SCOOP! ORION'S NEW BRUSHLESS MOTOR BEATS NOVAK TO THE PUNCH!
—page 14

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# R/C CAR

THE RADIO CONTROL CAR MAGAZINE

MARCH 2002

A TEAM LOSS FRANCIS EDITION TRUCK! WIN page 106




## MONSTER, INC.

Mega Force: Can Kyosho knock the T-Maxx from its perch?

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- Set your off-road shocks

HORSEPOWER OR HYPE? The truth behind rear-port engines

THE BEST NITRO SEDAN WE'VE EVER DRIVEN! — see page 96

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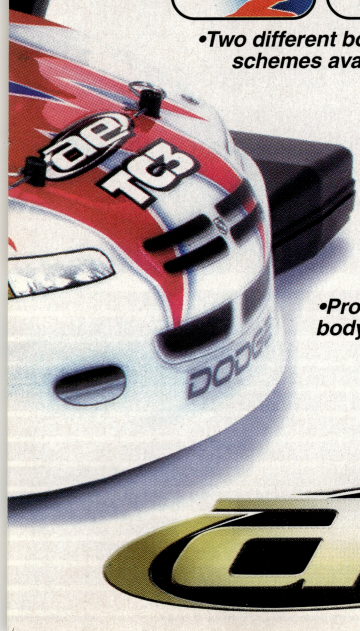



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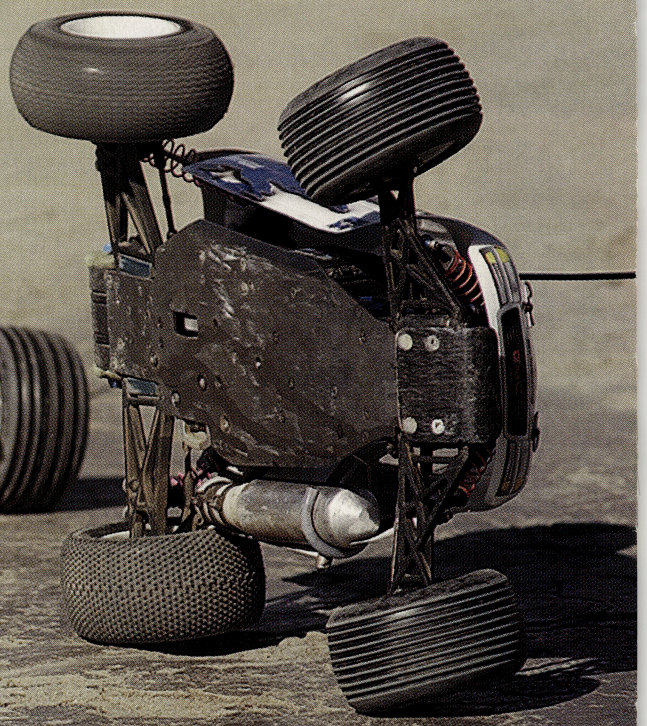
March 2002, VOLUME 5, NO. 3





## TEST DRIVES

**26 Kyosho Mega Force**
Can anyone challenge the T-Maxx?

**36 BoLink Little Red Wagon**
Keep your nose in the air

**52 Kyosho FW-04 Loctite Mugen NSX**
The fastest SuperTen kit yet

**60 Tamiya Dyna Storm**
A re-release of a classic buggy

**90 Kyosho Baja Beetle QRC**
More power and better shifting

## FEATURES

**44 MAXXED OUT!**
Part II of Jason Jaekel's awesome S-Maxx

**68 REAR PORT MYTHS**
Benefit or marketing hype?

**72 PRO PAINT TRICKS**
Airbrush like a veteran

**82 REEDY TRUCK RACE OF CHAMPIONS**
Losi and Associated split the titles

**96 PROJECT OUTLAW V-ONE R**
We build the ultimate nitro weapon

## PRO-TIPS SECTION

**40 SCOTT HUGHES ON SHOCKS**
Build better bouncers

**42 JACK JOHNSON ON SERVO TAPE**
Don't laugh, he won a national championship

**78 MARK PAVIDIS ON ONE-WAYS**
How to drive a car that steers

**102 BRIAN DUNBAR ON JUMPING**
Fly the friendly skies with a Worlds runner-up

## PRODUCT TESTS


**48 DYNAMITE VISION PEAK PLUS AND MEGA DUAL-E CHARGERS**
Battery performance on a budget

**50 HARDCORE RACING T/E MAXX BULKHEADS**
Strengthen this critical area of your Traxxas monster

**66 PARMA FASGLITTER**
All that glitters...

**76 TAMIYA TA04 HOP-UPS**
Tricking out Tamiya's best touring car


## DEPARTMENTS

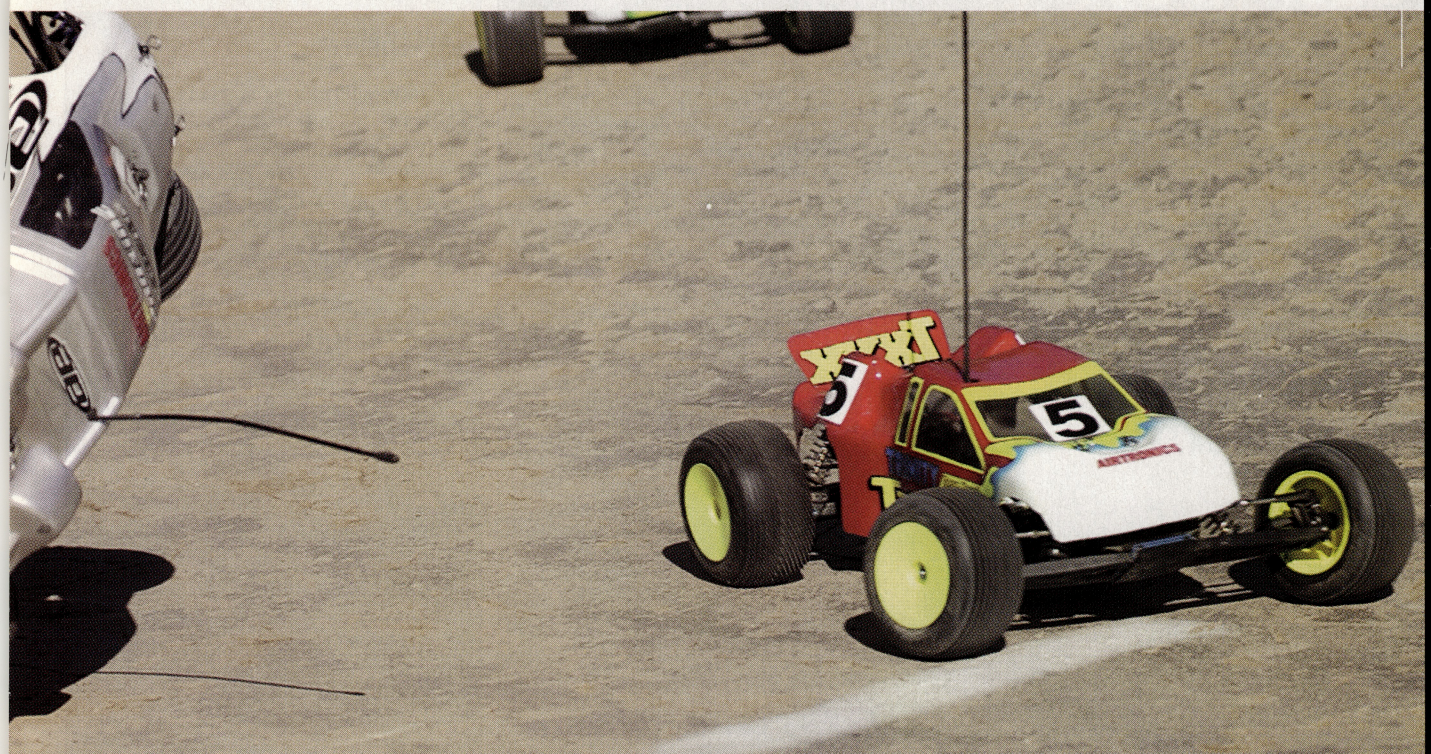

**8 Driver's Stand**
Can anyone challenge the T-Maxx?

**11 Up Front**
Readers' rides and new goodies

**20 BENCH RACING**
Skinny's world

**23 Feedback**
You write, we print

**113 Vintage R/C**
Another classic Tamiya truck: the Mountaineer



*R/C Car* Magazine (ISSN 1097-0711, Canada GST 12500#9266RT), CPC. PUB MAIL #40024492, March 2002 is published monthly by Daisy/Hi-Torque Publishing Company, Inc., with editorial offices at 25233 Anza Dr., Valencia, CA 91355. Subscriptions $19.98 for 12 issues (one year). Canada add $12 additional postage for one year, $24 for two years. Foreign add $15 additional postage for one year, $30 for two years.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Periodicals postage paid at Santa Clarita, CA 91380 and at additional mailing offices. POSTMASTER: Send address changes to *R/C Car* Magazine, P.O. Box 958, Valencia, CA 91380-9058. Printed in U.S.A.


**On the cover:** Kyosho's answer to the T-Maxx—the Mega Force goes big (photo by John Howell).
**On this page:** Chaos from the Reedy Truck Race of Champions (photos by Tony Donaldson)




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R/C CAR
THE RADIO CONTROL CAR MAGAZINE

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# [Drivers'Stand]

BY FRANK MASI

## CAN THE T-MAXX BE TOPPED?

Since its release two years ago (has it been that long?), Traxxas' T-Maxx has topped sales charts, set a new standard for monster truck performance and features, and has redefined all of our perceptions of what a ready-to-run vehicle is all about.




***Can Kyosho's Mega Force unseat the T-Maxx? See page 26.***

What's most surprising to us is that no other company has offered a countermeasure. Surely they know that T-Maxx sales have been phenomenal; all they would have to do is look at the number of aftermarket companies that have sprung up to cash-in on the Traxxas truck's popularity. So why hasn't there been a host of T-Maxx clones, or better yet, new truck designs that offer even better suspensions, or more ingenious transmissions, or even more clever methods of starting the engine?

It's not that there haven't been attempts. I can name at least a dozen or more trucks that have hit the market since the T-Maxx exploded, but most have been re-worked versions of existing models, or very cheap offerings that are not much more than quick responses to a burgeoning market segment. None of these have deflected the leadership course set by Traxxas, but I'm sure that they've generated some coattail cash for their manufacturers.

Are there anti-T-Maxx offerings on the drawing boards at Traxxas' competitors? Of course, but most of these companies realize that in order to sink the Maxx, their trucks will have to be more durable, faster, better handling and even easier to use. The problem seems to be that no one has figured out just how to accomplish this goal—yet. In a nutshell, Traxxas did a damn fine job on the T-Maxx, and this goes to show that if you show people a truly innovative, high-quality product, they'll buy it in droves.

Is Traxxas resting on its success? It's hard to tell; the E-Maxx has been finished and out on the market for more than a year, yet we've seen no substantially new products come out of Dallas. I've heard rumors that Traxxas is working on an addition to the Maxx line. What could it be? It could be a big-block T-Maxx, or a lightweight racing truck. We could see a stadium-truck sized version of the T-Maxx. Or—and this is the most likely guess—Traxxas could again shock us with something we've never seen before. Me? I can't wait!

## IT'S ALL IN THE PRESENTATION

This month, Tamiya re-released its Dyna Storm off-road buggy from the early '90s. I jumped at the chance to review this kit because, like many of us, it was a Tamiya kit that first drew me into this awesome hobby. The Dyna Storm brought back quite a few memories. It wasn't the actual kit that sparked my sentiment, but rather it was the packaging. If you remember, the early Tamiya kits were boxed quite differently than they are today. When you opened the beautifully illustrated box (a feature that even today remains a staple of Tamiya's kits), you were greeted by all sorts of high-tech parts, each contained in a colorful blister pack. It was like looking at a feature list of what made your kit special. Seeing that always made me burn to build.

Tamiya has long-since dropped this type of packaging. The reasons are likely that it was necessary to lower




the cost of the kits, and to make them more attractive in a increasingly crowded marketplace. Now I'm not going to presume that this change from exciting packaging to what we have now—essentially an uninspiring box full of small parts—is directly responsible for the decline in the number of people who actually built from kits, but it seems an interesting possibility.

# Voltage Explosion!

## NEW!! SANYO rc3000hv




**The all-new RC-3000HV (high voltage) combines high voltage and extreme capacity making it perfect for stock or modified class racers. This new cell, after V-max and RDS processes, maintains a significantly higher average voltage and lower internal resistance than the RC2400SP or RC3000SP. Available in three grades to suit both performance and budget requirements.**

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|---|---|---|
| 11320 | RC-3000HV V-Max Plus Club 30 Amp | $79.99* |
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| 11322 | RC-3000HV V-Max Plus Team 30 Amp | $51.99* |

*Estimated street price

**Each label contains all the data necessary to make best use of your battery pack.**

- **internal resistance** of the cell. the lower the number the more effective the cell is at releasing energy
- **average voltage** of the cell more voltage = more punch
- **actual discharge time** in seconds at designated discharge rate

375SEC | 1.152VOLT

Team Orion V-Max RDS
3.0mOhm
12828j 30amp 0.85volt
LAVco 3280-2428-86

- cell **serial number**
- **total energy** of the cell. useful in comparing cells with different run times or voltages
- **discharge rate**
- **cut-off voltage**

## V-Max RDS

**Team Orion V-Max Plus RDS cells have been processed with high current (V-Max) to permanently increase voltage output and lower internal resistance. After a triple cycling period and V-Max processing the cells are tested using RDS (race discharge simulation) on sophisticated Lavco computer controlled testing equipment in a climate-controlled environment. Linear charging and RDS are utilized to most realistically portray the actual discharge the cells will experience and to eliminate weak cells.**

### Battery Discharge Curves




**Initially, the RC-3000HV performs like most other cells, but once the discharge is 1/3 complete the RC-3000HV maintains a higher voltage for the remainder of the discharge. Higher voltage means more power!**

## battery bones

Coming Soon!

**Team Orion Battery Bones eliminate the need for heat trapping silicones, goops, and adhesives by providing a rigid skeleton for your expensive battery pack. The Bone's sharp edges work with solder to establish a permanent, low resistance connection. Copper, Silver, Gold, or Platinum versions are available in bags of 8 or 100 pieces.**






## Element 19 Turn Modified

**One of the fastest growing classes in both on and off-road is Spec 19-turn Modified. With this in mind, it was time to introduce Team Orion's TOP technology to this class. The Element is based on Team Orion's World Championship winning design and features a tagged armature, 19 turns of 19 gauge wire, dual ball bearings, removable endbell equipped with laydown brushes and surface mount capacitors, fixed 24 degree timing, and all new G12 high power wet magnets. These features combine to produce a powerful combination that is tough to beat.**

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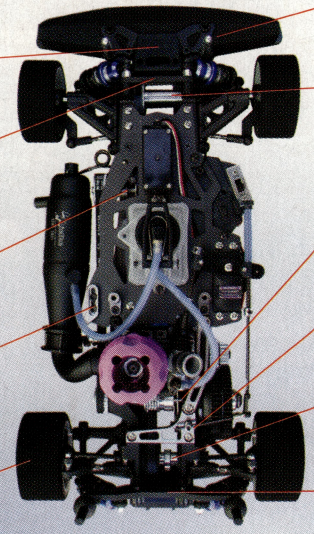
# Kawahara Racing

## V-One-R



K-440 Front Sway Bar

K-425 Carbon Shock Tower

K-415 Mid BB Block

A-011 Side Belt Tensioner

K-417 Wide Hex Hub

K-809 Body Mount Short

K-431, K-802 Front One-Way

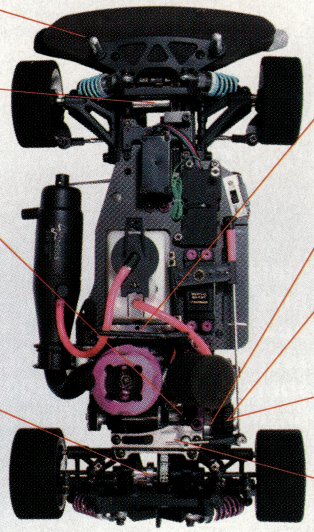
K-710 Vented Brake Rotor

K-419 Brake Top Plate

K-435, K-805 Solid Rear Axle

K-426 Carbon Shock Tower

## MTX-2



K-717 Mid BB Block

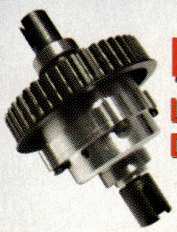
K-714 24T Alum Pulley

K-723 LTWT 1st Gear Housing

K-731 Two Speed

K-716 Alloy Brake Top Plate

K-418 Narrow Hex Hub, V1R
K-421 Pro Chassis, V1R
K-424 Graphite Radio Tray, V1R
K-427 Wide Bumper, V1R
K-431 Front One-Way, V1R
K-718 Graphite Radio Tray, MTX2
K-719 Chassis, MTX2
K-720 70-75 Pivot Balls MTX2



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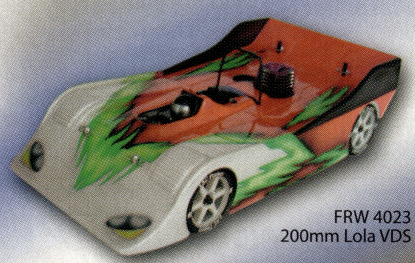
FRW 4028
200mm Porche 962



FRW 4023
200mm Lola VDS

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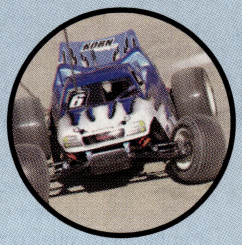
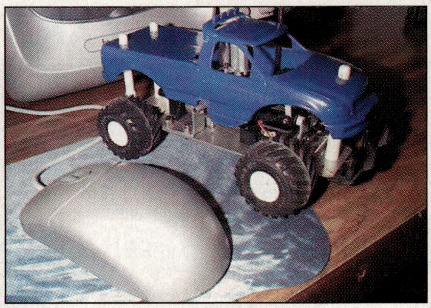
# UP FRONT





READERS' RIGS [PAGE 12]



NEWS [PAGE 14]



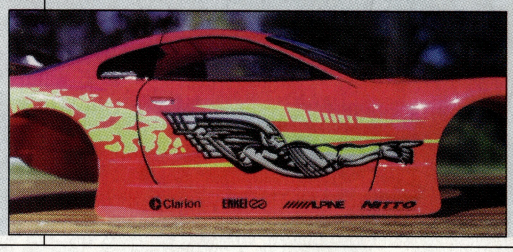
TRUCK COLUMN [PAGE 20]

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!

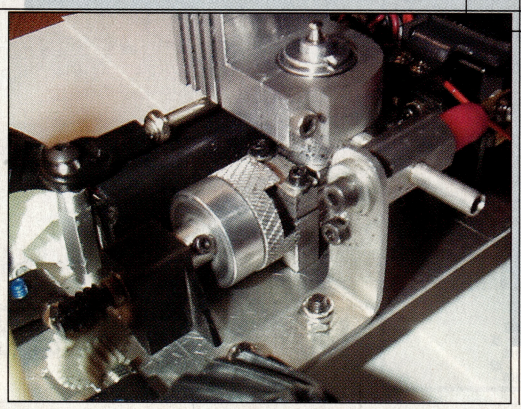
## FAST AND SOMEWHAT ANGRY



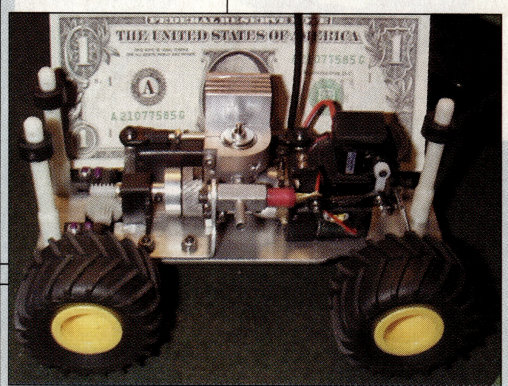
Twenty-five year old Lars Peterman from Cape Girardeau, Missouri, tells us that it took him about 30 hours to complete the paint job on this 200mm HPI Toyota Supra body. Lars, a graphic designer by trade, chose to recreate the one-of-a-kind Troy Lee graphics which appeared on the "star" Supra in the movie "The Fast and the Furious." Lars used light sea gray, light green and competition orange, and tells us that all of the graphic work was actually done from the inside of the body. Great work, Lars. Now, when are you going to mount the body to a chassis?





## WORLD'S SMALLEST NITRO TRUCK



This amazing home-built project comes from Steven Fileccia of Waterford, Michigan. Steve submitted these photos of what he claims is the smallest nitro-powered R/C truck in the world. Steve based his project on a 1/32-scale snap-together model of the "Bigfoot" monster truck, and converted the model to R/C by designing a custom chassis. Steve's truck is powered by a minuscule Cox .020 glow engine, for which he fabricated a flywheel, clutch, clutch bell and heat-sink cylinder head. Steve says that the truck is very "driveable," and that even he was surprised by the performance of such a tiny model. Look for more from Steve in the future, including a new "micro nitro" vehicle he has designed on AutoCad solid-modeling.

# Rip It Up! NITRO RUSTLER

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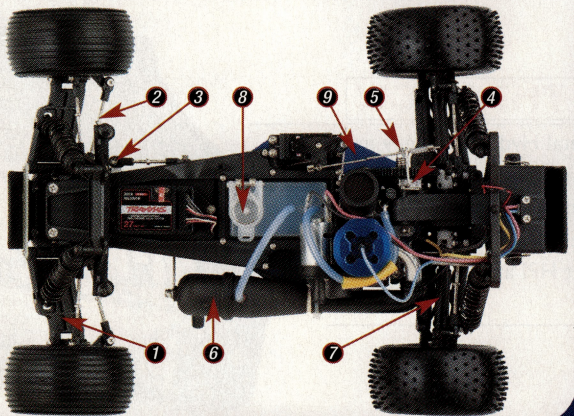
- The deep chrome beauty of the TRX Pro Star™ wheels provide stunning good looks at no extra cost.
- It's easy to make Nitro Rustler even more competitive with optional Traxxas accessories, including carbon fiber disk brake, on-board tempature gauge, pro ball differential and blue-anodized tuned pipe.

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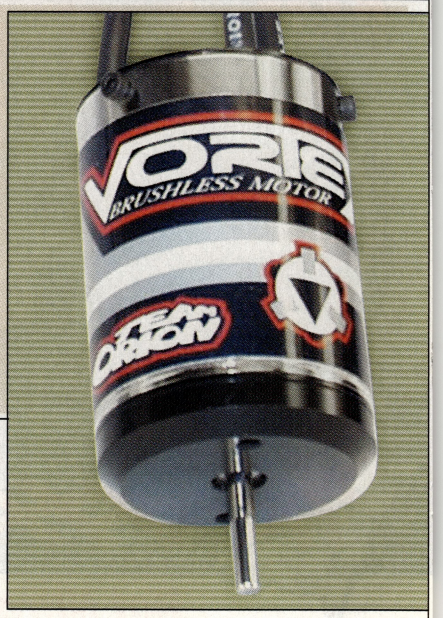
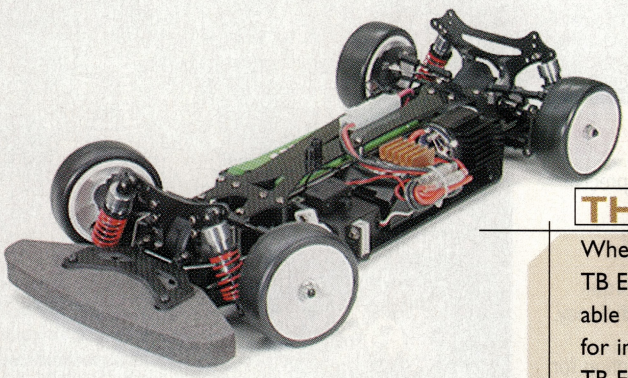
## TEAM ORION LAUNCHES ITS BRUSHLESS MOTOR

In January of 2002, Orion will release its own brushless motor, the Vortex. The Vortex uses new, sensorless technology, and it requires no special wiring to control it. The software of the controller controls everything. The Vortex offers several advantages over conventional motors, yet is the same size as a regular 540 motor. These advantages include: more power, longer run time, improved efficiency, longer motor life, less maintenance costs and reduced electrical noise. Orion states that the Vortex falls within IFMAR rules concerning size and magnet type (it uses ferrite magnets). The motor shaft is 3.2 mm in diameter so it can accept standard pinion gears.

Like all brushless motors, the Vortex can only be used with a specially designed speed control; however, the new sensorless technology allows the Vortex to function with any controller as long as it has been designed for sensorless brushless motors. There are already several of these types of controllers on the market, and Orion will also offer one in the near future. Contact Team Orion at (714) 694-2812 for more information.



## THE TB EVOLVES AGAIN

When we reviewed Tamiya's limited-release 1/10-scale electric sedan, the TB Evolution, we found it to be a needs-nothing racer with every conceivable hop-up already in place. We were wrong: Tamiya has found more room for improvement, and has released an even more trick version called the TB Evolution II. Tamiya is claiming improved control with better left-right balance and higher top speed for the new chassis. Among the Evo II's multitude of option parts, the most impressive are the new aluminum suspension mounts (that allow adjustment of the front/rear arms' rake), and aluminum side bulkheads that strengthen the gearbox areas. Contact Tamiya America at 1-800 TAMIYA-A for release information and pricing.

## DOES YOUR MICRO HAVE THE JUICE?

HPI is now offering a high-performance Nickel-Metal Hydride battery pack for its popular Micro RS4. With its high 1100mAh capacity and impressive voltage (6V), the new NiMH pack will not only juice-up your Micro RS4's top speed, but it will provide a noticeable increase in run time. The Micro RS4 NiMH pack (no. 2214) retails for $36. Contact HPI at (949) 753-1099 for more information.



# DRIVING A XXX-NT DOES HAVE ITS DOWNSIDE



## 2001 XXX-NT RACE WINS

**NORRCA World Championships**
**NORRCA National Championships**
**Silver State Nitro Challenge**
Hot Rod Hobbies Shoot Out
Nitro Challenge
Midwest Winter Gas Championships

## ALL THOSE PESKY TROPHIES, FOR ONE THING.

As if the guys who drive our XXX-NT haven't enough to do. On top of winning races, posing for photos and celebrating, they also have to find a place for all those awards and trophies. But hey, that's why we put all our technical know-how, advanced materials, proven engineering and years of race-winning experience into its design. The XXX-NT not only helps expert drivers like Adam Drake put the prestigious Nitro Truck World Cup on his shelf, it also lets teenagers like Davis Moran take home the tough eight-race California Nitro Truck Series trophy. So you see, you don't have to be a pro to get into the nitro-burning, track-smoking XXX-NT action. You don't even have to enter a race. But you might want to free up some shelf space just the same.

ENGINEERING WINS

NITRO TRUCK

Team Losi
ENGINEERING WINS

www.teamlosi.com

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HORIZON HOBBY

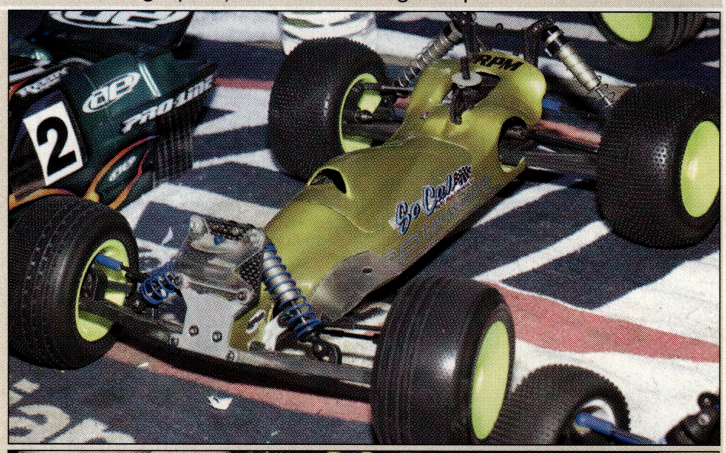


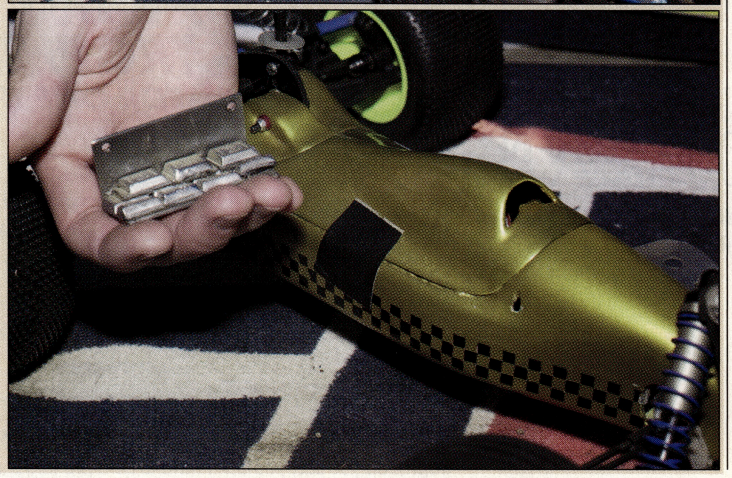




## TEUTONIC TC3 BUGGY

We first saw Gerde Strenge's custom-made TC3 off-road buggy at the 2000 Reedy Truck Race of Champions. At this year's event, Gerde showed us is latest version, called the Durango. The clever German racer/fabricator has made numerous improvements to his original car, including the addition of more-forgiving Delrin suspension arms and a really neat elongated center driveshaft with its own one-way bearing. The new Durango cars have already made a splash on the Euro racing scene, but when asked if we could see a conversion kit soon, we were told that it would be too expensive as it is now. Gerde also showed us his latest project: a custom T3 race truck that uses a radical molded-carbon chassis. The bullet-shaped chassis is not only stiffer than stock, but it's so light that Gerde needs to add several ounces of lead weight (mounted to a custom rear angle-plate) to meet the weight requirements at races.





## ROAR RULE CHANGES

A recent vote amongst the ROAR membership has resulted in the following rule changes; 78 percent voted to allow foam tires for electric touring car racing on carpet, while 63 percent voted to lengthen modified touring car races from four minutes to five, and to prohibit motors of fewer than 10 turns. Also, congratulations to new ROAR Vice President Mike Queller, who was voted into office on November 15 by an overwhelming 68-percent.

## TEAM LOSI OFF-ROAD CHAMPIONSHIPS

Losi has just announced its first annual Off-Road Championships race will be held April 12-14 at the Minnreg R/C Club in Clearwater, Florida (the site of last year's ROAR nats). Factory Losi drivers scheduled to participate in the Factory Modified class include Matt Francis, Brian Kinwald, Brian Dunbar and Adam Drake. There will also be Sportsman Modified classes as well as Sportsman Stock classes, which include handout tires and motor.



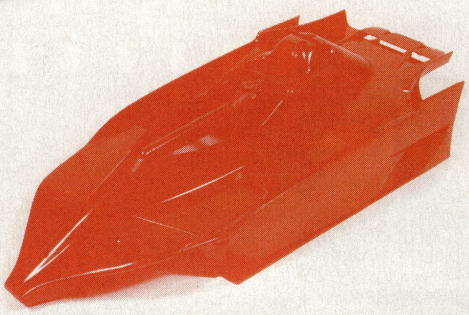
## SWEET SUPER-HOOPS

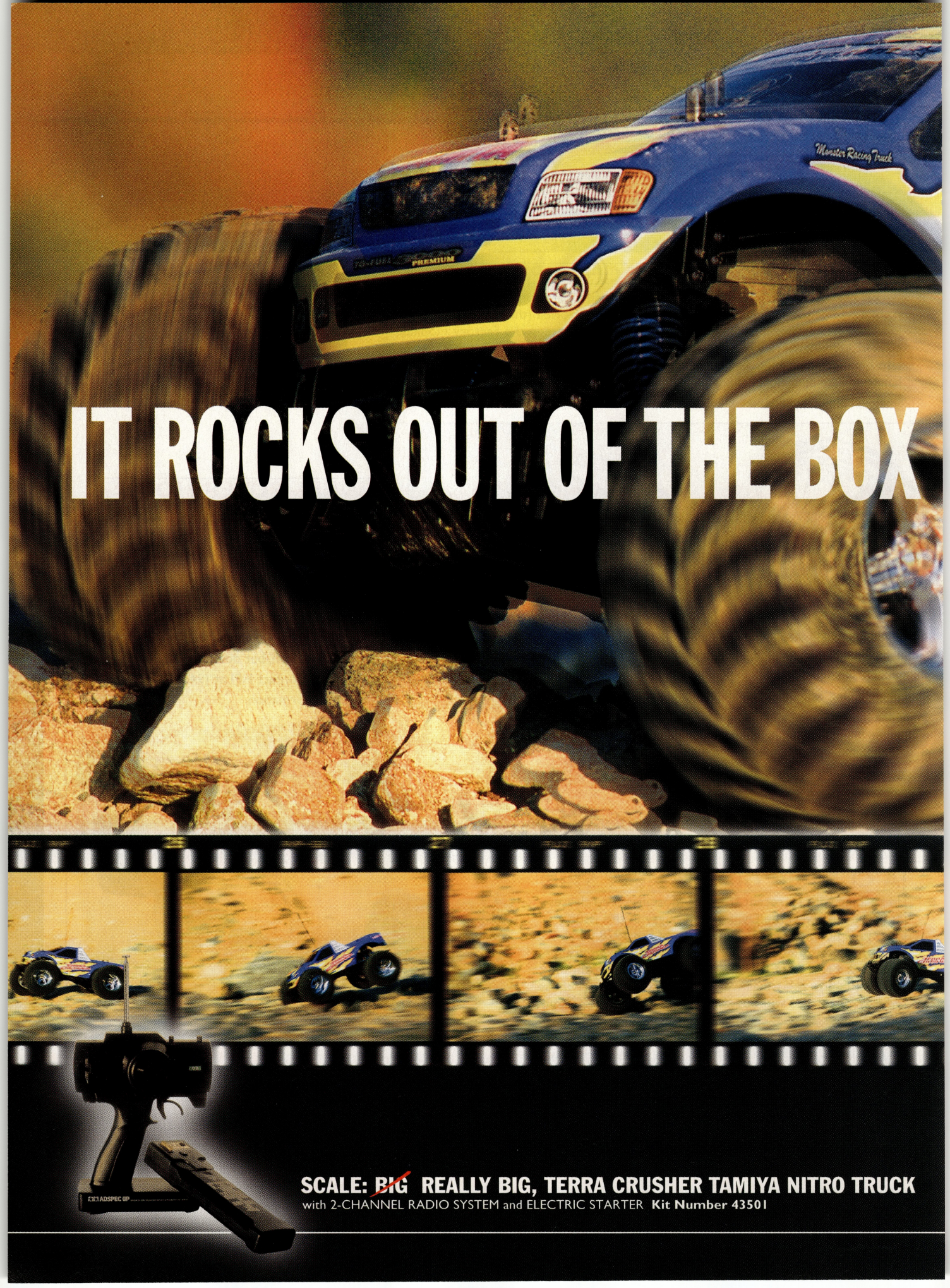
If you're looking to add some glitz to your Super Nitro RS4, HPI has just the thing with its new Gold Mesh wheels (no 3039). Unlike some "metal" finished wheels, HPI has double-plated these stylish rims with chrome and gold finishes for superior looks and durability. The 57x35mm wheels are almost too pretty to run, but don't worry, they're tough, too! Contact HPI at (949) 753-1099 for more information.

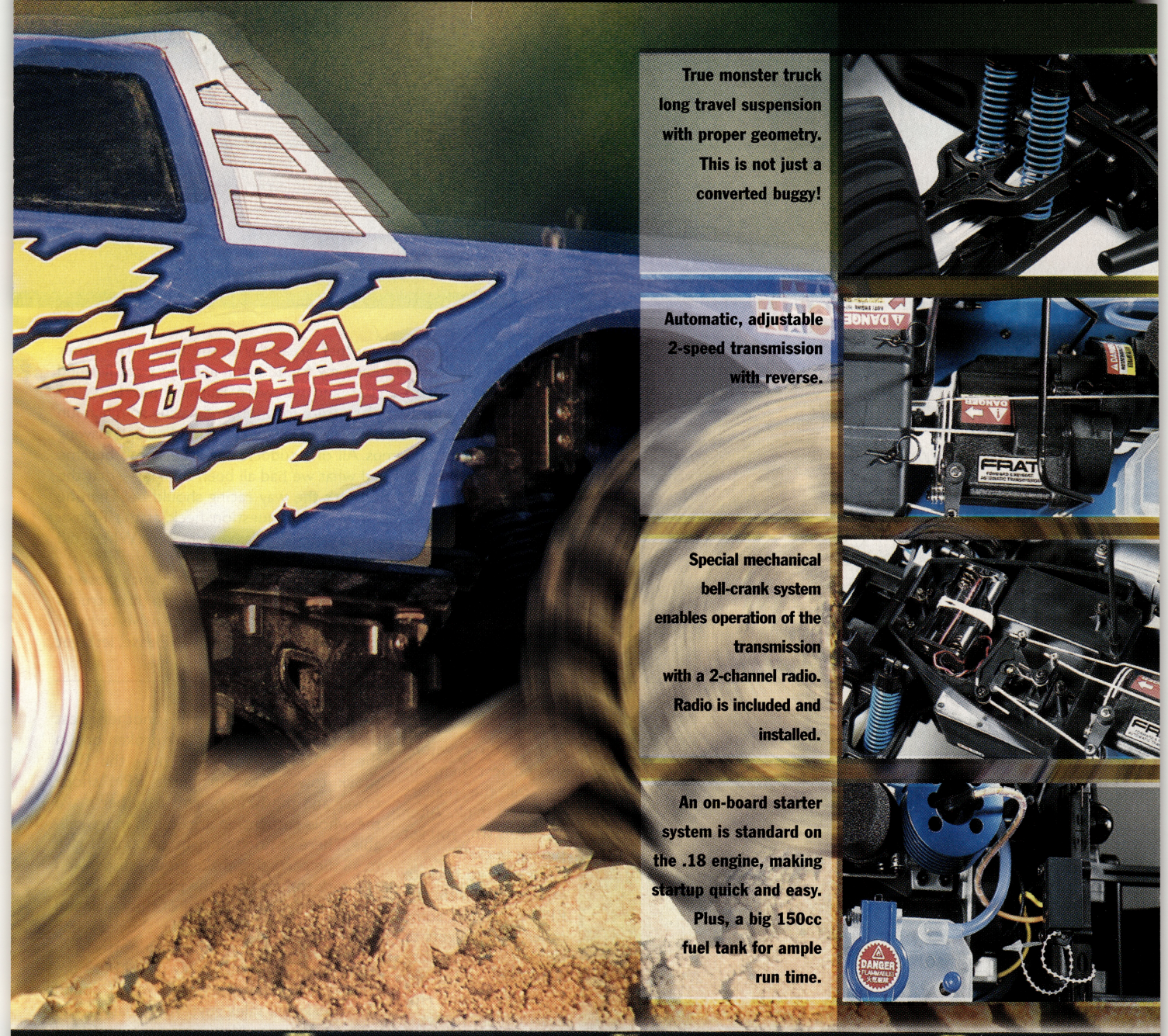
## A CLASSIC GETS A NEW SPIN

In keeping with its recent trend of "nostalgic" re-releases (see the review of the Dyna Storm buggy in this issue), Tamiya is now offering an all-new kit of the 1978 Ferrari 312T3 Reutemann/Villeneuve F1 racer. Two bodies are included: a replica of the injection-molded body from the original Tamiya release as well as a Lexan version for those who want to race without risking the injection shell. Tamiya also includes a set of chrome-plated wheels, as well as two wings: one Lexan and one chrome-plated plastic. The body might be old, but the chassis it sits on is Tamiya's most current F103RS F1 chassis, so if you can actually bring yourself to put this beauty on a track with nine other cars, you'll at least be competitive! Contact Tamiya America at 1-800 TAMIYA-A for more information.




