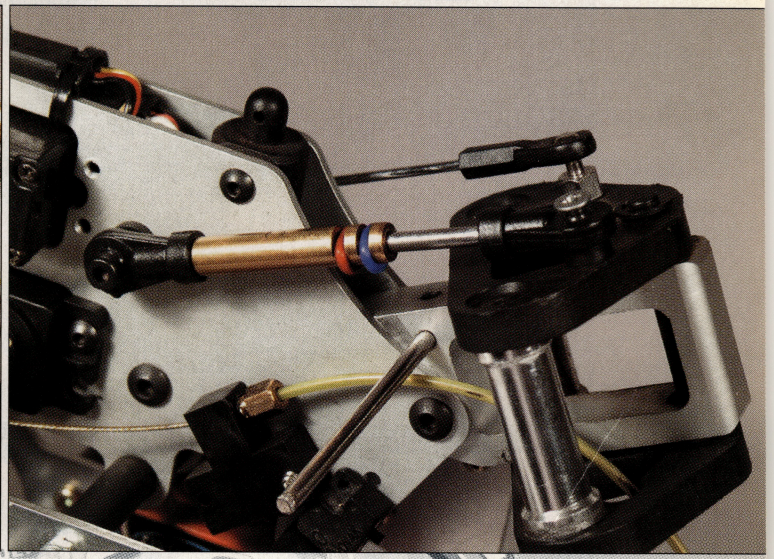
Ronnie also added a Nuova Faor steering damper to fix the stock FM-1e's somewhat wandering stock steering setup. The damper works like the Rancho units you would see on lifted 4x4 pickups: it prevents the steering from reacting too quickly to road imperfections and other forces that might deflect the front tire from its course. Ronnie says that adding the damper makes the bike much, much easier to drive—especially when using a lot of horsepower, as he does.

In our original test of the FM-1e, we installed a Reedy MVP stock motor—and thought that it was more than enough power. Forget that! Ronnie's bike is fitted with a Reedy Ti 9-turn double! Needless to say, this motor, combined with a 2400mAh NiCad pack from Team Orion, is not for the faint of heart! Control for this duo rests in the capable hands of Novak Dually ESC, while a soft-compound rear tire—a must for modified motors, according to Ronnie—comes from Nuova Faor.

6 Kyosho NSR 500







Some of Ronnie's personal touches include custom making a Delrin bushing to act as a guide for the inside of the fork. This prevents the forks from sticking in the compressed position, and greatly reduces play in the front end. Ronnie said that the sticky front fork seems to be the only really inherent problem with the bike, although I am sure his being a suspension guru had something to do with why the stock fork just wasn't working to his satisfaction. Ronnie also decided it was a good idea to drill a hole in the crash-bar mounts and add setscrews so that they don't fall out during a crash. Believe me, if you own one of these bikes, you have crashed it. The other thing he figured during his four-month ownership of the Thunder Tiger FM-1e is that it is a good idea to completely disassemble the bike and rebuild it using Loctite everywhere possible. Ronnie also pointed out that the Thunder Tiger Bike and the Nuova Faor bike are nearly identical, although Nuova Faor is the only company that makes hop-ups for either bike.

Some other trick items Ronnie has coming for the bike include a full carbon-fiber frame, and magnesium wheels with treaded tires from Peter Palau out of Germany. Check out Peter's website at *www.peter-palau.de*. Look for photos of these items in an upcoming issue.

DRIVING IMPRESSION

First off, if you haven't seen one of these things run you don't know what you're missing. Actually, it is probably a good thing if you don't see one because you would probably end up with a good size hole in your wallet afterwards. The Reedy Ti 9 double just might be what you would call overkill, but I don't think Ronnie would want it any other way. This thing is just plain fast! It almost looks like it will pull a wheelie when you come out of a corner, and top speed is probably somewhere around 40 mph.



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Thunder Tiger FM-1e & Kyosho NSR 500



The added disc brake really works well; you can actually see the front end dive when you tap the brakes. Although the bike looks cooler driving around with the rider figure, it does make it more top heavy and harder to control. Could you imagine a full class of these things at a racetrack? I think we should take this thing to KZ raceway—our local world-class 1/5-scale track—and see how many people we can get interested. I don't think Ronnie would mind if we took it there as long as he is the one doing the driving.

KYOSHO NSR 500: RUNNING LEAN

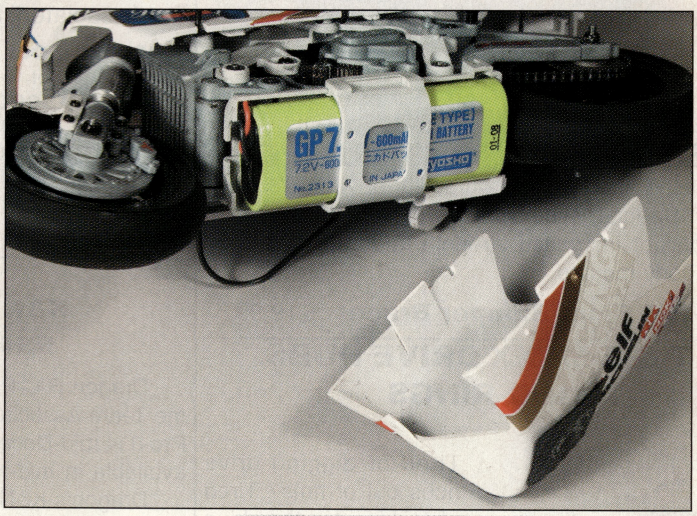
I know Kyosho first made these "leaning rider" bikes back in '92, and that they are no longer available here in the states. Yet they still are very cool and seem to have kind of a cult following. Ronnie told me that a lot of parts are still available from Tower Hobbies. You can actually purchase new bikes in the box on eBay for around $80—a true bargain when you consider how cool this thing really is. The rider on the Kyosho NSR 500 actually leans when you turn the bike. I started laughing when I first saw this, not because it was funny, but because it was so cool to see. Here is a quick list of the upgrades that Ronnie installed on the Kyosho and what gear he is using.

When Ronnie mentioned that there were a lot of hop-ups for this bike, he wasn't kidding. He thoroughly upgraded the bike's suspension by installing a set of Kyosho's alloy coil-spring/oil-damped forks and a Kyosho coil-over rear shock. The forks are vast improvements over the original spring-only bouncers, and with the new rear shock keeping the back wheel tamed, the bike handles much more predictably. Next, Ronnie added Kyosho's soft-compound tire and wheel set for more traction, and while he was at it, he added a lightened flywheel (also from Kyosho) that allows the bike to transition better through the turns (the stock, heavier flywheel caused the bike to feel a bit sluggish).

The kit's anemic RS280 electric motor wasn't getting







the job done, so Ronnie ditched it in favor of a larger 370 motor. He says that just about any motor that fits into the HPI Micro RS4 will work well in the Kyosho bike. And since he had upped the bike's power, Ronnie also felt the need to upgrade the durability of the transmission, so he installed a set of Kyosho's alloy gears and metal pinion gear.

For control, Ronnie's bike uses a Novak Spy ESC (made for the Micro RS4, but a perfect match for this bike) and a Hitec HS225MG metal-gear servo. The battery pack is the stock Kyosho unit, although any cell combination that will be compatible with the Spy ESC could be used for additional power and run time.

DRIVING IMPRESSION

Lets start with the fact that Ronnie is now known as "horsepower freak." The first thing he did is replace the kit's weak RS 280 motor for a Wattage 370 motor more commonly used in airplanes. (Some retro-fitting is required to install the larger 370 motor, so use caution if you plan to upgrade your bike.) The bike, with the larger motor installed, had very impressive top speed and was ultra quick, almost as quick as the Thunder Tiger with the 9 double. Ronnie actually let me drive the Kyosho, and he didn't have to ask twice. The Kyosho bike is much easier to drive than the Thunder Tiger, most likely due to the fact that there is a flywheel/gyro mechanism in the front wheel. The flywheel keeps the bike upright at much lower speeds. The bike actually only steers off power. If you try to steer the bike while applying the throttle, it pushes. Once you get used to driving this way, the bike gets more fun. Watching this thing go around in the street with the rider leaning from side to side is such a kick. The first thing I thought was, I can't wait to get home and get on eBay. I would like to give a special thanks to Ronnie Dilan for taking such good care of my mountain bike forks and for letting us play around with his pair of awesome R/C motorcycles.

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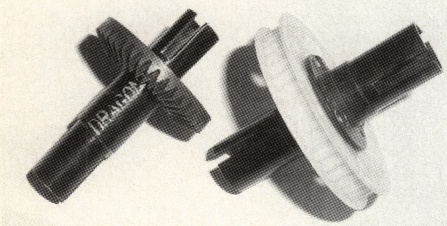
January, 2003 Vol 2.1

DRAGON'S TC-3 SOLID DIFF'S NOW IN STOCK



Dragon R/C's "NEW" SOLID DIFFERENTIALS for the Associated TC3 are now in stock. This diff will help pull the front end through the corners while maintaining better control when breaking. Included with the TC-3 kit (DR-360) you will receive.

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- Drive Gear
- Pin Pillows (increase life of your Diff Spool).

DR-260	**Solid Diff Losi XXX-S**	$ TBA - Available Mid Dec.
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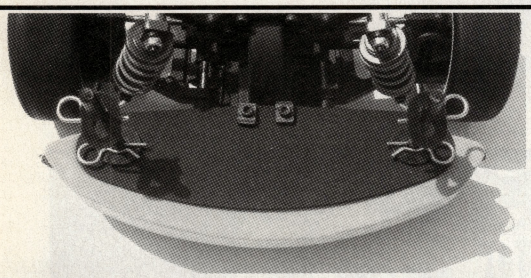

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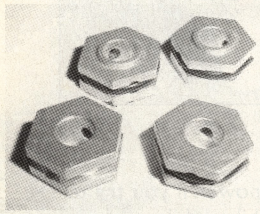

Tired of digging drive hubs out of rims? Tired of looking for the drive pins that falls out of the axle? These Drive Hubs w/ O-Rings eliminate the problem of lost axle pins & hubs stuck in rims. The O-Ring captures the drive pin to keep them where they belong and keep the drive hub on the axle.