Monster Racing Truck
PREMIUM
IT ROCKS OUT OF THE BOX
ADSPEC GP
SCALE: BIG REALLY BIG, TERRA CRUSHER TAMIYA NITRO TRUCK
with 2-CHANNEL RADIO SYSTEM and ELECTRIC STARTER Kit Number 43501



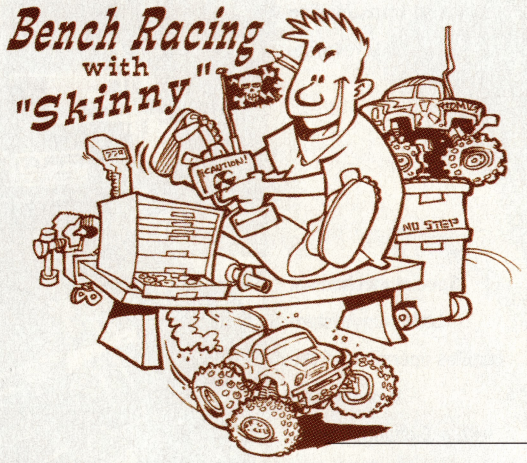



Rocks, Gas and the new 1/8 Scale Terra Crusher Nitro Monster Truck from Tamiya. Powerful ingredients for flat-out maximum fun. Mix in a a 2-channel radio with an on-board electric starter, automatic 2-speed transmission with on-the-fly reverse, full ball bearings, dual disc brakes, with NO assembly required, 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

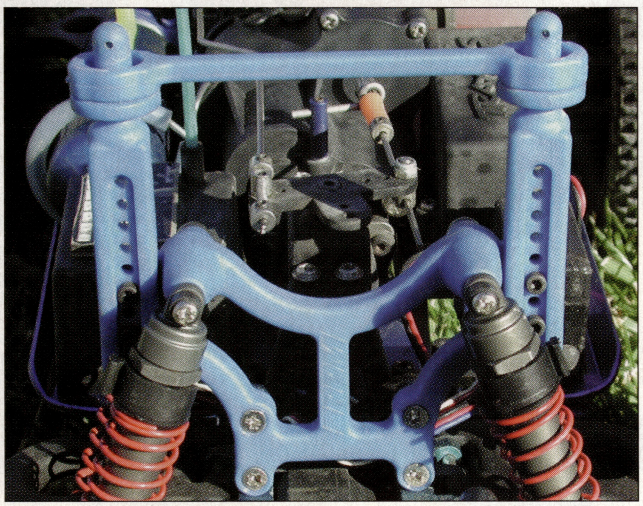
©2002 Tamiya America, Inc. 2 Orion Aliso Viejo, CA 92656 1-800-TAMIYA-A

WWW.TAMIYAUSA.COM




Well boys and girls, it's another great day at the bench. The other night at Hot Rod Hobbies, my friend Justin and I just got finished racing in the Maxx class and we were laughing our butts off because we were battling for first place (rare for me!), and having so much fun slamming each other into the corners trying to get the good line and clawing over each other through the jumps. All of a sudden our little group became quiet, then Mongo spoke up and said what we had all been thinking—that the T-Maxx class is so fun, not as serious. It's the way racing should be! Then he asked why the Maxx class was so small. Good question: heck, at the T-Maxx Challenge this past Summer, there were over 100 Maxxes out here. Where did they all go?

That was Summer and the class was always pretty good. Now it's close to the end of the year (Winter in SoCal…ha!) And I'm lucky if I see three trucks show up! Can you readers help me on this one? Is it too expensive to race? Too hard? Or is it just more fun to go bashing than to race? Please, let's get some mail in here on this. I love racing. What about you?



## BUT IT'S PLASTIC… doh!…NYLON!

Those crazy guys at RPM must never sleep! Or maybe they got a new coffee machine! They just keep coming out with cool and, believe it or not, useful parts. Each month, things go like this: I relentlessly hunt down Frank (that editor guy). We then travel deep into the bowels of *R/C Car* headquarters, down to the secret vault where all the goodies are kept. Frank then throws open the heavy titanium doors, and then, like a kid in a candy store, I get to go shopping for cool stuff to review. This month, Frank threw me this package from RPM. It contained their new T-Maxx shock-tower mount with body posts. I looked at them, and, in a whiny voice, said "Looks good to me, but they're made of plastic!"

"Skinny," says Frank, "you're getting spoiled. Test them out and tell the readers what you think. After all, that is why you get the big bucks!"

So off I go back to my garage with the RPM parts and some other neat gadgets to test. After much late night labor and strong espresso from my new coffee maker, I come out ready to test!

I want to tell you that RPM's shock tower set is sweet! They went on the Maxx in no time and were easier to set up than the stock mounts or aluminum aftermarket setups. I think the type of plastic, ooops, I mean nylon, they use makes it easier to work with! Speaking of which, once all mounted up, the blue towers looked pretty cool. The cross bracing is roomy so you can get tools in and around, and I think for the rear you have enough room through the brace to use a yank eliminator. A very clean and sturdy product.

I found that the RPM flexes a little more than the stock unit and of course way more than aluminum ones. But I think it is a good thing. I run HRC aluminum bulkheads and undercarriage braces along with their TI Skids and the stock pan and that setup is really stiff; you need some give somewhere, so I use the RPM A-arms—another great product from them. I haven't broken one in the last six months! And now the RPM shock tower. Combining the RPM shock tower and the RPM A-arms together make the whole suspension area much more reliable. There is just the right amount of give to all the parts that make up the suspension network to help keep the parts from failing, it adds to the positive feel of the truck and it reduces impact loads to the shocks, giving the shock a little more life than normal.

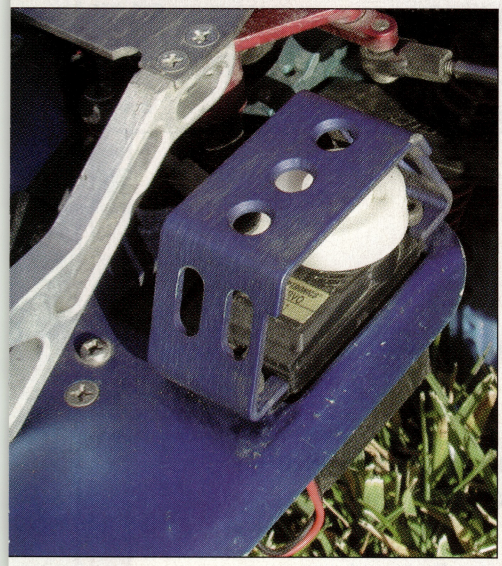
So what I'm trying to say is RPM has the Shiznat…so dope it's Wak! Wow, I sound like a snake oil sales guy! "RPM Plastic! The cure all for your Maxx's suspension. It will cure your dog's fleas, too!" Ah, you get it.

## CAN'T JUDGE A BOOK BY ITS COVER

As I walked around "The Vault" a little Hang Card was sticking up looking at me. The color and graphics struck me! Where did I see Ballistic Stupidity before? Oh yeah! On MaxxTraxx.com, a website devoted to T's & E's. But back then I thought it was a joke—some kid's sig! I never saw anything from them. Well, my friends, you can't judge a book by its cover! I guess it just took some time for them to get going, but man, they got some cool parts!

The part I picked out to test is the BS Servo skidplate for the steering saver, $16.95. Funny, I never knew I needed one! Well, now I put the darn thing on there, and does it ever look trick on the Maxx! When I took it out if the package I could barely feel it! They did a great job in keeping it light;





in fact I think it was lighter than the plastic bag it came in!

There is no stupidity in the design of this skid plate. The lightening holes serve as accesses ports to the screws and the shape makes it so strong that I could actually stand on the thing and not bend it. It's possibly the best skidplate made for this application.

At the track the boys took a look at my Maxx and immediately commented on the skidplate and all of them gave the thumbs up (whew!). They are a tough crowd to please, you know. I raced it for six motos and found that indeed it is protecting. It's got scratches on it and I never knew that my steering saver was getting hit before, Thanks Ballistic, for teaching me something new! Give them a call, e-mail to: *info@ballisticstupidity.com*

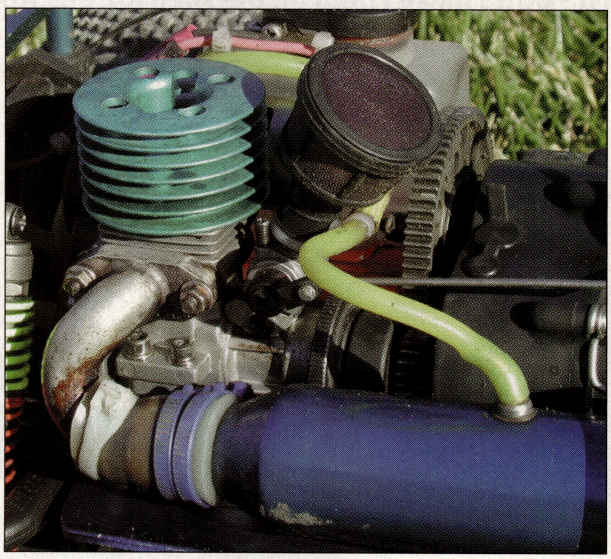
## POLICE, I'D LIKE TO REPORT A THEFT

Yes, yes my friend it's true! Skinny got ripped. No, I was bamboozled. I was robbed, man! Well, I think so anyway. I was to test the dynamite EZ-Start conversion for the OS .15 motors in this issue, but it is MIA! Last Tuesday I had it at the track and the next day I went to pull it out of my tool box and nada! Nothing, man! I don't think my fellow Maxxers would stoop to that level; I think it got misplaced into someone's box, or maybe a bird is using it to line its nest! I don't know; sorry, I'll try to figure it out. My Bad! I will say it works though; I made one for an article way back when, and have had no troubles with it, so why should this be different? That reminds me, I wonder where they got the idea from? Hmm!

## I'LL GIVE THAT HOT BODY AN 18!

Well now, I'm stuck in the middle with you! I think that's how the song goes. And so does our story! Er…test. As I said last column, I had in my hot little hands the new HB (Hot Bodies) .18 only $ 89.99, sorry no international orders please! (phone: 909-296-9340).

I gotta say I really wanted this motor! Most of the time when I do tests, I can call a company and request a sample or a loner so I can do my story…er…test! Well, not this time! I called like a rabid dog for two weeks to no avail!



Then one bright and shiny day I went to Gizmo's Hobbies (818) 842-8200 in Burbank. As I walked in I saw a strange light calling me—calling me! I walk over to the motor department like a zombie, calling me—calling me. Then like the holy grail, there it was, the HB .18! Oh joy! I was so excited I bought it right then and there! Gizmo's is great for off-road cars, well, everything. They got it all, and in abundance too! Good shop! But a word of caution: buy the right part, you'll be stuck with it! They are ruthless on exchanges (hint, hint). Anyhow they filled me in on the motor, they just got it…blah blah…and like Batman, back to the Maxx cave I went!

Now to explain the stuck in the middle pun! I race my Maxx two times a week. The track I race at is Hot Rod Hobbies (by the way, congratulations on your marriage to Patrice, I love you both!). The track is normally set up like a Supercross track! Big jumps, hard corners, Hot Rods will make you a good driver—quick. The tracks he makes are no joke! The dilemma for me was, the way the track is, a .15 is a good motor match to the track—If your truck is stock. The .15 works well in a stock truck because it is light. But the track makes short work of the plastic parts! So mine is beefed up to take the pounding and stay light, so my truck runs over a pound more than stock! (Are you with me?). So now the truck lags and is difficult to drive. Bummer. I was going to a .21, but the guys that race the .21s seem to be all over the place and way overpowered for the kind of track that we run!

I was "Stuck in the Middle" and no where to go! I thought I would see about a motor that was bigger than a .15 but smaller than a .21, so I went looking and lo and behold HB, HPI and K&B all make an .18. All recently, too. Hmmm? The HB was the best price and looks good, so I got it.

What a difference a day makes! The motor pretty much drops in like a .15 but on the track it's anything but the same! It works so well I can't even start to tell you; the motor runs cooler and lays the power down well, even for a single middle-adjust carb! I'm running the stock gearing, ported stock header and a HPI pipe. Same as I was with the 15 OS CV-hyper super duper whatever. And I'll end it like this.

I have raced three times on it now for a total of nine motos or 60 minutes, and my driving is—I can't even believe how well I'm doing! In fact I raced with the buggies last time and was totally hanging with them—got third, and pulled a holeshot! See you next month!

File Edit Mailbox Message Transfer Special Window Help 4:14 PM

Hard Drive

Race Secret

COOL RACER, FRIDAY, GOT SPEED?

GOT SPEED?

From: COOL RACER (fastguy@gotspeed.com)
To: JOE RACER (joeyr@racenut.com)

YO JOEY,

Bro, at the next club race, get ready to see how it's done. I got the new "SPEED SERIES" body from DEANS. That's right they're finally here!!!

Here's the view I'll be seeing during the race. You'll see it in the pits. Sorry dude, I didn't get a shot of your view, you know THE BACK OF MY TRUCK!

Gotta charge bro – Gotta make room on the shelf for this weekend's trophy.

Later,
Cool Racer




deans

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Trash

*E-mail your letters direct to the editors! You can get ahold of Frank Masi at evaone@pacbell.net or Doogie at doogie@hi-torque.com. 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*

## WELCOME BACK

I'm just getting back to R/C and have previously owned Tamiya cars (Blackfoot, Super Blackfoot, Manta Ray and Super Hornet). I have three choices for cars and they are all for off-road. They are the Kyosho Ultima RB Sports Type R, the DuraTrax Evader and maybe even the Kyosho Inferno MP-7.5 Sports. I would just like to know which would be best for a guy just coming back into R/C, and which has the best durability and performance. I like building things, so any kit is okay.

N.C.
via *rc-car.com*

*There are two versions of the Ultima RB, and you've mentioned them both as one model. The Type R is a racing kit that doesn't include any electronics, while the RB Sports comes as a RTR with a radio installed (you can also buy a nitro-powered Ultima RB Sports). The Evader is a decent sport-level truck (if you ever want to race, look elsewhere) that is available RTR with radio or pre-built without radio. Finally, the MP-7.5 Sports comes partially assembled with a Kyosho .21 pull-start engine. All three are good choices, but if it's performance you're after, stick with the Type R Ultima or the MP-7.5. The RTR Ultima and Evader might prove a little slow for you in stock trim, so you might need to drop some extra cash on a hotter motor.*

I've been out of R/C for about nine years (I used to race a Yokomo YZ-10). I want to get back into it. I don't want to deal with batteries any more. In your opinion, what gas-powered truck should I consider? I'd like something that is very fast, durable and user-friendly. I've never worked with gas engines, so I'd like something that doesn't require a lot of tuning. Oh yeah, I'd like something that's pretty much ready-to-run. I don't have time to put one together. I know it's important to build it, but again, I want something that's ready to go.

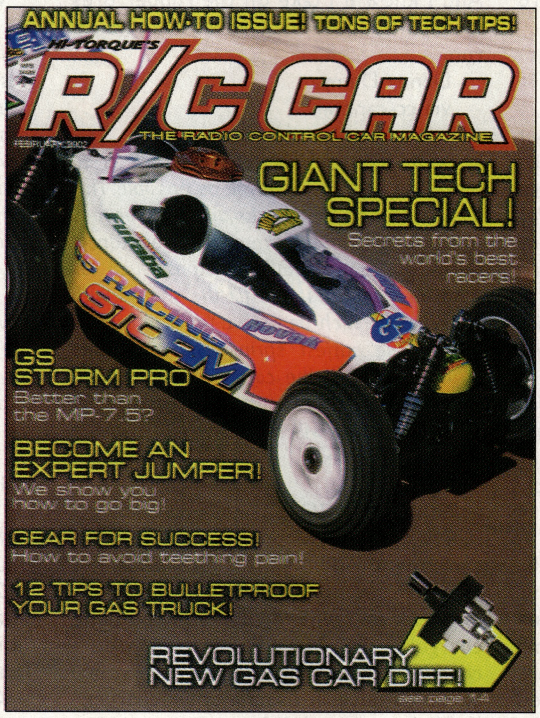
Rich
via *rc-car.com*

*Let's see: something in a fast, ready-to-run gas truck... And the choices are Traxxas T-Maxx (big, fast, cool and durable), HPI Nitro MT RTR (a 4WD stadium-type truck), DuraTrax Maximum (2WD stadium or monster truck), Kyosho Ultima ST Racing Sports (2WD race truck), Team Associated RC10GT RTR.*

## IDLE HANDS

When I press the brake on my gas car, the engine shuts off. How would I fix that? Also, what kind of part do I need to make my gas car go in reverse?

Frank [*good name*]
via *rc-car.com*




*The answer is simple: you've set your engine's idle speed using the transmitter's throttle trim rather than by using the carburetor's idle-stop screw. So when you apply brakes, the throttle linkage moves past the idle setting and the engine stalls. To fix this, simply increase the engine's idle by turning the idle-stop screw clockwise until the engine no longer stalls under braking. If you want reverse from a gas car, you'll have to buy either a Traxxas T-Maxx or a Kyosho QRC vechicle. Reverse in a nitro vehicle requires a specially built transmission.*

## CHANGE THE FREQUENCY

How do you change the frequency on a T-Maxx stock controller and receiver, and how much will it cost? Also, how far apart should the frequencies be to avoid interference between me and my buddies?

Brent Shelton
via rc-car.com

*Brent, all you need to change frequencies is a relatively inexpensive pair of crystals. The set will contain one transmitter crystal and one receiver crystal (they are designated for this purpose, and won't work otherwise). Expect to pay about $15 for the pair (you're lucky, as AM crystals are cheaper than FM - and your truck is AM). You can get the crystals from most hobby shops, or directly from Traxxas. All Traxxas trucks are on 27mHz, which means that there are just six "legal" (regulated by the FCC) frequencies available in the U.S. As long as you and one of your buddies aren't on the exact same channel, there won't be any interference.*

## TRUCK STEERING

What type of servo is good to put in my Associated T3 Team kit?

Daniel Adkins
via rc-car.com

*Daniel, since trucks have larger (and heavier) tires, you'll need a servo that's a bit more powerful than the average servo. When shopping, look for a servo that produces at least 50 oz/in. of torque (most servo manufacturers provide this information on the servo's package. If not, ask the hobby dealer). Speed isn't as important, however if you want your truck to be as responsive as possible, use a servo that has a transit speed of at least 0.12 seconds (to 60 degrees). Brand is less important than these specifications, however more expensive servos, such as those that are digital, are usually worth the money*

## COOKED MILL

I am a rookie to the R/C sport. I own four gas-powered cars and I am having some trouble with my first. It is an HPI with a 15FE engine. After the car runs for five minutes and warms up, it loses power when I give it full throttle.

Ariel Perera
via rc-car.com

*It sounds to us like your engine could be overheating, which would explain the loss of power. Try richening the air/fuel mixture and see if that doesn't cure the problem. Hopefully, the engine will run fine, but if it has been "cooked," you may need to replace the piston and cylinder sleeve to bring it back to like-new specs.*

### RACE-LEGAL RTR?

I have a DuraTrax Maximum MT Pro and I was wondering if I could race it on a sanctioned race track.Since this is my first "real" R/C nitro truck,I would like to know. It has a pull start Torq .16 engine.

David
via rc-car.com

*David, according to ROAR rules, your truck's engine is too large to be considered legal However, we have yet to see a track owner turn away anyone on a race day (unless the event is officially sanctioned by ROAR or NORRCA). In other words, you'll probably be allowed to run your truck at most club races, regardless of the track's rules - most track owners wll (or should) view you as a valuable customer who may one day move up to a full race truck (which they'll be happy to sell you). Aside from this, our only advice is that you hone your driving skill and put on the right tires for the track.*

### KILLER KING CABS

Hi Guys! I have a couple of trucks that are probably older than a lot of your readers - Tamiya King Cabs. They currently have11-turn motors, and are using the standard 18/77 gearing. They were purchased with the modifieds installed and are plenty fast. I would actually like to slow them down with a higher-turn motor. Any recommendations? Also, I've heard that Tamiya uses a different pitch gear than that standard 48. Do they sell a smaller pinion, say a 16 tooth? Thanks for the help.

Kevin
via rc-car.com

*Yes, an 11-turn motor in a Tamiya King Cab is a bit of overkill. We recommend that you install a good machine-wound modified motor in the 14-17 turn range. Spending the extra money on a hand-wound motor would probably be a waste of your money, as it doesn't sound as if you plan on entering the ROAR nationals anytime soon. The gears in most Tamiya kits are of metric pitch. The good news is that you can order replacement gears of various sizes from Tamiya and Robinson Racing.*

### FLIPPING BUGGY

I have an Associated B3 buggy that I race on a carpet track with rubber tires, and I have a problem with it rolling.The track is tight, and I don't know which oil and springs to use. Can you help me? And I know if i take off the rubber tires it will help, but that's what we have to run.

Danny Demyan
via rc-car.com

*Your goal for this type of track is to make the car as stiff in roll as possible. This includes tuning the shocks and camber-rods (roll center) for optimum roll-resistance. Begin by using smaller pistons such as Associated's no. 3s, and fill the shocks with a thicker oil such as 60 wt. You'll also want to run the stiffest springs you can find. Experiment with the camber-rod positions, but in general, try to make them as short as possible, as this will reduce weight transfer from side-to-side.*

### MISINFORMED

My question is about batteries. I can't seem to find all the info about proper charging, discharging, conditioning, peak chargers versus 15 min. timer chargers. Like what's the difference? I read elsewhere that you will burn your batteries out just using a timer charger. If this is too much info maybe you can point me in the right direction.

Kenneth Clark
via rc-car.com

*Most battery manufactuers include charging and care instructions with their packs. In general, NiMH batteries are more sensitive to overcharging than NiCd batteries, so if you decide to purchase NiMH packs, you should also invest in a peak-detection charger, preferrably one that is designed to charge these cells. Otherwise, you'll find that NiCd cells are pretty easy to live with. You can charge them on almost any type of charger - including timer chargers. The only danger involved with timer chargers is that they can overcharge the battery if left on too long. Never operate a timer charger unless you will be there to monitor the pack's temperature.*

### THE NITTY GRITTY

I have an Associated RC10GT and I was wondering if it would do any damage to my truck if I brought it into the sand?

Jason Malsom
via rc-car.com

*Jason, the problem with sand is that it gets everywhere - inside bearings, between gear teeth, and even inside gearboxes. And those tiny particles can wreak havoc on any moving part. In addition, running in sand creates a substantial load on the engine, and may cause it to overheat. You can run your truck in the sand, but we advise that you carefully clean all moving parts after the run, such as bearings and gears. You may also want to richen the engine slightly and do everything possible to increase airflow over the cylinder head (enlarge window cutouts, etc.) to keep it running cool.*

### IN SEARCH OF TEKIN

I've been out of running my RC cars for about 19 months (I was in Kosovo with the Army) and I was wondering what happened to Tekin. I own a Tekin G12cIII ESC, and was worried I wouldn't be able to get assistance with it anymore. What's the scoop?
Thanks!

Carl Croushore
via rc-car.com

*Carl, all signs seem to indicate that Tekin is either temporarily or permanently out of business. Tekin closed its service department in June of 2001 to all but warantee repairs, and they say that all requests for non-warrantee repairs will be sent back COD. If you have a warantee issue, send your Tekin product to Tekin Electronics, 940 Calle Negocio, San Clemente, Ca 92673. Be sure to write "Attention service department" on the package. The only way to reach Tekin seems to be by fax (949) 498-6339.* ❑

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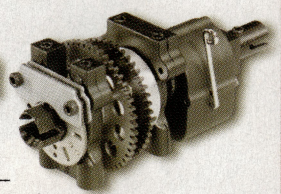

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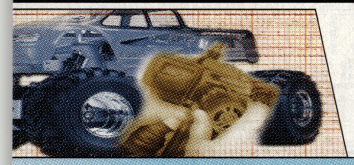


# Kyosho Mega Force

Not a Chuck Norris flick.



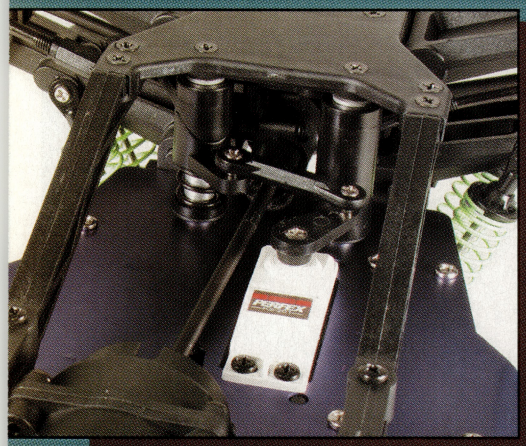
If you're seeing Kyosho's new Mega Force monster truck for the first time, there's no need to rub your eyes—yes, we also think that it bears quite a striking resemblance to the Traxxas T-Maxx. But can you blame Kyosho? The T-Maxx has reigned as the supreme nitro monster truck for going on two years without any serious challenges. If we made trucks instead of magazines, we'd have had a T-Maxx-type truck long ago. In fact, we're surprised that it's taken this long for someone to build up the courage to go head-to-head with the T-Maxx. And yes, whether Kyosho admits it or not, the Mega Force lands smack-dab in Maxx country, and will be considered as an alternate buy.

On paper and in person, the Mega Force and the T-Maxx share many things. They're both pre-assembled, RTR 4WD monster trucks that are powered by .15 engines. They both have a centrally located reversing transmission (although Kyosho gets the nod for inventing a reversing nitro gearbox—they did it five years ago) that sends power to all four wheels via a pair of longitudinal driveshafts and sealed gear diffs. Both trucks also feature four-wheel independent suspension with upper and lower wishbones and two oil-filled shocks at each corner. The topper is that both truck rely on an on-board starting system—Traxxas calls theirs the EZ-Start, while Kyosho's is named the Touch Starter. For you historians out there, neither company can actually lay claim to inventing this type of starter, as KO Propo offered a similar bolt-on system years prior.

As you read this review, you will undoubtedly find numerous comparisons with, and mentions of, the T-Maxx. This is not because we are biased towards the Traxxas truck, but if the Mega Force is to be considered a viable competitor, we, and you, should know how it stacks up in features, value and performance.

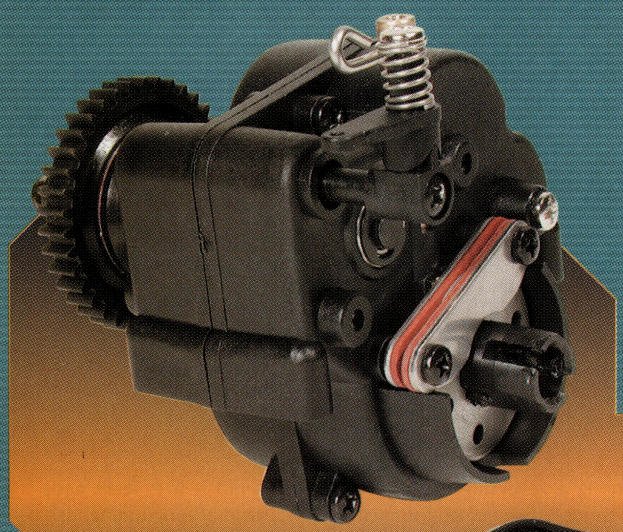
## but it does have a mean kick!

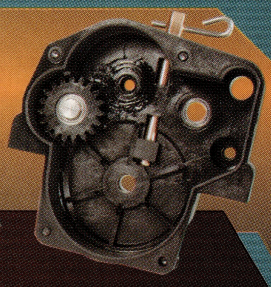
# Kyosho Mega Force



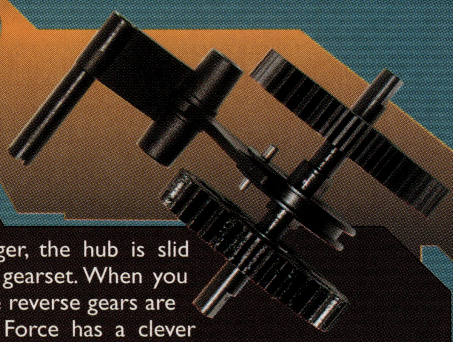
The Mega Force's "superstructure" consists of a raised, 2mm-thick blue-anodized aluminum chassis plate. The actual suspension and drive-train parts are hung below the chassis. This design helps keep the truck's sensitive parts up and out of harm's way, plus it allows for improved ground clearance and suspension articulation. We had to check the R/C Car archives to see which company—Kyosho or Traxxas—came up with this particular chassis layout first. The original Kyosho QRC nitro truck (the Snake Bite) had a central transmission (although it was open to the elements), but its engine was on the left side and its fuel tank was placed mid-ship on the right. The Kyosho's radio box was plopped all the way up front, although its steering servo did protrude beneath the chassis, as does that of the T-Maxx. Visually, the Mega Force's chassis layout is nearly a dead ringer for that of the T-Maxx, with the engine on the right, the fuel tank on the left, and the throttle/shift servo in the forward-right corner. We like the large, 125cc fuel tank which provides for longer run times, as well as the commodious radio box.







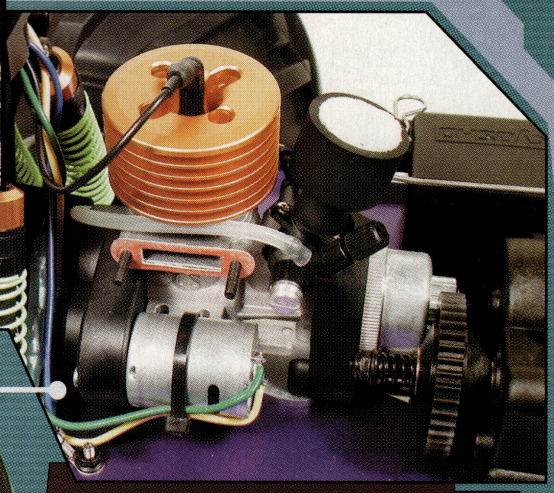




A sealed version of the Kyosho QRC (Quick Reverse Clutch) transmission forms the heart of the Mega Force. Here's how to have reverse in a nitro vehicle: inside the gearbox are two distinct gearsets. The reverse set consists of two gears, the forward set has three. When the transmission spins, the bottom gear of the reverse gearset spins in the opposite direction of its top input gear. But because the forward gearset has a middle (counter) gear, its bottom gear spins in the same direction as its top gear. So while the engine spins both top gears simultaneously, one bottom gear is always spinning forward, while the other bottom gear spins in reverse. Which direction the truck travels depends on which gearset is engaged. The QRC uses a sliding hub that engages either bottom gear using a metal pin. When you pull forward on the radio's throttle trigger, the hub is slid against the forward gearset. When you push for reverse, the reverse gears are engaged. The Mega Force has a clever linkage system that also applies the throttle when reverse is selected.

This updated QRC gearbox has a couple of new features: first, the spur gear (the gear that's driven by the engine) now incorporates an adjustable slipper clutch to help absorb drivetrain shock. The forward transmission outdrive is now equipped with a large disc brake. Unfortunately, the brake can't be used if the truck is set up for reverse. Kyosho provides an additional set of linkage to provide forward-only/brake operation.





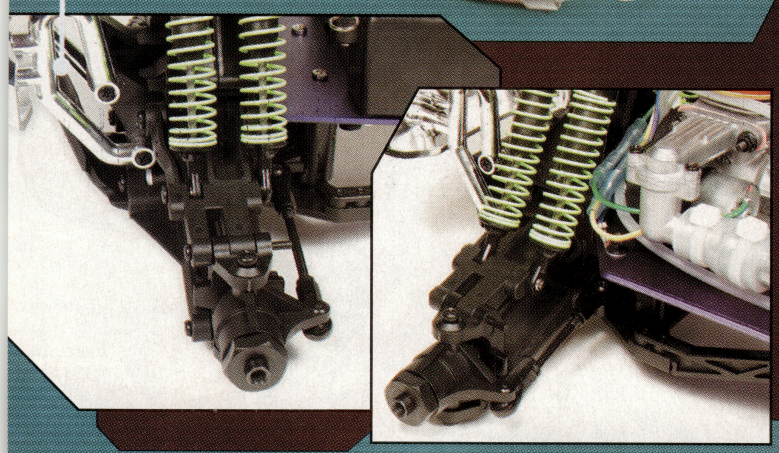
## OUTSTANDING FEATURES



The original QRC vehicles came with rather wimpy (for a truck) .11 engines. Either Kyosho has beefed-up the QRC, or perhaps realized that the gears were tougher than they had originally thought, because the Mega Force is equipped with a larger and more powerful .15 engine (Kyosho's GS-15R, to be exact). The engine comes with a composite single-needle carb, which makes for easy tuning, but limits overall performance because it lacks a low-speed needle. Kyosho also makes a two-needle carb for this engine, but access to the low-speed needle would be utterly prohibited by the fuel tank. We plan on fitting the two-needle carb to our Mega Force—we'll just adjust the low-speed needle with the fuel tank moved out of the way then reinstall the tank once the engine is tuned.

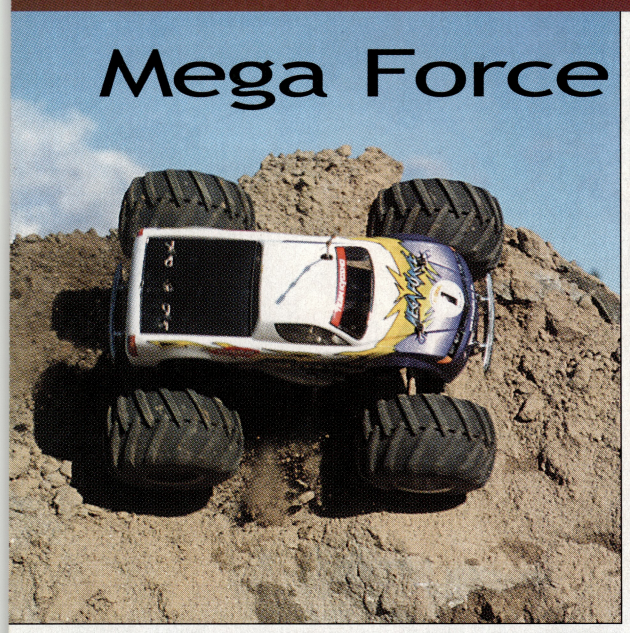
Like the Traxxas EZ-Start, Kyosho's Touch Start system uses an on-board 380-sized electric motor to spin the engine. A provided six-cell stick pack is used to power the Touch Start: the battery is plugged into a socket atop the rear shock tower. Not only does the battery power the starter motor, it also heats the glow-plug. Kyosho also includes an overnight wall charger for the starter battery.

We're glad to see that the Mega Force has Kyosho's less restrictive Silent Streak muffler instead of the choking airplane-type muffler found on the original QRC vehicles. A two-stage air filter is included; however, it's very small and will probably limit performance. Our advice is to fit the largest foam-type filter you can find. The engine will breathe better and make more power.



The Mega Force is suspended by a pair of upper and lower A-arms at each corner. An upper arm provides more strength to the spindle than would a traditional camber-rod; however, this design doesn't allow for camber adjustment. Each set of arms is damped by a pair of plastic oil-filled shocks with firm springs. Unlike most trucks, the shocks are attached to the upper arm instead of the lower—we're not quite sure why Kyosho did this except perhaps to provide clearance for the steering linkage. The truck uses identical uprights and spindles at all four wheels, giving you the ability to set the rear wheels' toe-in through a tie-rod that holds the rear spindles in place. One feature we found interesting is the hubs, which are the same sized hexes as those used on most popular 1/8-scale buggies, so just about any buggy wheel can be used on the Mega Force. The wheels are held on not by traditional locknuts but by screws, just like the MP-7.5 buggy.

# Mega Force











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## REPORT CARD

Test location: Hot Rod Hobbies in Saugus, CA; Pierce College cross-country course in Woodland Hills, CA

Track type: Hard-packed stadium-style off-road track, chalk-clay compound

**Engine: C+**

Out of the box, the GS-15R was difficult to start. The needle was open too far, and the small-diameter fuel line created a siphon effect that flooded the engine too easily. Lacks low-end punch because it doesn't have a low-end needle. Mid to top-end power is actually pretty good. Once broken in, the engine seemed to be very reliable, and we easily finished a 12-minute race without so much as hiccup.

**Acceleration and speed: C+**

Compared to other trucks in its class, the Mega Force is sluggish off the line. The engine is limited by the stock gearing, which is obviously tailored more for climbing than for speed, a situation that could easily be remedied by a two-speed. Top speed is good, but again, the gearing places the Mega Force at a disadvantage. The truck is really set up for low-speed off-roading more so than high-speed running, however crawling over obstacles and climbing hills would be aided by a low-end needle and the improved throttle response that would result.

**Steering: B**

When the Mega Force is moving, steering is decent. However, when at a standstill, the anemic stock servo is utterly at a loss to move the massive front tires. The steering and suspension geometry provided nimble handling on the hard-packed Hot Rod track, but tended to plow in sandy conditions. On soft dirt, the steering was quick and predictable.

**Suspension: B**

The suspension was fairly balanced for the layout of the Mega Force. The setting of the shocks acted like that of a full-sized monster truck: bouncy but predictable. The truck was really stable in the air; one of the better jumpers in its class. Although the suspension felt "springy," it didn't kick as badly as we had thought it would. Low-speed climbing and crawling are the Mega Force's strongest suit. Compliance and traction is definitely class-leading.

**Durability: C**

We cracked the Mega Force's front skidplate after 15-minutes of driving. The design of the suspension and chassis is sound, but perhaps Kyosho should re-think its material choice. With a little aftermarket support, we feel the Mega Force's durability would be as good as anything else on the market. The potential is there.

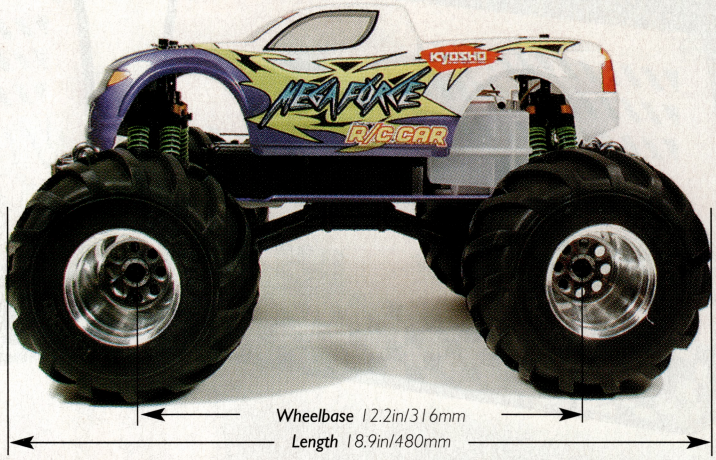
**Drivetrain: B+**

We think it's great that Kyosho supplies steel driveshafts. The new QRC tranny is nice and compact, and the protective cowling around the disc brake is a nice feature. The reverse engagement is awesome. We could slam into reverse at speed without breaking a single part. It's a tough gearbox. Brakes or reverse? We chose brakes.

**WEIGHT**
9.25lbs., 4oz. (w/body)

# Mega Force




## SPECS

| | |
|---|---|
| **TYPE** | 1/10-scale RTR nitro monster truck |
| **PRICE** | $419.99 |
| **CHASSIS** | |
| Type | stamped plate w/raised sides |
| Material | Duralumin |
| **SUSPENSION** | |
| Type | independent lower A-arms w/adjustable upper links |
| Damping | nylon-composite oil-filled shocks |
| **TRANSMISSION** | |
| Type | shaft-driven 4WD, F/R gear-diffs |
| Drive shafts | steel dogbones/universal shafts |
| Bearings | metal-shielded ball bearings |

## Final Score

**Highs:** Neat fuel tank: it's easy to remove (two screws) and has a nice overspill gutter. It has a clever built-in cooling fan on the engine. The electric starter has the best plug-in device of any touch-starting system. The shock-tower mounts are of a nice beefy design.

**Lows:** No two-speed; gearing limits speed and performance. There's no adjustment in the stock engine mount for gearing changes. Skid plates are sub-par. A more powerful steering servo should be included. Touch Starter motor is in a bad location (exposed to dirt and heat from the pipe).

**The verdict:** The Mega Force is plainly competition for the T-Maxx. We feel that it falls short in several areas such as gearing and overall performance. There are nice features such as steel driveshafts and the cooling fan, but it all comes down to price: if the Mega Force were substantially cheaper than the T-Maxx, we would heartily recommend it. However, as the Kyosho is priced nearly the same as the Traxxas truck, it's two-degrees off-center. If the aftermarket targets the Mega Force, and addresses its shortcomings, it could be a worthy challenger.

## 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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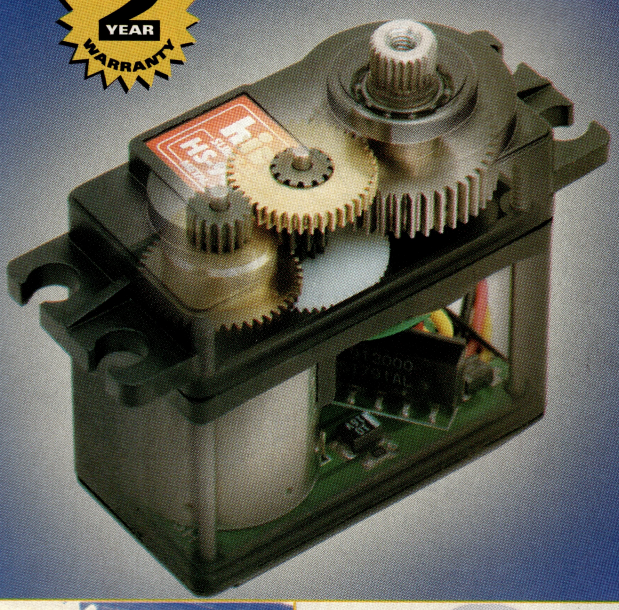


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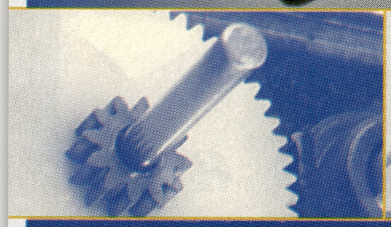

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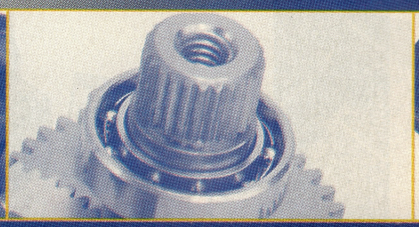

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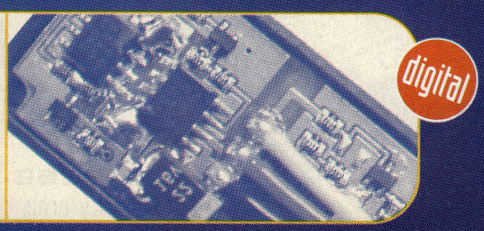


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| HS-645MG | HIGH TORQUE | 0.18 | 133OZ/IN | — | 2.1OZ | 1.6"X.08"X1.5" |

**HS-5625MG/HS-5645MG** DUAL BALL BEARING | UNBREAKABLE METAL GEARS | DIGITAL PROGRAMMABLE

| | | | | | | |
|---|---|---|---|---|---|---|
| HS-5625MG | HIGH SPEED, DIGITAL | 0.13 | 93OZ/IN | 279IN/OZ | 2.1OZ | 1.6"X.08"X1.5" |
| HS-5645MG | HIGH TORQUE, DIGITAL | 0.18 | 133OZ/IN | 399IN/OZ | 2.1OZ | 1.6"X.08"X1.5" |

**HS-925MG/HS-945MG** DUAL BALL BEARING | CORELESS MOTOR | UNBREAKABLE METAL GEARS

| | | | | | | |
|---|---|---|---|---|---|---|
| HS-925MG | HIGH SPEED, CORELESS MOTOR | 0.08 | 103OZ/IN | — | 2OZ | 1.5"X0.8"X1.5" |
| HS-945MG | HIGH TORQUE, CORELESS MOTOR | 0.12 | 153OZ/IN | — | 2OZ | 1.5"X0.8"X1.5" |

**HS-5925MG/HS-5945MG** DUAL BALL BEARING | CORELESS MOTOR | UNBREAKABLE METAL GEARS | DIGITAL PROGRAMMABLE

| | | | | | | |
|---|---|---|---|---|---|---|
| HS-5925MG | HIGH SPEED, CORELESS MOTOR, DIGITAL | 0.08 | 128OZ/IN | 384IN/OZ | 2OZ | 1.5"X0.8"X1.5" |
| HS-5945MG | HIGH TORQUE, CORELESS MOTOR, DIGITAL | 0.13 | 180OZ/IN | 594IN/OZ | 2OZ | 1.5"X0.8"X1.5" |

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*3-Wire, No plugs*
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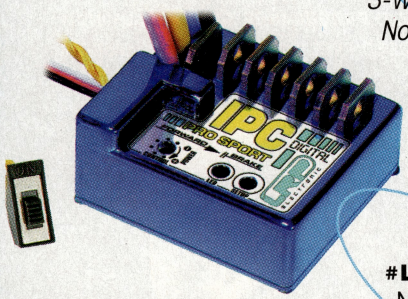
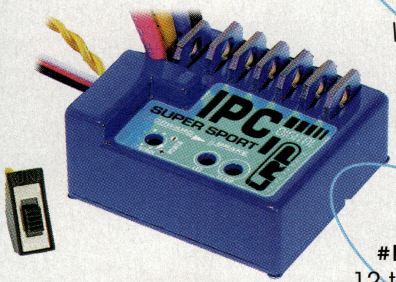
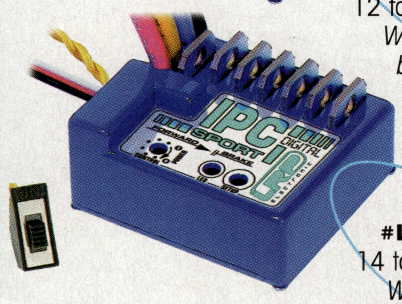


**#LRP8362**
No Motor limit
*With motor and battery plugs*



**#LRP8359**
12 to 36 turn motors
*With motor and battery plugs*



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**#LRP8324**
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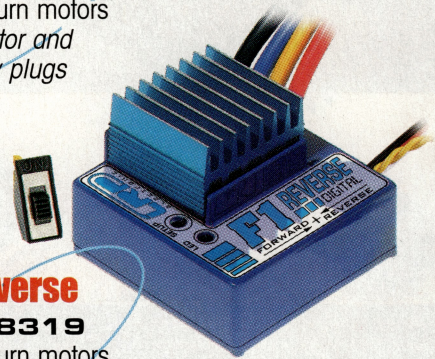
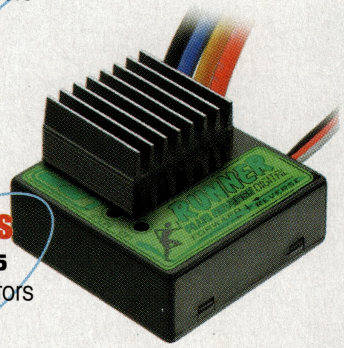
*W/ motor and battery plugs*



**F1 Reverse**
**#LRP8319**
15 to 36 turn motors
*W/ motor and battery plugs*



**Runner Plus**
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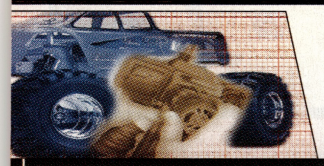


# Bolink "Little Red Wagon"

by Jim Algar




## For the exhibitionist



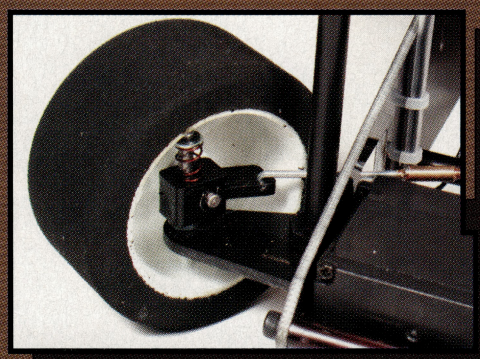

There are lots of reasons why people decide to build a model of a particular real car; it's just like what Dad drove, or they've seen it on television, or maybe they've just always liked "that" car. Deciding to build up a running model of the famous "Little Red Wagon" exhibition wheelstander was easy for me; I got to see the real one do its "wheelie thing" back in the early '70s at the now-long-gone Lions Drag Strip in Southern California. (O.K., you can stop doing the math now; yeah, I'm that old.) Driven by Bill "Maverick" Golden, the Little Red Wagon was one of the premier exhibition dragsters on the circuit, one of a group of wheelstanders, jet cars and other drag oddities that weren't meant to necessarily win races but rather to bring the crowd to its feet and give them a thrill. And thrilling the Little Red Wagon was; with its blown Chrysler hemi engine sitting back in the truck bed and its front wheels clawing at the sky, it was a sight to behold.

There were actually a succession of Little Red Wagons; a couple are in museums today, and Bill Golden still campaigns one on a "semi-retired" basis (that's *him*, not the truck.) Bolink's version is an officially licensed model providing 1/12 scale wheelie thrills.

The design of the Wagon's chassis is simple, given its mission. After all, this model is not about handling the tight twisties on a scale road course, but rather duplicating the antics of its full-sized namesake. The main chassis begins with two identical side plates in fiberglass, separated by a front suspension plate and a radio plate further back. Four tubular plastic spacers join the side plates together, fasted with cap screws through holes in the side plates. The suspension and radio plates simply lock into notches cut into the side plates when they're pulled together by the spacers.

in you

# "Little Red Wagon"



The front suspension is simple, consisting of king pins mounted to the outer ends of the suspension plates. Two plastic steering blocks, carrying pressed-in stub axles, slide vertically up and down on the king pins. A small spring fits over the king pin above the steering block and is secured by an e-clip at the top. The steering block is free to simply slide up and down on the king pin. It's not sophisticated, but it works, mostly just to absorb the impact when the front wheels return to earth after a wheelie.

The rear suspension is even more simple to describe—since there *is* no suspension. Two large bushings, one press fit into each side plate, carry a hefty solid rear axle, which carries a ball diff on the right side, outside of the side plate. Wheels are attached to plastic hubs on each end of the axle with two cap screws each.

The steering system is—again—simple, consisting simply of four short pieces of music wire with a Z-bend at one end. Each steering block gets a wire; the other two are attached to the servo arm. A collar with a setscrew is slid over each pair of wires, left and right, and the set screw is tightened down to bind each pair into a crude but effected steering rod. Adjustment is simply a matter of loosening the setscrew to position the two wires with less or more overlap. The steering servo sits on the rear portion of the suspension plate.

## OUTSTANDING FEATURES









The car can take any motor that will fit between the slide plates. The motor is positioned behind the axle; this is of course to get as much weight to the rear of the car as possible to make wheelies happen. A standard sealed-bell motor like those found in Tamiya kits is a tight squeeze between the side plates and would require a little filing of the plates to fit; we've used a rebuildable Banzai motor in our Wagon.

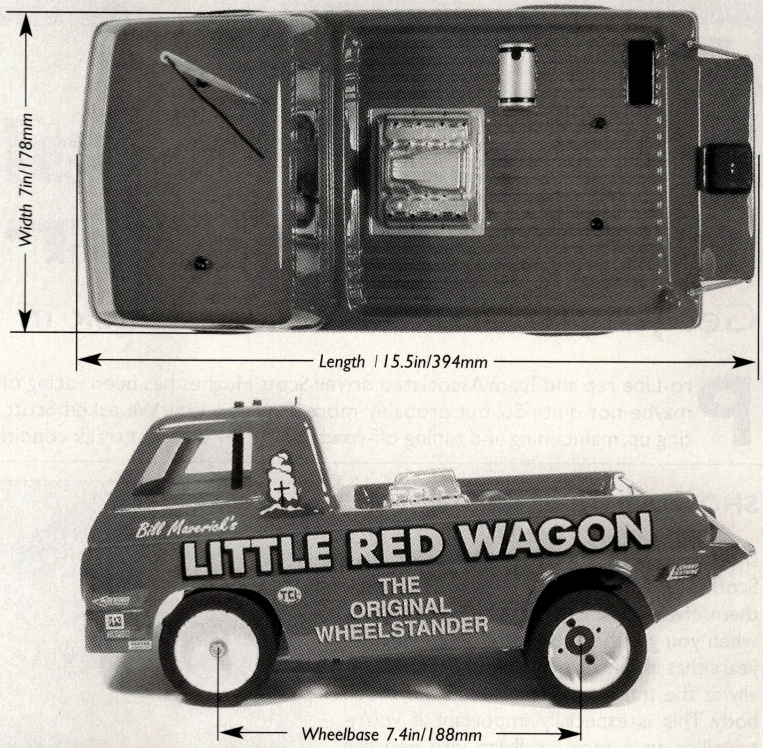
The receiver and ESC sit on top of the radio plate, again as close to the rear as possible, while the battery pack is fitted to the underside of the plate, as far back as the rear axle will allow. Bolink recommends a four-cell pack to concentrate the weight as far back as possible, but there is plenty of room for a six or even seven-cell pack.

Body mounts, two on the front suspension plate and two at the rear of the radio plate, carry the Wagon's prepainted body. Bolink has done a nice job on the body; the bed mounted engine is nicely represented in silver, while the rest of the body is, of course (hey, remember the name), red. In addition to the engine, other scale details molded on the body are a drag chute, gas tank and scale starting battery (located at the very rear of the truck bed). Remember, the mantra for the real car, just as with the model, was "weight as far pack as possible, weight as far back as possible." Wheelies were the desired result, after all.

A complete sheet of vinyl stickers is included to replicate the look of the original, and the finished body is indeed colorful, in a retro sort of way.

REPORT CARD
Test Location: Frank's driveway
Track type: Concrete and asphalt

Disclaimer: Okay, the Little Red Wagon is designed for one thing: wheelies. So this performance report is pretty much limited to two categories: how the truck worked while doing a wheelie, and how it worked when its front tires were on the ground.




**WEIGHT** 2lbs., 4 oz (w/body)

## Wheelies: A

Just like the full-sized Little Red Wagon, the Bolink version likes to ride its back tires like there's no tomorrow. The catch is that it will only do so when equipped with a four-cell battery pack. Who sells four cell packs? Well, Bolink for one. So when you buy your Wagon, make sure your dealer gets you a four-banger as well. We made our own pack by simply lopping off two cells from a standard six-cell sport pack. Once the end cells were gone, we connected the remaining four by soldering a battery bar across the exposed positive and negative terminals. Since the battery is only held in place by a nylon tie-strap, it can easily (and frequently) slide rearward and rub against the steel rear axle. This presents an obvious problem not only because of the friction it creates, but because the battery can short against the axle. Make sure that your pack's end is well insulated, and that you leave some space between the pack and the axle. Also, you'll want to keep the ball diff on the tight side to prevent the truck from veering off course in the midst of wheelstanding.

Once everything is set and it's time to drive the Wagon, you'll find it easy to get it up on its rear wheels (and onto the nylon wheelie-wheels). It's actually pretty fun at first, but spending all of your time on two wheels can get a bit tedious. Fortunately, the Wagon is capable of more.

## Non-wheelies: C

If you want to prevent the Wagon from executing perpetual wheelies, all you have to do is slide the battery pack up towards the front of the chassis. The weight shift will pretty much curtail any nose-lifting tendencies. We went one (or two) better by replacing the four-cell pack with a six-cell 3000mAh stick pack. Talk about speed! By no means is the four-cell Wagon slow (remember, it's 1/12-scale and light), but adding six cells makes for ballistic speed with the competition stock motor. But what happens when you mix ludicrous speed with a seven-inch wheelbase? Chaos ensues! Forget about taking turns at speed, else the Wagon will flip just like how your own little red wagon used to spit you out on your awesome downhill street rides. Basically, the tiny wheelbase is good for two things: wheelies and point-and-shoot straightaway blasts. But remember, this is a drag car!

## Durability: B

As Mr. Spock would say, it's logical that a car that has few parts has fewer parts to break (I think this was the episode where he made fun of Dr. McCoy's emotional nature... wait, that was every show). So it stands to reason that a chassis that is basically made up of four fiberglass plates, some sliding kingpins and a burly steel axle can take some hefty abuse. Actually, the only exposed section of the Wagon is its front suspension; the kingpin holes are drilled pretty close to the outside of the steering plate. But BoLink replacement parts are cheap, and it's an easy fix (how do we know? Don't ask!).

## SPECS

| | |
|---|---|
| **TYPE** | 1/12-scale electric wheelie-mobile |
| **PRICE** | $99.99 (retail); $69.99 (street price) |
| **CHASSIS** | |
| Type | ladder-style plate |
| Material | fiberglass, nylon standoffs |
| **SUSPENSION** | |
| Type | sliding kingpin/coil-spring (front), solid-axle (rear) |
| Damping | coil spring, none |
| **TRANSMISSION** | |
| Type | direct-drive pinion/spur gears |
| Drive shafts | solid steel axle |
| Bearings | oilite bronze bushings |

## Final Score

**Highs:** It does wheelies. Oh, and it does wheelies too. Did we mention that it does wheelies? Retro (read "old" - just kidding Jim!) people will fondly remember going to the drag strip with their dads and watching the real Little Red Wagon blast down the quarter on its hind legs (and probably waiting for a crash). Simple construction; if you can build a Lego spaceship, you can assemble the Wagon. The body comes pre-painted "wagon red."

**Lows:** wWheelies can get tiring unless, you know, that's your "thing." The Wagon needs a four-cell pack to get it's nose up, and we doubt that many shops carry such batteries in stock. Also, the battery pack is held in place in a very Rube Goldberg-ish way.

**The verdict:** It's simple, it wheelies (did we mention that?), and it's from BoLink. Who else would think of such a kit? There's a nostalgic value to the Wagon, and we must admit, it's neat to have this thing perched on a shelf in our office (propped up in a wheelie stance, of course). We think BoLink's next project should be some type of Ed "Big Daddy" Roth or George Barris creation. That would be cool, and we'd have something to pit against the Little Red Wagon for pink slips.

## SOURCES

**BoLink R/C Cars, Inc.**, 420 Hosea Rd., Lawrenceville, GA 30045 • phone (770) 963-0252; fax (770) 963-7334

# PRO TIPS SECTION

scott hughes

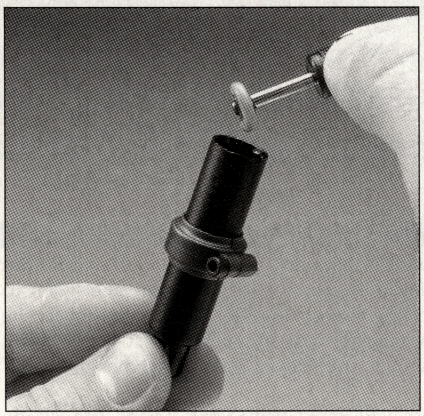
# How to dial-in your shocks

## Get your off-road bouncers back in business!

Pro-Line rep and Team Associated driver Scott Hughes has been racing off-road for 50 years. Well, maybe not quite 50, but probably more than you or I. We asked Scott to walk us through setting up, maintaining and tuning off-road shocks for different track conditions. Here's what we got.

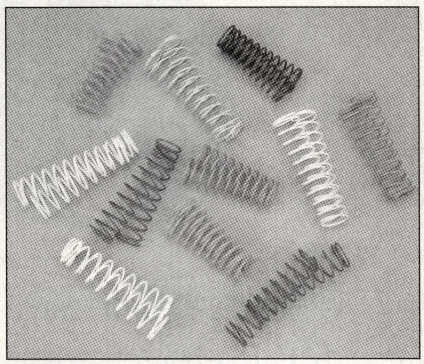
### SHOWING UP AT THE TRACK

"When I get to the track, I'll build my shocks then and there—not before," says Scott. "You can set it up so that the 'guts' themselves are in the shock ready to go when you get there, but I've found over the years that it's best to wait until you are actually at the track to put the oil in the shock body. This is especially important if you're travelling to a race, or flying into another area to race. Sometimes when you travel you'll encounter changes in elevation, temperature, or humidity which can all alter shock oil. Back in the day, when I would show up at different tracks with my car and truck ready to go, and I'd have to bleed my shocks, or even add more oil because some variable changed, be it different weather or a change in altitude."



### CHANGING OIL VISCOSITY

"Usually when we change our oil it's due to temperature changes," adds Scott. "Nowadays most tracks where we race are relatively smooth—at least for electric off-road, that is. Temperature changes can have a huge affect on oil viscosity. Normally if we're running in 60- to 70-degree weather, we'd run 25wt in the rear and 30wt in the front. Anytime it's 75-degrees and above we'd switch to a slightly thicker oil—at least 5wt on each end (30wt in the rear and 35wt in the front)."



### SPRING RATES

"The softer the spring, the more traction you're going to have. A softer spring allows your car to roll more, and the more your car rolls, the more traction you'll get. A stiffer spring would be used on a high-bite track where you wouldn't want the car to have as much chassis roll.

"Again, the more a car rolls, generally it gets more traction. You wouldn't want an excessive amount of chassis roll on a high-bite track because your car could flip over and traction roll because there is so much traction."

### PISTONS

"The smaller the piston hole, the more pack your shock will have. Basically, the size of the piston hole determines how fast the shock can absorb an initial impact. You want your shock to have a lot of pack on a smoother track, which is usually your standard setup. If you run on a bumpy track, you're better off going with a larger piston hole size to get less pack."

### RIDE HEIGHT

"There's a general misconception that the lower the vehicle is, the more traction it will have. I've found that the best setup is to have your dogbones level in the rear, and your front suspension arms level. You want the car to be level front to rear. You don't want any rake (a steep angle). If your front end sits too high, you'll gain a ton of traction and lose steering. If the front end is set too low, you'll gain too much on-power steering."

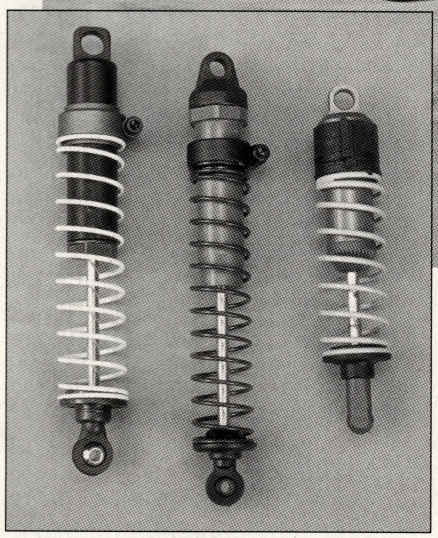



### SHOCK ANGLES

"Changing the angles of your shocks will greatly affect how your vehicle handles. In addition, when changing shock angles, you have to consider spring rate changes. Here's what happens when you change angles."

#### Front

"Adjusting the front shock angle will primarily affect the steering of the vehicle. As a rule of thumb, leaning the top of the shocks in more (toward the center of the chassis) will increase low-speed steering, but slightly decrease high-speed steering. Leaning the front shocks in will also make the vehicle feel like it wants to keep turning as the vehicle accelerates on to the straight. Standing the front shocks



up (top of the shocks moved out) will increase initial steering reaction time, but decrease low-speed steering. Standing the front shocks up will also increase stability while accelerating on to straightaways—making the vehicle run in a straight line more easily."

### Rear

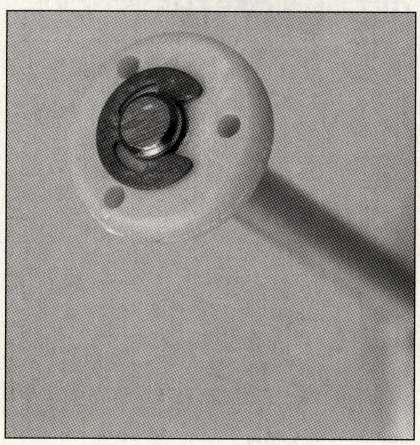
"Adjusting the rear shock angle typically affects rear traction and bump handling for off-road vehicles. Leaning the rear shocks in will make the spring rate more progressive. For this reason leaning the shocks in will usually increase rear traction in the middle of the turn. Leaning the rear shocks in too far can make the vehicle appear to have less traction exiting corners. Standing the rear shocks up more will increase straight-line acceleration, but can reduce traction in the middle of the turns. For off-road vehicles, laying the rear shocks in will help the rear suspension soak up small bumps, while standing the rear shocks up will cause the rear of the vehicle to hop through small bumps."

### Common

"Keep in mind that laying the shocks in will make the spring rate more progressive. This also means that the initial spring rate will be reduced. For this reason it is common that when leaning the top of the shock in a stiffer spring is required. The opposite is true for standing the shock up. If you move the top of the shock out, you will likely need to change to a softer spring."

## DON'T OVERTIGHTEN

"A ton of beginners make this mistake—don't overtighten your shocks! They'll bind up like crazy and your suspension won't work properly! Believe it or not, it's better to have it flopping around versus having it too stiff!"



## SHOCK MAINTENANCE

"With the technology of the shock shafts today, we're finding that they don't need to be replaced that often anymore," adds Scott. "That is unless they're completely bent! What you're looking for when rebuilding is any type of fine dust that gets in the O-rings. You really need to see if the shock shaft sticks (doesn't move freely). If the shaft sticks, it's time for a rebuild. 75-percent of the time when rebuilding your shock, the only thing that needs to be replaced are the O-rings.

"Disassemble the shock, check all the parts inside for wear and tear, and then rebuild it if nothing is worn. No matter what, though, always, always replace your O-rings any time you rebuild your shocks. And as for how often to rebuild, it's best to do regular shock maintenance, but don't go crazy! You don't need to rebuild your shocks every time you come off the track. I've found on average, if you're serious about your racing, rebuild your shocks after every eight packs or so. Also, here's a tip—if you're at a race, and you've gone through practice, and qualifying without rebuilding your shocks, don't worry about rebuilding it for the main. There's been times when people have altered the way their car or truck has handled and it messed them up in their main!"

# PRO TIPS SECTION

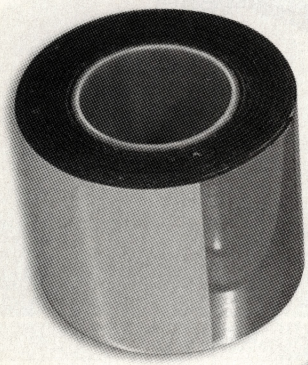


Jack Johnson

# Proper use of servo tape

## There's more than one use for the stuff!

When it comes to servo tape, veteran R/C racer Jack Johnson has been stuck to his fair share. We asked the former multi-time national champ how to get the most out of a sticky situation. He gave us these tips.





### WHAT IS SERVO TAPE?

"Servo tape, two-sided tape or double-sided tape. Whatever you call it, it's all basically the same thing—a thin, foam tape with adhesive on both sides," says Jack. "Most R/C companies offer servo tape as part of their product line. Servo tape can be used to attach radio gear to chassis, solve radio glitches resulting from installing a receiver to a graphite chassis, and clean up messy wiring around an electronic speed control."

### HOW TO USE SERVO TAPE

"Servo tape is a great item to help you firmly install radio gear into your chassis. However, you need to clean the surface to which you will be applying the servo tape before attempting to make the tape stick and installing any components. Rubbing alcohol is the best cleaner for this because it dries quickly and doesn't leave any residue behind. While motor cleaner will also work, some motor cleaners can leave an oily residue behind. Use one of these suggested cleaners and thoroughly wipe down the installation area.

"When applying servo tape to graphite chassis, you will need to prep the installation area by scuffing the shiny epoxy coating from the surface. To do this, you can use ultra fine sand paper. After scuffing, clean the chassis with alcohol or motor cleaner to remove any leftover dust."

### GETTING OFF THE "STICK"

When you remove old servo tape, sometimes some of the adhesive can get left behind on the chassis. This leftover crud can be very difficult to deal with. Why do you care?

"If the leftover adhesive is not completely removed, a new piece of servo tape may not stick very well," adds Jack.

"The easiest way to completely remove the leftover adhesive is to soak it with motor spray. Spray the adhesive residue and allow the motor spray to soak into it for about thirty seconds. You should then be able to easily scrape the gunk off. Repeat the above process until all of the adhesive is gone."

### COOL TRICKS FOR USING SERVO TAPE

"The wires leading from an electronic speed control can be sandwiched between the speed control and the chassis using servo tape so that the wires can pass under the speed control. Attach two pieces of servo tape—one on top of the other—to the bottom of the speed control. Slot the tape by cutting it near the center of the speed control. Run the wires through this slot before installing the speed control.

"With the wires in place, remove the backing from the servo tape and install the speed control. The wires will now be tucked neatly underneath the speed control. This method can also be used on your receiver to hide the servo and speed control wires running to it."

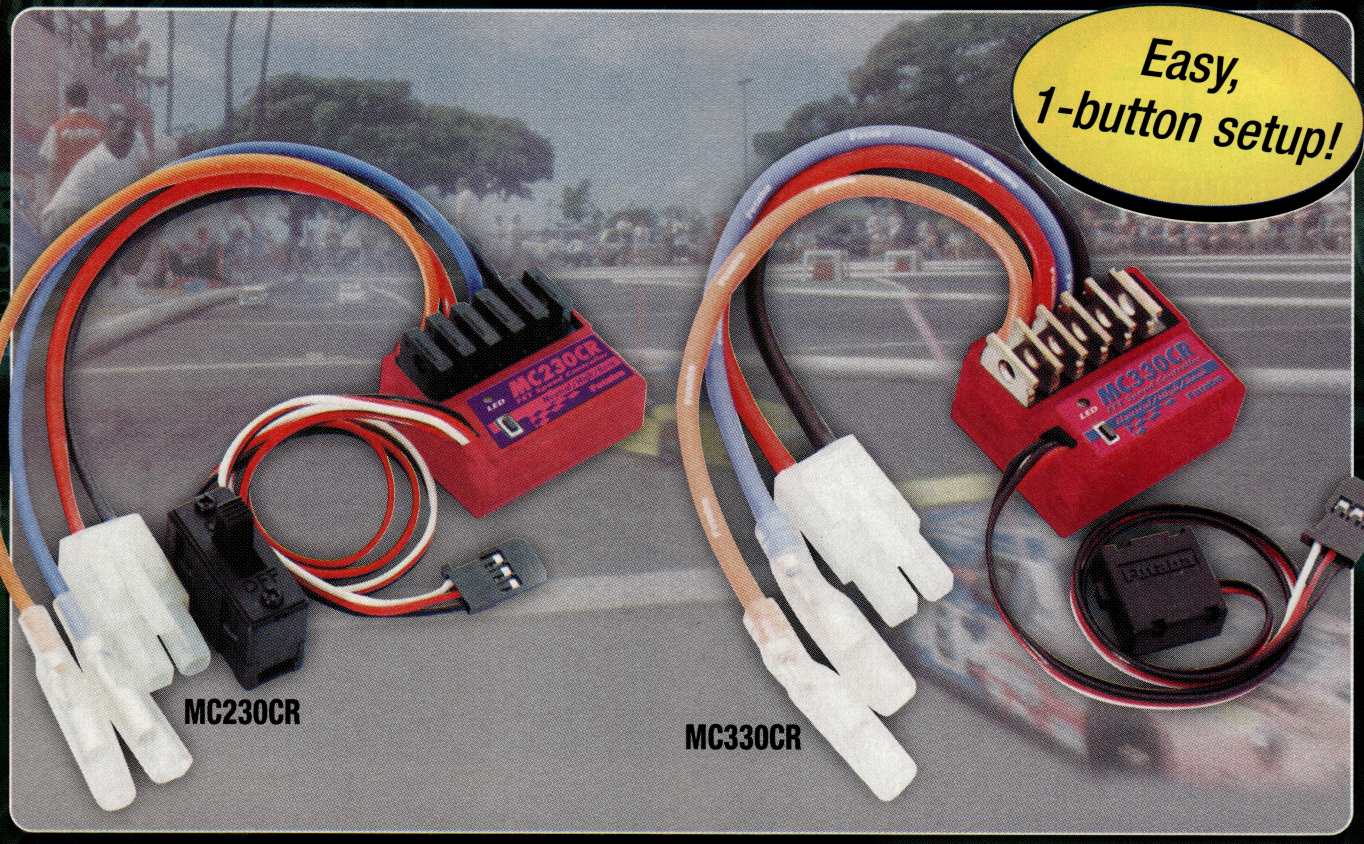
### CLEAN SIGNAL

"Graphite conducts electricity very well. Therefore, using graphite parts, especially chassis, can sometimes cause radio glitching nightmares. Some of this interference can be eliminated by increasing the distance between the receiver and the chassis. Instead of using one piece of servo tape to mount the receiver, use three pieces—one on top of the other. Not only will this eliminate some of the glitches, it will also serve as a shock absorber for the receiver and eliminate some of the vibration to which the receiver is subjected."

### TAPE & GOO

"When you can't install a servo with servo mounting posts, you must use servo tape. However, sometimes servo tape alone isn't strong enough to hold the servo firmly in place. For extra grip, you will need to use Shoe Goo or Goo in addition to the servo tape. After attaching the servo to the chassis with the servo tape, apply a thin bead of the "Goo" all the way around the base of the servo where it meets the chassis. Allow the Goo to dry overnight, and then the servo will be mounted solid as a rock."

# MEET THE NEED FOR SPEED...

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|---|---|---|
| Dimensions (in.): | 1.07 x 1.31 x 0.50 | 1.07 x 1.31 x 0.50 |
| Weight (oz): | 1.55 | 1.59 |
| Capacity: | 6-7 cells | 6-7 cells |
| Motor Limit: | 20+ turns | 13+ turns |
| Current (fwd/rev): | 90A/45A | 200A/100A |
| Wire: | 16 ga. | 14 ga. |
| Motor High Frequency: | yes; 1,500 Hz | yes; 1,500 Hz |

**Both include:** BEC and installed Futaba J, JST & bullet connectors.

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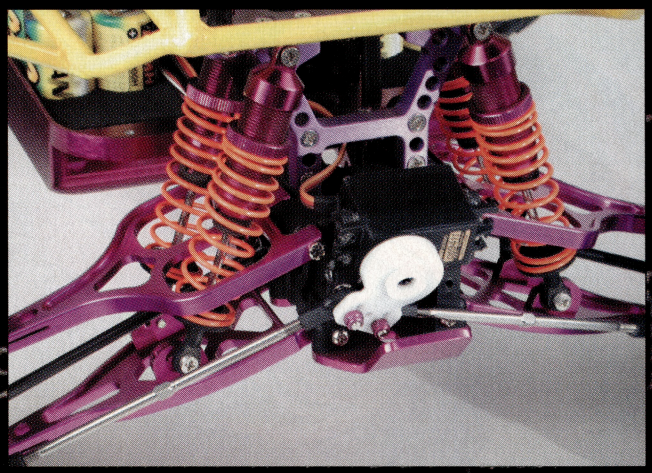
# MAXXED OUT!

## Revisiting Jason Jaeckel's S-II!



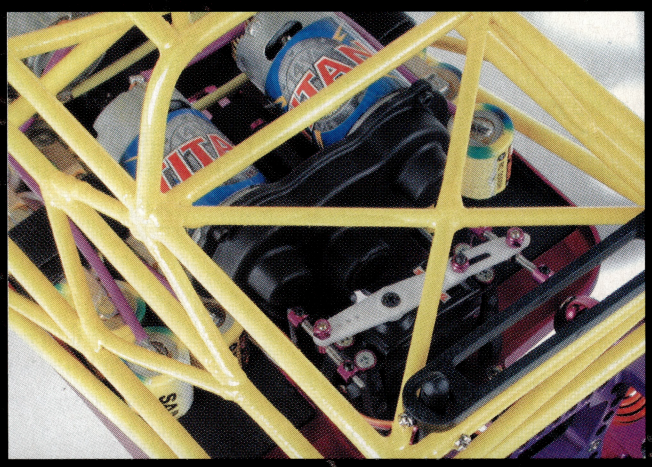
It's been a little while since we've seen one of our good buddy Jason Jaeckel's mad-scientist like creations. Well, he called us up the other day to let us know that he had recently finished updating his S-II project and wanted us to take a peek at it. Who are we to say no?! As you can see from the before and after shots, the truck has undergone quite a few significant changes. Here's what's new.

• Originally, Jason configured the transmissions on the S-II to be separate from each other. On his new version, Jason has joined the two transmissions together to form one main unit. With this setup, the truck has true full-time four-wheel drive. Jason joined the two transmissions together using a modified shaft from a Traxxas boat. The shifting servo has now been relocated from between the two trannies to behind them in the rear of the truck. Special linkage had to be made to accommodate both trannies working in unison.



• Jason custom-made a set of extended RPM plastic suspension arms for use on the S-II, and he quickly found that due to the heft of the truck, his homemade arms started to buckle under the weight. Rockhoundz! made a set of A-arms for the truck, and they actually match the color of the chassis. The only problem was that they were standard length, and that wasn't exactly what Jason was looking for. To remedy the situation, Jason added a set of OFNA Monster Pirate tires and wheels, which helped bring back a wider stance.

• After running the truck for a short time, Jason found that he was going through driveshafts at a fairly quick pace. His solution was to use MIP CVDs at all four wheels as well as the center CVD's as well. The rear center driveshaft is a ??. The S-II is longer than a stock truck so he had to use the ?? in place of a CVD.



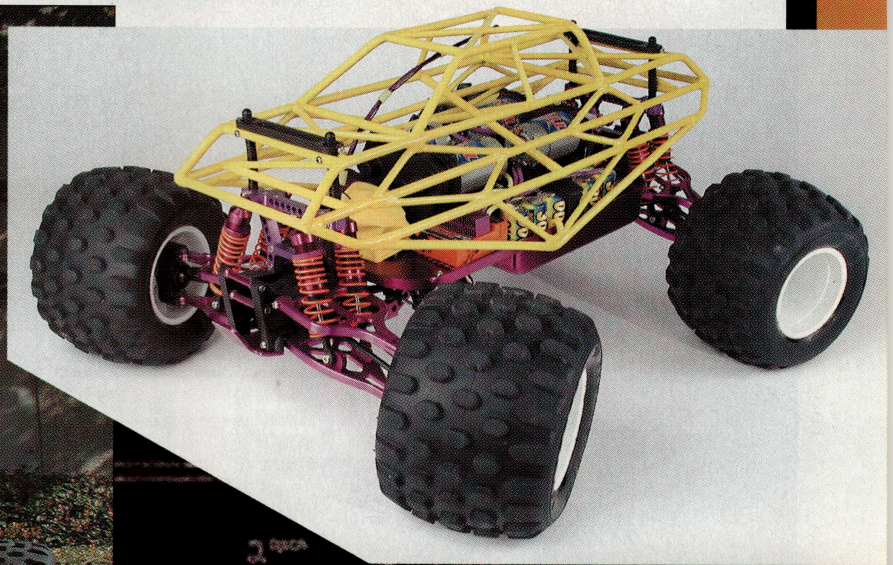
• Jason made a custom roll-cage out of mix of 1/4 and 3/16-inch braided steel brake lines. It's sprayed yellow with a clear enamel overcoat spray on it. Jason feels it helps mimic an actual monster truck much better.