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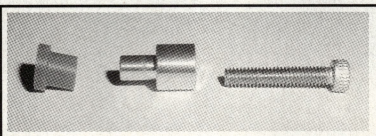

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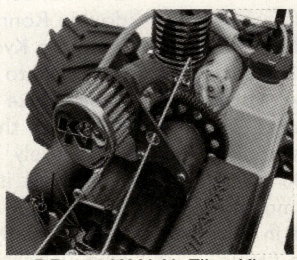
COMING SOON
K&N AirFilters for RC10-GT, TC3 Nitro, XXXNT, RS4-Pro2 & RS4-Pro3, & Traxxas 2.5 T-Maxx

Dragon R/C Products will be releasing their popular line of K&N AirFilters for the Team Associated RC10-GT & TC3 Nitro, Team Losi XXXNT, HPI RS4-Pro 2 & Pro 3 in mid-December. The K&N AirFilter for the Traxxas 2.5 T-Maxx will be available in mid-November.

Dragon's K&N AirFilters will increase the air intake and air pack on these vehicles by up to 25% over the stock paper and foam air filters. K&N AirFilters give you better running, stronger performing engines because they are the most air efficient air filters on the market for Nitro powered R/C cars and trucks.

Dragon R/C's air filter mounting system moves the filter away from the engine so the filter can capture cooler air so the engine can run cooler, ramp up faster, and generate more horsepower.

Dragon R/C also has K&N AirFilter Systems for the original T-Maxx .15 engine and most Big Block .21 T-Maxx conversions.



DR-170 K&N Air Filter Kit

TRAXXAS T-Maxx

DR-170	**K&N Air Filter w/Mnt. T-Maxx**	$39.99
DR-172	**Big Block .21 K&N w/Mnt.**	$49.99
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DR-171	**K&N Air Filter w/Mnt. TC-3 Nitro**	$TBA

LOSI

DR-270	**K&N Air Filter w/Mnt. XXXN-T**	$TBA

HPI

DR-470	**K&N Air Filter w/Mnt. RS-42 Pro**	$TBA
DR-471	**K&N Air Filter w/Mnt. RS-43 Pro**	$TBA

DR-171	**K&N Air Filter Recharge Kit**	$ 7.99

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2002 ROAR On-Road Nationals

Modified Class Report

The ROAR On-Road Nats 2002 took place in Aurora, Colorado, just outside of Denver. The race was held by MHOR R/C Raceway, a hobby shop with a great racetrack. This was the first time that the ROAR On-Road nationals were held in Aurora, and everybody there was really excited about it and tried their best to have a great event.

The organizer received a total of 201 entries. All of the top drivers had already arrived at the beginning of the week to get some practice. This report will focus mainly on the modified touring category, which is without a doubt the most popular electric racing class worldwide at the moment, and the class where all the famous names attended.



Barry Baker, new ROAR national champ in Modified Sedan.

During racing, the track temperature reached about 140 degrees Fahrenheit, and with a motor limit of ten turns, the motors easily heated up to 230 degrees. It was a very tight track, so the drivers used lots of brake, which didn't help the motors to keep cooler. Surprisingly, the drivers said that the cars handled better on the hot track than on the cold track. Unfortunately, this meant that the mornings' controlled practice was more or less useless. After the qualifying sessions, it was Barry Baker who got TQ right in front of Mark Pavidis and Brian Kinwald. Then it was Paul Lemieux, Billy Easton, Travis Amezuca, Todd Hodge, Mike Blackstock, and Chris Tosolini, with Greg Hodapp completing the A-final.

A-MAIN NUMBER ONE

Chris Tosolini didn't start due to interference problems, as he had to change from 27 MHz to 75 MHz for the final. Lemieux just made it to the start, as he used tire-warmers and forgot to tech his tires. Baker had quite a good start with Kinwald going straight into second and Pavidis in third. After one minute, Easton broke his car and had to retire. Baker looked very much in control and put some space in between himself and Kinwald. Pavidis was all over Kinwald for most of the race. At the three-minute mark, Pavidis made a small mistake which gave Kinwald some breathing space. At the four-minute mark, Blackstock also broke his car and retired from the final. In the end it was Baker winning the first final in front of Kinwald and Pavidis.

2002 ROAR

Technical stuff

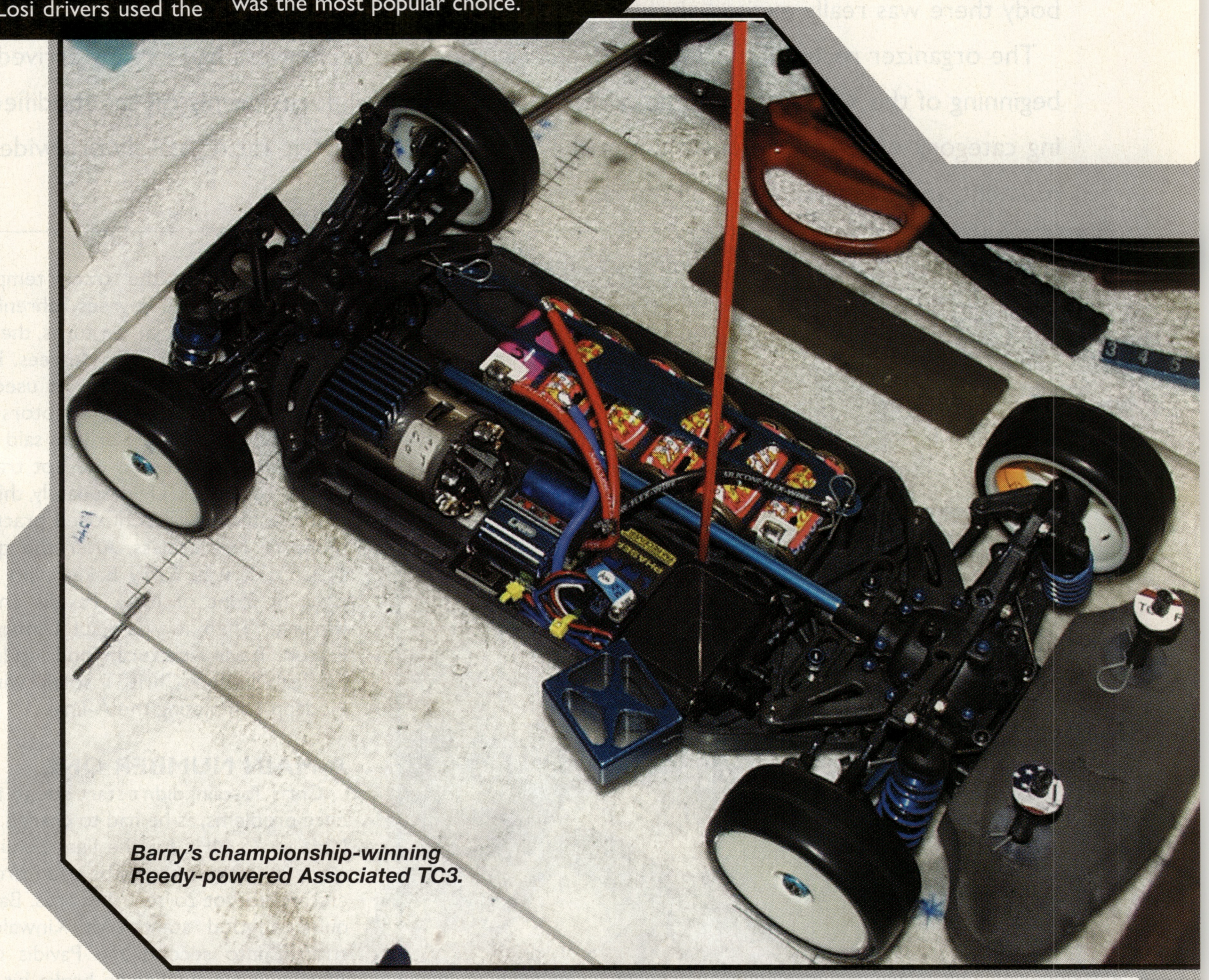
The most dominant car in the A-main was the Associated TC3, with five cars. This was followed by Losi with four cars. The Associated TC3 was used with no obvious changes to the kit. Losi used a new Alfa 156 body shell, which seemed to work great, as all top Losi drivers used it.

• Gas star Ralph Burch missed the A-main by being 11th and tied for points with the tenth placed driver. A good race for the X-ray he used, just missing the show very closely.

• The factory Losi drivers used the new Novak GT7 speed control. The speed control was obviously in prototype form as no case was available. The drivers used the printed circuit-board without any cover. Tyree Phillips from Novak was on hand at the race.

• Jurgen Lautenbach, Mr. LRP himself, was present and took care of his drivers. Six out of ten in the A-main (including winner Baker) used blue ESCs.

• Reedy had the upper hand on motors with 50 percent of the A-main relying on his brand. A 10-turn single was the most popular choice.



Barry's championship-winning Reedy-powered Associated TC3.

A-MAIN NUMBER TWO

A huge crash right in the first corner claimed Baker, Pavidis and Kinwald. But Baker still managed to stay in the lead, while Kinwald dropped back and Pavidis dropped back even further with a dent in his body. Lemieux was lucky and made it into second after the first lap. Both leading cars disappeared from the field with Baker putting some space between himself and Lemieux. At the three-minute mark it looked like a done deal for Baker, but an incredible charge from Lemieux brought him right to Barry's back bumper going into the last lap. But Baker, with all his experience, held off the challenge and finished first, and therefore had taken the overall win. Lemieux finished second in front of Kinwald.

A-MAIN NUMBER THREE

Baker didn't start as he had already won the race. Pavidis won the start, while Kinwald and Lemieux battled for second spot during the entire first lap, with Lemieux losing out. Hodapp went from tenth to third at the two-minute mark. Positions at the top didn't change until the drivers went into the last lap. Pavidis made a mistake, which allowed Kinwald to go through and win the last A-main.