• The new version of the S-II features four-wheel steering. To accomplish this, Jason added a JR DS9411 metal-gear mini-servo in between the two rear bulkheads. It's tightly wedged in place, but is additionally secured with some extra Shoo-Goo. According to Jason, the four-wheel steering really helps the truck maneuver better through tight obstacles.

• Dual Traxxas/Novak EVX speed controls get the power to the ground coupled to a staggering 24 3000NiMh cells! The batteries are now stacked side by side in each of the battery trays (12 per side). A foam spacer sits in the rear of the tray to help hold the cells in place, and they are held down with velcro straps.





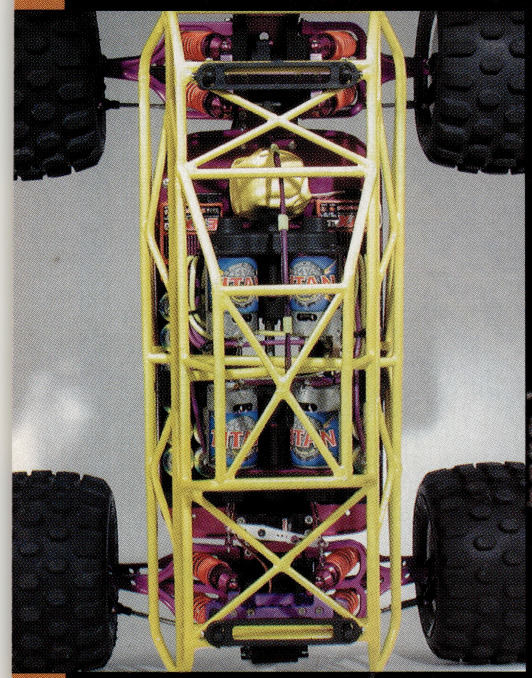



-bicoded chassis + skids

-Lower braces

- Tranny

# MAXXED OUT!



• According to Jason, the truck is geared to have the same run time as a standard E-Maxx (he gets roughly 11 minutes worth), but his truck has an unreal amount of torque. When Jason nails the throttle, it will flip over on itself! And this is coming from an 18.4 pound truck ready-to-run! Unfortunately, with all those batteries, it takes three and a half hours to charge that many cells. This is not your average "charge it up and go" type truck.

• Jason made a dual steering servo setup (using Traxxas servos) for the new and improved S-II. Originally the truck had a single steering servo mounted to a custom-made skidplate. To fit the dual servo arrangement, Jason cut off the skidplate and mounted the two servos (one on each side of the lower braces up front) and added another post for a separate bellcrank to run the second servo.

Jason would like to thank his sponsors for all their help:

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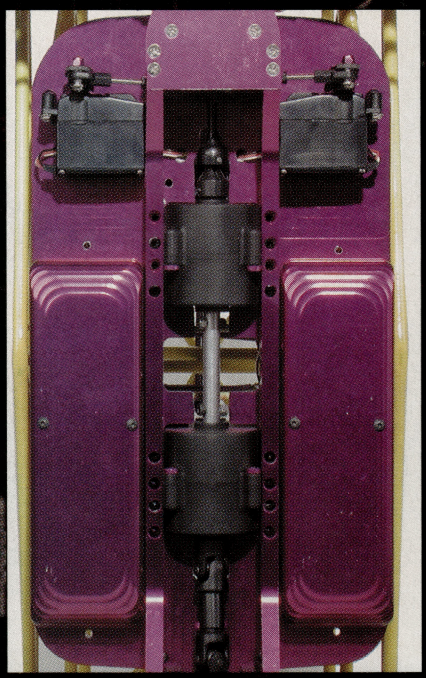
Rockhoundz!-(801) 785-6685
Rix Gear-(636) 379-9660
Ballistic Batteries-(602) 493-3717



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❑ **OCT. '00**
New Car Tests: Traxxas Y2K Nitro Stampede & Nitro Rustler, Kyosho Ultima RB, Yokomo GT-4W, HPI RS4 Sport 2 Features: NORRCA Off-Road Nationals, Retro R/C: Tamiya Rough Rider, Traxxas T-Maxx Accessory Guide, Hudy Products Comm Lathes, NORRCA Paved Oval Nationals, Sneak Peek: GS Racing Prototype Nitro Buggy, Corner The Experts, Pro Setups You Can Copy, Kyosho PureTen Alpha Rally Cars Product Test: Penguin r/c RS4 Chassis Lowering Plates.

❑ **NOV. '00**
New Car Tests: Tamiya TA04; Team Associated Factory Team T3; Team Losi Triple-X NT, HPI Nitro Rush RTR Features: European National Championship; Atomik R/C Bodies; Traxxas T-Maxx Tuning Guide; MIP Nitro Accessory Guide; Ten Ways To Make Racing Better; Performance Test: Kyosho Fantom 1/8-Scale; 2000 ROAR Off-Road Gas Nationals; Corner The Experts; 2000 Hot Rod Hobbies RC/Car Shootout.

❑ **DEC. '00**
Test Drives: HPI Nitro RS4 MT RTR; Tamiya TGR; Schumacher Big 6 Lotus Sport Elise; Tamiya Globetrotter 420 Features: Exclusive First Look: Traxxas E-Maxx; Corner The Experts; 2000 ROAR Off-Road Nationals; Inside The ROAR Nats Winning Cars; Best Car And Truck for 2000; How-To: Build Battery Packs; How-To: Mask Out Bodies; Schumacher Cat 3000 Race Test; How-To: Team Losi NT Tech Tips; How-To: Set Ride Height; How-To: Set Up Your Nitro Throttle Linkage; Multiplex profi Car 707 Radio System.

❑ **JAN. '01**
Test Drives: Team Atlas YM-34; Kyosho Inferno TR15; Schumacher Nitro Big 6 Sports Elise Features: Battlebots:R/C On The Cutting Edge!; How To: Prep Graphite Parts; 2001 New Product Guide; F1 Invades America; IFMAR On-Road World Championships; What It Takes To Make A Concourse Winner; 2000 Tamiya TCS Nationals.

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Product Test: Trinity Shock Dyno Features: 2000 Reedy Truck Race Of Champions; Inside The Reedy Winning Trucks; The "Original" E-Maxx; How To Build A Battery Discharger; Chicago Hobby Show Coverage; IFMAR 1/8 Scale Off-Road Worlds; Inside Losi's New SB3; Paris Can-Am Challenge; Trinity Green Machine 3; Tamiya 1/16-scale Tiger 1 Tank Test Drives: Schumacher Axis 2; HPI Nitro MT Racer; Tamiya XR311; Schumacher Nitro 21XT-R Desert Storm; Tamiya EB Mitsubishi Pajero.

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Product Test: Tamiya Tractor Truck Sound Effects Set Features: Eight Ways To Moisture-Proof Your Car; Tuned Pipe Buyer's Guide; Ian Aquino's HPI Concourse-Winning Cars; Tamiya TA04 Hop-Up Guide; Truck Wheel Buyer's Guide; HPI World Challenge; Traxxas T-Maxx Power Guide Test Drives: Tamiya TB-01 Evolution; Team Associated T3RTR; Traxxas E-Maxx; Yokomo MR-4TC; DuraTrax Maximum ST And MT Pro; Tamiya Tyrrell P34.

❑ **APR.'01**
Features: Driving The R/C Rubicon Trail; Race Report From Europe; Kyosho V-ONE-R; Set Pillow-Ball Suspension; Convert Your Race Engine To The Traxxas EZ-Start; Multi-Stage Tire Inserts; Top Touring Car Setups; Reedy MVP Stock Motor Test Drives: Kyosho Inferno MP-7.5; Team Associated Factory Team TC3; Team Losi Triple-X and Triple-X Dirt Spec; Mugen Seiki MTX-2; HPI Super Nitro Rally; Kyosho FW-04 SuperTen 4-Stroke.

❑ **MAY '01**
Features: Never Build Again; 15 Off-Road Racing Tips And Tricks; First Look: Team XRay T1 Touring Car; 16th Annual Reedy Race Of Champions; Project Schumacher Axis 2; Project Traxxas E-Maxx; Part 1; 10 Nitro Tips; Inside The Reedy Race Winning Cars; Project Schumacher Nitro Xtreme .21; Raytek MT4 Temperature Gun; Trinity Panasonic Heavy Metal 2 3000's Test Drives:Tamiya Mercedes CLK DTM TG10; Kyosho V-One-R; GS Racing Sonic; Tamiya Ferrari 360 Modena.

❑ **JUNE '01**
Features: Basic Motor Maintenance; 2001 Team Losi Florida Winterchamps; T-Maxx/E-Maxx Wheel and Tire Buyer's Guide; First Look: HPI's New Pro 3 Touring Car; Project Full Metal Maxx; Body Painting Basics ; New Engine Prep; Let Loose The Juice; Second Annual "The Dirt" Challenge Test Drives: Thunder Tiger EB4 RTR; Mugen Seiki MBX-4XR Works; Team Losi Triple-X Kinwald Edition; Thunder Tiger TS-4n Sport Product Test ESP; Juggular Chassis Upgrade Kit.

❑ **JULY '01**
Test Drives: Tamiya Mammoth Dump Truck; Kyosho Pure Ten Honda S2000; Kyosho V-One S McLaren GT1; Cen GX-1 Rally Cars Features: Nitro Off-Road Tips; Novak's New Cyclones; Project Yokomo GT-4W; Extreme R/C; Project E-Maxx; Is Your RTR Really Ready; First Look: Team Losi XXX-S; Get A Grip; Splashdown Product Test: Stormer Racing Maximizer T-Maxx Wheels; Hudy Excellent Tire Truing Machine; Hardcore Racing .21 T-Maxx Conversion; Airtronics ALB Booster

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# Dynamite Vision Peak Plus and Mega Dual-E

## A pair of chargers for the budget electric racer

Did you know that hobby shops sell many more sport-type batteries than they do unassembled, high-end racing packs? It's true; most R/C hobbyists have found that it's better to have three or four sport packs than to spend just as much on one high-performance race pack. So then, why would these same hobbyists invest in an expensive charger that probably has more features than they'll ever use? They wouldn't—these guys buy inexpensive chargers to go with their inexpensive packs.

Dynamite has targeted these hobbyists with its two newest AC/DC chargers, the Vision Peak Plus and the Mega Dual-E. Both are inexpensive and easy to use, and are tailored for the most common R/C batteries in the world, the 7.2-volt stick pack.




### VISION PEAK PLUS: A DISPLAY OF FEATURES

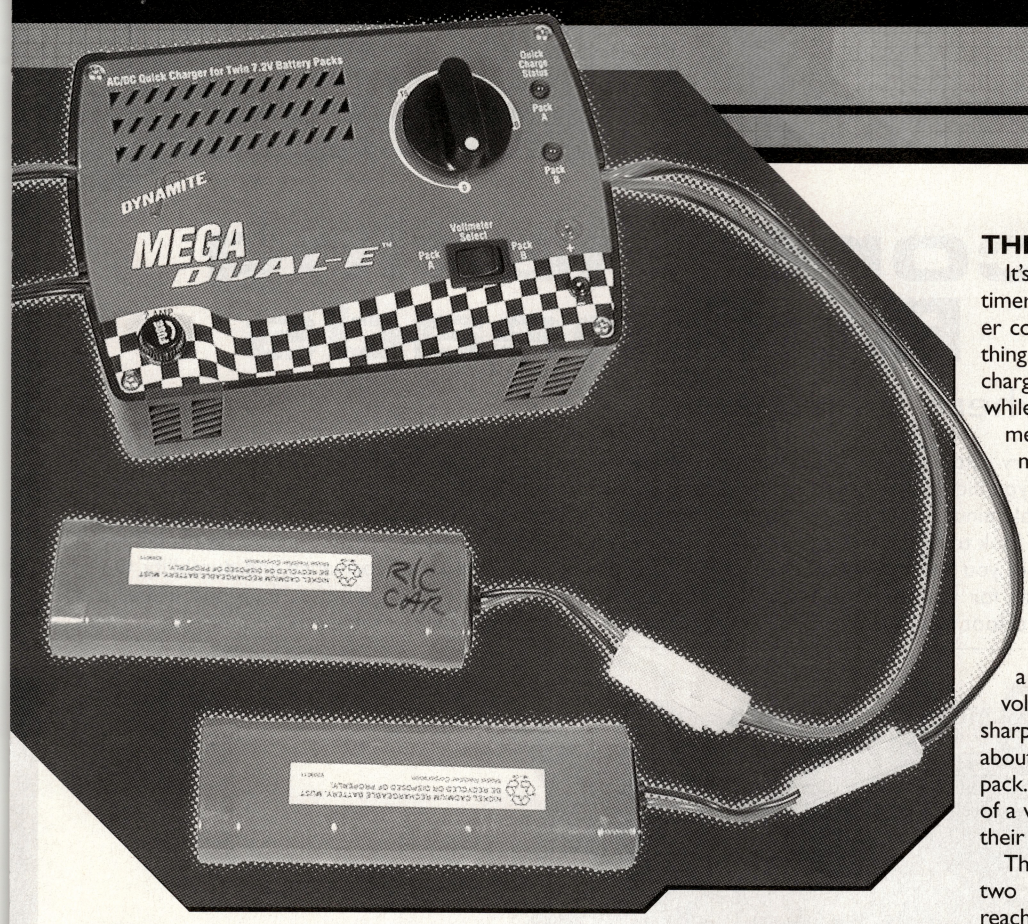
What did we do before the advent of peak-detection chargers? We used timer chargers (like the Dual-E reviewed below) and charge cables, which were basically a set of jumper cables connecting the battery pack to a 12V automobile battery. The problem with timer chargers is that you must maintain constant vigil to prevent over- or under-charging, and charge cables, well, you can guess why they were never a great idea.

Peak chargers like the Vision Peak Plus are great because they are "set it and forget it." And unless your packs are in poor condition, a peak charger will always provide a full charge, eliminating the chances of a premature ending to your R/C fun. As mentioned, the Vision Peak Plus operates on both AC and DC current, which means that you can hook it up to your car battery when out at the track, or you can plug it into any suitable 110-volt AC outlet. Here's what else the Vision Peak Plus has.

- The ability to charge both NiCad and NiMh batteries. The Vision Peak Plus offers a choice of two charge rates: a 4-amp rate that's well suited to both NiCad and NiMh six-cell packs, and a 1-amp rate that allows the charger to work with NiCad and NiMh receiver and transmitter packs.
- An LCD screen that indicates the elapsed time of the charge, and the current pack voltage and the pack's peak voltage. The display also has a handy four-block bar graph that indicates the status of the battery. Each block represents 25 percent of the pack's total capacity. When all four blocks become solid, the pack is fully charged.
- A 90-second diagnostic mode, during which time the Vision Peak Plus ascertains the type of battery to be charged (NiCad or NiMh). This mode engages automatically during each charge cycle, and is indicated by the flashing of all four bars of the graph.
- An automatic trickle-charge mode that engages immediately following the normal fast peak-charge mode. The charge rate LED will flash to indicate that trickle charging is taking place. As the instruction recommend, it's not advisable to trickle charge NiMh batteries.
- A Boost Charge feature that provides an additional minute's worth of charging (at whichever rate is selected at the time). This is different from re-peaking, as this charge goes strictly by time. This is a useful feature to "zap" the batteries just before a run to ensure maximum voltage. It's not recommended to use this feature nor to re-peak NiMh batteries. Only use the boost charge feature with NiCad cells.
- A beep function to indicate what the charger is doing. Three short beeps indicate that power is on, one short beep sounds whenever any button is pushed, two beeps indicate an error, and three long beeps signal the charging has been completed.
- A built-in cooling fan that keeps the charger from overheating. Dynamite recommends that the temperature of the Vision Peak Plus be monitored constantly to prevent overheating.
- A user-replaceable two amp fuse that prevents internal damage due to reverse-polarity or incorrect input sources.

### THE TEST

The Vision's charge lead comes with a Tamiya-style JST connector—the popular plug of all pre-built sport packs. If you plan on charging packs that have other types of connectors, you'll need to make an adapter. For receiver and transmitter packs, Dynamite offers an adapter as an option. Operating the Vision Peak Plus couldn't be more simple. After connecting the charger to a power source and plugging in the pack, you press the Start/Stop button to select either a one or four-amp charge rate. After this, the Vision does the rest for you. We found that although the Vision will become hot after just one charge cycle, we could safely charge three packs before having to give the charger a rest for cooling. We also




found that the Vision's peak-detection circuitry is among the most sensitive in its class; it shut down well before our NiCad packs become too warm, and it adequately charged NiMh packs without false peaking or getting the pack too warm.

## MEGA DUAL-E: SOMEONE'S THINKING

When we first tested the Traxxas E-Maxx truck (back in December of '00), we loved the power and run time provided by its dual battery setup. What we didn't like was charging two packs using just one charger. Who wants to wait 40 minutes between runs? Not us, and probably not the thousands of people who own E-Maxxes. Back then, we contacted several charger manufacturers with the suggestion that they make an inexpensive charger that could charge two packs simultaneously. No one listened. Ironically, this is exactly what the new Mega Dual-E charger does, and we never even called Dynamite!

The Mega Dual-E is intended, quite simply, to be the cheapest way to charge two packs at the same time. It's an inexpensive timer charger, which means that it will keep charging until its built-in oven-style timer reaches zero. If you accidentally forget to discharge your pack, then connect it to the Dual-E and leave it unattended, you could overheat and possibly explode the cells. This is the nature of all timer chargers, so beware and use the Dual-E with caution.

With that customary warning out of the way, here's a list of what the Mega Dual-E has.

- AC/DC operation so it can operate from any suitable 12-volt power source (such as an automobile battery) as well as from any 110-volt household socket.
- A built-in charge timer that is calibrated to charge up to 30 minutes. The 15-minute "halfway" point is very clearly marked, making it easier to select shorter charge times.
- Built-in voltmeter jacks. If you own a voltmeter, you can plug it into the Dual-E's face to monitor the packs' voltage. A handy switch allows you to toggle between Pack A and Pack B during charging.
- An automatic trickle-charge function. Whenever a pack is connected to the Dual-E, and the timer is at zero, the pack will be trickle-charged. If one pack is connected, the rate of charge is 60mAh. If two are connected, the rate is 35mAh.
- A user-replaceable 2 amp fuse that prevents internal damage due to reverse-polarity or incorrect input sources.

## THE TEST

It's been a long time since we've used a timer charger (about 10 years!), so a refresher course was in order. The most important thing to remember about using this type of charger is to never, ever leave it unattended while it's working. Unless you have a voltmeter (preferably a digital one, which is more accurate), the only way to truly tell if your packs are charged is by feel. As soon as the packs begin to feel warmer than room temperature, they're done and you should unplug them from the charger. This is especially critical when charging NiMh packs, which should not be allowed to even become warm. With a voltmeter, it's easier to watch the pack's voltage to determine when it's charged. A sharp rise, followed by a slight drop-off of about two or three volts, indicates a charged pack. NiMh packs, however, don't have much of a voltage curve, so you'll need to monitor their voltage even more closely.

The Dual-E does a good job at charging two packs equally. In our test, both packs reached their peaks at approximately the same time. If one of your packs is better than the other, expect to disconnect the weaker pack first, so be prepared. The voltmeter toggle is also a nice feature that's unique to the Dual-E. Overall, this is a reliable and inexpensive charger for E-Maxx owners or anyone looking to charge multiple packs quickly.



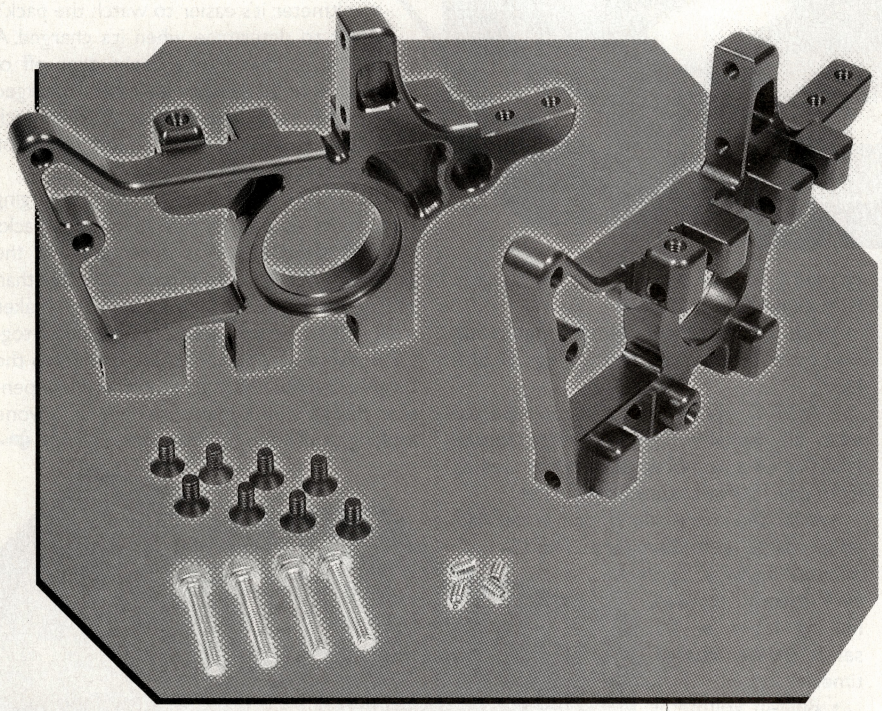

### SOURCES

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

# Hardcore Racing Maxx Bulkheads

## Putting strength where it's needed

Here's a shocker: not every aftermarket accessory improves performance. Like you didn't know this already? Yes, some of those glitzy aluminum or titanium parts don't do anything but make your ride look trick as they drain your bank account. But that's okay—a lot of you are into R/C as much for the look of your car or truck as for the performance. No truck, not even the much-revered Blackfoot from the late '80s, has inspired the aftermarket like the Traxxas T-Maxx, and no company offers as many hop-ups for it as Hardcore Racing. Even Hardcore will admit that some of their parts offer more in the looks department than anything else, but quite a few items substantially add to the T-Maxx's performance and durability. One such part is Hardcore's new aluminum suspension bulkheads, which replace the stock truck's molded-nylon pieces.



**Rear bulkheads**
Part no.: HCR-03161 (blue), 03162 (green), 03163 (purple), 03164 (silver)
Price: $89 per pair

**Front bulkheads**
Part no.: HCR-03151 (blue), 03152 (green), 03153 (purple), 03154 (silver)
Price: $89 per pair

### PARTS THAT MAKE A DIFFERENCE

If you're not familiar with the design of the T-Maxx, the suspension bulkheads bear the double responsibility of supporting both the chassis and the suspension. That's a lot of stress for one little part to bear. Hardcore's bulkheads are CNC-machined from billet 6061 aircraft-grade aluminum, then are T6 heat-treated for additional hardness. In addition to strength, the Hardcore bulkheads also feature setscrews for retaining the upper and lower hinge-pins—no more E-clips are needed, and that's always a good thing.

### A TRUE BOLT-ON

Installing the aluminum bulkheads is a bolt-on affair, and Hardcore includes high-quality cap-head screws for the chassis and flat-head machine screws for the truck's undercarriage. Of course, the hinge-pin setscrews are also supplied. The fit and finish of the bulkheads is typical Hardcore—flawless. The hinge-pin fit is at a very close tolerance (no wiggle), and all of the holes align perfectly with the stock Traxxas parts.

### THE SKINNY

We sent a set of Hardcore's bulkheads to Brian "Skinny" Skinner for use on his Thumper 4-stroke Maxx. Skinny had been complaining that the stock molded bulkheads were stripping due to the added stress of the big-block engine. The Hardcore bulkheads eliminated the problem entirely. We also recommend the bulkheads to any T-Maxx or E-Maxx owner, as they don't add too much weight and they drastically strengthen a critical area of the chassis. If you use aluminum suspension arms, you should definitely add these bulkheads, as they will handle the increased stiffness of the arms without snapping or allowing the hinge-pins to bend (the stock bulkheads will flex causing the hinge-pins to bend). Not all "heavy metal" parts make a difference, but the Hardcore Maxx bulkheads offer the best of both worlds—strength and beauty.

**SOURCES**
**Hardcore Racing**, 25435 Rye Canyon Rd., Valencia, CA 91355 • phone (661) 294-5032; fax (661) 294-0770

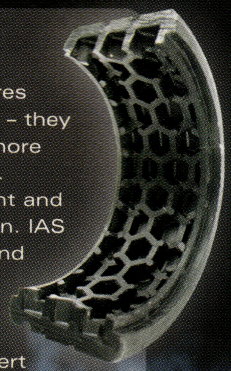
# Medial Pro

## IAS Touring Tires

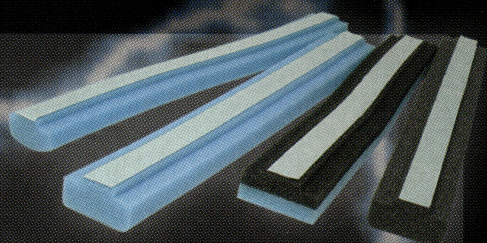
The newest concept in 1/10-scale touring tires - Medial Pro IAS. IAS tires break new ground in tire technology – they feature built-in molded inserts! No more inserts to hassle or experiment with. The built-in insert provides consistent and smooth support for the tire to ride on. IAS tires are available in soft, medium, and hard compounds. IAS tires are available un-mounted or pre-glued on Inch-Up BBS-style wheels (fits most popular 1/10-scale touring cars). Insert density matches tire compound. IAS tires are perfect for any surface, nitro or electric, and are an excellent choice for use as a spec tire.

**Mounted**.....$19.99
**Unmounted**.....$12.49





## 1/8-scale Off-Road Buggy Tire Inserts



**44900** .....Flat Profile Hard "Grey"
**41340** .....Medium Profile Double Density
**41330** .....Medium Profile "Blue"
**41320** .....Round Profile "Pink"



## Novarossi Medial Pro M2K .21

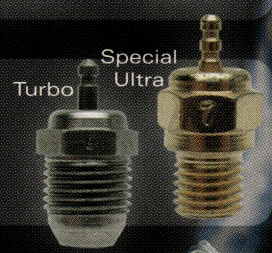
- 8 mm carburetor
- Long stroke 8 ports
- Hard black treated Crankshaft
- Special cooling head "green"
- JP Black anodized crankcase
- Double ring cam-rod
- Water-tight front ball bearing
- 14 mm eccentric rear ball-race ball bearing
- Simple tuning carburetor with reduction system
- Separated glow plug insert



## Novarossi Glow Plugs

High performance 10% increase in power.

**Special Ultra**.....N68776
**Turbo**.....N68780




## Novarossi Tuned Exhaust

Features a spring clamped coupler, silicone gaskets and 90° built in pressure fitting. IFMAR legal



## 1/8-Scale Off-Road Buggy Tires

Introducing original Medial Pro 1/8-scale buggy tires. These tires are made in France using only the best pure rubber and original compounds. With over 500 international victories, including World and European championships, these tires are the absolute best choice for both racing and backyard bashing. All tire designs are available both un-mounted or pre-glued on Medial Pro 5 spoke star wheels. Don't be fooled by knock-offs, Medial Pro performance and pricing can't be beat!

**Street Price PRE-GLUED** .....$25.95

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techsupport@generalsilicones.com

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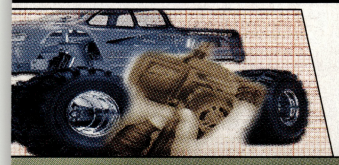


# Kyosho FW-04 Loctite Mugen NSX

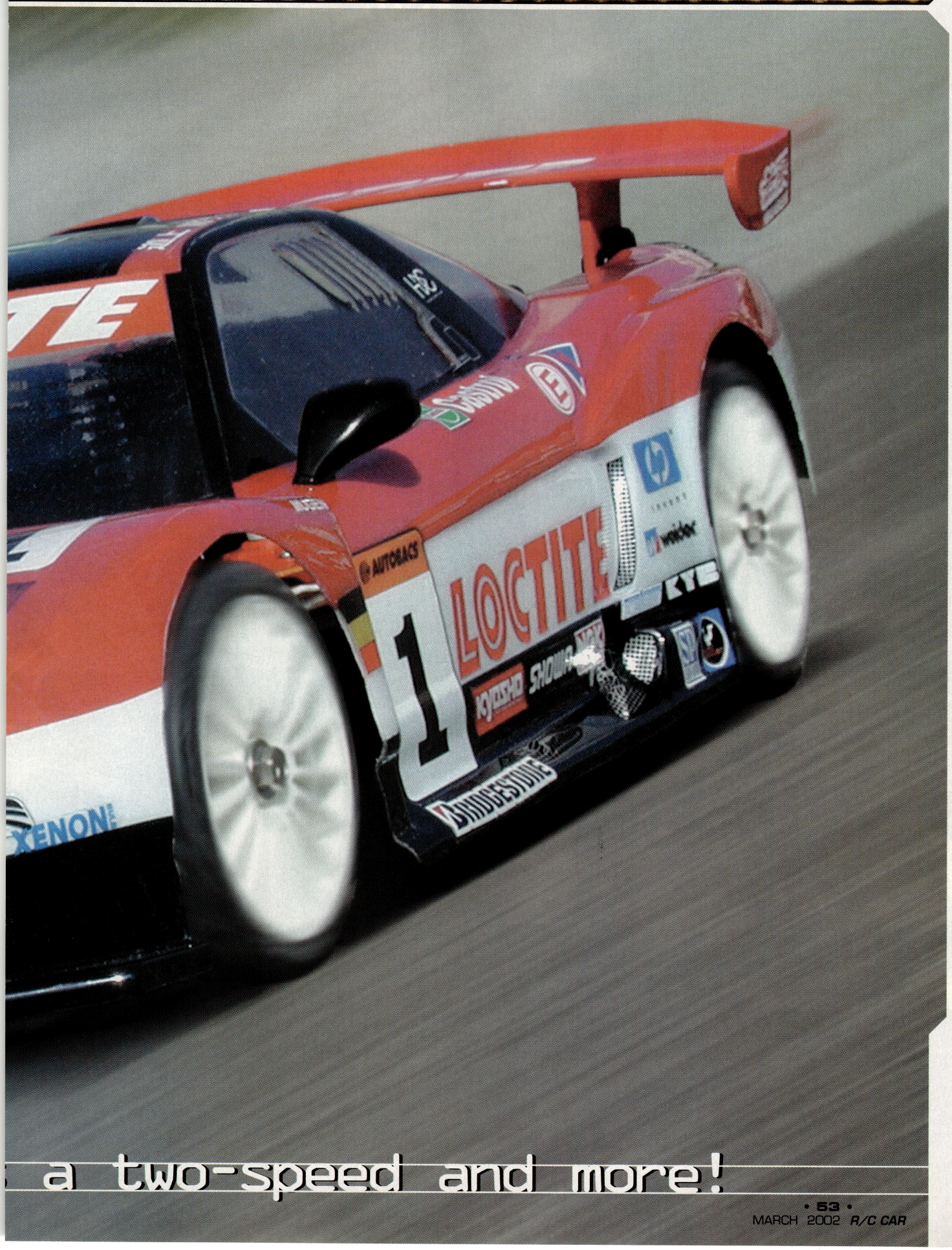
A little scale history for you. Before Tamiya came out with a true 1/10-scale on-road sedan (the TA01), manufacturers were quite creative when it came to what qualified as "1/10-scale." In fact, if you scaled-up the measurements of most of the 1/10-scale cars that pre-dated the TA01, you would find that they would have a length and width that would dwarf a Hummer! The TA01 defined the class that would become the "narrow" sedan—essentially cars that were 190mm wide— and the remaining 1/10-scale cars became orphans and oddities.

Kyosho not only embraced the new "true" 1/10-scale class (they offered the very first scale nitro sedan), they also flew in the face of the narrow trend by developing a nitro sedan that was substantially bigger. The odd bit about this new car was that Kyosho referred to it as still being 1/10-scale. To be exact, the big car was called the SuperTen. The true-scale Kyosho offerings were classified as being PureTen in size.

That first SuperTen, introduced early in '95, featured a rugged shaft-driven 4WD system, pillow-ball-style double-wishbone suspension (another sedan first) and a choice of exquisite scale body shells. The problem was power, or lack of it. The first generation of SuperTens was powered by anemic .10-size engines choked by stuffy airplane mufflers. Compared with the much lighter narrow sedans—which were powered by larger .12s and .15s—the SuperTen was a slug. Fortunately, with the introduction of an all-new SuperTen chassis (the FW-04) came a new high-performance GS-15R engine and tuned muffler. Not only was the power quotient raised, but the chassis and suspension received major updates, making the SuperTen more potent than ever before.

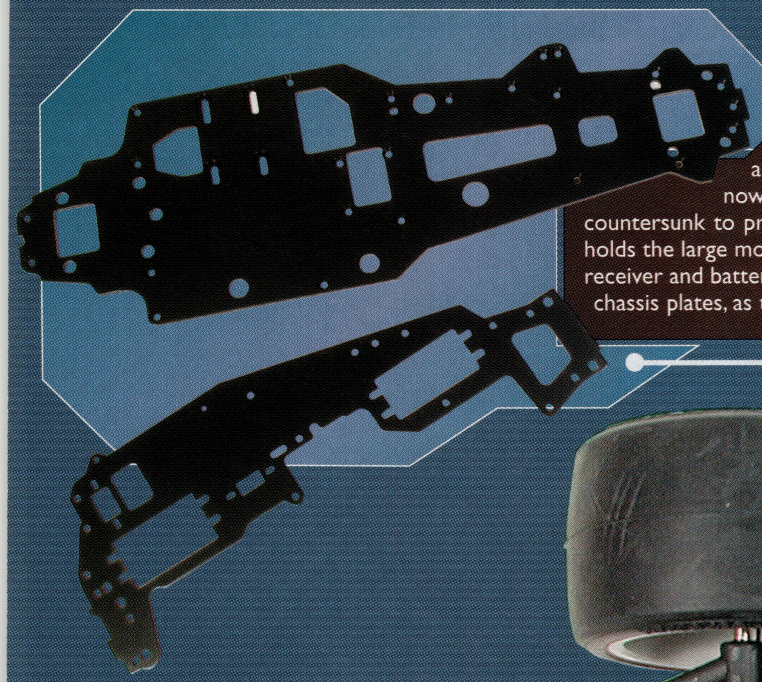
Kyosho has now added a third version of the FW-04 (to go with the base and four-stroke models), which features several of the most popular hop-up options as standard equipment. Along with these mods, this new Special Option Version comes with a stunning Loctite Mugen NSX body. Let's see what this super-size sedan has under the hood!

The super-sized sedan get

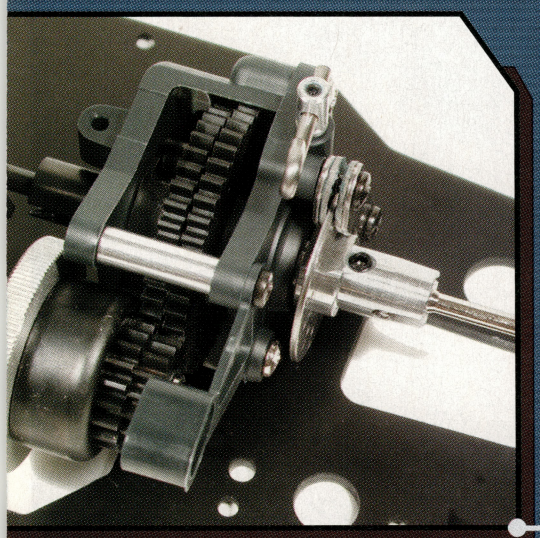



a two-speed and more!

# Kyosho NSX



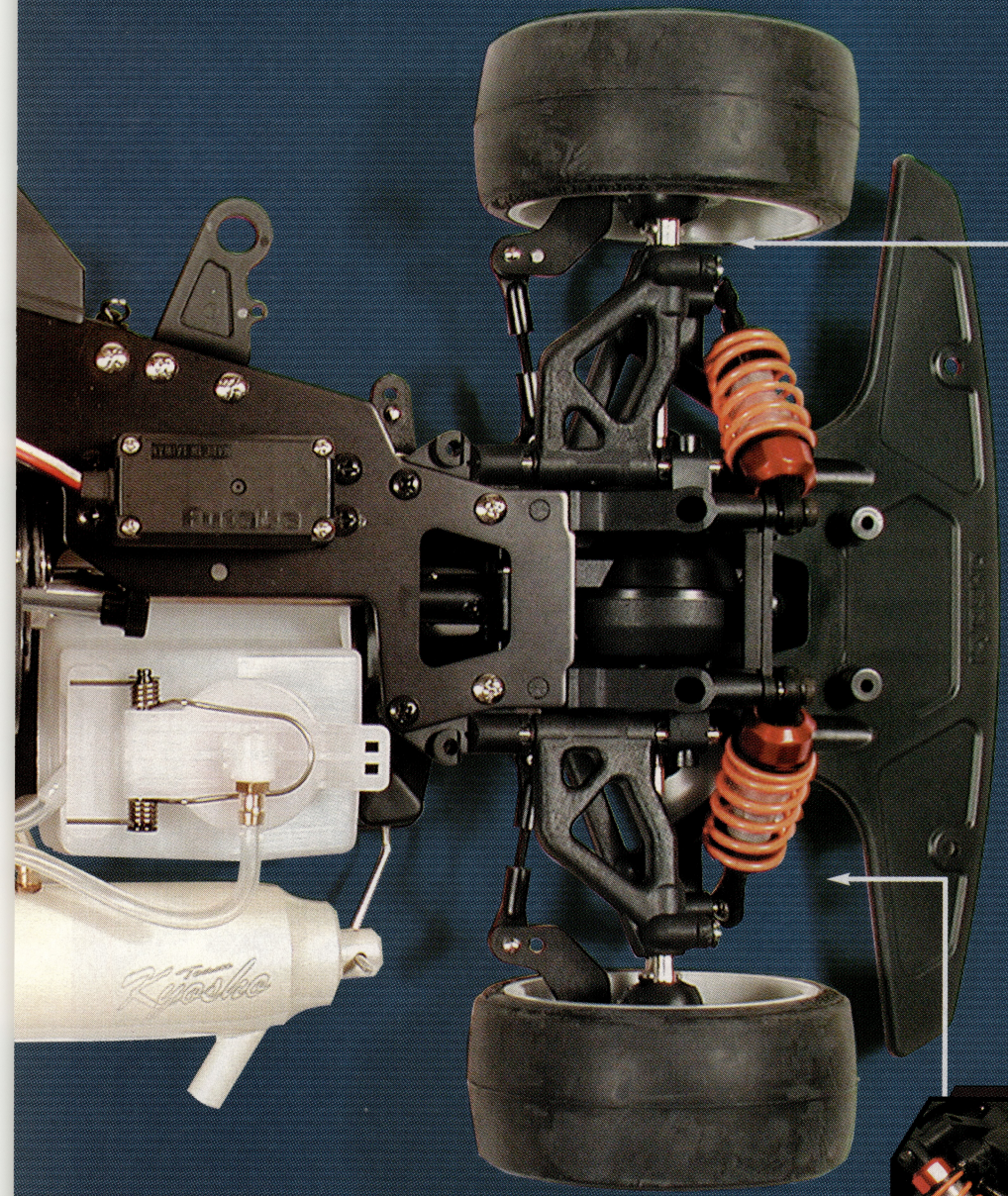
The first major difference between the Special Option Version and regular FW-04 is that the aluminum chassis and upper deck are now black-anodized. The lower deck is still 2.5mm thick and is fully countersunk to prevent dragging. The upper deck provides additional stiffness and holds the large molded radio box. The box has a hinged door for easy access to the receiver and battery pack. Although purely a cosmetic change, we like the new black chassis plates, as they make the car stand out from other SuperTens.



The most exciting feature of the special version is that it comes with a two-speed transmission. This is the most significant performance mod that can be made to the SuperTen (short of installing a more powerful engine), and makes a huge difference not only to the car's acceleration, but to its top speed as well. The two-speed is the lever-arm type, not the excellent clutch-shoe type that's optional on the SuperTen and standard on the smaller V-One R racing sedan. The lever-type transmission works well, but it shifts more abruptly and is less durable than the clutch-type. Kyosho includes a combination 16/19-tooth pinion gearset, and a 40/43-tooth spur gearset. This is good gearing for small to medium-sized tracks, but for large tracks, Kyosho also has larger pinion sets as well as smaller spur gearsets.

## OUTSTANDING FEATURES

Up front, the special version has steel universal-joint driveshafts in place of the regular separate dogbone/axles. Universals are more efficient at transferring power, especially to the front wheels, which attain extreme angles during steering. The result is that the axles don't fight the wheels during on-power cornering, which makes the car drive smoother through the turns. Kyosho retained the dogbones for the rear wheels, which is fine with us—there's so little suspension movement back there that we'd never notice the difference.



The special version's box lists all of the changes made to the new model. Among the photos shown is a cutaway view of the fuel tank. Unfortunately, we aren't that fluent in Japanese, and the official Kyosho press release wasn't much help. Comparing the new fuel tank with one from a previous model revealed an improved fuel pickup with a built-in filter to prevent debris from entering the engine. The capacity of the tank remains unchanged at 100cc, for longer run times.



The remainder of the special version is the same as the regular FW-04 chassis, which includes a supremely durable and highly adjustable suspension. The pillow-ball design allows for super-fast and precise adjustment of the front and rear camber and toe-in, and the upper wishbones allow for the front caster to be set to 7.5, 11 or 14.5 degrees. The drivetrain still consists of rugged metal-gear diffs spun by steel ring-and-pinion gears, which are all stopped by a centrally mounted steel disc brake setup.



## FACTORY OPTIONS

We couldn't resist adding a couple of additional hop-ups from the Kyosho catalogue. Okay, we didn't test the SuperTen in true box-stock form, so sue us! Here's what we added.

• Kyosho's got a brand new SP cylinder head for the GS-15R engine (part no. 74901-14BL). Not only does the blue-anodized head look great, but it's taller and has much more surface cooling area.

• The stock tuned muffler is a vast improvement over the old airplane-style choker. Kyosho's Super Tuned Muffler R set (39011) is even better. It really allows the GS-15R to scream, and it has a great-looking pearl-white finish.

• Teflon Touring Oil Damper (SS). The stock composite shocks aren't bad, but their pistons aren't that great. We added these hard-coated aluminum shocks because they're smoother, more consistent and have precise Teflon pistons.

## BUILDING HINTS

Step 5: Attach the front diff's rear outdrive before you assemble case halves. Snug the pinion and the outdrive against the bearings so there's no slop. This will cause less binding during acceleration.

Step 6: The universal driveshafts come with bearing adapters to fit the 12x18mm inner hub bearings. Don't forget to slide the adapters over the axles first.

Step 27: When installing the engine, take extra care to ensure that the pinion gears are in-line with the spur gears. If the engine isn't perfectly aligned, one of the gearsets can bind and rob power.

Step 37: Cut one ring from both ends of the air filter tube. This will lower the filter and prevent it from flopping around inside the body.

## SUPERTEN WISH LIST

The SuperTen comes with tons of features, but there are still some essentials we'd like to see included as standard.

• Turnbuckles. For all the techno-wizardry present here, how about a cheap set of turnbuckles so that we don't have to pop-off the steering tie-rods to change toe angle?

• Adjustable engine mounts. The stock mount fits only the GS-15R engine (or other Kyosho sport mill). We'd like some adjustable mounts that will fit other small blocks.

• Better stock springs and oil. The kit-supplied oil is too thin, and the springs are too soft.

• O-ring sealed diffs with gaskets. The SuperTen should have O-ring sealed diffs so that we can fill them with silicone fluid to stiffen their action and prevent unloading.


NEW Upgrades

1/10 SCALE www.NewEraModels.com
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Dealer Inquiries Invited

MCT103 Chassis only $209.95

CLOD 2000 Complete Upgrade $299.00
Kit includes: MCT105 Chassis, MCT201 2-MCT203, MCT204, MCT205, MCT207

"CLOD" Upgrades

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|---|---|
| MCT201 Standard 4 Link Suspension | $69.95 |
| MCT202 Long 4 Link Suspension | $79.95 |
| MCT203 Upper 4 Link Mount | $19.50 |
| MCT204 Steering Servo Adp. Up Front | $34.50 |
| MCT205 Rear Steering Eliminator | $24.50 |
| MCT207 Heavy Duty Steering Rods | $39.95 |
| MCT302 Rear Sway Bar | $39.95 |
| MCT301 Front Bumper | $39.95 |
| MCT401R Shocks w / Reservoir | (SALE)$65.00 |
| MCT402 Bearing Kit 20 piece | (SALE) $34.50 |
| MCT403 Right Angle Body Mounts (pr.) | $ 3.95 |

"CLOD" Options

| | |
|---|---|
| MCT420 Cantilever Kit (no Bearings) | $69.95 |
| MCT421 Cantilever Kit w / Bearings | $89.95 |
| MCT422 Kyosho Wheel Adp. (4) | $29.95 |
| MCT423 New Era Masher Tires (pr.) | $26.95 |

HOT HOT HOT

| | |
|---|---|
| NTF111 Top Fuel Lite | $399.95 |
| TRS301 Stampede Skid Plate/Bumper | $29.95 |
| TRS223 Stampede Wheelie Bars | $39.95 |
| NTF151 1/8 Scale Top Fuel (for21) | $559.95 |
| NPS152 1/8 Scale Pro Stock (for21) | $529.95 |
| TRX103 Traxxas NitroRustler Chassis | $39.95 |
| NTF210 SS(steel)Brake w/Fibre Pads | $ 9.95 |

MICRO RS4 PARTS & UPGRADES IN STOCK

"Nitro" Length 39.5 in. Height 9.5 in. Width 6.3 in. Wheelbase 30 in. Weight 3lb. 15oz. .12 to .15 Engine
Now with LEXAN Body
Winston TOP FUEL DRAGSTER
NTF101 $499.95 less Engine & Radio

HOT !! T-MAXX
LIGHT Upper Steel Tube Chassis for T/E-MAXX $149.95 Chassis only

NEW 1/8 Lite TOP FUEL
Length 32.5 Height 9.5 Width 6.3 Wheelbase 23 in. Weight 3lb. 15oz. .12 to .15 Engine
Scale Lexan Body w/Molded Roll Cage

"Nitro" Length 19.0 in. Height 4.9 in. Width 7.5 in. Wheelbase 10.25 in. Weight 3lb. 7oz. .12 to .15 Engine
NPS103 $449.95 less Engine & Radio

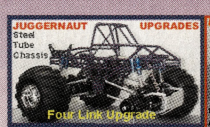
T/E-MAXX CNC Aluminum Upgrades

| | |
|---|---|
| TRM320 Front Skid Plate | $19.95 |
| TRM321 Rear Skid Plate | $18.95 |
| TRM320SD 3.2mm Frt Skid | $22.50 |
| TRM321SD 3.2mm Rear Skid | $22.50 |
| TRM322 Front Bumper pr | $18.95 |
| TRM323 Rear Bumper pr. | $18.95 |
| TRM324 Front Bumper Supports pr. | $22.95 |
| TRM325 Rear Bumper Supports pr. | $22.95 |
| TRM102 Rear Torsion Bar. (Requires TRM325) | $35.95 |
| TRM305 Front Torsion Bar. (Requires TRM324) | $35.95 |
| TRM326V2 Lower Braces pr. | $38.95 |
| TRM326R Racing Braces pr. | $36.50 |
| TRM318P Front Body Mount With Solid Post and Collar | $22.50 |
| TRM319 Rear Body Mount With Solid Post and Collar | $22.50 |
| TRM329 Steering Drag Link | $ 8.95 |
| TRM330 Front Bulkhead pr | $67.50 |
| TRM330V2 Front Bulk. D pr | $49.50 |
| TRM331 Rear Bulkhead pr | $67.50 |
| TRM331V2 Rear Bulk. pr | $49.50 |
| TRM505 Bolt on Header Adapter for OS .21 RG(Any Header) | $19.95 |
| TRM452S Billet Aluminum Wheels w/1/2" Offset Direct Mt.(4) | $159.95 |
| TRM452H Billet Aluminum Wheels w/1/2" Offset Direct Mt.(4) | $159.95 |
| Call for many more T-MAXX Parts | |
| TRM332 Upper Arms pr | $36.50 |
| TRM332R Racing Arms pr | $29.50 |
| TRM333 Lower Arms pr | $39.50 |
| TRM333R Racing Arms pr | $32.50 |
| TRM334 Center Skid Plate | $14.00 |
| TRM336 Frt or Rear Shock Tower | $36.00 |
| TRM910 Roll Bar W/Brace | $39.50 |
| TRM110 .21 Conversion | $129.95 |
| TRM107 3.2mm Ex. Main Chassis | $49.90 |
| TRM320XL Ext.Front Skid | $23.50 |
| TRM320T Titanium Frt Skid | $38.50 |
| TRM321T Titanium Rr Skid | $38.50 |
| TRM334T Titanium Ctr Skid | $28.50 |
| AGT301Hi-Torque Ripple Pipe Powder Coat Blue | $29.95 |
| AGT301W Pipe Wire Blue | $ 5.00 |
| TRM241 Ported Header Bl | $24.95 |

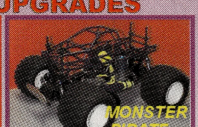




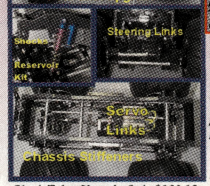

1/10 SCALE UPGRADES







Upper Steel Tube Chassis for OFNA Monster PIRATE $169.95




| | |
|---|---|
| AGT203 Bi-Level Chassis | $79.50 |
| AGT206 for 21 Engine | $124.50 |
| AGT101 Rear Brace | $21.95 |
| AGT102 Front Brace Tubes | $ 7.95 |
| AGT910 3pt. Roll Bar | $39.50 |
| AGT250 125cc Fuel Tank | $10.95 |
| AGT302 High Volume Header | $24.95 |
| AGT333 Frt. Arms Aluminum | $34.50 |
| AGT334 Rr Arms Aluminum | $34.50 |
| AGT430 Frt Shock Tower Alum | $19.50 |
| AGT431 Rr Shock Tower Alum | $19.50 |
| AGT345SD Servo Reciever Guard | |
| CNC Alum for RTR and TEAM | $16.95 |

Steel Tube Chassis Only $239.95
Call for Other Upgrades




| | |
|---|---|
| TXT306 Rear Torsion Bar | $35.00 |
| TXT322 Front Bumper | $24.95 |
| TXT324 Frt Bumper Sup | $19.50 |
| TXT325 Rr Bumper Sup | $19.50 |
| TXT334 Center Skid | $19.95 |
| TXT343 Wheelie Bars | $39.95 |
| TXT418 Cantilever Levers | $42.95 |
| TXT822 Lower Supports | $39.95 |

Nitro Rustler and Stampede CNC Aluminum Upgrades

| | |
|---|---|
| TRX103 3.2mm Alum.Chassis Plate | $39.95 |
| TRS330 Front Bulkhead (Blue) | $37.50 |
| TRS331 Rear Bulkhead (Blue) | $24.00 |
| TRS332 Front Control Arms pr.(Blue) | $34.00 |
| TRS333 Rear Control Arms | pr. $34.00 |
| TRS402 Rear Arm Mounts | pr. $23.50 |
| TRS430 Front Shock Tower | $23.50 |
| TRS431 Rear Shock Tower | $23.50 |

1/4 SCALE www.NEMScaleCars.com
ROAD DRAG TRUCK
Kits Starting at $995.00 Including Gasoline Engine

# Mugen NSX

**REPORT CARD**

Test location: Ventura Roadrunners, Camarillo, CA

Track type: Untreated paved roadcourse. Medium sized with a mix of flowing turns and tight hairpins.

**Engine starting and break-in: A+**

This is the most potent version of the GS-15R powerplant, and although it's a sport engine, it can be made to scream. The dual-needle carb was set nearly perfectly from the factory, so startup was a breeze. Take your time during break-in (burn at least four tanks before leaning the carb) and you'll be rewarded with extra power.

**Acceleration and speed: B**

Broken-in properly and equipped with Kyosho's high-performance head and tuned-pipe (see sidebar), the GS-15R is as fast as a competition .12, which is saying a lot! The carb's low-speed needle and the two-speed tranny let the engine pull the big FW-04 chassis hard out of the turns, something that was a shortcoming of the regular FW-04. The two-speed's ratios are good for a medium track, but we would like to see a slightly taller ratio for improved top speed.

**Low-speed steering: B**

The NSX's K-Zero slicks provide adequate traction, which makes the car feel more nimble than it really is in slow turns. Thanks to a rear-end that's easy to break loose, the NSX gets through tight track sections quickly. The lower ratio of the two-speed's first gear also allows the car to snap out of the turns much harder than before. We also feel that the universal front driveshafts improved response in tight turns.

**High-speed steering: C+**

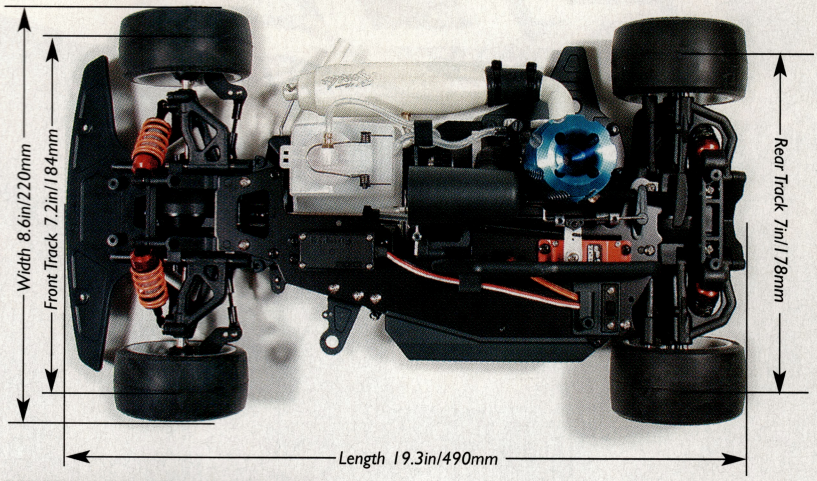
With stickier tires, the NSX would be a stable handler, but with the stock slicks and a second-gear, things can get hairy at top speed. First, the car pushes when entering fast turns, only to switch to oversteer as soon as it transitions. We were able to limit this by installing firmer springs and thicker oil to the front shocks, which prevented the front end from diving too much when entering turns. Kyosho should include a better stock setup, especially with a special edition kit such as this.

**Braking: A**

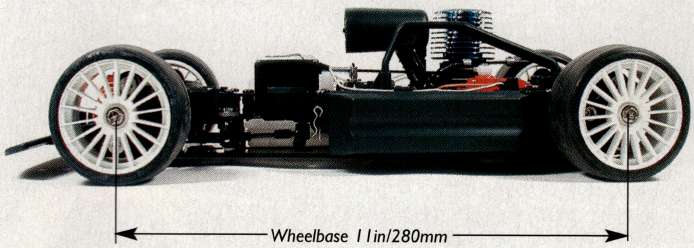
Even though it has just one small disc, the NSX stops with authority. All four wheels are braked simultaneously, bringing the heavy FW-04 to a halt nearly instantly. As a testimony to the car's overall balance, we noticed very little pulling to the side during hard braking.

**Durability: A+**

The FW-04 is one tough customer. We've broken one once, but that was a rare occasion. With true upper and lower wishbones, huge T-Maxx-sized pillow balls and a strong nylon-composite mix, it's nearly impossible to destroy the FW-04's suspension. The rest of the car, including the drivetrain, is just as durable.




**WEIGHT** 4lbs., 6 oz (w/body)




## SPECS

| | |
|---|---|
| **TYPE** | Super-sized nitro sedan |
| **PRICE** | $549.99 (retail), $419.99 (street) |
| **CHASSIS** | |
| Type | stamped plate, countersunk holes duralumin |
| Material | independent double-wishbone w/pillow-bal carriers |
| **SUSPENSION** | |
| Type | independent lower A-arms w/adjustable upper links |
| Damping | nylon-composite oil-filled shocks |
| **TRANSMISSION** | |
| Type | shaft-driven full-time 4WD with F/R gear diffs |
| Drive shafts | front universals, rear dogbones |
| Bearings | metal-sealed ball bearings |

**Final Score**

**Highs:** We love SuperTens, and this is the fastest one ever to come out of the Kyosho factory. The NSX body shell is simply awesome (and we should add that it handles well on the track, too). The black-anodized chassis looks trick, and the two-speed and front universals are welcome additions.

**Lows:** Still no turnbuckles for the steering. We'd also like to see adjustable engine mounts included. The diffs aren't O-ring sealed as they should be.

**The verdict:** Why super-sized sedans haven't taken off is a mystery who's answer eludes us. These big beasts are, to us, more fun to drive than smaller sedans (and easier to see!). Kyosho's latest FW-04 is a great package that includes most of the hop-ups we feel are essential to SuperTen performance.

**SOURCES**

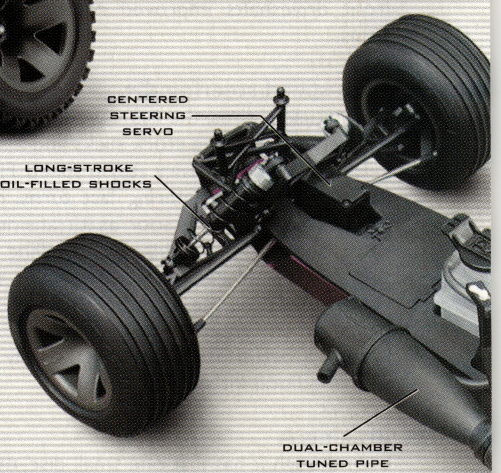
**Kyosho and Futaba**, distributed by Great Planes Model Distributors, 2904 Research Rd., Champaign, IL 61826-9021 • phone (217) 398-6300; fax (217) 398-0008

**Multiplex USA**, 560 Library St., San Fernando, CA 91340 • phone (818) 838-6467; fax (818) 838-3127

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

# NITRO RUSH






## SPECS

SPECIFICATIONS

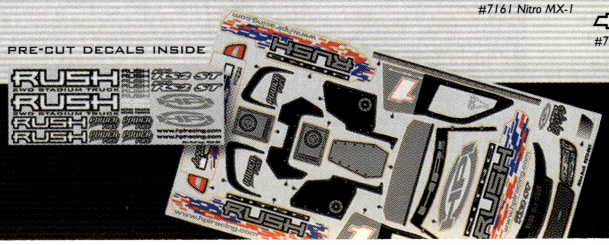
- *Pre-assembled with or without radio*
- *Painted and trimmed body!*
- *Decals die-cut for easy application*
- *Full ball bearing set*
- *Powerful Nitro Star engine with pullstarter*
- *Dual-chamber tuned pipe*
- *Enclosed "laydown" gearbox w/adjustable slipper clutch*
- *Sealed receiver and battery compartments*
- *Rear chassis upper and lower braces*
- *Vented disc brake*




Included in the RTR Rush kit (#560) is a 2-channel, pistol grip, AM radio, TX-2 transmitter.

***All Nitro Rush kits now have an updated chassis!***

PRE-CUT DECALS INSIDE



OPTIONAL BODIES

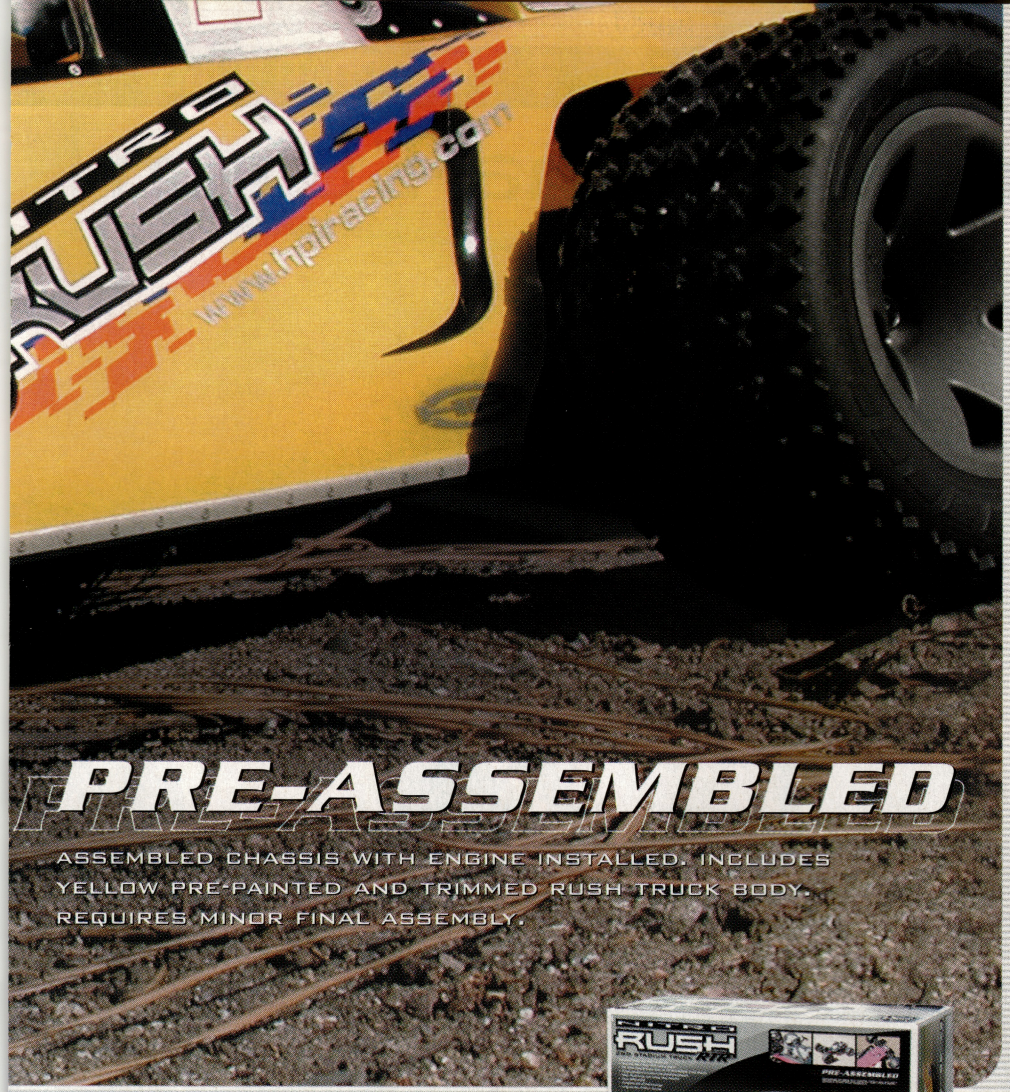


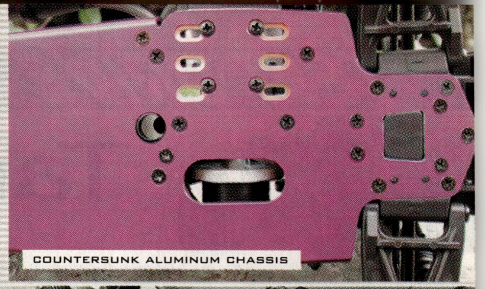
MX-1
#7161 Nitro MX-1

CHEVROLET SILVERADO
#7172 Chevrolet Silverado

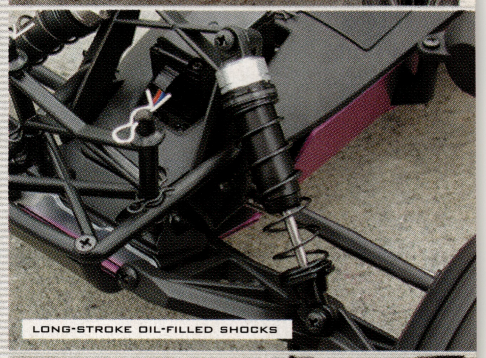
DODGE RAM
#7173 Dodge Ram

Ford F-350
#7174 Ford F-350

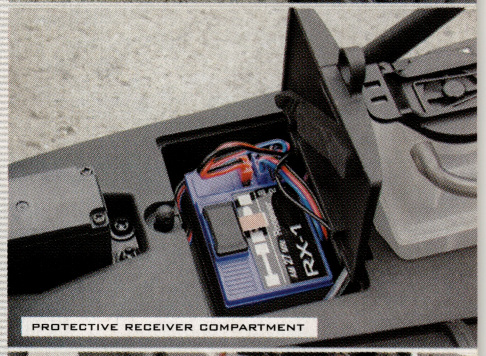


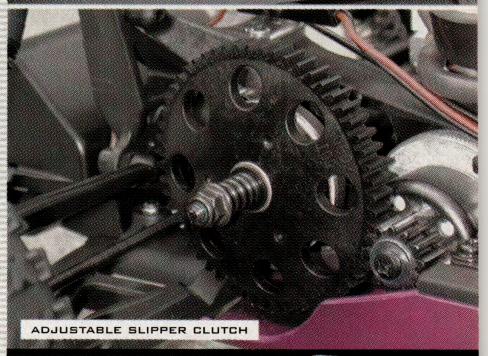
COUNTERSUNK ALUMINUM CHASSIS



LONG-STROKE OIL-FILLED SHOCKS




PROTECTIVE RECEIVER COMPARTMENT



ADJUSTABLE SLIPPER CLUTCH

# PRE-ASSEMBLED

ASSEMBLED CHASSIS WITH ENGINE INSTALLED. INCLUDES YELLOW PRE-PAINTED AND TRIMMED RUSH TRUCK BODY. REQUIRES MINOR FINAL ASSEMBLY.




#560 RTR Nitro Rush (RS2 ST) (Includes radio system)
#564 Nitro Rush (RS2 ST) (Radio system not included)

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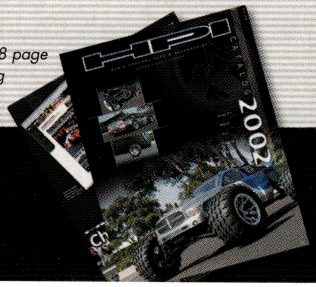


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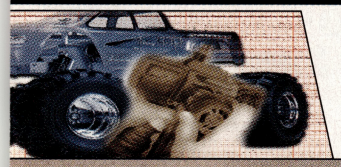


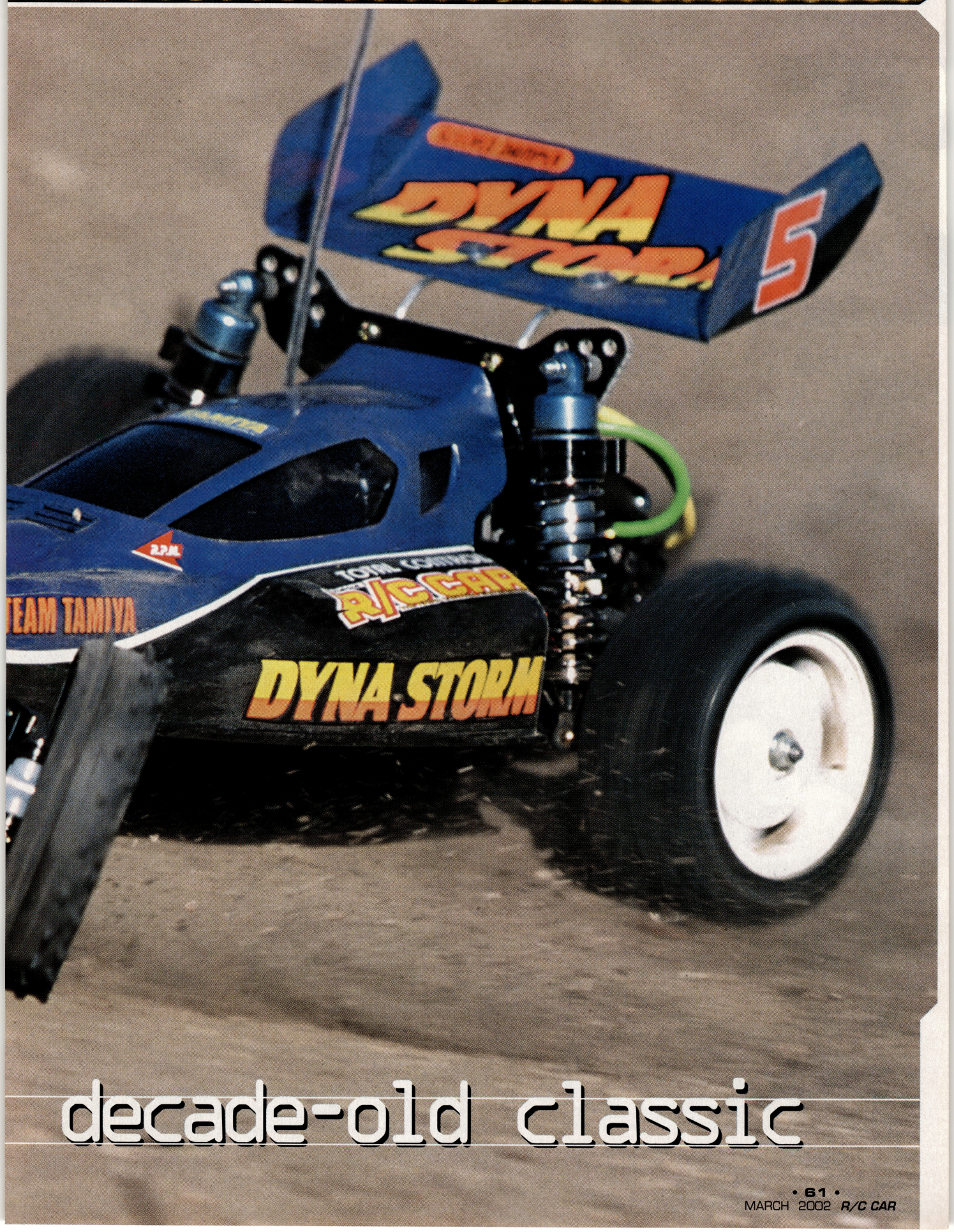
# Tamiya Dyna Storm

The year was '92, and off-road buggies reigned supreme. No one had even heard of touring cars, and the monster truck class was barely getting on its feet. And of the buggies, it was the Associated Team Car and Losi JRX Pro that were most popular, with an occasional Kyosho Triumph and Schumacher Cougar thrown in for diversity. In Japan, people were still racing off-road—the Japanese have since been smitten with the sedan bug and have all but abandoned 1/10-scale off-road—and Tamiya wanted a buggy of its own. Not that Tamiya didn't have off-road buggies in its lineup, but the aging Frog, Hornet and Fox simply couldn't compete. An all-new car was needed, and Tamiya designed one that borrowed some of the best features from its main competition, yet was undeniably unique in the trademarked Tamiya fashion.

The end result was the Dyna Storm, a 2WD buggy that was to be Tamiya's ticket to off-road glory. And although things didn't quite stick to the plan, the Dyna Storm was still considered by many to be a breakthrough car for Tamiya. It even enjoyed moderate success when driven by Britain's Jamie Booth, who campaigned the car, along with Tamiya's 4WD Manta Ray chassis, throughout the challenging European circuit.

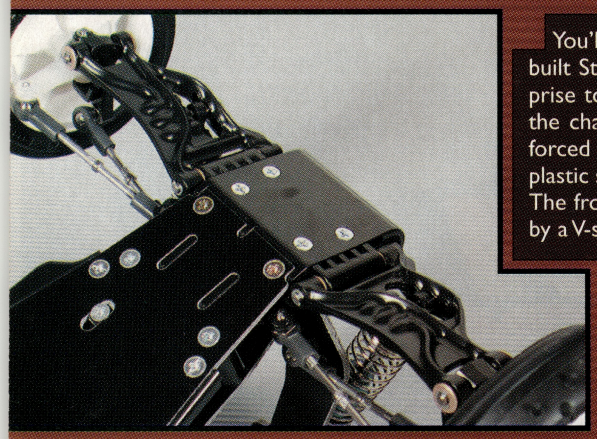
We had no idea that Tamiya had re-released the Dyna Storm until we opened the large box in which the kit had been shipped to us. It had taken us a few minutes to figure out exactly what we were seeing. A Dyna Storm? Isn't that a 10-year-old car? Wait! There's a label on the box. "Special Limited Release." Oh, now we get it. Should we send it to Richard for his vintage column? No. Since it's a re-issue, it officially counts as a new kit, so we [illegible]view it as such. Better luck next time, Rich!

## Tamiya re-issues a

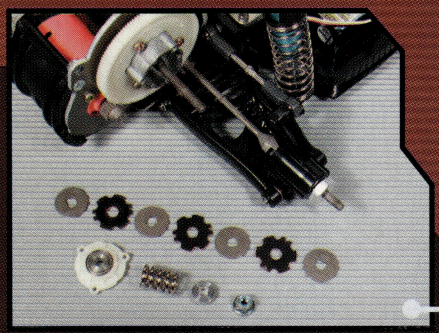



# decade-old classic

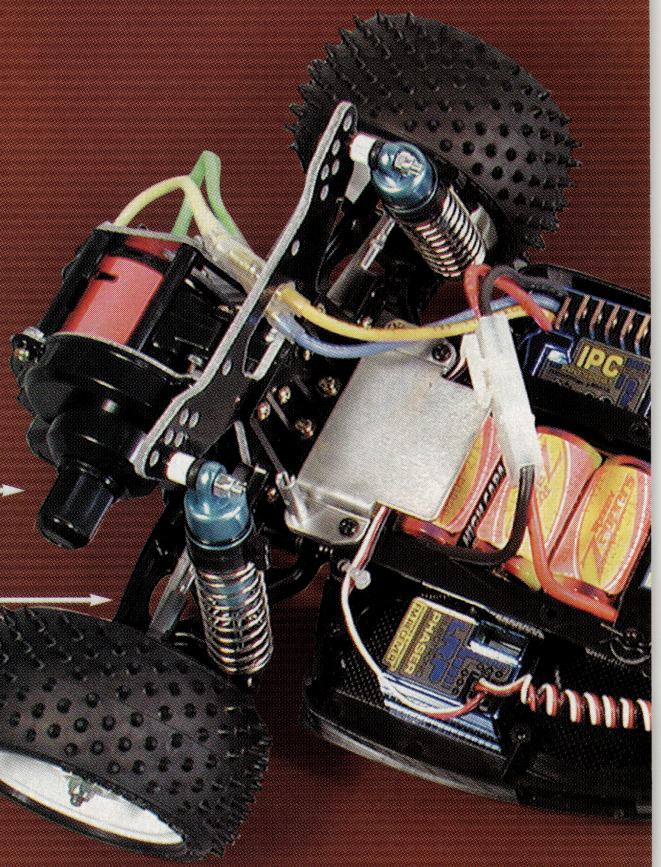
# Tamiya Dyna Storm

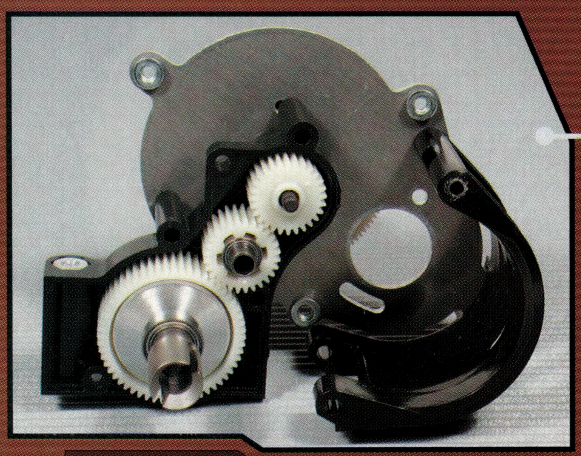


You'll have to remember that at the time the Dyna Storm was made, Associated's hand-built Stealth 2WD cars still held the racing community in a state of awe. So it's no surprise to see a little Stealth influence in the Dyna Storm. Specifically, this can be seen in the chassis, with its skinny frontal zone to its wide mid-section. Made from fiber-reinforced plastic (FRP), the Dyna Storm's chassis is strengthened by the addition of molded plastic side guards (which also grip the body with Velcro strips) and a plastic battery box. The front of the chassis ends with a rather flexible plastic kick-up plate, which is braced by a V-shaped FRP top-deck that spans from the front bulkhead back to the battery box.

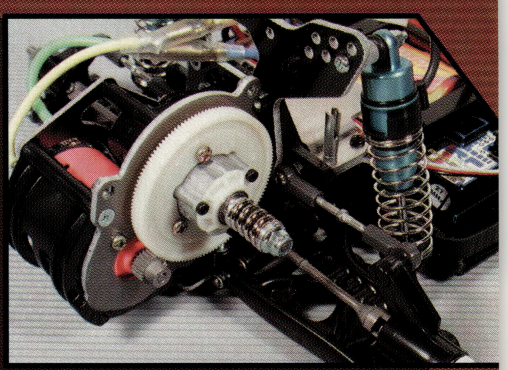


The entire transmission, as well as the wheels (and steering bellcranks) ride on high-quality ball-bearings. Tamiya also includes a pair of steel universal-joint driveshafts for the rear wheels. A Tamiya pink competition stock motor is also included. It has a sealed endbell, fixed timing and pre-mounted external capacitors. Bullet leads provide easy hook-up to most sport-type ESCs without the need for soldering.



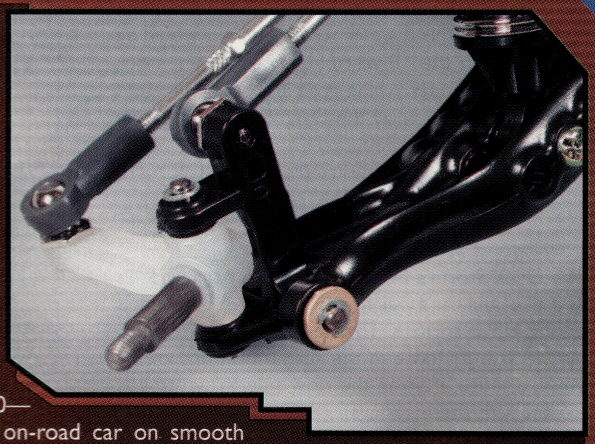


One area in which the Dyna Storm may have held an advantage over some of its competitors was the transmission. At the time when the Dyna Storm was released, Associated's Stealth transmission was the cream of the crop, and this is what Tamiya engineers used as a model for their gearbox. Ironically, Tamiya had first introduced this style of three-gear transmission to the market years before, and it was this gearbox which inspired MIP's replacement RC10 transmission, which begat the Stealth (how they're related to Kevin Bacon remains a mystery).