Overall it was Barry Baker winning the title in front of Brian Kinwald and Mark Pavidis.

1 NAME 4 WINNERS

ENGINEERING

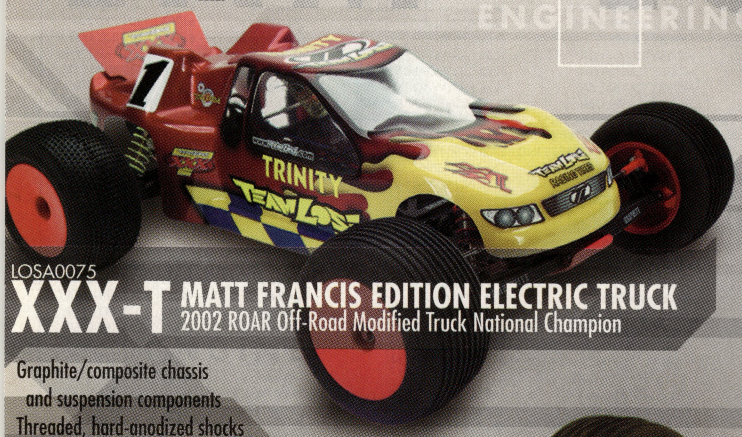


LOSA0029

XXX KINWALD EDITION BUGGY

2002 ROAR Off-Road 2WD Modified National Champion

- Graphite/composite chassis and suspension components
- Threaded, hard-anodized shocks w/titanium nitrided shafts
- Machined titanium turnbuckles
- MIP CVD drive shafts
- Ball bearings throughout
- Special Kinwald blue parts
- Racing compound tires

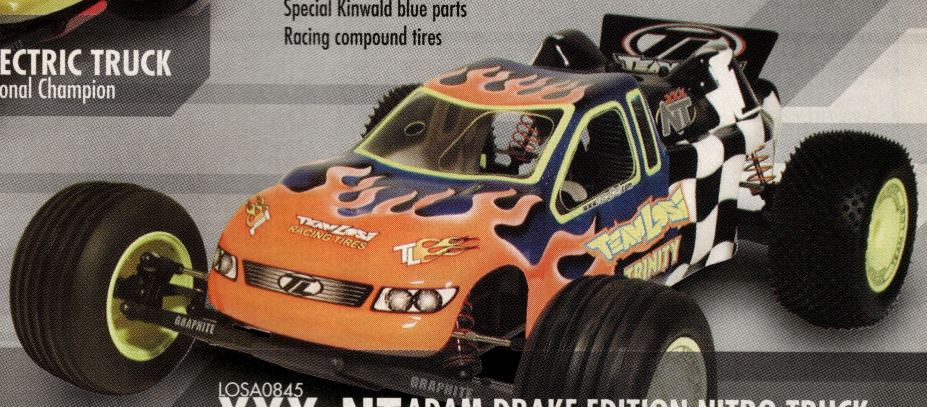


LOSA0075

XXX-T MATT FRANCIS EDITION ELECTRIC TRUCK

2002 ROAR Off-Road Modified Truck National Champion

- Graphite/composite chassis and suspension components
- Threaded, hard-anodized shocks w/titanium nitrided shafts
- Hard-anodized top shaft
- MIP CVD drive shafts
- Machined titanium turnbuckles
- Special Matt Francis red parts
- Ball bearings throughout
- Racing compound tires



LOSA0845

XXX-NT ADAM DRAKE EDITION NITRO TRUCK

2001 NORRCA National and World Cup Champion

- Threaded, hard-anodized shocks w/titanium nitrided shafts
- Hard-anodized aircraft aluminum chassis
- Hard-anodized aluminum accessories and exhaust manifold and laser engraved tuned pipe
- Signature wheels w/racing compound tires
- Machined titanium turnbuckles



LOSA0014

XXX-4 COMPETITION 4WD ELECTRIC BUGGY

2002 ROAR Off-Road 4WD Modified National Champion

- Interlocking Stiffezell composite chassis
- Low maintenance, sealed, single-belt drive train
- Easy access differentials
- 4WD performance w/2WD simplicity
- Heavy duty adjustable slipper clutch
- Adjustable, hard-anodized shocks
- MIP CVDs front and rear
- Ball bearings throughout
- Racing compound tires

Team Losi's top-of-the-line racing kits are so thoroughly equipped, you don't need hop-up parts. Every kit is the result of hundreds of testing and development hours by Team Losi's top drivers as they raced and won in competitions around the globe. Each component has been chosen or developed to meet or exceed the most demanding requirements.

Look for these wherever Team Losi performance is sold.

Team Losi
ENGINEERING WINS

HORIZON

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R/C CAR "PREFERRED" HOBBY SHOP

THE RADIO CONTROL CAR MAGAZINE

ALABAMA

BRYANS HOBBY SHOP	2837 ROSS CLARK CIR	Dothan	36302	334-793-2439
HOBBYTOWN USA RACEWAY	450 SCHILLINGER RD S.	Mobile	36608	334-633-8446
OAK MOUNTAIN HOBBIES	2238 PELHAM PARKWAY	Pelham	35124	205-989-4882
RC HI TECH RACEWAY	3303 MERIDIAN ST	Huntsville	35811	256-539-1347

ARKANSAS

HOBBYTOWN USA	400 N. BOWMAN/STE B-5	Little Rock	72211	501-223-5155
HOBBYTOWN USA	9220 HWY 71 SOUTH	Fort Smith	72916	501-649-9220
K & S HOBBY SHOP	809 N. 62-65 HWY	Harrison	72601	870-365-0597

ARIZONA

COMPETITION HOBBIES	3930 W. COSTCO DR.	Tucson	85741	520-297-8162
HOBBY DEPOT	216 WEST SOUTHERN AVE	Tempe	85282	602-968-1880
HOBBYTOWN USA	915 E. BASELINE RD	Gilbert	85233	480-892-0405
HOBBYTOWN USA	5030 E. RAY RD #11	Phoenix	85044	480-598-5282
HOBBYTOWN USA	102 E. 22ND ST	Tucson	85713	520-882-8888
HOBBYTOWN USA	4500 N. ORACLE RD, #202	Tucson	85705	520-888-9777
SCOTTSDALE R/C RACEWAY	3023 N. SCOTTSDALE RD	Scottsdale	85051	480-945-2186

CALIFORNIA

ARC RACING	41083 SANDLEWOOD CIR/ D	Murrieta	92562	909-304-0580
B.C.T. HOBBY & CRAFT	620 B SAN BENITO ST	Hollister	95023	831-636-7550
BEE GEE HOBBIES	234 GOLF CLUB RD	Pleasant Hill	94523	925-798-5133
CASTLE HOBBIES	14918 CAMDEN AVE	San Jose	95124	408-377-3771
COVINA HOBBY SHOP	140 N. CITRUS	Covina	91724	626-331-1910
CYCLE ART RACING	2211 N. PLEASANT WAY	Fresno	93705	559-233-3665
D & J HOBBIES	96 SAN THOMAS AQUINO RD	Campbell	95008	408-379-1696
DISCOUNT HOBBY WHSE	4444 CONVOY ST	San Diego	92111	619-560-9633
DOLLHOUSE TRAINS & MORE	300 ENTRADA DR	Novato	94949	414-883-0388
EXTREME MOTOSPORTS	1230 JUAREZ ST	Napa	94559	707-251-9876
FRANCISCIAN HOBBIES	1920-A OCEAN AVE	San Francisco	94127	415-584-3919
GIZMO'S HOBBY	2010 WEST BURBANK BL	Burbank	91506	818-842-8200
HOBBIES TOYS & MORE	17600 COLLIER AVE/ H172	Lake Elsinore	92530	909-245-1147
HOBBY CENTRAL	13461 COMMUNITY RD	Poway	92064	858-513-0373
HOBBY SHACK	18480 BANDILIER CIR	Fountain Valley	92728	714-964-0827
HOBBY WORLD	6148 BOLLINGER RD	San Jose	95129	408-873-2109
HOBBYTOWN	727 CENTER DR #106	San Marcos	92069	760-739-0672
HOBBYTOWN USA	2500 E.IMPERIAL HWY #130	Brea	92821	714-990-9652
HOBBYTOWN USA	4420-A TREAT BLVD	Concord	94521	925-685-3802
HOBBYTOWN USA	3069 WEST BULLARD AVE	Fresno	93711	559-435-3342
HOT ROD HOBBIES	25845 SAN FERNANDO RD	Santa Clarita	91350	805-255-2404
JAKES PERFORMANCE HOBBY	6650 COMMERCE BLVD #21	Cotati	94928	707-586-3375
JAX HOBBIES	17421 BROOKHURST/107	Fountain Valley	92708	714-378-8924
KIT & CABOODLE	550 EL CERRITO PLAZA	El Cerrito	94530	510-524-9942
KRAZY KEVIN'S	1223 3RD ST #D	Chula Vista	91911	619-422-2724
LPRP	24771 NORTHERN DANCER	Moreno Valley	92551	909-488-9021
MARTY'S HOBBIES	1728 N. MOORPARK RD	Thousand Oaks	91360	805-497-3664
MODESTO HOBBIES	1300 SYLVAN AVE #C7	Modesto	95355	209-529-7310
PALMDALE HOBBIES	2127 E. PALMDALE BLVD	Palmdale	93550	661-273-6229
PEAK PERFORMANCE	22601 LaPALMA AVE. #104.	Yorba Linda	92887	714-692-8533
PIT SHOP HOBBIES	2027 #B DeLaVINA ST.	Santa Barbara	93105	805-898-3902
R/C COUNTRY HOBBIES	6011 FOLSOM BLVD	Sacramento	95819	916-731-5868
R/C TECH	1618 SULLIVAN STSTE 105	Daly City	94015	650-992-7600
RACERS HAVEN	7401 WHITE LANE #12	Bakersfield	93309	805-835-0441
RIPON RC SPEEDWAY	701 N. ACACIA	Ripon	95366	209-599-5160
ROBIN'S HOBBY SERVICE	1844 WEST GLEN OAKS	Glendale	91201	818-240-2093
SAVAGE MOTORSPORTS	948 MAIN STREET	Ramona	92065	760-788-7733
SHELDON'S HOBBIES	2135 OLD OAKLAND RD	San Jose	95131	408-943-0872
SMITH BROTHERS HOBBY	8941 RESEDA BLVD	Northridge	91324	818-885-8636
SO CAL R/C RACEWAY	19118 BROOKHURST ST	Huntington Beach	92646	714-963-7484
SPEED WORLD RWY & HOBBY	1704 CHILTON DR	Roseville	95747	916-783-8864
THE HOBBY PLACE	10600 W. PICO BLVD	Los Angeles	90064	310-836-2000
VISALIA HOBBIES	2137 W. WHITENDALE AVE	Visalia	93277	559-734-8072

COLORADO

COLPAR HOBBIES	804 S. HAVANA ST	Aurora	80012	303-341-0414
CUSTOM HOBBIES	2813 E. PLATTE AVE	Colorado Springs	80909	719-634-7400
HOBBYTOWN USA	4348 S. COLLEGE	Fort Collins	80525	970-226-3900
HOBBYTOWN USA	6815 WEST 88TH AVE	Westminster	80021	303-431-0482
HOBBYTOWN USA	800 SOUTH HOVER RD	Longmont	80501	970-226-3900
MHOR R/C RACEWAY	15540 E. BATAVIA DR.	Aurora	80011	303-343-0151

CONNECTICUT

DANBURY HOBBY CENTER	366 MAIN ST	Danbury	06810	203-743-9052
NEW ENGLAND HOBBY SPY	71 HILLIARD ST	Manchester	06040	860-646-0610
PIT STOP HOBBIES	43 GRASSEY PLAIN ST	Bethel	06801	203-778-9249
RC MADNESS TRACK & HOBBY	640 ENFIELD	Enfield	06082	860-741-6501

DELAWARE

HOBBY STOP SPEEDWAY	RD 4 BOX 100 RT 13	Seaford	19973	302-629-3944

FLORIDA

ACE HOBBIES	2127 S. RIDGEWOOD AVE	Daytona Beach	32119	904-761-9780
ATOMIC HOBBIES	13205 S.W. 137 AVESTE 103	Miami	33186	305-235-3232
BOB'S HOBBY CENTER	7333 LAKE UNDERHILL RD	Orlando	32822	407-277-1248
CENTRAL FLORIDA HOBBIES	5600 W. COLONIAL DR #310	Orlando	32808	407-295-9256
COLONIAL PHOTO & HOBBY	634 N. MILLS AVE	Orlando	32803	407-841-1485
CROWN HOBBIES	7439 S.W. 24TH ST	South Miami	33155	305-264-3964
G & C HOBBIES	1228 HYPOLUXO RD	Lantana	33462	561-547-3812
HOBBIE WAREHOUSE INC.	1237 AIRPORT RD S.	Naples	34104	941-262-2701
HOBBY CENTRAL	UNIVERSITY MALL	Pensacola	32504	850-471-9800
HOBBY NUT INC.	12679 DIXIE HWY	South Miami	33156	305-235-9584
HOBBYTOWN USA	12608 S.W. 88TH ST	Miami	33186	305-273-7803
JACKS HOBBIES	131 N.E. 17TH PLACE	Ocala	34470	352-351-2224
MONSTER HOBBIES	616 S.E. 10TH ST	Deerfield Beach	33441	561-392-5447
PHIL'S HOBBY SHOP	6050 PARK BLVD	Pinellas Park	33781	727-545-1251
R.C. HOBBIES	6800 N. UNIVERSITY DR	Tamarac	33321	954-721-5720
ROB'S HOBBY WORLD	8602 S.W. ST RD 200	Ocala	34481	352-854-2799
SCOTT'S HOBBIES	26690 61ST RD	Branford	32008	904-935-0758
SPACE COAST HOBBIES	2135 PALM BAY RD NE	Palm Bay	32905	321-722-3696
SUPERIOR HOBBIES	1478 E. SEMORAN BLVD	Casselberry	32707	407-834-9299
TAVERNIER BIKE & HOBBIES	91910 OVERSEAS HWY	Tavernier	33070	305-852-2859
TEAM AUTO HAUS	424 BLANDING BLVD.	Orange Park	32073	904-276-5432
WARWICK CUSTOM HOBBIES	7676 PETERS RD	Plantation	33324	954-370-0708

GEORGIA

ALLISON PERFORMANCE HOB.	12 GREENVILLE ST	Newnan	30263	770-254-9557
HOBBY MART	6889 PEACHTREE INDUST. /STE H	Peachtree Corners	30092	770-840-8495
HOBBYTOWN USA	6770 VETERANS PKWY/STE 1	Columbus	31909	706-660-1793
HOBBYTOWN USA	800 E. BARRETT PKWY	Kennesaw	30144	770-426-8800
NATIONAL HOBBY	1975 SOUTH COBB DR	Marietta	30060	770-333-0190
SUGAR BOWL SPEEDWAY	5272 NELSON BROGDON WY	Sugar Hill	30518	770-945-6709
R/C TOYS FOR BOYS	2220 COBB PARKWAY N.	Kennesaw	30152	678-797-0406

HAWAII

ACE RADIO CONTROL	1005 LEHUA AVE	Pearl City	96782	808-456-1279
THE HOBBY COMPANY	98-1005 MOANALUA RD	Aiea	96701	808-487-2473

IOWA

BOX KAR HOBBIES	3649 FIRST AVE S.E.	Cedar Rapids	52402	319-362-1291
FAGAN'S	2327 CENTRAL AVE	Dubuque	52001	319-588-0846
HOBBY CHEST	209 E. MAIN	Ottumwa	52501	641-683-4436
HOBBY HAVEN	7672 HICKMAN RD	Urbandale	50322	515-276-8785
HOBBY SHOP	1700 S. FIRST AVESTE 17	Iowa City	52240	319-338-1788
HOBBYTOWN USA	2406 E. 53RD ST	Davenport	52807	319-355-2071
HOBBYTOWN USA	2737 16TH AVE S.W.	Cedar Rapids	52404	319-364-3289
HOBBYTOWN USA	620 LINCOLN WAY #6	Ames	50010	515-232-9060
WILD BILLS R/C HOBBIES	901 W. JONES	Knoxville	50138	515-842-5973

IDAHO

BOISE HOBBIES	4516 OVERLAND RD	Boise	83705	208-363-9555
DAPCO HOBBIES	2211 GARRETT WAY	Pocatello	83201	208-233-8163
HOBBYTOWN USA	1870 W. PULLMAN RD	Moscow	83843	208-882-9369
HOBBYTOWN USA	3317 N. COLE RD	Boise	83704	208-376-1942
MONSTER HOBBIES	9551 N. HWY 95 SUITE E	Hayden	83835	208-772-0422
THE TOY SHOP	837 POLELINE RD	Twin Falls	83301	208-734-2725

ILLINOIS

AL'S HOBBY SHOP INC.	121 ADDISON, BOX 449	Elmhurst	60126	630-832-4908
CORNER HOBBY	308 NORTH VIRGINIA AVE	Swansea	62220	618-277-6030
DEPOT HOBBY SHOP	180 SOUTH SEMINARY ST	Galesburg	61401	309-342-9323
HIS N HERS HOBBIES	1206 TOWANDA PLAZA #2	Bloomington	61707	309-827-0204
HOBBY LAND	616 N. MAIN	Bloomington	61701	309-828-1442
HOBBYTOWN USA	1000 LAKE ST	Oak Park	60301	708-445-8056
HOBBYTOWN USA	1772 S. RANDALL STSTE 200	Geneva	60134	630-208-9062
HOBBYTOWN USA	4338 E. NEW YORK	Naperville	60540	630-778-8707
HOBBYTOWN USA	MACHESNEY PARK MALL	Machesney Park	61115	815-282-0727
LA GRANGE HOBBIES	25 S. LA GRANGE RD	Mc Cook	60525	708-354-1220
LEISURE HOURS HOBBIES	2712 N. PLAINFIELD RD	Joliet	60436	815-439-1477
PAT'S HOBBIES & CRAFTS INC.	5730 W. 95TH ST	Oak Lawn	60453	708-424-6131
RADIO ACTIVE RACEWAY	751 N. BOLINGBROOK DR #15	Bolingbrook	60440	630-759-7557
STANTON HOBBY SHOP	4718 N. MILWAUKEE AVE	Chicago	60630	773-283-6446
THE GREAT ESCAPE	4507 RAY ST.	Crystal Lake	60012	815-459-8111
VENTURE HOBBIES	23 HUNTINGTON LANE	Wheeling	60090	847-537-8669

INDIANA

B & R HOBBIES	9014 CRAWFORDSVILLE RD	Indianapolis	46234	317-297-4257
BREMEN HOBBIES	308 N. BOWEN AVE	Bremen	46506	219-546-3807
CUSTOM MADE HOBBIES	1600 MORNINGSTAR LN.	Decatur	46733	260-724-3040
G & G HOBBIES	105 E. MAIN ST	Griffith	46319	219-924-6686
GRANGER HOBBY STOP	12131 STATE RD 23 UNIT L	Granger	46530	219-243-2390
HAPPY HOBBIES	1398 EASTERN BLVD	Jeffersonville	47129	812-282-0060
HOBBY TOWN USA	139 N. BURKHARDT RD	Evansville	47715	812-477-7200
HOBBYLAND INC.	2564 MIRACLE LANE	Mishawaka	46545	219-255-1722
HOBBYTOWN USA	6336 E. 82ND ST	Indianapolis	46250	317-845-4106
HOBBYTOWN USA	1858 E. 80TH PLAZA	Merrillville	46410	219-736-0255
JOE'S HOBBY BARN	1950 E. SPRINGHILL DR	Terre Haute	47802	812-299-5773
P & T HOBBIES AND RWY	2412 N. POORFARM RD	Bedford	47421	812-849-6666
PHILS HOBBY SHOP	3112 N. CLINTON	Ft. Wayne	46805	219-471-1340
PHILS HOBBY SHOP	1722 LAKE AVE.	Ft. Wayne	46805	260-426-5056
R & D HOBBIES	4217 FRANKLIN ST	Michigan City	46360	219-879-7563