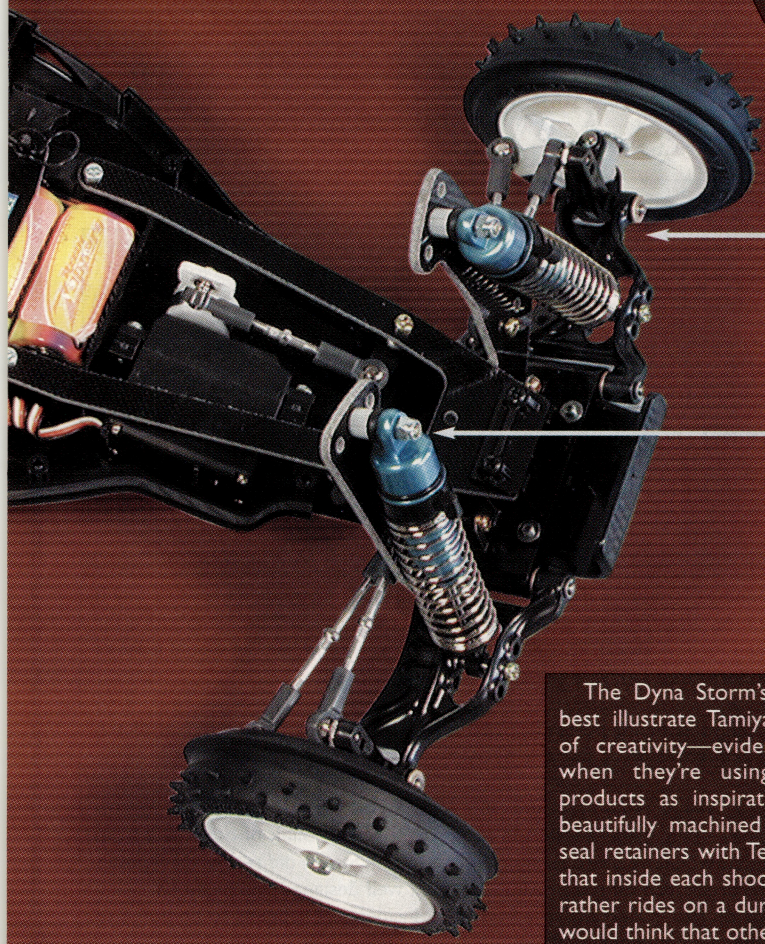
So the innards of the Dyna Storm's gear box would be familiar to anyone who has built a modern buggy; however, it's what's on the outside that raises eyebrows. Namely, the Dyna Storm's incredible slipper clutch, which uses a system of plates and pads that's similar to the wet-type clutch you'd find inside a motorcycle's transmission. All of these parts are housed within a beautifully cast—though heavy—aluminum hub that slides over the tranny's main input shaft. A spring and locknut are used to set the pressure, and hence the amount of slip, of the clutch. Tamiya provides two types of spur gears—one is standard 64 pitch, while the other is metric 0.4 module, which is close to, but not quite the same size, as the 64-pitch teeth.

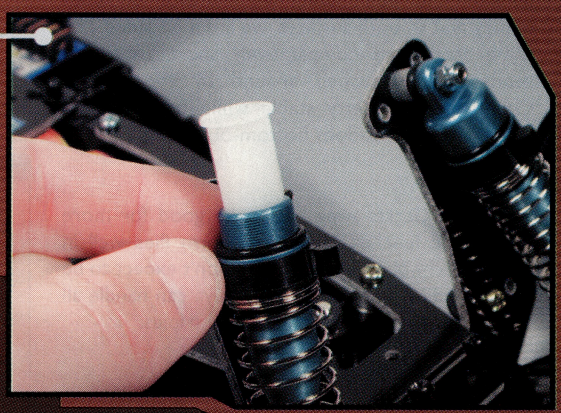
## OUTSTANDING FEATURES



If you've only been in the hobby for a few years, you will find the Dyna Storm's suspension looks a bit strange. But at the time it was designed, the Dyna Storm's suspension was status quo, with wide bulkheads and shorter arms. If you look at a modern buggy such as the Triple-X or B3, you'll see that they have very long arms and narrow bulkheads to allow them to handle better on bumpy tracks. The shorter arm design of the Dyna Storm provides a stiffer roll-center—like that of the old RC10—that makes the car steer like an on-road car on smooth tracks, although rough-track handling couldn't be compared with that of today's buggies.

The Dyna Storm's arms are molded from a shiny plastic material that's actually pretty stiff in comparison with Tamiya's other offerings at the time. What's really unique is that all four suspension arms pivot on flanged bronze bushings. This was, and remains, a great idea. The bushings provide smoother operation, and can easily be replaced when worn instead of the suspension components. The suspension bulkheads are tied to the chassis with machine screws and press-fit nuts, not screws threaded into plastic, which can strip more easily.





The Dyna Storm's shocks best illustrate Tamiya's spirit of creativity—evident even when they're using other products as inspiration. The beautifully machined shock cylinders have screw-in seal retainers with Teflon shaft guides and double O-ring seals. What's most unique is that inside each shock is a Teflon sleeve. The piston never touches the aluminum, but rather rides on a durable and near frictionless wall. This is another great idea, and we would think that other companies would have copied it by now. When the inexpensive sleeve wears, it can be easily replaced instead of the aluminum cylinder.

The damping and springs are typical for the day. Relatively "dead" rear shocks—with small pistons and medium springs—are coupled with ultra-light damping up front with very soft springs. Tires back then weren't all that grippy, so cars were tuned to provide as much rear traction as possible. This often meant sluggish steering, or in the case of the Dyna Storm, lots of on-power push (more on this later). By contrast, modern 2WD cars make the most of improved tire technology, so you'll often see them with softer rear damping and very stiff front springs.

# Tamiya Dyna Storm

## REPORT CARD

Test location: Hungry Valley SSX, Gorman, California. Yes, this is a motocross track! It would be unfair to test the 10-year-old Tamiya (in its stock form) at a modern blue-groove track. This "old school" terrain is what the Dyna Storm was made for.

Track type: Loose sandy dirt, plenty of small rocks and whoops.

**Low-speed steering: B**

The Dyna Storm's front end is so soft that it feels as if all of the car's weight sits over the front wheels during slow corners. The car feels not so much nimble as it its loose in the rear. Transitions are, as you'd surmise, a bit on the slow side. What do you expect with these springs?

**High-speed steering: C**

When Tamiya made this car the first time, it was more important that a car handle rough track conditions, such as holes and ruts, than to steer like a roadcourse car. The Dyna Storm gets a bit wandery at speed, and tends to drift through turns rather than trace an arc. Still, it's a lot of fun to drive this way.

**Acceleration: B+**

A big surprise here. The kit-included stock motor is ballistic. It is easily as fast as any competition stock we've tried, and when combined with the Dyna Storm's smooth tranny, makes for impressive yank. We never could lose the feeling that the motor had to spin a big hunk of mass (the big slipper housing), but for a design that's 10-years-old, we were happy.

**Suspension: C+**

In truth, if it were '92 instead of '02, we'd have given the Dyna Storm an "A" in this category. But having been spoiled by the modern buggy's long-arm suspension and its amazing performance on both bumpy and smooth surfaces, we are a bit jaded. The Dyna Storm has comparatively short arms, and tends to get pushed around by the bumps. Otherwise, it's pretty stable while traveling in a straight line, but it does bottom-out easily.

**Jumping: B**

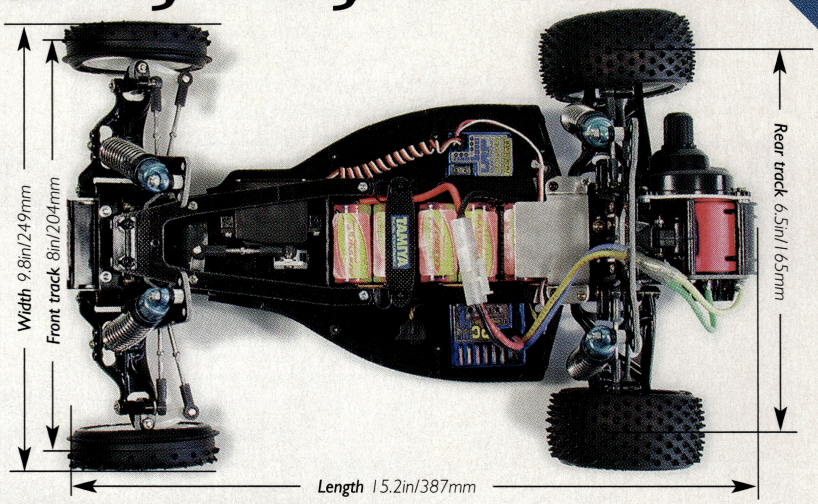
That Don Garlits wing has to be good for more than picnic lunches. The Dyna Storm flies well in true old-school nose-up fashion. Don't expect to be a down-siding master, but the Tamiya can handle all but the most technical doubles and triples.

**Adjustability: B-**

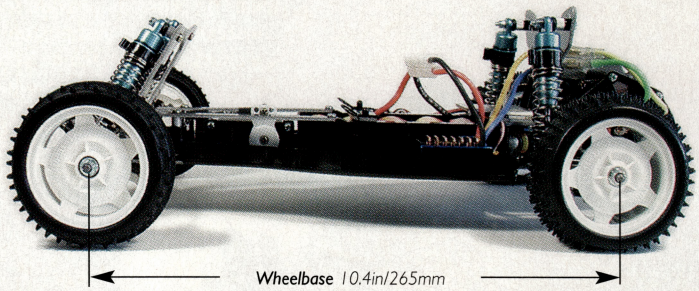
Remember that people used to lambaste the Associated Team Car for lack of adjustment. By comparison, the Dyna Storm is a very adjustable car. It offers a multitude of shock and camber-rod holes (although there is only one hole in each hub and upright). A nice set of steel turnbuckles makes it easy to set the toe-in and camber.

**Durability: B**

Tamiya knows how to formulate plastic that gives when called upon. Although the Dyna Storm is more rigid than most Tamiya cars from the era, its suspension pieces are still pliable enough to withstand abuse. The tranny is supported by ball bearings, so it will also last a long time between rebuilds.




**WEIGHT** 3lbs., 10.6 oz (w/body)




## SPECS

| | |
|---|---|
| **TYPE** | 1/10-scale electric buggy |
| **PRICE** | $403.99 |
| **CHASSIS** | |
| Type | Flat plate |
| Material | FRP (fiber-reinforced plastic) |
| **SUSPENSION** | |
| Type | Independent lower A-arms w/adjustable upper links |
| Damping | Aluminum oil-filled shocks w/plastic liners |
| **TRANSMISSION** | |
| Type | Three-gear with ball diff |
| Drive shafts | Steel universals |
| Bearings | Sealed ball-bearings |

### Final Score

**Highs:** A vintage Tamiya kit that you can actually run. And you didn't have to buy it at a premium on eBay. Despite its age, the Dyna Storm can still be competitive for the sportsman racer. A switch to stiffer oil and springs would help, as would a set of high-grip modern tires. Tamiya includes an excellent motor.

**Lows:** Old-school damping hurts performance on smooth tracks. The slipper clutch is very cool and works great, but it is heavy.

**The verdict:** We're really not sure why Tamiya chose the Dyna Storm for re-release. It never really made a splash in racing, and we can think of other kits from that period that would be more suitable. But the Dyna Storm did represent Tamiya's first effort to break into off-road racing, and it's a well designed and high-quality kit. Ours is going on the "collectible" shelf, which coincidentally, happens to be home to a bevy of other Tamiya vehicles.

### SOURCES

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

**Reedy Modifieds**, distributed by Associated Electrics, Inc., 3585 Cadillac Ave., Costa Mesa, CA 92626 • (714) 850-9342; (714) 850-1744 fax

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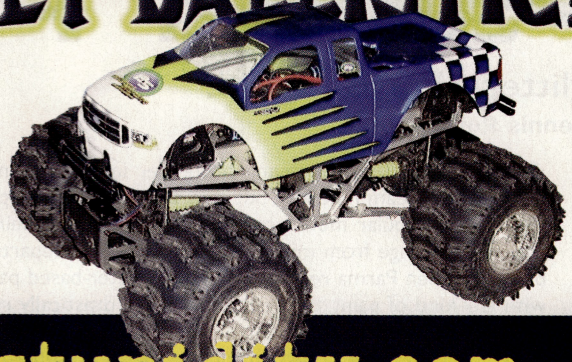

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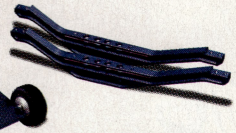

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# Parma Fasglitter

## It glitters, but is it gold?

**By Dennis Rotim**

Parma has been a strong contender in the R/C industry for as long as I can remember. They may not make mainstream race kits, but they make what many people want. Where else could you go to find a replica body of a popular monster truck? In addition to their cool looking bodies, Parma offers masking kits and decal sheets that range from mild to wild. In the paint department, Parma has taken things a step further. It was groundbreaking when Parma released its line of water-based paints for R/C bodies. Although there is a health risk involved with any kind of paint, the water-based line drastically reduces the risk. That's right, no more headaches. In keeping with its innovative attitude, Parma has now released a new line of paints called Fasglitter. As the name implies, it is a glitter, which is more or less an additive that is presented in a solid form and is mixed with their line of Faskoat paints.




### WHAT YOU GET

Included in the package of Fasglitter is a vial which holds about 5.5 grams of glitter. Also included is a very detailed instruction sheet. Sold separately is a bottle of Faskoat that you must use in order to mix the glitter and apply it effectively. The Fasglitter comes in a variety of different colors to satisfy your creative needs.

### GETTING STARTED

Assuming that you've picked out the color you want and purchased the Faskoat, it is now time to paint, right? Wrong. There are many preliminary steps you need to take before painting. First, you have to make sure that you equip your airbrush with the largest tip possible. You are going to want a large tip to move those thick glitter particles. Then it is recommended that you turn up your pressure in the range of 40-70 psi. I tested the paint using about 60 psi. It sounds like an enormous amount of pressure, but trust me, you will need it. Parma also recommends that you use an external mix airbrush. Of course this is not mandatory, so don't go out and by an external mix if you happen to have an internal mix.

Masking is also crucial when spraying the Fasglitter. It is a very light paint mixture, and can drift easily. Make sure that there are no open passages through your masking, and avoid mishaps on the outside of the body. When you get to the point of mixing the paint with the particles, be careful. It is very messy. You don't want to mix this paint as you are on your way to church. Parma recommends that you mix one vile of Fasglitter to one bottle of Faskoat. To make it easier, pour out a little of the Faskoat from the bottle into a mixing bottle, and then mix in the Fasglitter. This will allow you some room in order to mix the paint. After you have mixed the paint well enough, go ahead and pour back the rest of the Faskoat in the bottle.

### WORKING WITH FASGLITTER

When spraying the Fasglitter, make sure that you constantly mix the paint. If you don't you will have a very difficult time. The glitter has a tendency to settle to the bottom quickly. As you are spraying. make sure that you allow the Fasglitter to dry well between coats. If not, it will tend to drip or run. It is recommended that you use a blow dryer to dry the paint more quickly.

### GOLD OR LEAD?

When testing the Fasglitter I found it to be fairly difficult to use. The glitter did not want to mix very well with the Faskoat. It wanted to settle fast, which allowed large amounts of particles to be drawn up through the tube, causing the airbrush to clog frequently. I have been airbrushing for about four to five years and found it quite challenging. I must say that Parma had the right idea when they came up with Fasglitter; however, a little more thought could have been put into its overall design. I had a chance to talk with the tech department over at Parma concerning the proper use and techniques when dealing with the Fasglitter. They assured me that I was doing everything right, but it just never worked quite right. They did not have much to say, considering I followed the directions precisely. I am in no way considering it a total flop, but this product could use a little more improvement.

**SOURCES**

**Parma/PSE**, 13927 Progress Pkwy., North Royalton, OH 44133 • (440) 237-8650

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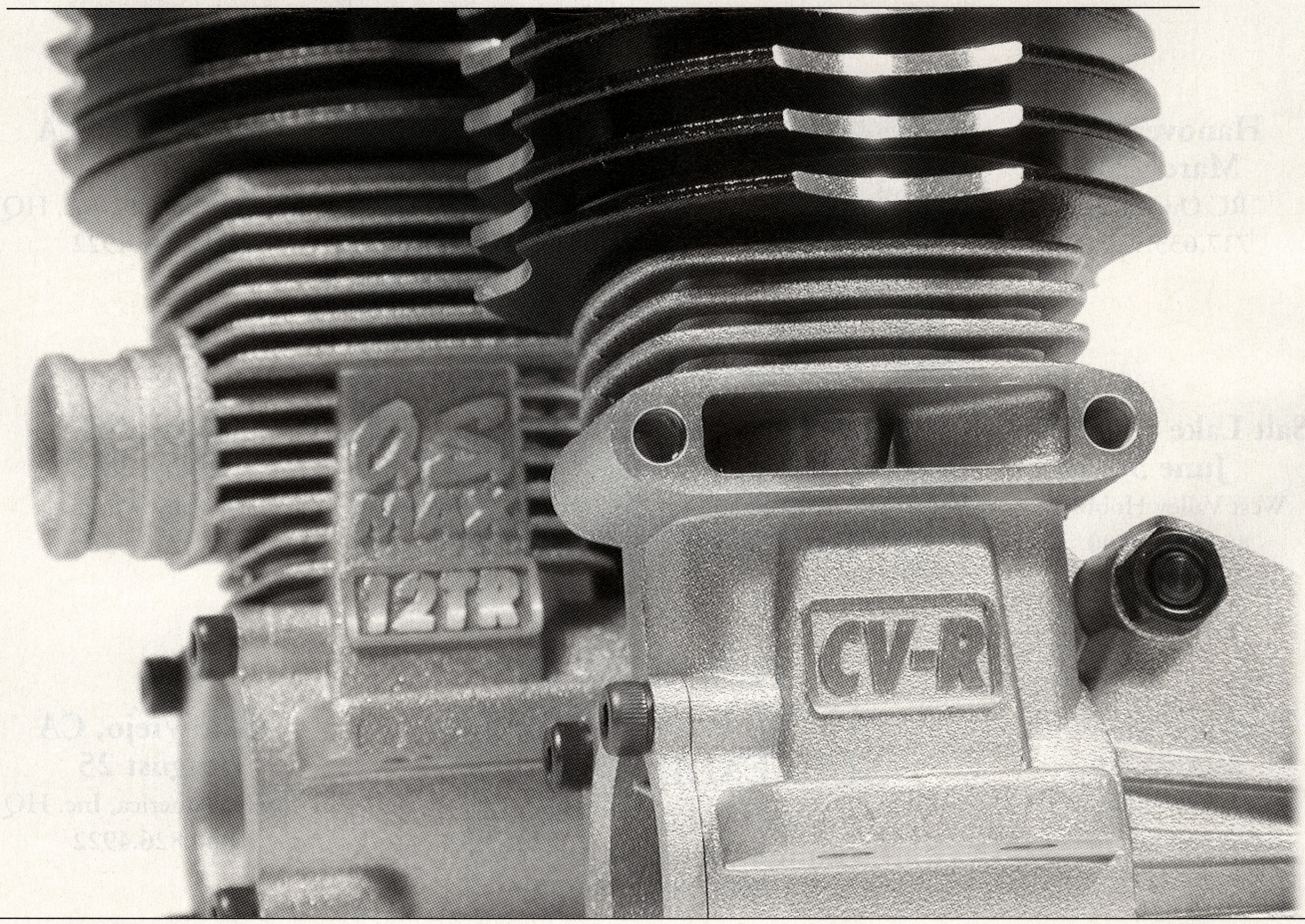
TECH SECTION

# Side-exhaust vs. Rear-exhaust Engines

**By Lito Reyes**

## 7 Myths Exposed

Since Mugen brought the Novarossi-made MT-12 .12-size engine to market, all the buzz in the 1:10-scale nitro world has been about rear-exhaust engines. But of course, big block .15 and .21 engines with rear-exhaust configurations have been around for many years. But do these "new" engines really have an advantage over the tried and true side ports? We talked to Steve O'Donnell, one of the most respected engine gurus in R/C motorsports, and Michigan resident Dennis Richey, who is a master motor builder in both scale and full-size engines, to help blast (and validate) some of the myths concerning these new engines.




**Myth number 1: Rear-exhaust engines produce more power than side-port engines.**

Sometimes. Many factors affect how an engine performs, including ambient temperature, humidity, break-in, glow plug condition, etc. But even given optimal conditions, the experts agree that both types of engines have such close performance that it really is just a matter of preference. Or marketing.

Winner: No clear winner on this one.

**Myth number 2: Rear-exhaust engines "breath" more efficiently.**

Both types of engines have benefits and detriments to their flow characteristics. On side-exhaust engines, the intake port is partially blocked by the crankshaft and the transfer ports are partially blocked by the rear cover. While not optimized, their open area is pretty much equal, so the flow of fuel and gasses is pretty smooth. Now on the rear-exhaust motors, the rotation of the crankshaft biases the fuel to the front transfer port. However, the intake port is still shrouded by the crankshaft, and the fuel and exhaust have an extra-long route to get to the rear transfer port. So in essence, the rear-exhaust motor has one high-flow front transfer port, one low-flow intake port, and an even lower-flow rear transfer port.

Winner: Side-exhaust, but with only a minor advantage. Both have trade-offs in the breathing department, but we subscribe to the "smoother is better" ideal.

**Myth number 3: Rear-exhaust motors are more expensive because they are "tuned for performance."**

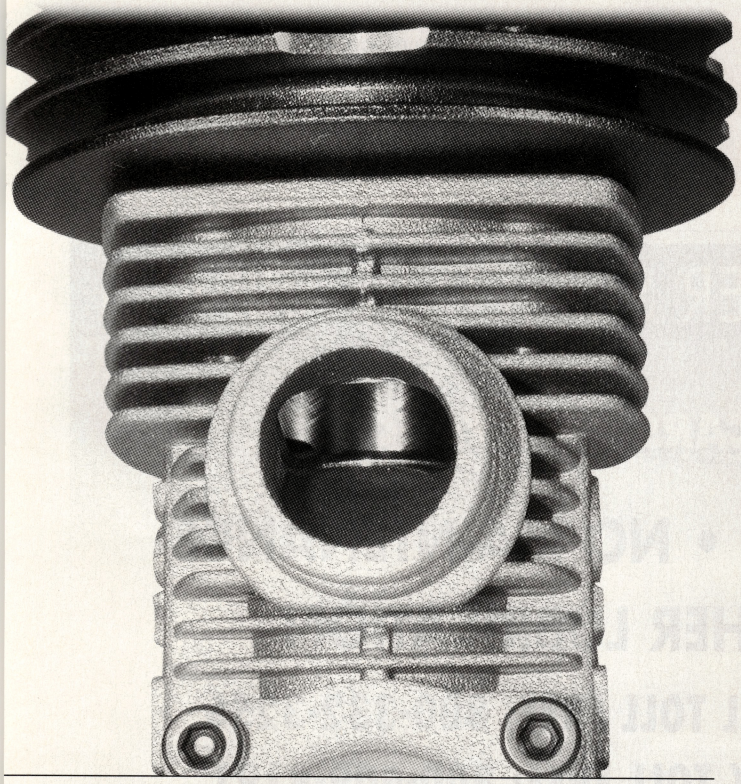
The only reason we can see for the premium price of the

rear-exhaust motors is that racers are willing to pay more for what is being marketed as a premium engine. When comparing a side-exhaust Novarossi with a rear-exhaust Novarossi (with similar characteristics—non-pullstart, non-turbo, long rod), most of the parts are actually the same. The crankshaft, rod, piston, wrist pin, wrist pin clip, bearings, and carburetor are all identical between lines. The sleeve is even the same, but the key notch is in a different location between the two types. And then there is the case, which only differs in the location and shape of the exhaust port.

Winner: Side-exhaust. We'll vote for the lower cost.

**Myth number 4: Rear-exhaust headers are more efficient than side-exhaust headers.**

Here is the other factor in the "breathing" issue — the joint between the exhaust port and the header. On a side-exhaust engine, the port opens up to a wide rectangle, kind of like a mail slot. If you look at most commonly available headers, the opening on it is usually kind of rectangular-shaped, but nowhere near the same size as the exit from the crankcase. This restriction causes turbulence at the joint and makes more back pressure to the engine, and is a variable most racers don't account for when choosing an exhaust system. The experienced racer shapes his header to get as close a match as possible to the exhaust port



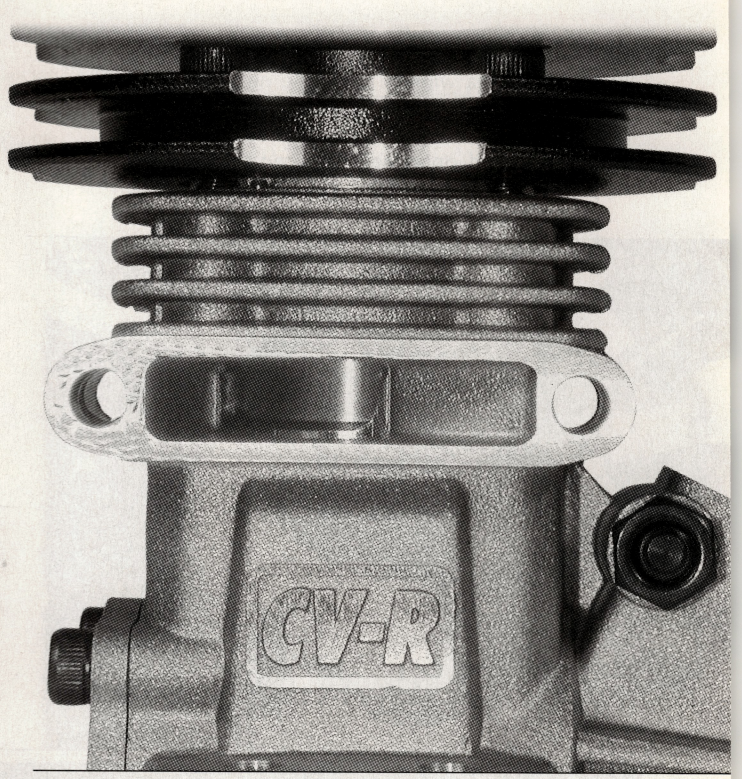
so that his pipe choice is more of an educated guess rather than a shot in the dark. The shape of the exhaust port on a rear-exhaust engine is round. The header that mates to it is round. The exhaust gasses exit the combustion chamber into the most efficient shape possible. Plus, we feel that the spring retainers on rear-exhausts are easier to work with than the screws on a side-exhaust. Okay, so this one isn't a myth.

Winner: Rear-exhaust.

**Myth number 5: Different pipes must be used for rear and side-exhaust engines.**

The kind of pipe to use depends on many different factors, including car weight, available gearing options, track layout and size, etc. Granted, in 1:10-scale sedan applications, the rear-exhaust motor uses a much shorter header than a side-exhaust motor, so that may play a bit of a role in your pipe selection process. But overall, there are many more things to consider when choosing a tuned pipe for your car other than the exhaust configuration.

Winner: Tie.




**Myth number 6: A motor tuner can get more power out of a rear-exhaust motor than a side exhaust.**

Our sources tell us that they actually can make side-exhaust motors scream just as hard, if not harder than rear-exhausts. In fact, Dennis loves to talk about his modified Japanese engines, which are traditionally skewed towards bottom-end torque, that can easily go head-to-head with his best modified Italian powerplants. Motor tuners have different tricks that work with both types of engines, and of course they are time consuming, hence expensive. But once you've seen a race-prepped nitro mill run, you'll never look at a stock engine the same way again.

Winner: None, or both, depending on how you look at it. Either style can be made to deliver more power than most people can handle.

**Myth number 7: Rear-exhaust motors are easier to fit into a car.**

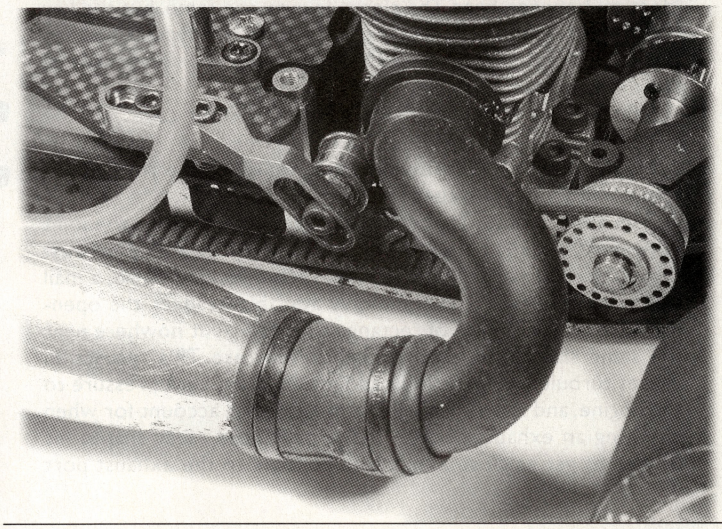
One of the reasons rear-exhaust engines were developed for car use in the first place was "packaging." When an engine is mounted perpendicular to the chassis, as in most belt-driven sedans, road cars, and off-road trucks, routing the exhaust 180-degrees from the right side of the engine to the left side of the car involves lots of pipe—and lots of space. And then there's the issue of finding the right header that will properly clear any chassis bracing attached around the engine. With a rear-exhaust it's easy. Just route the exhaust 90 degrees, usually a single bend to the left, and you're done. Okay, maybe it might have to deflect down a bit to line up with a pipe, but is still isn't anywhere near as severe as the side-exhaust contortions.

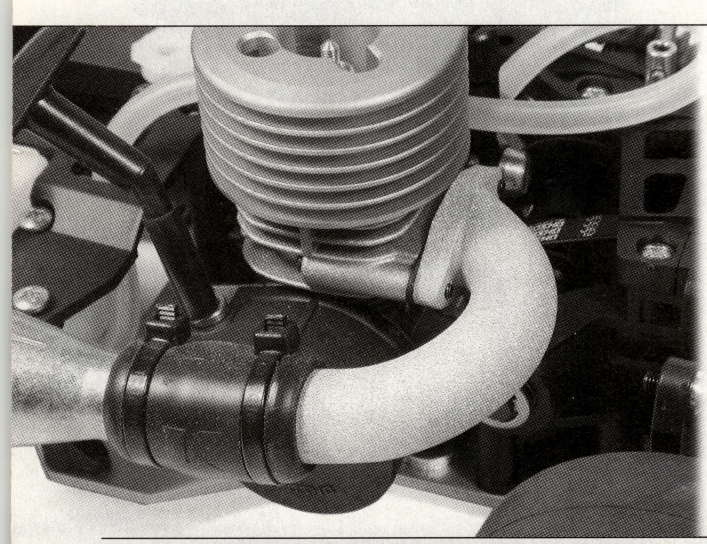
Winner: Rear exhaust. Smaller footprint and easier pipe routing gets the nod.

# side-exhaust vs. Rear-exhaust Engines

## CONCLUSION

So, is there a winner? Well, the numbers tell us that it is pretty even, as is the performance of these engines. Even at the top levels, once they have been ported, polished, optimized, balanced and what-not, they are still pretty much dead even (but much faster). So which one should you buy? The one that makes you feel better. Okay, that sounds like a cop-out, but it really is a flip of a coin. Ah, but at least you now know a little bit more about those amazing little power-plants we put in our model cars. And you can feel happy about any purchase you already made.





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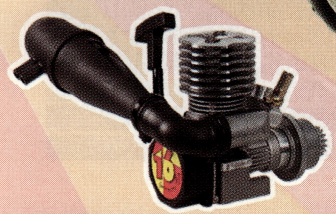
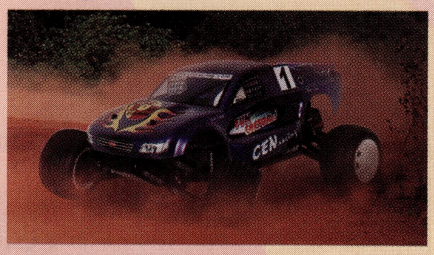




# TOTALLY CONVERTIBLE

Rally, Monster Truck, Stadium Truck, Buggy













# How to paint like a pro

## Five ways to achieve a winning look.

**By Dennis Rotim**

After learning the basics of airbrushing, I am sure by now you have mastered the simple techniques of creating a cool-looking body. If not, don't be ashamed if you haven't yet mastered the skill—it's very difficult and takes time. However, for those who have stuck with the program and muscled through the learning process, it's time to move on to the next level. This includes painting flames, bubbles, realistic-looking carbon-fiber, creating window outlines, and producing those genuine headlights. All of this may sound intimidating at first, but it is a skill that is worth the effort. Besides, after winning that national event, do you want everyone to admire your work, or laugh at it?

By now you already know how to prep the body, lay in the masking tape, and other simple techniques. The most important thing that you have to keep in mind is that practice makes perfect. To make this learning process as painless as possible, try and make everything you do easy. The first attempt you make at painting the new schemes should be simple. Keep the amount of colors to a minimum, as the more colors you add to your design the harder it is to keep it looking clean. You should also make it cost effective. The one thing you do not want to do is spend your hard earned money on a body and end up ruining the whole thing. Use a flat piece of Lexan for your first couple of tries. This will allow you to have more room when you are cutting on the plastic, making the process easier and faster. Now that I have counseled you on what to do and what not to do, let's make an attempt at the new schemes.




### THINGS YOU'LL NEED

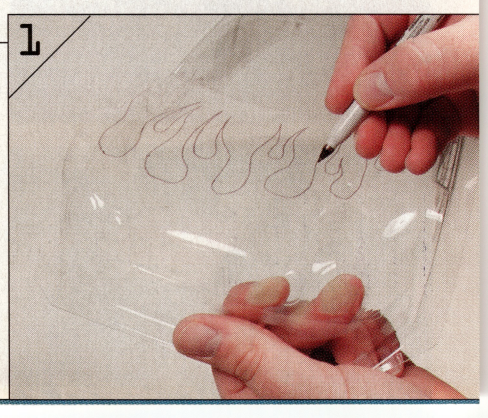
- Airbrush (preferred), or spray can
- Vis-á-vis erasable marker
- 3M blue masking tape
- X-acto handle and No. 11 blade
- Flat piece of Lexan (or a clear body if you're brave)
- A hole pattern (for carbon-fiber)
- Patience

### FLAMES & BUBBLES

In the first set of steps I will be explaining the process used to create both flames and bubbles. I am combining these two techniques because they are very similar and could give you an option of which you think would be easier. For this example we are going to create flames.

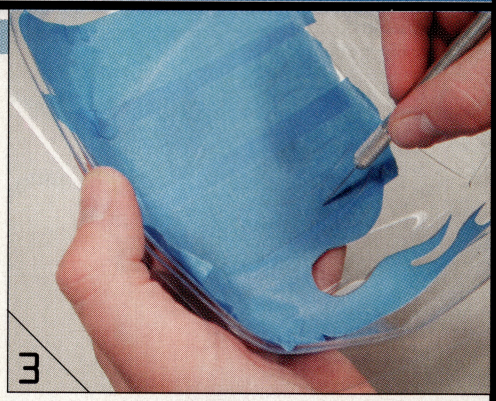
1. The first step in painting flames is to design what you want the flames to look like. I prefer to use a Vis-á-vis erasable marker to draw the design onto the body. By drawing the flames onto the body, you are able to see what the end result may look like, and changes can be easily made. It will also serve as a guideline for the cutting you will have to do later.

Hint: practice drawing flames on scratch paper. Keep in mind there are a million different ways that you can draw flames. Draw them to your own personal satisfaction, and go from there.





2. Next, place the tape on the inside of the body. I like to use 3M blue masking tape. It works well and does not leave any glue behind. Only place enough tape on the inside to cover the entire design. If you lay in too much tape, it will just be wasted. A good clue is after you peel away the excess, you should not have a big ball of tape in the trash. The hardest part of this step will to keep from smearing or erasing the design that you drew on the outside of the body. The erasing or smearing could be caused by excessive touching or rubbing. Keep in mind that the marker is erasable and could transfer onto your clothing. If you find yourself erasing the drawing, go ahead and finish placing the tape on the body. Then go back and re-draw the flames or just simply make the proper touch ups.



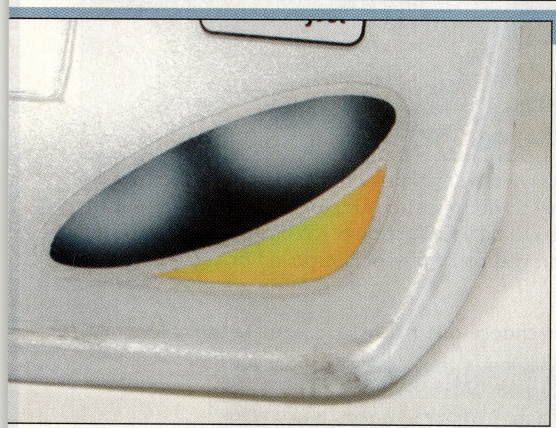
3. Now it is time for the hardest step. Are you ready? Now that you drew the flames and laid in the tape, it is time to cut out the flames. You will want to use a sharp (preferably new) hobby knife. I like to use an X-acto handle with a number 11 X-acto blade. You may find other blades easier to use, but this is a good blade start with. With medium pressure, follow the lines and begin your cut. Make sure that you do not apply too much pressure, or you could cut through the body. The chances of that happening are slight, but you never know. It is extremely important to practice keeping steady. It is easy to shake and drift off your line. It's not the end of the world if this happens, but try not to, it just looks bad.



4. After successfully following your lines and making all of your cuts, it is now time to peel away the excess tape. Remember that you could do this two different ways. One, you could peel away the excess tape, which would mean that the tape left would make up the flame. Or you could do the exact opposite. You could pull away the tape that would make up the flame, which would result in the Lexan now making up the flame, leaving the excess to cover the rest of the body. It does not matter which order you go with, however it does matter what your intent is. Remember that you want to spray the lighter colors last. By leaving the flame to consist of the tape, it will allow you to spray the rest of the body first. The reason I say this is because the flames usually consist of lighter colors. By spraying the dark colors first, the dark over spray will not dull out the lighter colors. Another thing to remember is that this process is virtually impossible to reverse. Once you start to peel, it is hard to go back.



5. Now that the proper areas are taped off, it is time to spray the exposed areas. All of the techniques learned in the previous article should now be applied to the flames.



## HEADLIGHTS

Having had the pace of this confusing, yet insightful lesson slow down, we now look at creating headlights. Headlights are probably the simplest feature that you can create.

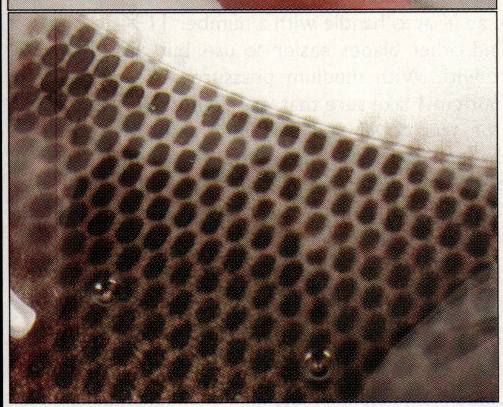
1. The first step in creating the headlights is to design them. Drawing them out on a piece of paper is always helpful.

2. When creating the headlight, you can either draw and cut them out on the body, or design them on a piece of Lexan. A headlight would be easy to create separate from the body because it is such a small feature. An even easier way to do this would involve taking the sticker sheet included with the body and cutting out the headlight decal. Keep in mind you will have to place them on opposite sides considering that you are painting on the inside, and therefore everything is backwards.

3. After you have decided what you want them to look like, finding the proper placement is crucial. You don't want to place them too close to the middle of the grill area, or too far apart. When doing headlights it is easy to adjust when in fact you do mess up.