KANSAS

HOBBY HAVEN	10560 METCALF	Overland Park	66212	816-942-2205
HOBBYTOWN USA	2108 W. 27TH ST	Lawrence	66047	785-865-0883
HOBBYTOWN USA	8229 EAST KELLOGG	Wichita	67207	316-683-7222
HOBBYTOWN USA	9270 METCALF	Shawnee Mission	66212	913-649-7979
MIKES R/C	121 S.E. 29TH ST	Topeka	66605	785-266-5767
R/C SUPERDOME & T.Q. SHOP	14 E. AVE A	Hutchinson	67501	316-665-6633

KENTUCKY

HOBBYTOWN USA	12615 SHELBYVILLE RD	Middletown	40243	502-245-5755
PIT STOP HOBBIES	1927 IRVIN COBB DR	Paducah	42003	502-527-8216
SCALE REPRODUCTION	3073 BRECKINRIDGE LANE	Louisville	40220	502-459-5849
STRICK 9 & HOBBIES	615 S. 12th STREET #H	Murray	42071	270-753-5444

LOUISIANA

HARES ART-N-HOBBY	4529 LEE ST	Alexandria	71302	318-443-2755

MASSACHUSETTS

BARN SPEED HOBBIES	109 CENTER ST	Lee	01238	413-243-2651
BIG BOYS TOYS	33 FATHER DE VALLES BLVD	Fall River	02723	508-677-9400
DAVE'S HOBBIES	281 CABOT ST	Beverly	01915	978-921-1559
HENRY'S HOBBY HOUSE INC.	67 W. BOYLSTON ST	West Boylston	01583	508-835-6165
HOBBY WORLD	171 GROVE ST	Adams	01220	413-743-7223
HOG HEAVEN HOBBIES	3 ARNOLD RD"P.O. BOX 416	Fiskdale	01518	508-347-9350

MARYLAND

DOUGS HOBBY	2935 CRAIN HWY	Waldorf	20601	301-843-7774
GPA HOBBIES	2431 CROFTON LANE STE 6	Crofton	21114	301-858-0004
HOBBY CITY	15751 COLUMBIA PIKE	Burtonsville	20866	301-421-5977
HOBBYTOWN USA	1305 W. 7TH AVE #28	Frederick	21702	301-694-7395
HOBBYTOWN USA	CHESAPEAKE SQR SHP CTR	Glen Burnie	21061	410-590-4950
HUNT VALLEY HOBBIES	10824 YORK RD	Hunt Valley	21030	410-666-1098
STONELEIGH HOBBY INC.	6717 YORK RD	Baltimore	21212	410-377-4447
S&J HOBBIES	10476 CAMPUS WAYS	Largo	20774	301-324-6680
THE TRACK	16806 OAKMONT AVE	Gaithersburg	20877	301-417-9630

MAINE

R/C SPEEDWAY & HOBBIES	87 MAIN ST	Fairfield	04937	207-453-4588
VICTORY LANE HOBBIES	306 ROUTE 236	Eliot	03903	207-439-3278

MICHIGAN

ACTION HOBBIES	211 EAST MAIN	Niles	49120	616-687-8550
ANYTHING GOES	5108 ROCHESTER RD	Troy	48085	248-740-2277
CAPITOL CITIES HOBBIES INC.	15357 HALL RD	Macomb	48044	810-532-0050
DIRT BURNER RACING	3295 HAGGERTY RD	Commerce	48390	248-926-1140
HOBBIES & TOYS	106 WEST MAIN ST	Gaylord	49735	989-732-3963
HOBBYTOWN USA	2252 S. MAIN ST	Ann Arbor	48103	734-996-2444
HOBBYTOWN USA	12821 S. SAGINAW	Grand Blanc	48439	810-695-9088
HOUSE OF HOBBIES	2763 N. 120TH AVE	Holland	49424	616-355-2064
JOE'S HOBBY CENTER	35151 GRAND RIVER RD	Farmington	48335	248-477-6266
KECK HARDWARE & HOBBY	2132 WEST RD	Trenton	48183	734-676-2282
LARRY'S PERFORMANCE R/C'S	43665 UTICA RD	Sterling Heights	48314	810-997-4840
NANKIN HDWRE & HOBBY	35101 FORD RD	Westland	48185	734-722-5700
P & D HOBBY SHOP	31280 GROESBECK HWY	Fraser	48026	810-296-6116
PASTIME HOBBIES	2700 PINE GROVE RD #16	Port Huron	48060	810-982-2874
PROP SHOP HOBBIES, INC.	23326 VAN DYKE	Warren	48089	810-757-7160
R & L HOBBIES & RACING	9782 PORTAGE RD	Portage	49002	616-323-3686
R/C NITRO ZONE	213 WEST MAIN STSTE #9	Brighton	48116	810-225-9586
RIDER'S HOBBY	32115 JOHN "R" RD	Madison Heights	48071	248-589-8111
RIDER'S HOBBY	42011 FORD RD	Canton	48187	734-981-8700
RIDER'S HOBBY SHOP	22789 NORTHLINE RD	Taylor	48180	734-287-7405
RIDER'S HOBBIES	2061 S. LINDEN RD	Flint	48532	810-720-2500
RIDER'S HOBBY	4417 S. WESTNEDGE AVE	Kalamazoo	49008	616-349-2666
RIDER'S HOBBY SHOP	2055 28TH ST S.E."UNIT 12	Grand Rapids	49508	616-247-9933
RIDER'S HOBBY SHOP	4035 CARPENTER RD	Ypsilanti	48197	313-971-6116
RIDER'S HOBBY SHOP	1609 E. MICHIGAN AVE	Lansing	48912	517-485-0700
RIDER'S HOBBY SHOP	30991 FIVE MILE RD	Livonia	48154	734-425-9720
ROBBY'S HOBBY	1106 COLUMBUS AVE	Bay City	48708	517-893-2712
THE HOBBY HUB	526 FRANDOR AVE	Lansing	48912	517-351-5843
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Hobbystop Speedway, Rd. #4, Box 100, Rte. 13, Seaford, DE 19973, (302) 629-3944

FLORIDA

Broward County R/C Race Club, Mills Pond Park, Ft. Lauderdale, FL (954) 525-3304

Burton's R/C Raceway, 4215 Mustand Rd., Lakeland, FL 33803, (941) 665-1322

Coral Springs Roadrunners, PO Box 9632 Coral Springs, FL 33075, (954) 925-8284

Farmer's Hobby & Raceway, 5006-3 E. Broadway, Tampa, FL 33619, (813) 248-3314

Cars, Trains and Planes, 1029-4 Phillips Hwy. Jacksonville, FL 32256 (904) 880-9500

First Coast Speedway, 6410 Waltho Dr., Jacksonville, FL 32211, (904) 743-2161

Ft. Myers R/C Club, Lee Civic Center, Ft. Myers, FL (941) 936-1528

Kissimmee R/C Racing, Osceola Square Mall, 3831 West Vine St., Ste/ 60, Kissimmee, FL 34741, (407) 944-4913

Means R/C Raceway, 1550 Pondell Rd., North Ft. Myers, FL 33903, (941) 772-2251

Monster Hobbies, 616 Southeast 10th St., Deerfield Beach, FL 23441, (954) 428-9118

PBG Motor Park, 6351 Barbara St., Palm Beach Gardens, FL 33418, (561) 627-2608

Pro Hobbies Speedway, 715 N. Lake Pleasant Rd., Apopka, FL 33712, (407) 886-4615

Sarasota RC Speedway, 8475 Cooper Creek Blvd., University Park, FL 34201, (941) 358-7047

Triple Nickle R/C Raceway,
1/3 Mile South of HWY 60, on CO rd 555
Bartow, Fl 33820; (863) 533-0539 (no info on amenities)

GEORGIA

Anthony's Victory Lane, 129 East Hwy. 80, Pooler, GA 31322, (912) 748-0847

Dalton Raceway, 3036 Parquet Rd., Dalton, GA 30720, (706) 226-6699

Hobbytown Raceway, 2301 Airport Thruway, Columbus, GA 31904, (706) 660-1763

Prime Time Hobby & Craft, 432 S. Wall St., Calhoun, GA 30701 706-625-9037

Stinger Speedway, 3769 Maysville Rd., Commerce, GA 30529, (706) 335-9044

Sugar Bowl Speedway, 5272 Nelson Brogdon Blvd., Sugar Hill, GA 30518, (770) 945-6709

TFB Raceway, 2220 Cobb Parkway N. Kennesaw GA 30152, (678) 797-0406 www.tfbraceway.com

HAWAII

Maui Racing Association, 230 Hana Hwy., #11, Kahului, HI 96731, (808) 873-0376

Team PRC Racing Club, 176 Mamo St., Hilo, HI 96720, (808) 935-3561

IDAHO

Almosta Ranch R.C.'s, Idaho's largest outdoor track 1732 Eldridge Ave. Twin Falls, ID 83301 208-733-8219, or (208) 733-1572

Dirt Stuff Plus, 5344 N. Yellowstone Hwy., Idaho Falls, ID 83401, (208) 522-7576









ILLINOIS

AJ's, 10211 Keslinger Rd., DeKalb, IL 60115, (815) 756-2772 www.ajsraceway.com

CIRCR/Precisoin RC Hobbies, 1917 2nd St. Pekin, IL 61554 (309) 347-0975

Depot Hobby Raceway, 180 S. Seminary St., Galesburg, IL 61401, (309) 342-9323

H&H Raceway, 35-12 Berkshire SDr. Crystal Lake, IL 60014 815-444-1777 http://drive.to/h_hhobbies

Hobbytown Raceway, 2103 N. Veterans Pkwy., Bloomington, IL 61701, (309) 664-4451

Leisure Hours R/C Raceway, 24121 W. Theodore, Bldg. 1, Plainfield, IL 60544, (815) 439-1477

Mid America R/C Club, S. Maple-Schnieder Park Brighton, Il 62012

Monee R/C Raceway, 26049 Ridgeland Ave., Monee, IL 60449 (708) 799-5597

Outlaw R/C Speedway, 1614 Broadway, Mattoon, IL 61938, (217) 234-6229

Quad Cities Raceway, 541 1st Ave., North Silvis, IL 61282, (309) 751-9663

Radio Active Raceways, 751 N. Bolingbrook Dr., #15 Bolingbrook, Il 60440 (630) 759-7557

Rector's R/C Raceway, RR3, Box 104, Albion, IL 62806, (618) 842-9379, (618) 446-3282

RMR Raceway, 19091 W. Casey Rd., Libertyville, IL 60048, Ray Rawald, (847) 549-6963

SIRCAR Raceway, 1200 N. Marion, Carbondale, IL 62901, (618) 549-5885

Stanton Hobby Shop, 4718 N. Milwaukee, Chicago, IL 60630, (773) 283-6446

Wep Raceway, RR #2, Box 44, Lawrenceville, IL 62439

INDIANA

Bremen Racing, 308 N. Bowen, Bremen, IN 46506, (219) 546-3807

Finish Line Pets & Hobbies, 1209 East St., Rd 2 LaPorte, IN 46350 (219) 326-0921

GM Raceway, 1651 W. Franklin St., Elkhart, IN 46516, (219) 293-1827

Hardesty Raceway, 11 East Plymouth St., Hamlet, IN 46530, (219) 867-8600

Hobby Barn Raceway, 1950 Springhill, Terre Haute, IN 47802 (812) 299-5773

Hobbytown USA, 5385 E. 82nd St., Indianapolis, IN 46250, (317) 845-4106

P&T Hobbies & Raceway, RR2 (Hwy. 60), Mitchell, IN 47446, (812) 849 6666 www.pnthobby@bigfoot.com, www.pnthobby@safeshopper.com

R/C World of Indiana, 2246 West U.S. Hwy. 36, Lynn, IN 47355, (765) 874-2464

Summit Area Radio Cars, 7000 Red Haw Dr., Ft. Wayne, IN 46805, (219) 492-2271

IOWA

Hobby Haven, 7672 Hickman Rd., Des Moines, IA 50322, (515) 276-8785

R/C Excitement Inc. Hobbies & Raceway, 36 Harlon St., Worcester, MA 01605 Mike Gordan (508) 753-8676 (508) 854-0915 www.rcexcitement.com

HobbyTown USA, 2737 16th Ave. SW, Cedar Rapids, IA 52404, (319) 364-3289

Radio Control Raceway Park, 2100 First Ave. N., Ft. Dodge, IA 50501, (515) 576-3780

Riverfront Speedway, adjacent to Sunkist Meadows Golf Course, FT. Dodge, IA (515) 576-3780

Wild Bill's Raceway, 901 W. Jones, Knoxville, IA 50138, (515) 842-5973

KANSAS

R/C Superdome and T.Q. PRO Shop, 14 E. Avenue A., Hutchinson, KS 67501 (316) 665-6633

RC Hobbies, Franum Creek, Milford Lake, KS (785) 238-1877

Route 66 R/C Raceway, Galena, KS 66739; (620) 783-5751

KENTUCKY

Somerset Raceway, 188 Sycamore Dr., Bronston, KY 42518, (606) 561-4522 Halcomb@hyperaction.net

Coyete Hobbies, 218 N. Martin Luther King Blvd. Lexington, KY 40507,Danny Puchalsk: (859) 253-9330 www.coyetehobbies.com

Trio Hobbies & RC, 216 Redmar Plaza, Radcliff, KY 40160, (502) 351-7547

LOUISIANA

Baton Rouge Velodrome, 7122 Perkins Rd., Baton Rouge, LA 70815, (504) 665-5616

MAINE

Clay Bowl R/C Hobbies, P.O. Box 61, Greene, ME 04236, (207) 946-5003

R/C Speedway & Hobbies, 87 Main St., Fairfield, ME 04963, (207) 453-4588

MARYLAND

Countryside Raceway, 406 Pamela Rd., APt. C, Glen Burnie, MD 21061, (410) 761-6196

Doug's Raceway, 2935 Clain Hwy., Waldorf, MD 20601, (301) 843-6220

The Track, 16806 Oakmont Ave., Gaithersburg, MD 20877, (301) 417-9630

MASSACHUSETTS

Big Boys Toys, 33 Father DeValles Blvd., Fall River, MA 02723

C&C Hobby & Raceway, 562 Russells Mills Rd., South Dartmouth, MA 02748, (508) 997-4131

Hobbytown/RPM Raceway, 201 N. Quincy St.,Abington, MA, (781) 857-2300

Megadrome Raceway, Rt. 8 Curran Hwy. North Adams, MA 01247, (413) 743-7223

MICHIGAN

Beyond Extreme Racing, 36159 Plymouth Rd., Livonia, MI 48150 (734) 513-7641 www.beyondextremeracing.com

Down River Radio Controlled Racers (D.R. R/C), 22789 Nortline Rd, Taylor, MI 48180 (734) 287-7405 (Bobby or Fred) www.downriverracing.8k.com

Dirt Burner Racing, 3295 Haggerty Rd. Commerce, MI 48390 (248) 926-1140

Hobbytown USA, 2252 S. Main St., Ann Arbor, MI 48103, (734) 996-2444

JT Superspeedway, Golden Ave., Battle Creek, MI 49015, (616) 965-0116

Larry's Performance R/C's, 43665 Utica Rd., Sterling Heights, MI 49221, (810) 997-4840

Lazer RC Speedway, 2858 N. Wilmoth Hwy., Adrian, MI 49221, (517) 263-2806

Motor City Speedway, 16025 23 Mile Rd. Macomb Twp., MI 48042 (810) 677-2311

N.M.R.C.C. Raceway, Hobby Toy, Main St., Gaylord, MI 49735, (517) 732-3963

R&L Hobbies & Racing, 9782 Portage Rd., Portage, MI 49002, (616) 323-3686

Sandhill off Road R/C, Wood St at Vincent St. Saginaw, MI 48602;

Village Hobbies, 195 N. Elm St. Hesperia, MI 49421 231-854-1374

MINNESOTA

Duey's Hobbies & R/C Raceway, 6600 Cahil Ave., Inver Grove Heights, MN 55076, (651) 450-1721

Northwoods Hobby Raceway, 2638 Hwy. 25 North Brainerd, MN 56401, (218) 829-9257

Ray's Raceway Park, 105 3rd Ave. NE., Glenwood, MN 56334, (320) 634-5246

R/C Racing World, 235 Main AVe., North, Harmony MN 55939, (507) 886-5931

Southside Speedway, 2241 Marion RD., SE Rochester, MN 55904, (507) 281-3233

Twin Cities Hobby & Raceway, 7577 Brooklyn Blvd. Brooklyn Park 55443, (763) 569-5069

MISSISSIPPI

Patriot Racing, 5531 Fox Meadow Dr., Meridian, MS 39307 (601) 483-7000

Small Cars Unlimited, 820 Cooper Rd., Jackson, MS 398212, (601) 372-FAST

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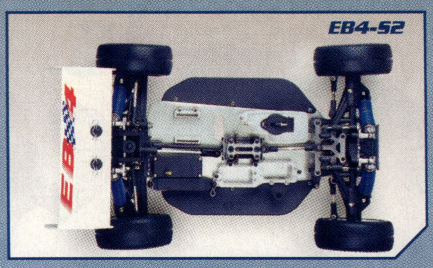
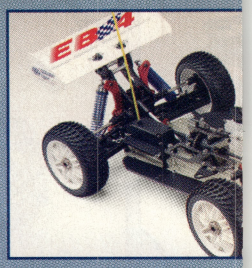
Thunder Tiger





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MISSOURI

B&L Hobbies & Raceway, 2800 Anchor Dr., Park Hills, MO 63061, (573) 431-9444

Novelty R/C Raceways, 6th & Main Novelty, MO 63460 (660) 739-4530

St. Louis Dirt Burners, Marshal Road, Kirkwood, MO (314) 831-2194

Ozark's R/C Raceway, PO Box 460, Willard, MO 65781, (417) 742-4376, (417) 742-7223

Real Blue Vue Speedway, 12019 E. 47th St., Kansas City, MO 64133, (816) 358-0238

Real R/C Raceway, 24204 State Rte. 58, Pleasant Hill, MO 64080

NEBRASKA

Goodyear Speedway, 4021 North 56th, Lincoln, NE 68510, (402) 464- 5172

Hobbytown USA Raceway, 220 N 66th Lincoln, NE 68505 (402) 434-5056 www.eastparkracing.com

Hobbytown USA Raceway, 1st & Cornhusker Lincoln, NE 68505 (402) 434-5057 www.eastparkracing.com

OTWG Carpet Raceway, 55129 849th Rd., Norfolk NE 68701, (402) 644-7922

NEVADA

Danwsey's Indoor R/C Hobbies, 741 N. Nellis Las Vegas, NV 89110, (702) 453-RACE

NEW MEXICO

Big Boys toys, 1735 Juantabo N.E. Albq., NM 87112 (505) 298-1023

Charlie's Hobby Shop, 1230 Solano Las Cruces, NM 88005, (505) 541-1097

NEW YORK

Rampage R/C, 782 Rt. 9G, Hyde Park, NY 11204

The Hobby Shop, 119 Mt. Vernon Ave Mt. Vernon 10550 (914) 668-3022

NEW JERSEY

Hobby Workshop, 510 West Kings Hwy. Mt Ephraim, NJ 08059 (856) 931-2400

Alpine Lounge, Blackhorse Pike Turnersville, NJ

NEW HAMPSHIRE

106 Race Park, 743 Clough Mill Rd. Pembroke 03275, (603) 224-7223 www.106racepark.com

NORTH CAROLINA

Carolina Outlaw R/C Racing, 411 Ruritain Park Rd. Stony Point, NC 28678 (704) 585-2996