4. Now for the simplest look, you can use a small setting on your airbrush and spray two little white dots in the headlight area. Then you can proceed with a dark background color, usually black. As you become more familiar with this painting technique, it may be in your best interest to try different colors.





## THE CARBON-FIBER LOOK

Our next endeavor will involve the creation of carbon fiber. I am sure you have seen many drivers with that all-exclusive "carbon fiber ." Now I will show you how to create that brilliant design.

1. The first thing that you need to do is establish what kind of pattern you want. This will determine what the carbon-fiber will look like in the end. It's hard to say what you should use, but what I can say is to try different things. The pattern that worked best for me was a plastic backing to a sponge. It did not work well at first because of the many holes. However, I sprayed the plastic with paint enough times to actually fill in the little orifices.

2. Now that you have determined what kind of pattern you want to use, it is time to think about where you want to spray the design. This is one of the most critical steps in this series. Choosing the right place to spray the design is crucial in how it will look. For starters you would want to spray it in an area that is accessible. Since you are new to doing this you want to make it as easy as possible. Tighter areas may be sprayed but your skill level may not be quite there.

3. The colors that you use to create this design would be black and silver. The first color that is sprayed should be the black. This will allow the black to fill the areas consisting of the holes, and then the silver can be sprayed to fill in the rest. Remember that you are not limited to only black and silver. You can also use other colors to achieve different effects.

4. Having chosen the colors, spraying the design is the next step. Bear in mind that the pattern is flimsy; therefore make sure that it is flat against the Lexan. If it is not, and you spray, it won't look right. You'll know when you take the pattern off and it looks wavy. You can either hold it in place or try and tape it down. If you tape it down, make sure that you stay away from the tape. If you run into the tape it will distort the design by making it look cut off instead of flowing.

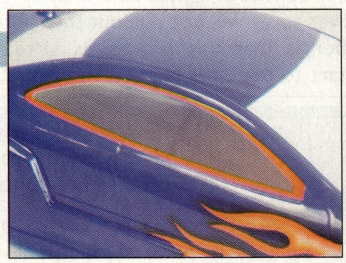
Now that you have the pattern placed on the Lexan, hold it steady. And with a fairly broad setting on your airbrush, begin to spray. As you are spraying, keep the gun at a consistent distance and angle. Make sure to pay attention to the different curvatures that the body features. The way you spray determines everything. If you spray at too extreme of an angle, you can actually spray underneath the pattern. So keeping the gun directly above the design will help prevent this from happening.

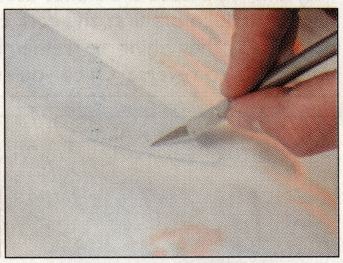
5. Having sprayed the desired area, it is time to take off the pattern. It is ideal to hold the pattern in place for a given amount of time. You can take the pattern off immediately, but you run the risk of smearing the paint. Now don't sit there for fifteen minutes holding it steady, use your own judgment. If it looks dry, it probably is.

6. Now that you have sprayed the first color, it is now time to do the second. All you have to do is just go ahead and spray. While doing this you can also become creative. You can use other colors and fade them throughout the body.

## WINDOW OUTLINES

At this point in time I am sure that I have terribly overwhelmed you with these painting techniques. That is why I felt we should experience a little change of pace. It is now time to learn how to make window outlines. It's as easy as one, two, three.





1. Your first step in creating a window outline is to fully complete the body. This means to paint everything that needs to be painted.

2. The next step is to actually make the outline. The easiest way to do this is to leave the window maskings on the car. With a sharp blade follow the window lines, cutting about 1/16 to 1/8 inch away from the edge. The ideal way to do this is to not stop at each corner, but to flow through the whole thing. However, that may be too much to ask for, considering this will be your first time. Keeping your hand steady the whole way through is a thing that has to be learned. There will never be a time when you could play off a crooked or squiggly line, it just doesn't happen.

3. Next you need to choose a color and spray the outlines. When you choose a color, choose one that will accentuate the colors that are not so predominant in the body scheme.

## VAN-GO!

Now that wasn't so bad, was it? Remember that you should enjoy painting. Your doing it for one reason, to have fun. Not all of these techniques may apply to what you were looking for, but realize that with some experience in creating these designs you could take it a step further. Painting is all about progression; if it wasn't, all cars would be painted black, just the way Henry Ford wanted it.

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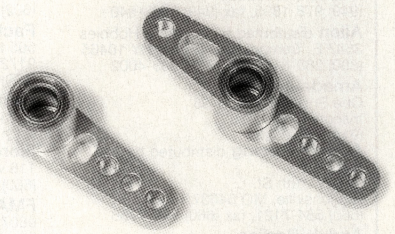
# Tamiya TA04 Hop-Ups

## Hot bolt-ons for Tamiya's top tourer!

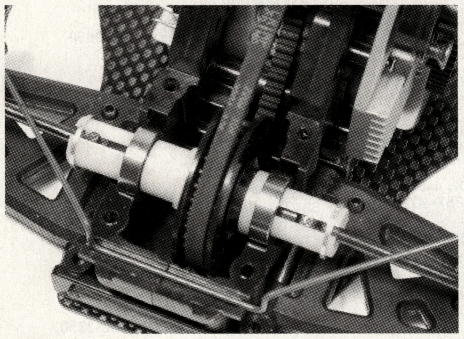


The TA04 is undoubtedly one of, if not the, finest serious racing machine ever to come out of the Tamiya factory. From mild (tub-chassis sport kit) to wild (full-optioned Pro kit), there's an '04 to fit the needs of any on-road racer. As with any chassis, there's always room for updates and improvements. The following accessories come straight from the Tamiya Racing Factory (TRF), and will fit any '04 chassis configuration.

### LIGHTWEIGHT DIFF JOINT SET



Any time you can shed weight from a car's drivetrain, you'll improve acceleration and efficiency. Tamiya's lightweight diff joint set replaces the stock ball diffs' heavy steel outdrives. Made of white reinforced resin, the diff joints are actually made up of three pieces: a molded diff washer plate, the resin outdrive, and an aluminum ring that prevents the end of the outdrive from spreading under load (and possibly snapping).

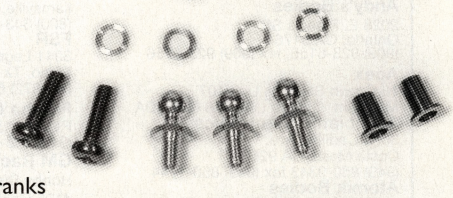


The lightweight diff joints install very easily to either the front or rear diffs. Simply remove the diff from the car, unscrew the diff-adjustment screw and carefully remove it from the stock outdrive for re-use. Make sure to remove the entire thrust-bearing assembly from the outdrive as well. Install the diff screw and thrust bearing into the shorter of the two new outdrives. From the other outdrive, remove the tension spring and diff-screw nut, and install them into the longer of the new outdrives. Since you've got the diff apart, it would probably be a good idea to give it a quick cleaning and re-lubing. Reassemble the diff and place it back in the car.

We installed the lightweight diff joint set to the rear of our TA04 Pro, which is equipped with Tamiya's front one-way drive unit. If you don't use a one-way, we recommend (highly) that you purchase two sets of the light diff joints, one for each end of the car. As we were most interested in evaluating the car's performance with a stock motor (where the lighter drivetrain will make more of an impact), we chose a Trinity Green Machine 3. The reduction in drivetrain weight is most evident when exiting turns, where the car exhibited a noticeable improvement in "snap," the ability to accelerate quickly. After several battery packs, we hadn't noticed any sign of wear or damage to the plastic outdrives. Tamiya also includes an additional pair of aluminum collars in case you lose the originals.

Part no. OP-480

### ALUMINUM RACING STEERING SET

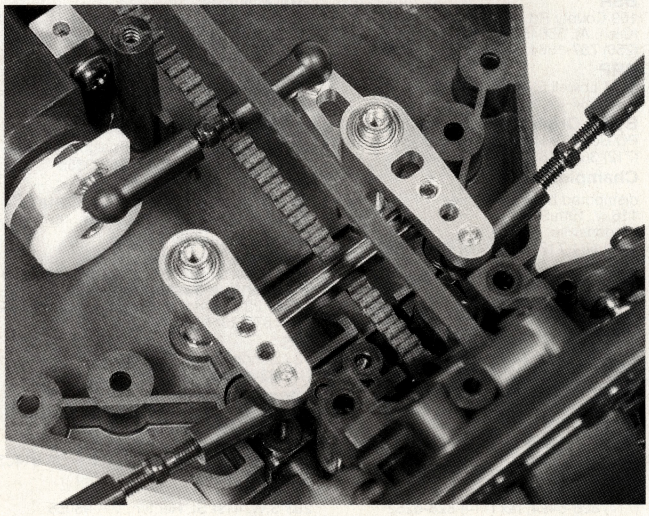


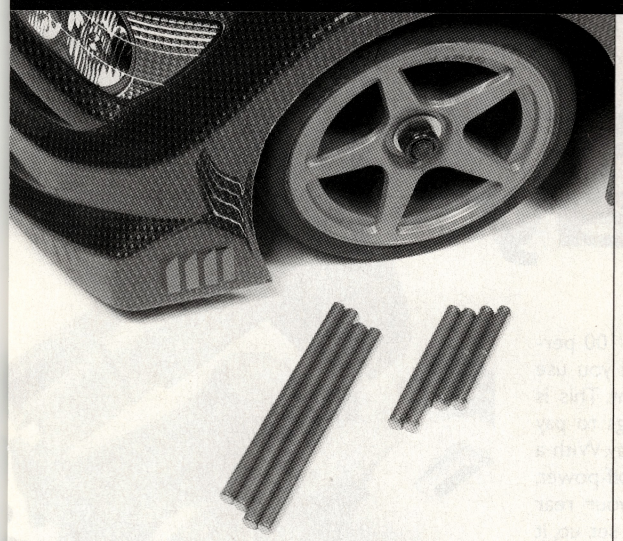
This is a pair of nicely machined aluminum steering bellcranks which replace the molded stock pieces. As they have been milled-out, the aluminum bellcranks add little weight to the chassis when compared with stock. In addition, the aluminum 'cranks are fitted with ball bearings for smoother operation with less slop.

Installing the new bellcranks is very simple. First you must remove the car's upper chassis plate, then pop off the molded ball-ends of the steering tie-rods and servo linkage, and unscrew the drag link. It's not necessary to transfer the brass pivot-balls from the old bellcranks to the new, as Tamiya also includes a fresh set with the aluminum bellcranks (as well as new pivot sleeves and 3x10mm machine screws for the molded drag-link).

Tamiya claims that the aluminum bellcranks will improve the steering response of the '04. While we can't testify to this (our car steered very well prior to the installation), we can say that the aluminum bellcranks reduce unwanted play in the steering system, and they will certainly deflect and distort less than the molded bellcranks under high steering loads, which will make the car more stable during high-speed cornering.

Part no. OP-478





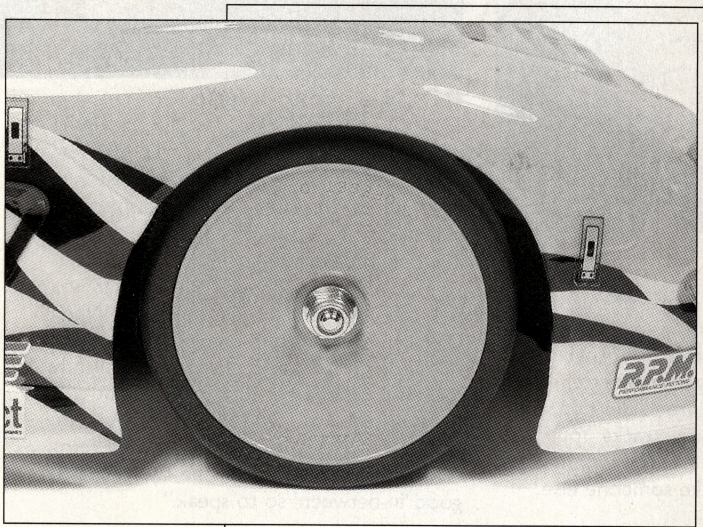
## LOW FRICTION SUSPENSION SHAFT KIT

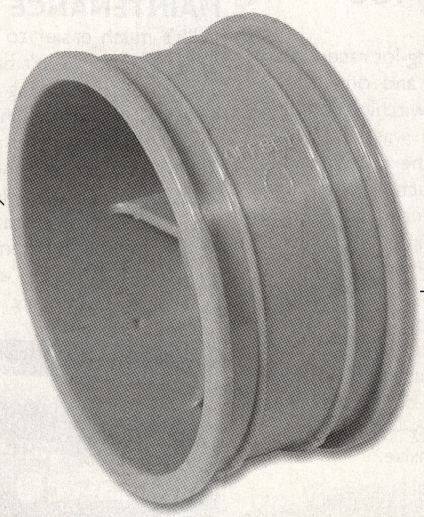
If you're looking under every rock for an edge over your competition, then you might want to try installing a set of Tamiya's low-friction suspension shafts. These shafts replace the kit's stock steel hinge-pins, and while the new ones are still steel, a plating process has given them a smoother outer surface for less friction during operation.

The set contains eight shafts—enough to replace the inner and outer pins on all four lower suspension arms. And although the actually installation is quite easy, it does take a bit of time due to the substantial amount of disassembly required to access the car's inside hinge-pins. Tamiya has thoughtfully included a new set of tiny e-clips, because as we all know, those little suckers like to shoot off in all directions when you take them out!

The low-friction shafts aren't any lighter than the stock pins, and once installed, we'll wager that even Dave Jun wouldn't be able to notice their presence. However, as long as you have faith that your suspension is now operating with less binding than before, perhaps this is enough to give you that mental edge. You know that saying, that small details can add up to make a substantial difference? The low-friction shafts fit this philosophy well.

Part no. OP-479





## MEDIUM-NARROW DISH WHEELS

Wheels are wheels, right? That's what we thought. So we called Tamiya's David Jun when we found ourselves at a complete loss in regard to these new zero-offset touring car wheels. According to David, these dish wheels incorporate several key features that would probably elude even the most astute eyes. First, these are limited-release wheels (don't ask us why, they just are), and they have a set of middle ridges that are a bit lower than what's found on most sedan hoops. Ideally, a tire's shape should not change much between when it's empty and when it's filled with an insert and glued to a wheel. Often, racers will install inserts that force the tire to "crown" in the middle, which reduces its contact patch and overall traction (not to mention causing a decrease in the tire's life). With its lower ridges, the Tamiya wheels will work with just about any insert without distorting the tire's shape. Another feature of these wheels is their blending of material, which allows them to be stiff without being brittle. Some of the stiffer sedan wheels have a tendency to crack after a collision, but the Tamiya wheels will take quite a bit of abuse without cracking or becoming out-of-true. Finally, the Tamiya wheels have a set of tiny lugs surrounding the axle holes. These lugs are designed to squash and spread the load of the wheel nut evenly, without causing the wheel to distort.

We not only liked the way these wheels looked on our TA-04 (okay, so maybe not the pink ones), and liked the way they performed even better. Our car felt very solid and consistent, and the trueness of the wheels helps get more of the power to the ground, and provides greater traction as there's less vibration to potentially break the tire loose from the track.

Part no.: 49204 (blue), 49205 (pink)

# PRO TIPS SECTION



mark pavidis

# How to use a one-way

## Steering seminar!

When it comes to using a one-way in his touring car, Pro-Line/Team Associated driver Mark Pavidis knows a thing or two. We asked the current Reedy Touring Car champ all about one-ways. Here's what he had to say.

### WHAT DOES A ONE-WAY DO?

"Basically, a standard one-way eliminates the front differential in your car," says Mark. "A one-way provides forward drive only, and as soon as the throttle is chopped, the front wheels "freewheel" on their own. There is no diff action, and essentially it turns your sedan into a 2WD car once off-power."

### WHEN TO USE A ONE-WAY

"The only time I recommend using a one-way is when racing on a very high-speed, high-bite track with lots of flowing turns," says Mark. "When you race on really tight, technical tracks, or tracks that are somewhat slippery, you don't get any performance advantage from running a one-way. As a matter of fact, running a one-way in those conditions can cause your car to spin out very easily. A one-way gives your car a ton of off-power steering and improved on-power steering, and without good traction the car can spin out. Nine out of ten times on a loose track you should start out with a front differential. It's easier to tune your car, and it's a lot easier to put the power to the ground with a front diff on a loose track than it is with a one-way."

### WHAT'S THE ADVANTAGE?

"There are two major performance advantages if the conditions allow you to use a one-way," adds Mark. "First, you get a ton of off-power steering with a one-way. And second, your car will generate a lot more acceleration than a car equipped with a standard diff. In addition, it is a little easier on your batteries when running a one-way."

### DRIVING TIPS

"Going from a standard diff to one-way setup can be a big change in terms of driving. One of the biggest changes is in the amount of brakes your car requires. I've found that with a standard diff you can run 100 percent brakes, and with a one-way you use anywhere from 20 to 50 percent. This is one of the most important things to pay attention to when using a one-way. With a one-way, your car is 2WD when off-power, and you're stopping with only your rear tires. If you have a ton of brakes set up, it can lock the rear tires easily, which will make it very unstable under braking. It's easier to drive with less brakes."

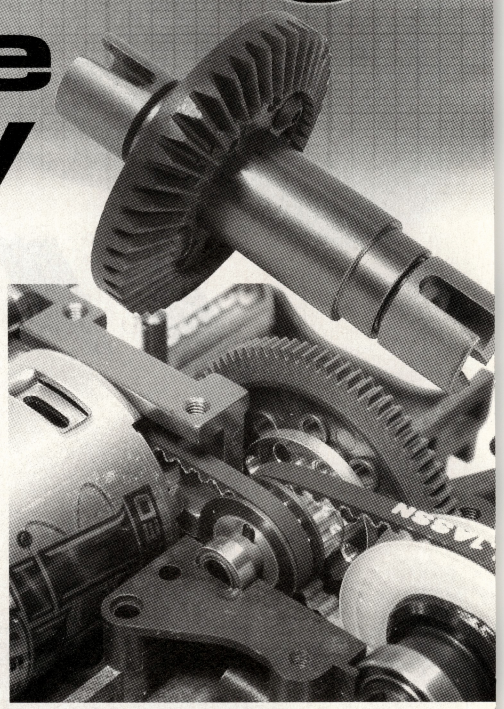


### TURNING

"You want to carry more of your corner speed when using a one-way—you tend to let off a little earlier before a corner to get your car to roll through them better. Again, this is why one-ways aren't the hot setup on really tight, technical tracks. You can't really go into a turn too hot with a one-way, trying to out-brake someone else."

### WHEN WOULDN'T YOU USE A ONE-WAY?

"We raced some parking-lot races when the TC3 first came out and one of the things we learned when switching between front diffs and one-ways was that when using a standard diff in the car, we didn't have to worry that much about setup because the car didn't want to spin out on tight corners. With full-time 4WD, especially off-power and under braking, the car was very hooked-up on loose, and tight tracks. For the average guy just starting out, I recommend that they start out with the standard diff to get used to how the car handles. Jumping to a one-way straight away can be pretty tricky—generally, the car becomes ultra-responsive."

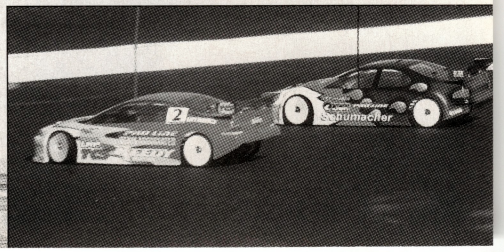


### DOUBLE ONE-WAYS?

"Some cars designs, especially a lot of the more common twin belt cars, can be equipped with a double one-way set up with one on the layshaft, in addition to the standard one up front. Basically, what I noticed when driving a belt car with a one-way up front and one on the layshaft was that the car was so much more free. When driving a car with one only on the layshaft, is a little easier on tracks that are slightly looser. You'll still get the same benefit of a one-way with the 2WD braking, but there will be some diff 'give' up front when going through turns. With it on the layshaft, it's a good 'in-between' so to speak."

### MAINTENANCE

"It's much easier to maintain a one-way than a diff. You don't have to deal with diff balls or rings wearing out like you would with a diff. The one thing that you may want to look for with a one way is to make sure the output shafts in the one-way are greased up. For example, on our Associated TC3s we use some Stealth lube on the outdrives as we slip them into the one-way. This just helps keep everything lubricated and running smoothly."



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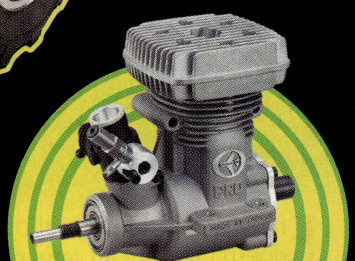

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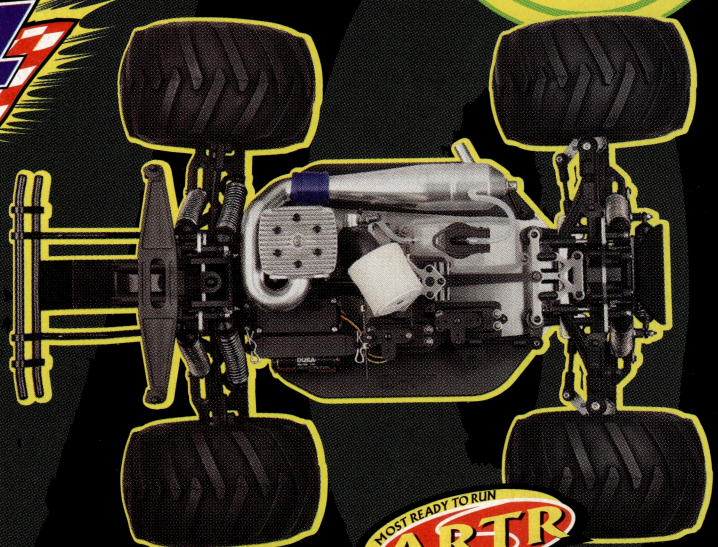

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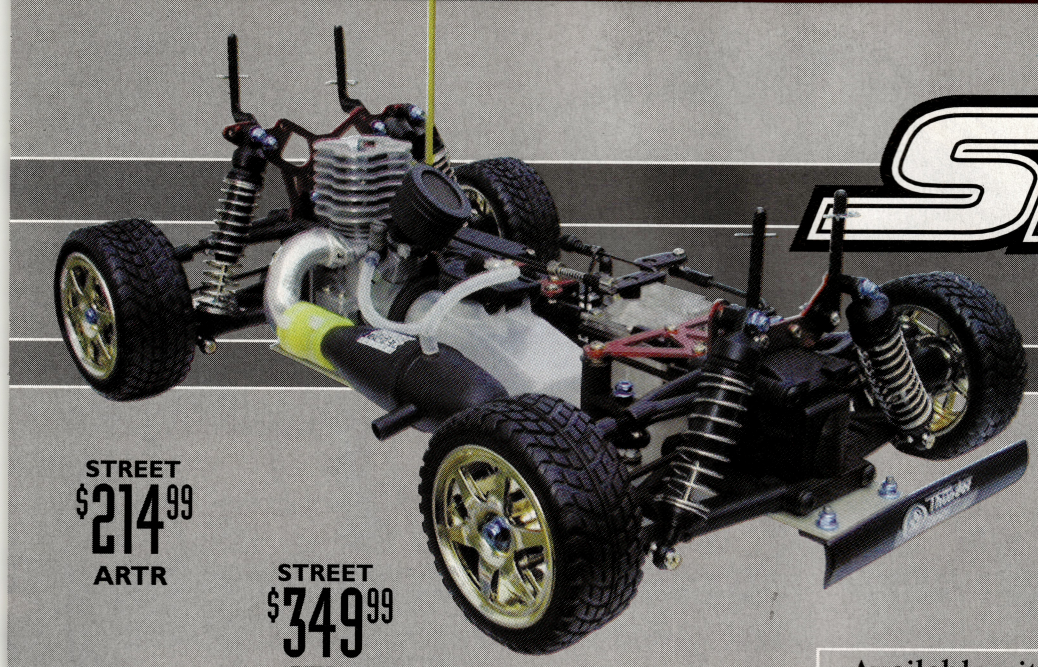

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| Width: | 260mm |
| Height: | 160mm |
| Wheelbase: | 275mm |
| Weight: | 1800g, dry |

Available either Almost-Ready-to-Roar (90% Assembled with Engine) or Ready-to-Roar (100% Assembled with Engine and Radio)

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In the tradition of the race track proven EB4, Thunder Tiger has released this quality 1/10th Scale 4WD rally car that gives an absolute maximum performance and durability for a meager minimum outlay of time and money.

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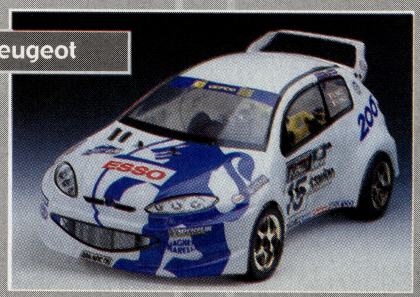

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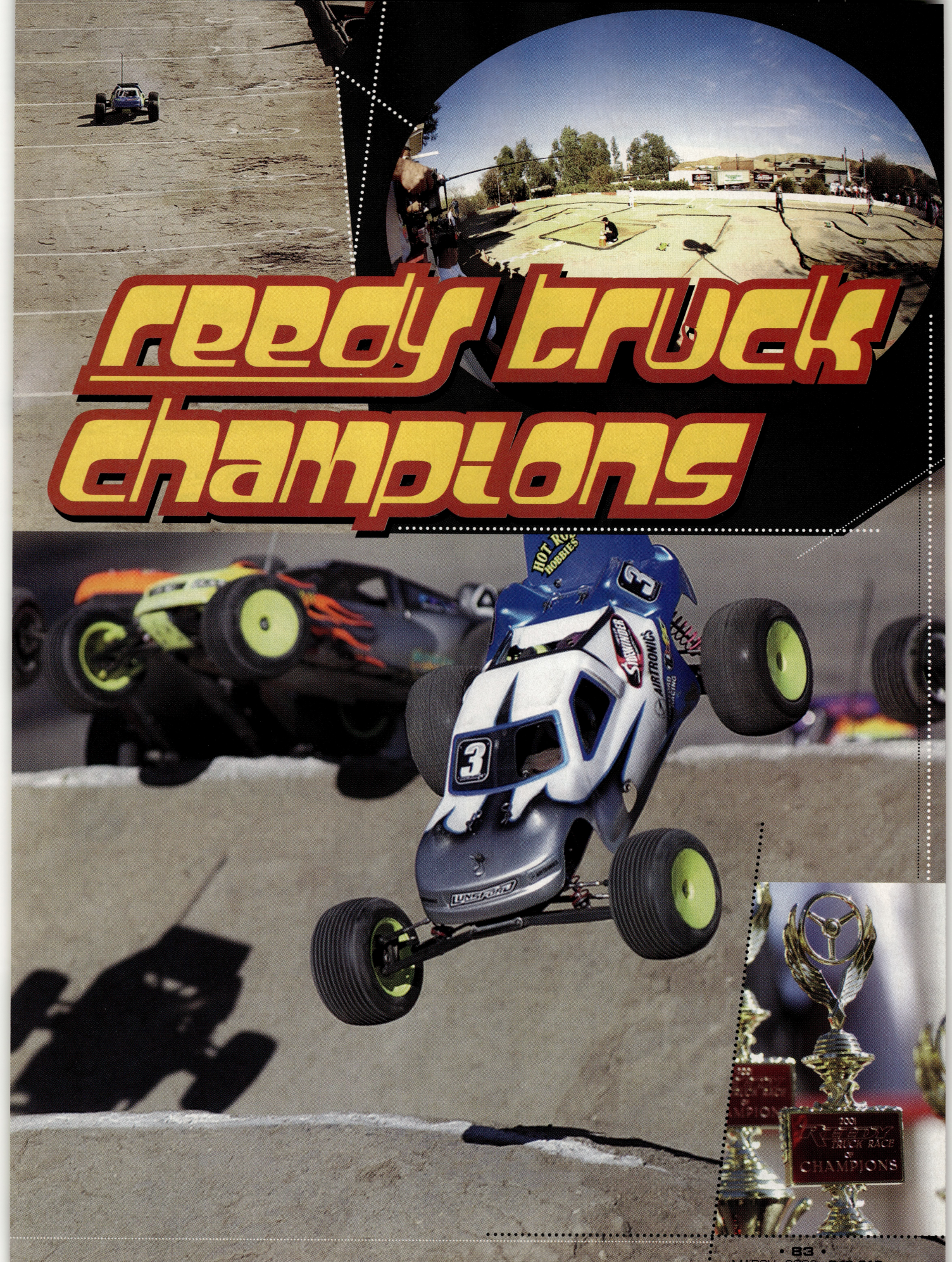
Thunder Tiger TEAM INTERNATIONAL

# Third Annual Race of

Aside from the IFMAR (International Federation of Model Auto Racing) World Championships and ROAR (Radio Operated Auto Racing) nationals, no other racing event carries as much clout as the Reedy Race of Champions. Mike Reedy began the RRoC idea as a way to celebrate his birthday the best way he knew how—by inviting the world's best R/C drivers to compete in a heads-up format. The first Reedy Races were off-road; however, as the Asian and European markets shifted interests to on-road, the "international" flavor of the event became less and less, with fewer Euros and Asians making the long trip to America to compete. To remedy this, Mike expanded the series to include a separate, on-road Race of Champions, which soon became the biggest touring car event in the country. Having met the needs of foreign racers, Mike then expanded the series further to include something uniquely American—trucks!

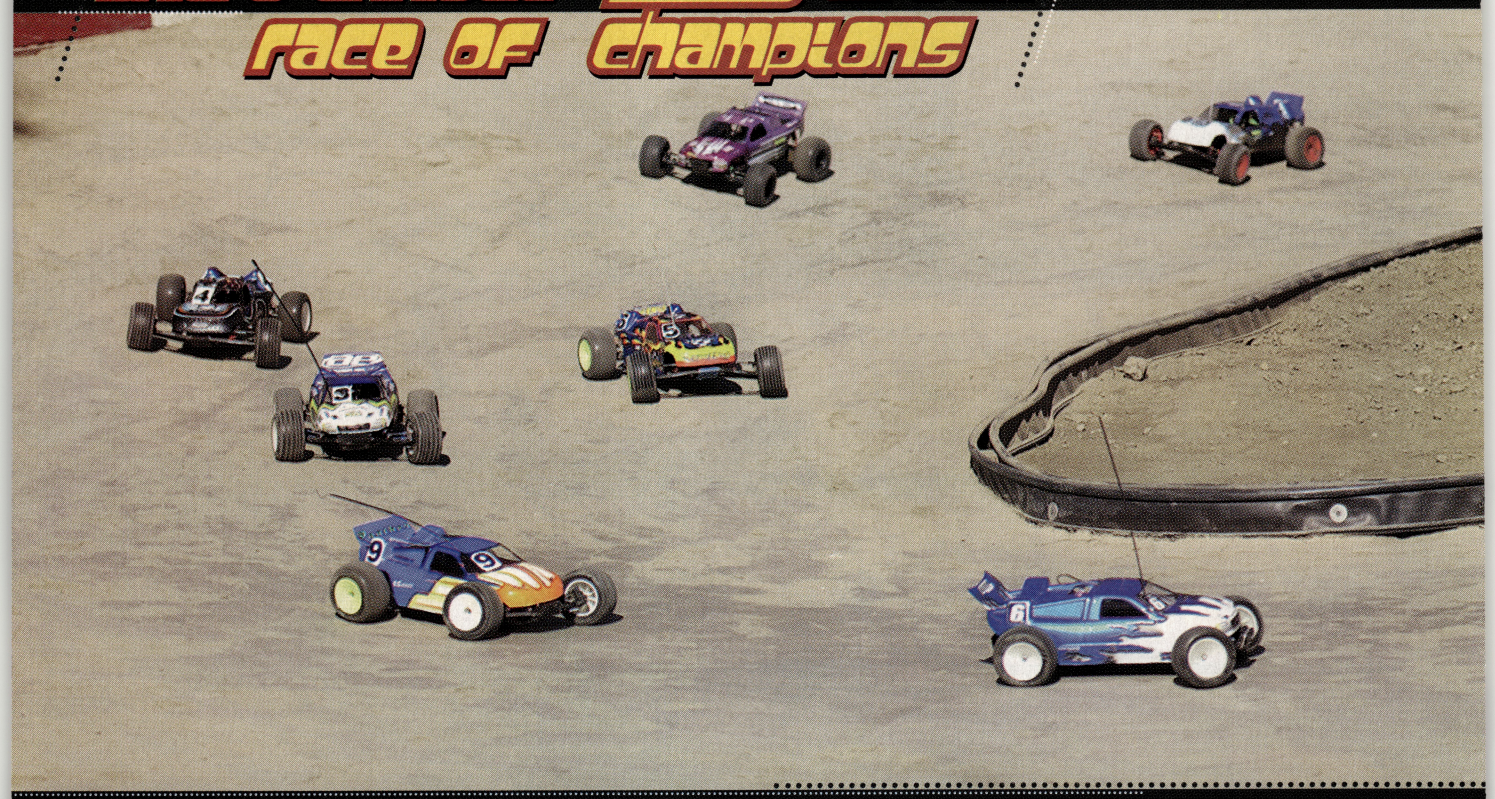
The Reedy Truck Race of Champions, now in its third year, brings together America's top off-road drivers to compete in an electric and nitro Invitational class. As with other Reedy races, there is an open class in which any driver may compete. As in previous years, the third Reedy truck race took place in late Fall at Hot Rod Hobbies Raceway in Saugus, California. Despite the potential for inclement weather (it can get cold out here in SoCal), over 200 entries filled the pits. Racers not only had the chance to watch their favorite pro drivers go head-to-head, but they also got to compete for honors on the legendary Hot Rod track.






# reedy truck champions

# third annual reedy truck race of champions





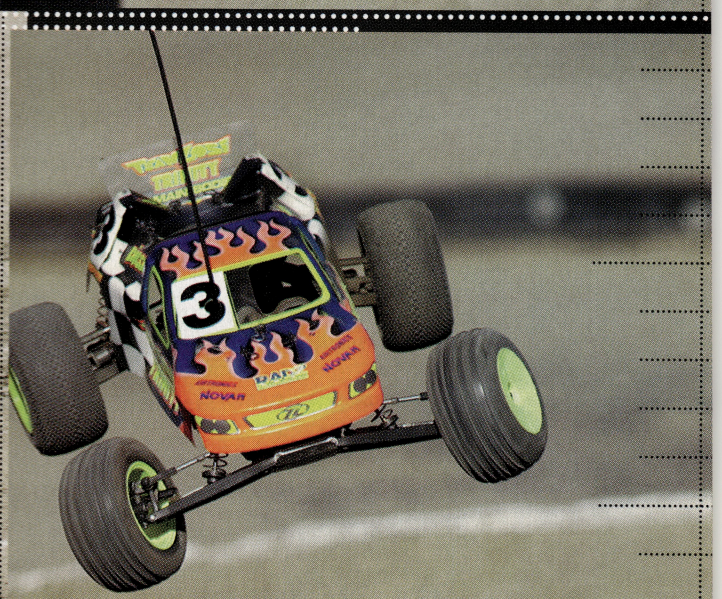
**WHAT HAPPENED TO BILLY?**

No matter what type of track he's on, or what kind of car he's driving, Team Associated's Billy Easton always looks fast. This was certainly the case in the Gas Truck class at the Reedy Truck Race. After the start of the 45-minute A-main, Billy took command and pulled away from the field. Unfortunately for Billy, his receiver battery had worked its way loose from his RC10GT's rear cradle and had begun to drag on the ground. Soon, Billy's five-cell pack was dangling five inches behind his truck! There would be no way for Billy to finish the race in this condition, so rather than risk a runaway truck (and the damage it could cause), Billy wisely opted for an unscheduled pit stop. A zip-tie later, he was back out and flying. But wouldn't you know it; the same thing happened again five minutes later! Poor Billy. Although he did manage to finish in eighth overall, we'll never know if Billy could have maintained his awesome speed for the entire race. The ironic thing is that Billy told us after the race that he had double zip-tied his battery in place "just to be sure."









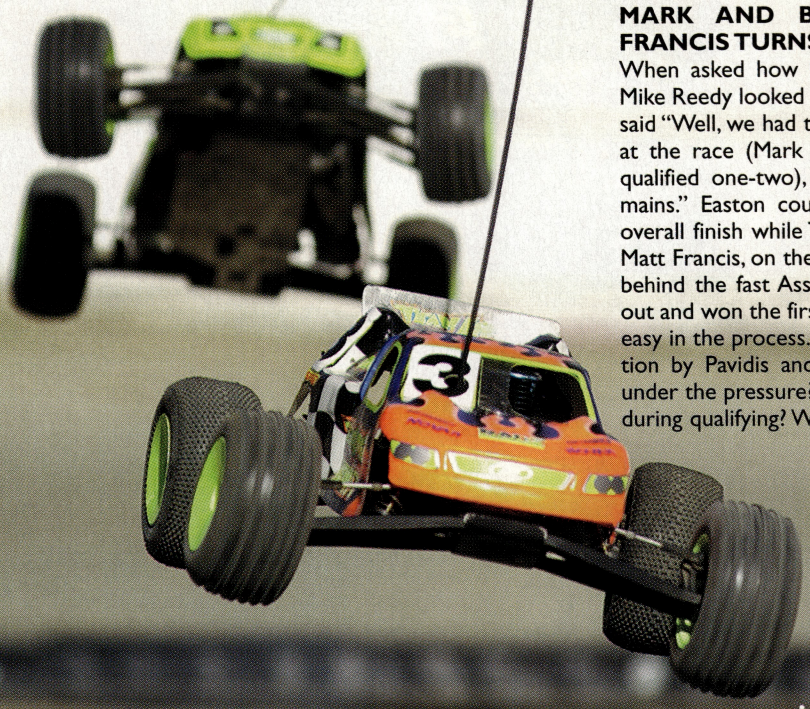




**THE FRESH ONE FINALLY DOES IT**

Local hero (well, to himself and a few of his homies) Doug "E" Scripture is well known for his blinding speed, and for his ability to choke during big A-mains. Finally, The Fresh One lived up to at least a part of his potential by handily winning the Open Mod Truck class. Driving his Orion-powered Losi Triple-XT Francis Edition (will there soon be a Fresh Edition?), Doug won both the first and third of the triple A-main races, beating out a hard-charging Joe Pillars and Charlie Albrecht for top honors. Congratulations Doug. Now do it in the stock class!

# third annual reedy truck race of champions



**MARK AND BILLY FALTER WHILE FRANCIS TURNS UP THE HEAT**

When asked how his electric team was faring, Mike Reedy looked thoughtfully up at the sky and said "Well, we had the two fastest electric trucks at the race (Mark Pavidis and Billy Easton had qualified one-two), yet we got creamed in the mains." Easton could manage only a fifth-place overall finish while TQ Pavidis finished dead last. Matt Francis, on the other hand, qualified in third behind the fast Associated/Reedy duo, but went out and won the first two A-mains, making it look easy in the process. Was it a bad call in tire selection by Pavidis and Easton? Or did they crack under the pressure? Or, was Matt playing possum during qualifying? We'll never know.