OKLAHOMA

Action RC Speedway, 3616 SE 59 Oklahoma City, OK 73135 (405) 670-7770 www.actionrc.com

Enid R/C Speedway, 1831 S. Van Buren, Enid, OK 73703; (580) 554-9400

OHIO

Corcar-Low's, 1675 Georgesville Square Dr. (614) 870-7159, Columbus OH 43228 www.corecar.com Bill Stevenson

OREGON

RC Speedcenter, 2810 N. Pacific Hwy. Medford, OR 97501 (541) 779-8298 Betty Skelton www.rcaddiction.net

PENNSLYVANIA

R/C Outfitters Raceway, 519 Broadway, Hanover PA 17331 (717) 633-9490 www.rcohobbies.com

RHODE ISLAND

Insane Toys, 122 Manton Ave. Providence, RI 02909 Jose Jimenez (401) 421-8878

Tri-State R/C Raceway, 205 Hallene Rd., Warwick, RI 02886, Lenny Sosa (401) 738-4908

SOUTH CAROLINA

Carolina R/C Speedway, 4148 Calhoun Memorial Hwy., Easley, SX 29640; Craig Prahl, (864) 295-1209; *www.carolinarc.com*

Myrtle Beach R/C Park, 5976 Grace Lane, Myrtle Beach, SC 29577 Brad Smith, (843) 234-0096

The Grove Racing Center, 939 S. Anderson Rd., Rockhill, SC 29730, Mike Durham or Don Faris, (803) 327-4121

ORA Atomic Racing, 373 Boyd Pond Rd., Aiken, SC 29803; Bill Felak, (706) 855-0846 or (803) 642-0314

R/C Racing Connection Speedway 4375 Juniper Bay Rd. Conway, SC 29527 (843) 397-0124

SOUTH DAKOTA

Boomerans Raceway, 105 N. Main, Hartford, SD 57033; Ed Smithback (605) 528-7345

TENNESSEE

Hobby Town USA, 2000 Mallory Ln., Franklin, TN 37067; Bobby Mills, (615) 771-7441

MSA R/C Racing, Rt. 12 Box 489 F, Crossville, TN 38555; D.R. Findley (931) 456-0027

W.O.W. Raceway, 59 Luray Rd., Beech Bluff, TN 38313; Kelly Bean, (901) 427-7874; *windix60@pipeline.com*

XS Speed, 5237 Hwy. 126, Blountville, TN 37617, (423) 323-1513

Speedzone Raceway & R/C Hobbies 121 Co. Rd. 308 Sweetwater,TN 37874 423-351-0055, 423-351-0056 speedzone@usit.net; www.speedzoneraceway.com

Hobby Town USA, Commons II 8859 Town & Country Circle Knoxville, TN 37923 (865) 690-6423

TEXAS

215 Speedway, 1814 County Rd. 215, Abilene, TX 79602; Clyde Gardner (915) 673-2351

Big Mike's R/C Raceway, 1405 W. Cotton St. Longview, TX 75604; (903) 297-7814

Discount Hobbies, 1722A West Anderson Loop, Austin, TX 78757; Tony Bermudex, (512) 458-2324

Drycreek Raceway, 2518 I 30-W Greenville, TX 75402 Micky Alphin, 903-527-5381, web.pulse.net/drycreek email: dycreek@pulse.net

Hal's Hobby Raceway, 1440 Bessember, El Paso, TX 79936; Carlos (915) 591-2213

Hobbycraft Speedway, 819 N. Main St., Corsicana, TX 75110; Keith Hoffman (903) 872-6761

HobbyTown USA, 999 E. Basse Rd., Suite 177, San Antonio, TX 78209; Joe Sena, or Clark Baisdon, (210) 829-8697

Indy R/C World, 2020 Saturn Rd., Garland, TX 75041, (972) 271-4844

Issac's Race Track, 18177 Gulf Frwy., Webster, TX 77598; Issac Ben-Ezra, (281) 488-8697

MBRC Off-Road Raceway, 204 D & E Valley Ln., Kennedale, TX 76133 (817) 292-5055

Reflex R/C, 1106C Witte Rd., Houston, TX 77055; Jorge Tabush or Terry Schmid, (713) 464-4458

Texas Speedway, 6703 Chimney Rock Bellaire, TX 77401 (713) 661-7137 www.mmhobby.com

T-N-T R/C Cars, 3420 Ave. K Suite 154, Plano, TX 75074 (972) 633-2470 (972) 238-0965 Joe Sullivan

Al's Hobbies, 7121 HWY. 90 W. Suite San Antonio, TX 78222 (210) 645-1050

VIRGINIA

Debbie's R/C World, 2200 Commerce Parkway, Virginia Beach, VA 23454, (757) 340-6681

Hobby Hangers Speedway, 14014D Sullyfield Cir., Chantilly, VA 20151; Kwang or Billy, (703) 631-8820

Linville Hobbies Raceway, www.linvillehobbies.com

Olde Towne Hobby Shoppe, 9105 Center St. Manassas, VA 22110; Arnie Levine, (703) 369-1197

Roanoke Race Club 5080 Stable Rd. Roanoke, VA 24014 540-989-4529 www.roanokeraceclub.com

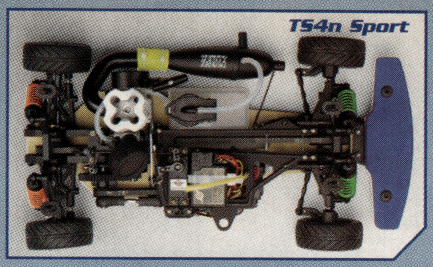
Shamroc Raceway, 106 Cheviot Pl., Stephens City, VA 22655; Scott Janow, (540) 869-3551

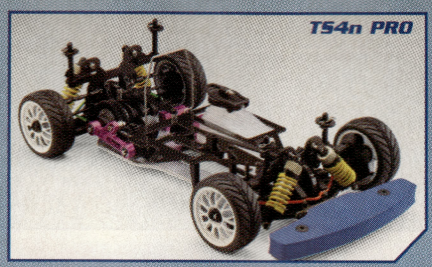
Star/Car Raceway, Debbie's R/C World, 200 Commerce Parkway, Virginia Beach, VA 23454, (757) 340-6681

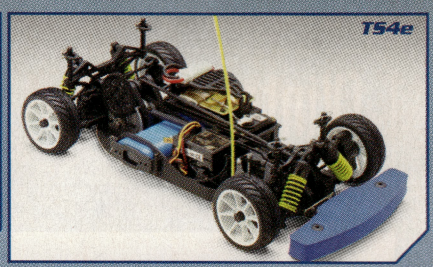
The Toteyard, 6494 Toteyard Dr., Dayton, VA 22821 (540) 828-3476 *toteyard.com.home*

Dirtona, 515 Front Ave. Salem, VA 24153 Steve Cooper (540) 387-3044









WASHINGTON

Alfie's, 108 South K St., Aberdeen, WA 98520; (360) 533-6638

A-Main Raceway, 14011 NE 3rd Ct., Vancouver, WA 98685; Monty Coleman, (360) 571-8404

Burien Toyota R/C, 15025 1st Ave. South, Seattle, WA 98148 Ray Meek, (800) 654-6456

Cedardale Raceway, 16733 Cedardale Rd., Mount Vernon, WA 98273; Joe Madonia, (360) 659-0072; *getchell@halcyon.com*

Four Season R/C Racing, 2941 Sleater Kinney Rd. NE Olympia, WA 98506; Gary Brown (360) 491-2430

HobbyTown USA Lynnwood, 18500 33rd Ave W Lynnwood, WA 98037 (425) 774-0819, Fax (425) 774-7391

Rain City Raceway, 3616 South Rd., Suite A3, Mukelteo, WA 98275, Debbie Cartwright (425) 438-2454 raincityraceway.com

Redmond Hobbies, 16260 Redmond Way Redmond, WA 98052 (425) 885-3639 www.redmondhobbies.com

B & B Indoor Raceway, 6422 E. 2nd Ave., Spokane, WA 99212; Brain Batch (509) 534-RACE

Tacoma R/C Raceway, 6305 6th Ave., Tacoma, WA 98406; Scott Brown (253) 565-1935

Ultimate R/C Raceway, 907 Cole St. #3, Enumclaw, WA 98022; Dan Dougherty, (509) 375-4995

West Coast Hobby & Raceway, 2239 Stevens Dr., Richland, WA 99352; Rick, (509) 375-4995

WEST VIRGINIA

Burr-Fab Raceway, 90 Davis St., West Union, WV 26456; Mark Travis, (304) 873-2487

Fulton's R/C Raceway, 2646 Chapline St., Wheeling, WV 26003; James Fulton (304) 233-5355

Left Turn Hobbies, 100 Saco Ln. Glen White, WV 25849; Stretch (304) 255-3930

Race Zone, Hopewell Rd., Rt. 8 Box 343A, Fairmont, WV 26554; Joe Clutter , (304) 368-1000

WVRCA R/C Club, 142 West Main, Bridgeport, WV 26330; D.W. Weed

WISCONSIN

Hobbytown USA, 2061 South Koeller, Oshkosh, WI 54901 (920) 426-1840

Hobbytown USA-Revolution, Memorial Mall, 3347 Kohler Memorial Dr., #D2, Sheboygan, WI 53081; Kenny, (920) 452-0801

Johns Hobbies, 54 N. Main St., Hartford, WI 53027 (262) 673-7454 www.explorewisconsin.com

Pro-Star Racing, 726 Pine St., Green Bay, WI 54301; Chuck, (920) 494-1233

RJ's/R.C., 4920 Hwy. 70W, Eagle River, WI 54521; Randy Stys, (715) 479-2541

S&N's Trackside Hobbies and Raceway, 6405 N. Green Bay Ave., Milwaukee, WI 53209; Scott Ernst, (414) 351-1910

WYOMING

Wind River R/C Racing Association, 309 N. 4th West, Riverton, WY 8250; Shannon Watts, (307) 857-0418

Xtreme Hobbies Raceway, 2724 Powder Basin, Gillette, WY 82718; Frieg Balls, (307) 682-6077

CANADA

Mid-Canada R/C Auto Racing, Hwy. 1 East Winnipeg, Manitoba Canada R2J 4E6 (204) 231-3324 www.geocities.com/midcanadarcautoracing

Canada R/C Auto Racing, www.geocities.com/midcanadarcautoracing

Circuit Teleguide Off Rd. Granby, 450 De LaGrande Ligne St. Paul D' Abbotsford Quebec, Canada (450) 776-3730

Nitro Extreme R/C Park, Blackfoot MX PK Calgary, Alberta, www.nitroextreme.com, e-mail: information@nitroextreme.com

One Stop Hobbies Raceway, 33228 S. Fraiser Way, Abbostford, B.C. Canada V252B3 (604) 852-6497 Dave Palmer

R/C Speedway Niagra, 253 East West Line, Niagra on the Lake, Ont, Canada Los 1J0

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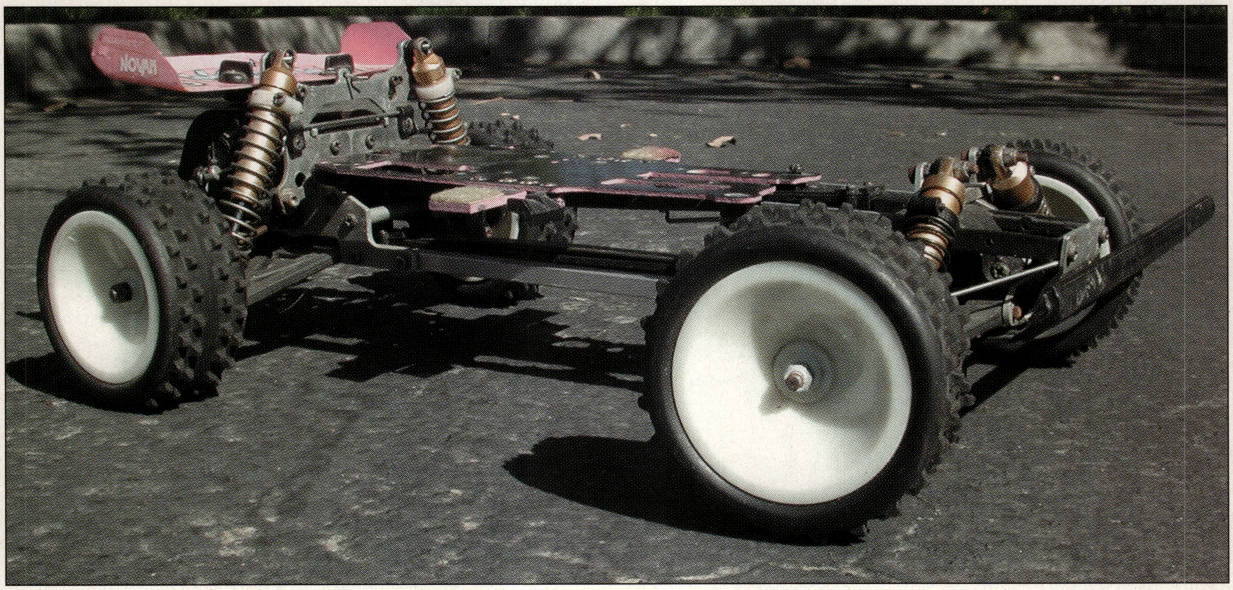
Thunder Tiger



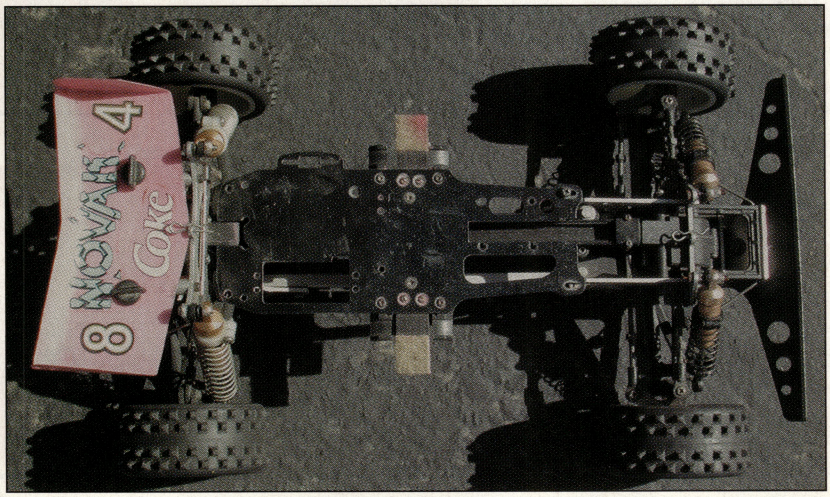
Kyosho's "optimal" solution

BY RICHARD TRUJILLO

On top of collecting old Tamiya cars and fixing up my Honda, my poor wife has to deal with the fact that I collect old Redline Hot Wheels. Besides my daily dosage of eBay, I also visit a website on which people can sell their Hot Wheels at a set price; similar to eBay, but without the auction feature. While browsing the site, I happened to check out the miscellaneous section and found a Kyosho Turbo Optima for sale. It was missing the body, but appeared to be in great shape. I contacted the buyer and we worked a deal. Back in those days, the Yokomo Dog Fighter was the best 4WD in the buggy market. Kyosho produced the Optima to compete against it. Unlike current 4WD buggies that use a belt-drive system to put the power down, the Optima (and the Dog Fighter) used a chain drive setup. This worked pretty well, but the chains did break and stretch sometimes (not "sometimes;" all the time!—FM). The upper and lower independent suspension worked great for its time and was actually better than the Yokomo's mono-shock, rear trailing arm design.



As time went on, Kyosho released several models based on the Optima. The Javelin was basically the Optima with an orange plastic roll bar type chassis. The current real life 4WD rock-crawling "rock buggies" resemble the Javelin. To celebrate the sale of 100,000 Optimas, Kyosho released a limited edition "gold" Optima. Basically, all the aluminum chassis parts were anodized "gold." This is probably the toughest of all Optimas to find, and it's worth quite a bit more compared to the others. Next came the Optima Pro, which featured an enclosed cockpit and some other hop-ups that would later lead to the Turbo Optima. The Turbo Optima was the next generation of Kyosho 4WD buggies. This version came with ball bearings, low-profile off road tires, an enclosed cockpit body and a modified motor. If I remember correctly, it also came with a red anodized Kyosho 240SD Mod motor. They also included Kyosho Gold shocks, which at the time were the smoothest shocks on the market. NIB (new-in-box) Kyosho kits are relatively cheap compared to Tamiya kits from the same era, but they can still get a little pricey. With parts not available as easily as Tamiya kits, you may want to spend the extra and get a complete kit for your collection. My car didn't come with a body, but it is in decent condition. New bodies sell for about $80, and I'm not sure if I want to spend the extra money to complete the restoration. Although not as nice as some of my other cars, the Optima from Kyosho is a nice addition to my collection.



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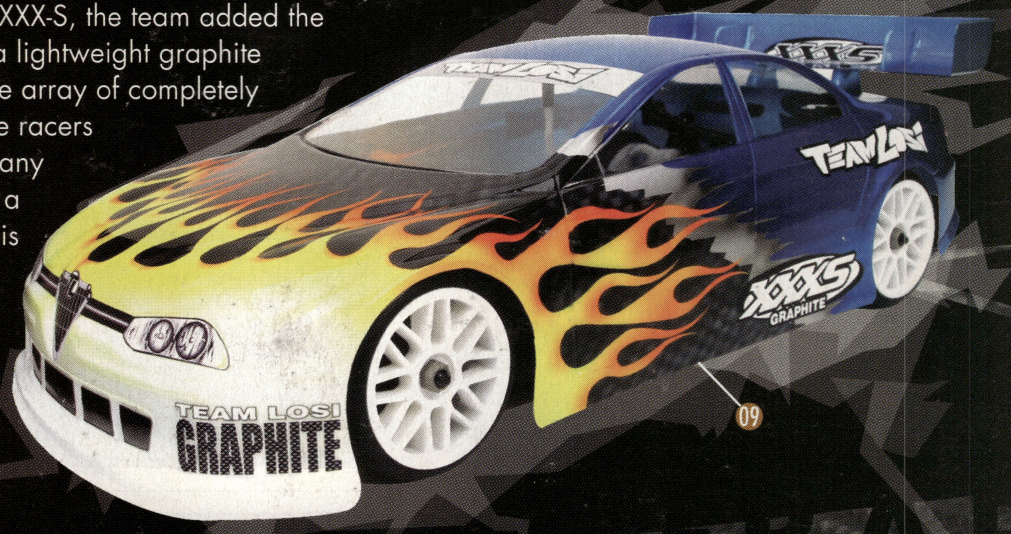

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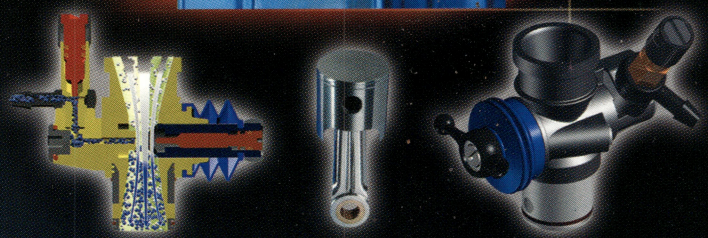

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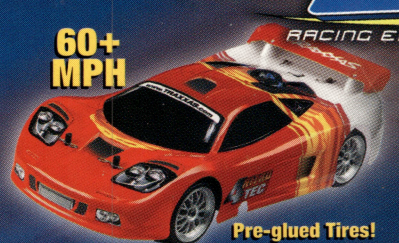

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