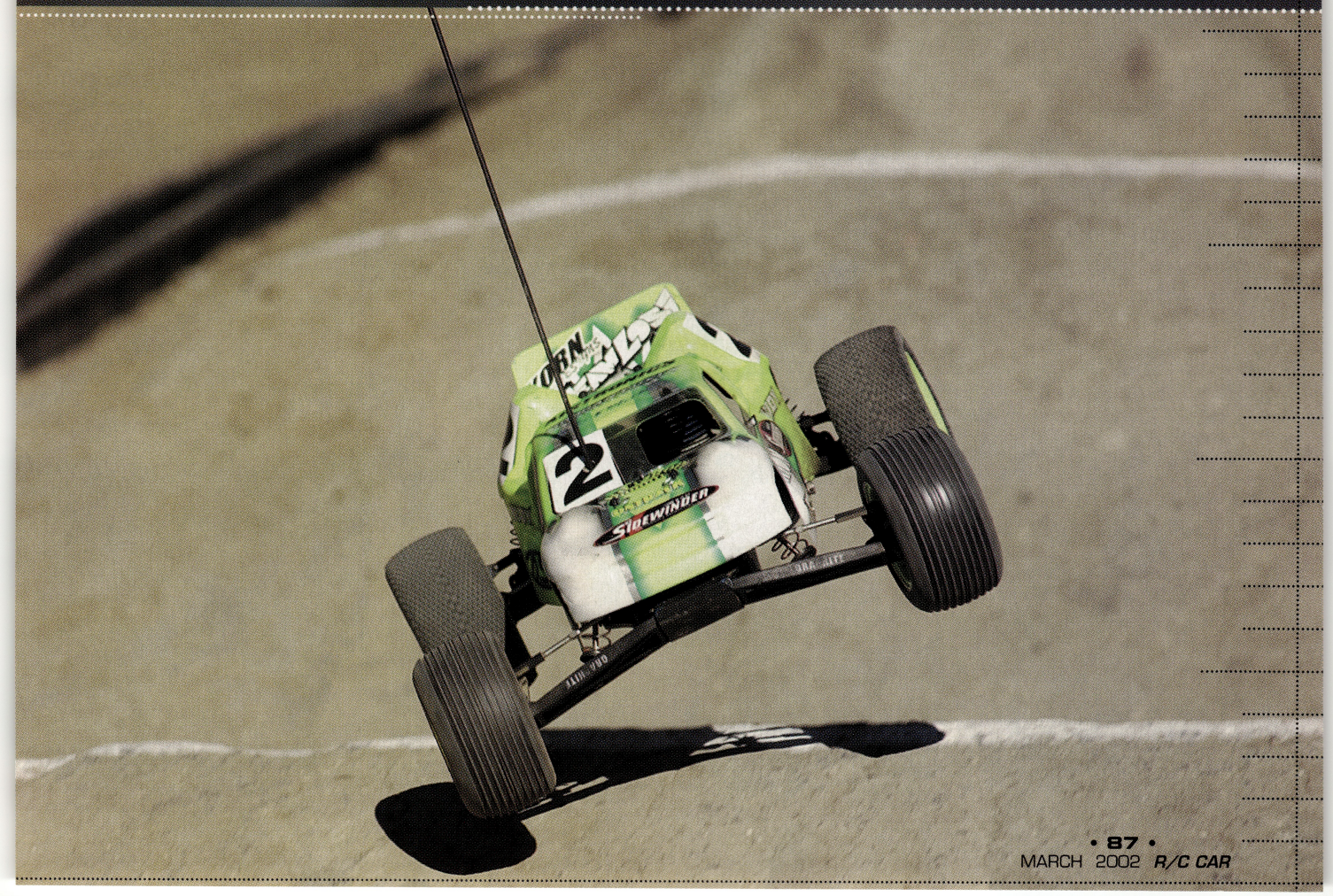






## TEBO FLOURISHES UNDER PRESSURE

Young Team Associated driver Jared Tebo has graduated from being what some would call a "fluke" to being a genuine threat to the established cadre of factory pros. Jared again showed that he could not only race with the big boys (by top qualifying the Factory Gas Truck class), but he kept his cool after a bad start in the A-main and simply wore out his competition after a gruelling 45-minute race. Jared's was often not the fastest truck on the track, but toward the end of the race, while most of the other drivers were fading due to fatigue or worn tires, Jared never slowed, and he would be the first to cross the finish line ahead of a stellar field of drivers including Matt Francis, Richard Saxton, Mark Pavidis and Billy Easton. Congratulations to Jared and Team Associated for their well-deserved win.



# third annual reedy truck race of champions



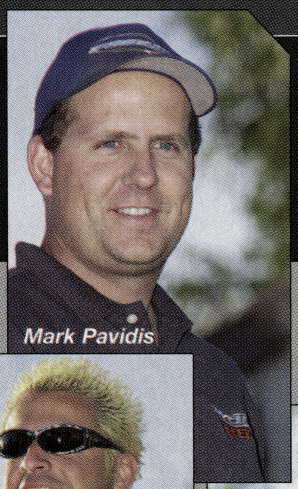

## THE BUMP-UP MAN

One of the things that makes nitro racing more exiting than electric is the bump-up rule. Essentially, any driver from a lower main has the chance to work his way all the up into the A-main. This is only possible in nitro because it's only a matter of refueling the engine, whereas an electric car or truck would need a fresh battery for each main. On top of this, it's never a good idea to run an electric motor without first allowing it to cool.

At the Reedy Race, Team Losi/Trinity driver Matt Francis certainly took advantage of the bump-up rule by working his way from the C-main to the B-main, and then into the A-main (where he enjoyed a brief lead and eventually finished fourth). What Matt was doing in the C-main to begin with is what we want to know! Actually, Matt had mechanical difficulty throughout qualifying, which kept him from completing a single good run.

The great thing about bump-ups is that it makes every main an important one. In electric racing, you'll often see drivers in lower mains "goon riding" because they feel that if they aren't in the A-main, then their race is over. This is bad not only because it shows poor sportsmanship on the part of the supposedly "expert" drivers, but it's also insulting to the drivers who are just happy to have made the B or C main at a big race. It's too bad that electric racing can't take advantage of the bump-up rule. Who knows, with the upcoming release of several brushless motors, maybe we'll see electric bump-ups.

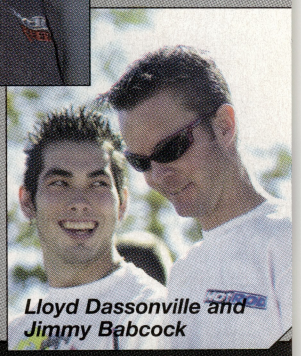




Mark Pavidis


Matt Francis



Travis Amezcua


Lloyd Dassonville and Jimmy Babcock

## AND THE BAD LUCK AWARD GOES TO...

Marc Korn in the Open Gas Truck class. Marc, a local Hot Rod racer, was "on" at the Reedy Truck Race. He top-qualified his class and simply pulled away from everyone else during the first part of the 30-minute A-main. But luck was not on Marc's side this weekend, and a mechanical breakdown sidelined his Losi Triple-X NT at the halfway point. This is not to say that eventual winner Rawley Macias didn't deserve his victory (to finish first, one first must finish, and that's a part of gas racing), but Marc was in a class by himself, and it's a shame he couldn't land the big trophy.



# WINNERS CHART

## FACTORY GAS TRUCK

| Fin | Qual. | Driver | Truck | Engine | Pipe | Radio | S/servo | T/servo | Gearing | Tires (F/R) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Jared Tebo | Associated | Mugen/OD | O'Donnell | Airt. M8 | Airt. 358 | Airt. 737 | 18/66 | Pro-Line |
| 2 | 4 | Ryan Cavalieri | Losi | Trinity/Picco | Trinity | Airt. M8 | Airt. | Airt. | N/A | Losi |
| 3 | 3 | Phillip Atondo | Losi | Trinity/Picco | Trinity | Airt. M8 | Airt. 155 | Airt. 737 | Stock | Losi |
| 4 | 9 | Matt Francis | Losi | Trinity/Picco | Trinity | Airt. M8 | Airt. | Airt. | Stock | Losi |
| 5 | 8 | Richard Saxton | Associated | Mugen/OD | O'Donnell | JR R-1 | JR 8450 | JR 8450 | 15/66 | Pro-Line |
| 6 | 6 | Mark Pavidiis | Associated | RB/O'Donnell | O'Donnell | Airt. M8 | Airt. 357 | Airt. 358 | 14/66 | Pro-Line |
| 7 | 10 | Lloyd Dassonville | Associated | Mugen | Associated | Airt. M8 | Airt. | Airt. | N/A | Pro-Line |
| 8 | 2 | Billy Easton | Associated | Rossi/OD | Associated | Airt. M8 | Fut. 9402 | Airt. 737 | 14/66 | Pro-Line |
| 9 | 7 | Travis Amezcua | Losi | Orion | Associated | Airt. M8 | Airt. | Airt. | Stock | Losi |
| 10 | 5 | Jeremy Kortz | Kyosho | O.S. | Kyosho | JR R-1 | JR 8450 | JR 8550 | 17/67 | Pro-Line |

## OPEN GAS TRUCK

| 1 | 10 | Rawley Macias | Losi | Mugen/Radz | Associated | Fut. 3PJS | Airt. 357 | Airt. 358 | 18/51 | Losi |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 9 | Theo Captanis | Losi | Trinity/Picco | Trinity | Airt. M8 | Airt. 738 | Airt. 737 | Stock | Losi |
| 3 | 6 | Scott Fisher | Associated | RB X12 | O'Donnell | Airt. M8 | Airt. 357 | Hitec 525 | 15/65 | Pro-Line |
| 4 | 5 | Craig Tasker | Losi | Mugen | Associated | Futaba | Futaba | Futaba | N/A | Panther |
| 5 | 7 | Nick Sava | Losi | RB X12 | Associated | Airt. M8 | Airt. 157 | Airt. 737 | 19/51 | Losi/Pro-Line |
| 6 | 2 | John Parisi | Kyosho | O.S. | Kyosho | Airt. M8 | Airt. 258 | Airt. 455 | 17/67 | Pro-Line |
| 7 | 4 | Davis Morann | Losi | HPI Evo2 | Trinity | Airt. M8 | Airt. 358 | Airt. 737 | Stock | Panther |
| 8 | 8 | James Cope | Losi | N/A | O'Donnell | JR R-1 | JR 8450 | JR | 18/81 | Losi |
| 9 | 1 | Marc Korn | Losi | Mugen | Associated | Airt. M8 | Fut. 9450 | Fut. 9450 | 18/51 | Losi |
| 10 | 3 | Nathan Lavery | Losi | O.S. | Stock | Airt. M8 | Airt. 358 | Airt. 737 | Stock | Losi |

## FACTORY MOD TRUCK

| Fin. | Qual. | Driver | Truck | Motor | Battery | Radio | S/servo | ESC | Gearing | Tires (F/R) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | Matt Francis | Losi | Trinity 9x2 | Trinity/Pan. | Airt. M8 | Airt. 452 | LRP V7.1 | 18/100 (BK) | Losi |
| 2 | 8 | Travis Amezcua | Losi | Peak | Peak | Airt. M8 | Airt. | Novak C2 | 17/86 | Losi |
| 3 | 6 | Adam Drake | Losi | Trinity 10x2 | Trinity/Pan. | Airt. M8 | Airt. 357 | Novak C2 | 20/100 (BK) | Losi |
| 4 | 4 | Ryan Cavalieri | Losi | Trinty 10x3 | Trinity/Pan. | Airt. M8 | Airt. 357 | Novak C2 | 21/100 (BK) | Losi |
| 5 | 2 | Billy Easton | Associated | Reedy 10x2 | Reedy 3000 | Airt. M8 | Airt. 351 | LRP V7.1 | 17/90 | Pro-Line |
| 6 | 5 | Scott Hughes | Associated | Reedy 9x2 | Reedy 3000 | KO Propo | KO-Propo | LRP Quant. | 17/87 | Pro-Line |
| 7 | 9 | Lloyd Dassonville | Associated | Reedy 9x2 | Reedy 3000 | Airt. M8 | Airt. | LRP V7.1 | 17/87 | Pro-Line |
| 8 | 10 | Phillip Atondo | Losi | Trinity 11x2 | Trinty/Pan. | Airt. M8 | Airt. 157 | Novak C2 | 18/86 | Losi |
| 9 | 7 | Jimmy Babcock | Losi | Orion 11x4 | Orion 2400 | Airt. M8 | Airt. 358 | LRP V7.1 | 18/88 | Losi |
| 10 | 1 | Mark Pavidis | Associated | Reedy 9x2 | Reedy 3000 | Airt. M8 | Airt. 357 | LRP V7.1 | 17/87 | Pro-Line |

## OPEN MOD TRUCK

| 1 | 1 | Doug "E" Scripture | Losi | Orion 10x2 | Orion 2400 | Airt. M8 | Airt. | LRP V7.1 | 17/88 | Losi |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | Joe Pillars | Losi | Peak 1-x2 | Peak Powerflo | Airt. M8 | Hitec 925 | LRP V7.1 | 18/88 | Losi |
| 3 | 2 | Charlie Albrecht | Losi | Peak 11x3 | Peak Powerflo | Airt. M8 | Airt. | Novak C2 | 17/87 | Losi |
| 4 | 4 | Kyle Stallings | Losi | Orion 12x2 | Orion 2400 | Airt. M8 | Airt. | Novak C2 | 20/86 | Losi/Pro-Line |
| 5 | 7 | Mike Truhe | Losi | Banzai10x3 | Reedy 3000 | Airt. M8 | Airt. 357 | LRP V6 | 18/90 | Losi/Panther |
| 6 | 6 | Ryan Smith | Associated | Reedy 10x2 | Reedy 2400 | Airt. M8 | Airt. 157 | LRP V7.1 | 18/87 | Pro-Line |
| 7 | 5 | Chris Hlga | Losi | Trinity 10x3 | Orion 3000 | Airt. M8 | Airt. 258 | Keyence | 20/100 (BK) | Panther |
| 8 | 9 | Colby Poh | Losi | Peak 13x3 | Peak Powerflo | Airt. M8 | Airt. | Novak C2 | 25/100 (BK) | Los/Panther |
| 9 | 8 | Jose Zayas | Losi | Wimpy 10x2 | Gonzo HV | JR R-1 | JR 8450 | LRP V7.1 | 18/86 | Losi |
| 10 | 10 | Robert Drew | Losi/Hardcore | Banzai 12x5 | Trinity/Pan. | Airt. M8 | Airt. 358 | Novak C2 | 18/88 | Losi/Pro-Line |

## OPEN STOCK TRUCK

| 1 | 1 | Steve Chamberlain | Losi | Reedy handout | Peak HV3000 | Airt. M8 | Airt. 452 | Novak C2 | 20/87 | Losi |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | Joe PIllars | Losi | Reedy handout | Peak Powerflo | Airt. M8 | Hitec 925 | LRP V7.1 | 18/88 | Losi |
| 3 | 7 | Chris Higa | Losi | Reedy handout | Orion 2400 | Airt. M8 | Airt. 258 | Keyence | 21/100 (BK) | Panther |
| 4 | 6 | Kurt Haynes | Associated | Reedy handout | Trinity 2400 | Airt. M8 | Airt. 258 | Novak | 17/87 | Pro-Line |
| 5 | 8 | Kyle Stallings | Losi | Reedy handout | Orion 2400 | Airt. M8 | Airt. | Novak | 19/86 | Losi/Pro-Line |
| 6 | 10 | Doug "E" Scripture | Losi | Reedy handout | Orion 2400 | Airt. M8 | Airt. | LRP V7.1 | 17/88 | Losi |
| 7 | 9 | Blade Luna | Losi | Reedy handout | Pro Match | Airt. M8 | Airt. | LRP V7.1 | 18/90 | Panther |
| 8 | 4 | Jake McGarvy | Losi | Reedy handout | Trinity | Airt. 3Ps | Futaba | LRP V7.1 | 20/88 | Losi |
| 9 | 3 | Charlie Albrecht | Losi | Reedy handout | Peak Powerflo | Airt. M8 | Airt. | Novak C2 | 19/86 | Losi |
| 10 | 5 | Colby Poh | Losi | Reedy handout | Peak Powerflo | Airt. M8 | Airt. | Novak C2 | 23/100 BBK) | Losi/Panther |





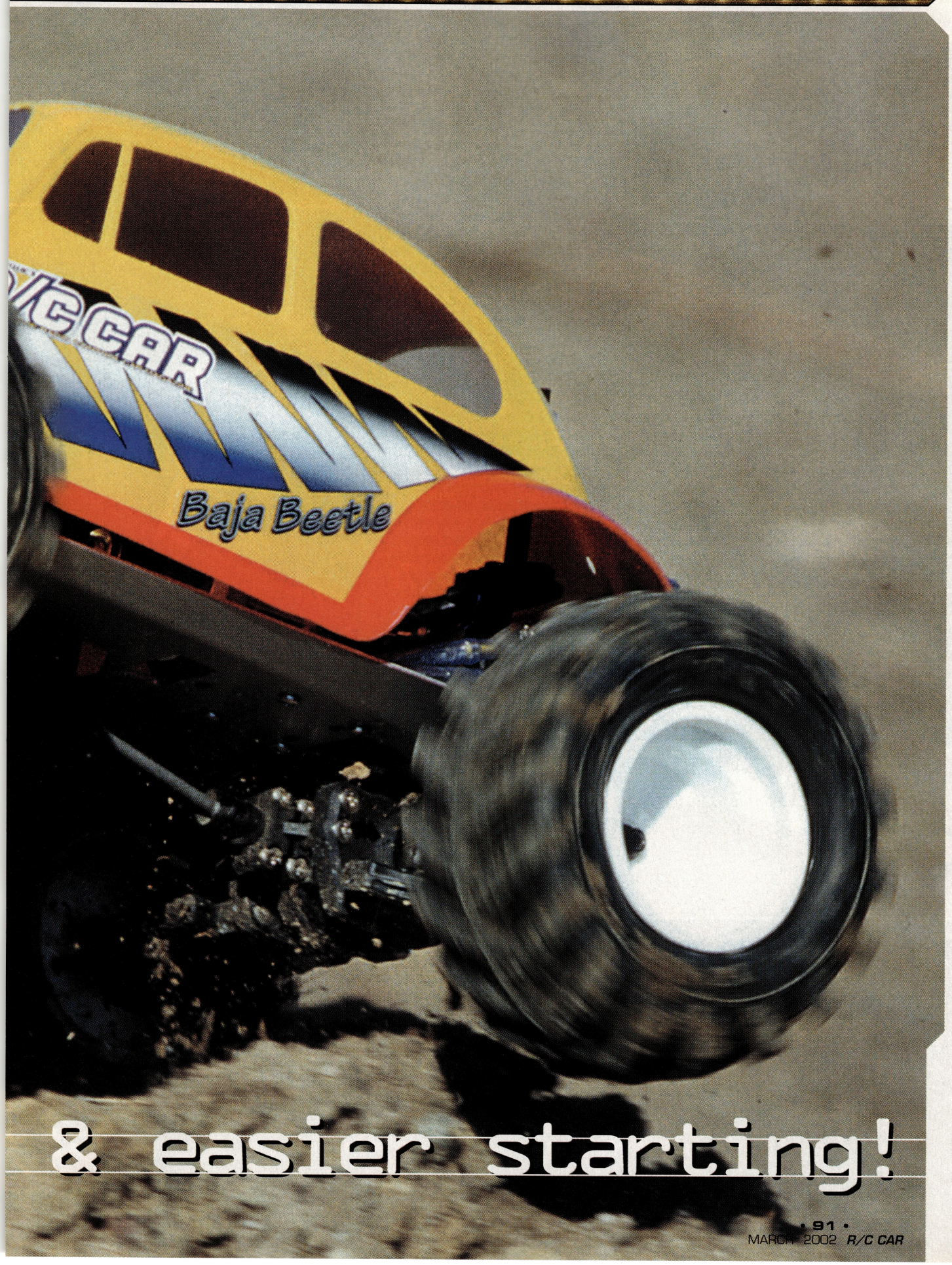
# Kyosho Baja Beetle

By Dennis Rotim

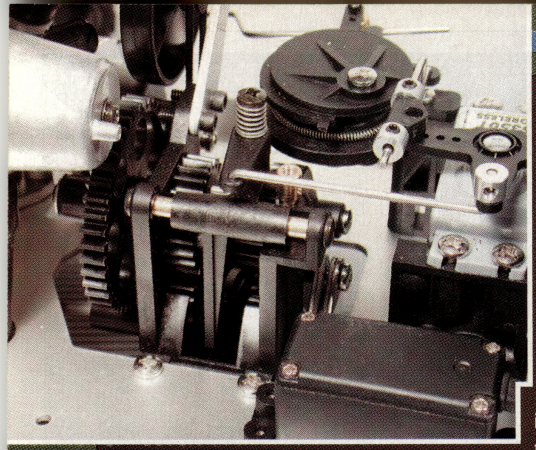
Desert off-road is a form of racing like no other. When I think of desert racing, the Baja 1000 comes to mind. It is a race held in Baja, Mexico, annually, and racers from around the world come together to compete on a grueling 1000-mile desert racecourse designed to push durability to the limits and beyond. Both man and machine are punished throughout the course, testing strength and sanity. The course brings together many harsh elements, which include the countless miles of rocky mountainous terrain, choppy and sandy desert terrain, flat and dry lake beds, and everyone's favorite, the booby traps.

Kyosho has just released an updated version of its original 1/10 scale desert off road racer, the 4WD Baja Beetle QRC (which was the first nitro R/C vehicle ever to have reverse). Now you may be asking yourself, why a Beetle? Because the Baja Beetle is the most famous, and one of the first, vehicles to complete the 1000-mile Baja course. As with other replica cars, Kyosho hit the nail on the head when they released the Baja Beetle. It is a close copy of what you can expect from a real racecar.

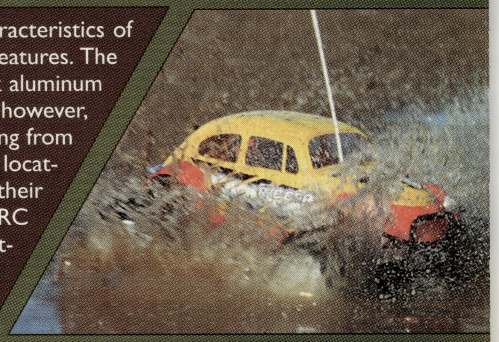
## More power

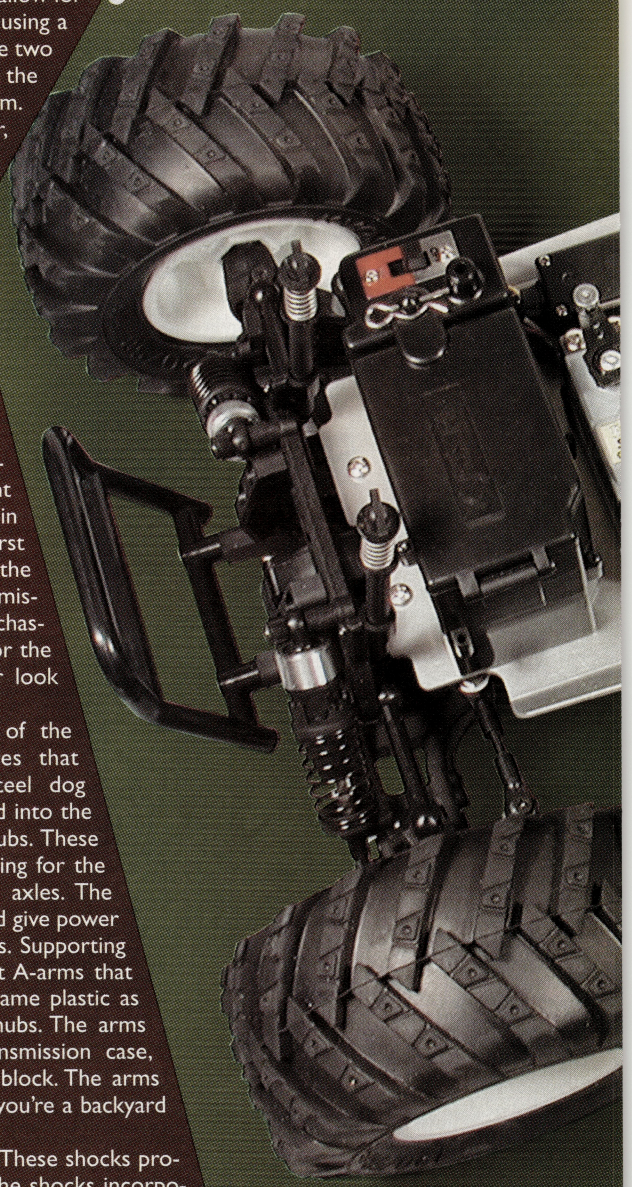



# & easier starting!

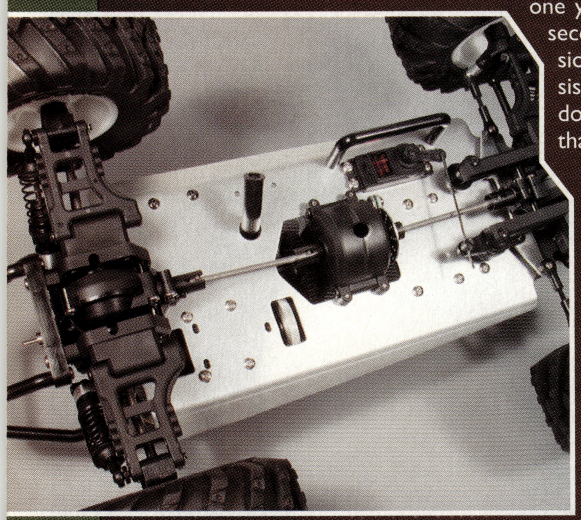


• The Baja Beetle exhibits many of the characteristics of the previous model, as well as some new features. The base of the car begins with a solid 2mm thick aluminum chassis. The chassis resembles a tub design; however, the sides are only bent at a slight angle. Starting from the middle of the car you will find a centrally located transmission. This is what Kyosho calls their Quick Reverse Clutch system (QRC). The QRC is a transmission that allows the car to be shifted into forward or reverse gear. The QRC system comes factory assembled, which saves time and a big headache in the building process. The simplistic design allow for the gears to be shifted by simply using a two-channel radio system. How is that possible, you may ask? Simple, there are two sets of gears in the gear case, a set for the forward setting and a set for the reverse setting. In order to shift the gears, Kyosho incorporated a sliding cam. When the throttle servo slides the cam one way it engages the forward gear, and the other way for the reverse gear. It is a simple yet innovative way of having a reverse gear without that third channel.



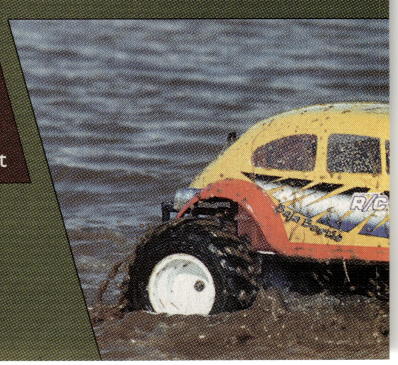


• On each end of the QRC are outdrives which give power to the front and rear dog bones. These outdrives ride on metal bushings that provide a decent amount of efficiency. They are not as a good as bearings; however, they more than complement the kit. Located on the front outdrive is a disc brake system. The disk is cross-drilled which provides for better cooling and a realistic racing look. The outdrives of the transmissions are linked together by heavy steel dog bones. The transmission cases are molded from high quality thick plastic, and are home to a series of beveled and spider gears. The front and rear transmissions are constructed the same except for some variations in the case. This makes assembly easier, because it allows you to learn off of the first one you build, essentially making the second tranny easier. The transmissions are located beneath the chassis, which provides clearance for the dog bones and makes the car look that much better.

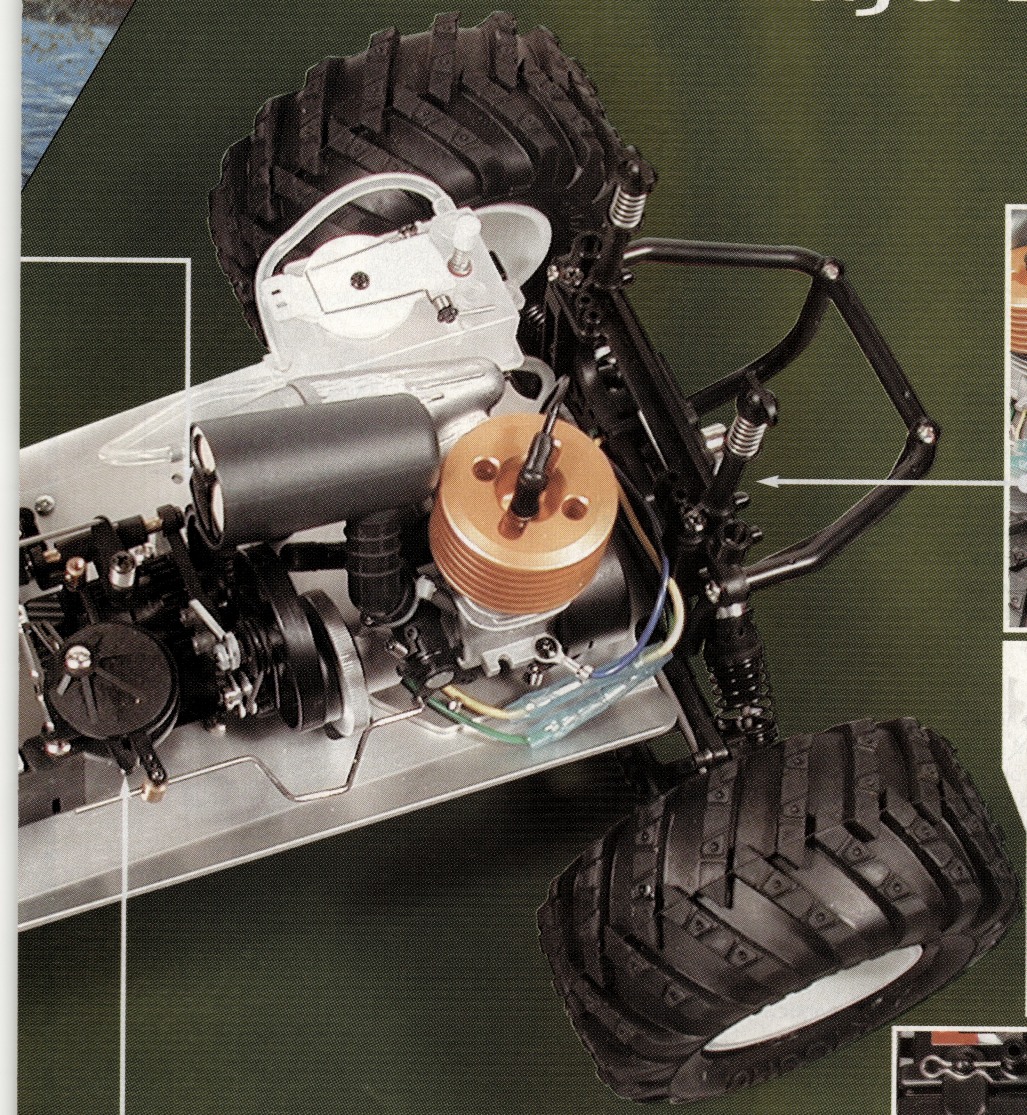


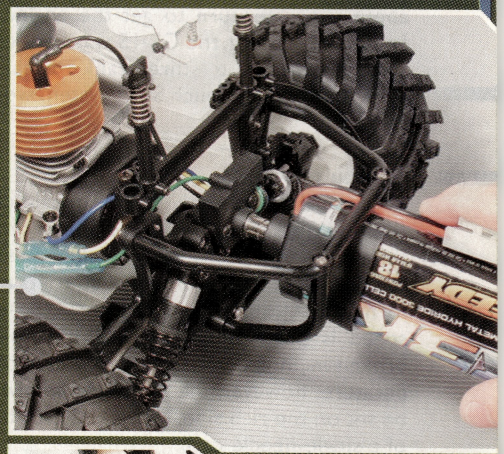
• Found on either side of the transmissions are outdrives that turn over some more steel dog bones. These dog bones lead into the heavy-duty plastic wheel hubs. These hubs provide a strong housing for the bushings that support the axles. The axles go straight through and give power to the spiky V-grooved tires. Supporting these hubs are independent A-arms that are constructed from the same plastic as the transmission and the hubs. The arms are connected to the transmission case, which also acts as a pivot block. The arms don't provide much adjustability for shock location, but who needs it when you're a backyard basher?

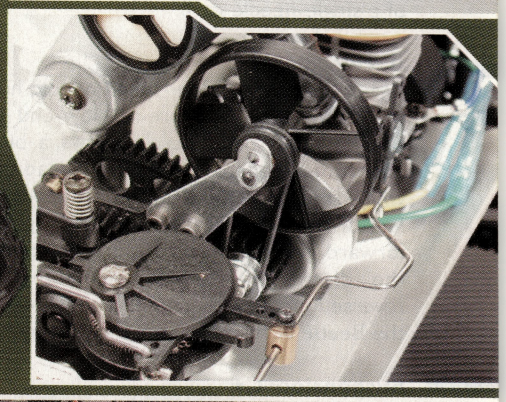
Oil-filled shocks with coil springs are found at each corner of the Beetle. These shocks provide the Beetle with enough cushion for those huge jumps. The collars on the shocks incorporate a notch adjusting system. This allows you to adjust the pre-load of the spring equally for all shocks. It takes the guesswork out of the adjustment. The tops of the shocks are bolted to a plastic shock tower. The shock tower serves another purpose; it is also a bulkhead. Here you will find the camber links bolted to the tower. In this kit, Kyosho uses a series of both plastic and steel tie rods. Pillow balls are included to act as a pivot for the camber links. Attached to the shock towers is a pair of body mounts. These mounts have an adjustment so that you can either have the body hug the chassis or stand far above it. In the rear, the shock tower also supports a cool looking tube bumper. This bumper is realistic, and also helps to cushion any reversing or landing impact. The front bumper also serves the same purpose; however, it is connected to the transmission case.

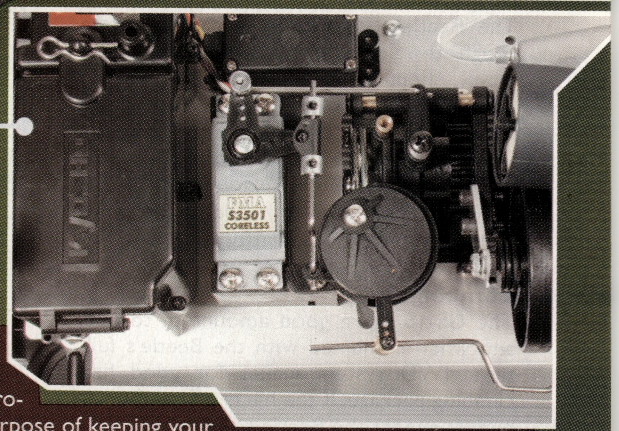


# Baja Beetle









## OUTSTANDING FEATURES

• Now let's go back on top of the chassis. Here you will find a plastic receiver box. This box is home to both the receiver and the receiver pack. It is constructed out of durable plastic, which will protect your electronics from any sort of impact. It also serves the purpose of keeping your electronics dry. I don't mean from your garden hose, but from any spillage resulting from a quick pit stop. The last thing you need is for your electronics to get wet, and for your car to take off on its own. The box is located towards the front in Kyosho's attempt in balancing the weight of the car.

The reason for balancing comes from the weight of the beefy GS-15R nitro engine. This engine provides more horsepower than the last version, mainly due to its larger displacement. It also exhibits ABC construction and full ball bearings. In order to start this beast, Kyosho includes its new Touch Starter. For your convenience they pre-assembled the unit and even mounted it onto the engine for you. It is very easy to use. Simply attach the female Touch Start plug onto a charged stick pack and plug it into the Touch Starter. And presto, the engine starts. Since the engine is quite large, it requires a sufficient amount of cooling. This is where Kyosho stepped in and included a fan. This fan has a bracket that bolts onto the QRC and is actually run by the engine. It is run by a pulley system and takes virtually no power to run. Located adjacent to the engine is the fuel tank. The 75cc tank will provide enough fuel to have a decent amount of run time.

# Baja Beetle

**REPORT CARD**
Test location: Valencia, California
Track type: Construction zone. Lots of loose dirt piles and big bumpy areas

**Starting and break-in: B**
We've always had luck with Kyosho's GS-15 engine, and the one in the Baja Beetle was no exception. Because it was colder outside than normal, we had to lean the needle about a quarter-turn to get the engine to fire. Once running, the GS-15 was very consistent during a three-tank break-in process. Kyosho's Touch Start system works great.

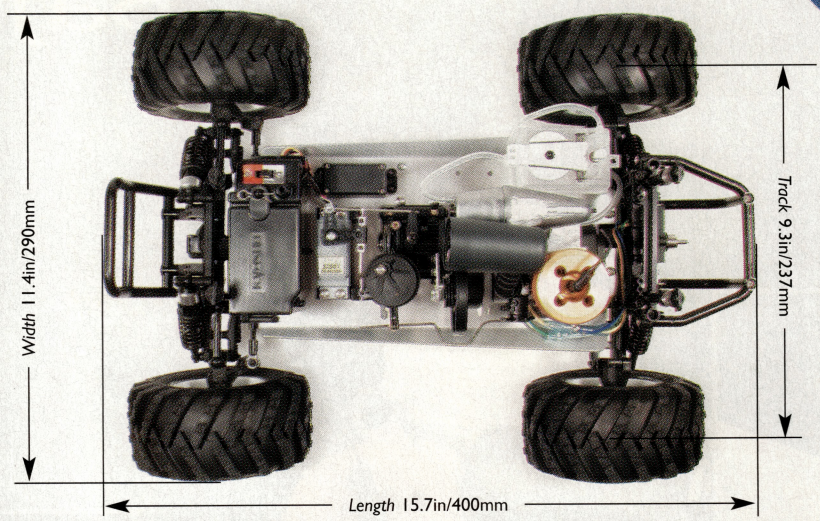
**Engine power: B-**
Because of its restrictive single-needle carb (Kyosho also offers a dual-needle carb for this engine) and stuffy airplane-style muffler, the GS-15 isn't allowed to live up to its performance potential. However, top-end speed is pretty good once the engine is broken in. In order to maintain a safe temperature, however, the needle must always be set on the rich side. This is the drawback of a single-needle carb.

**Acceleration: C**
Again, the lack of a low-speed needle hurts the Baja Beetle. The pre-set low-end just doesn't have snap. There's always a bit of hesitation when taking off from a dead stop, which is exacerbated by the rather clunky feel of the QRC gearbox as it engages its forward gearset. If you choose to connect the disc brake (which eliminates the reverse function), the clunk is removed and the Beetle accelerates more smoothly.

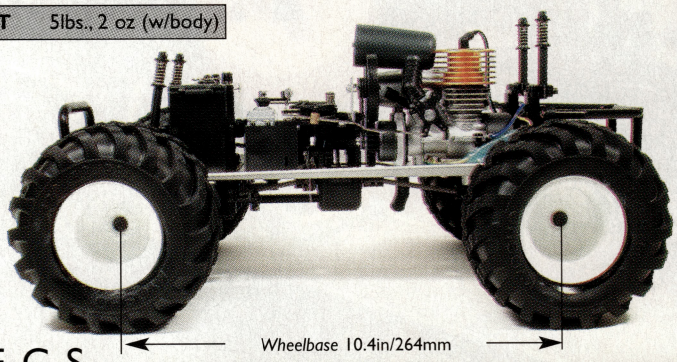
**Suspension: C+**
The Beetle's suspension is challenged on rough terrain, where it's relatively small travel, short arms and small shocks can quickly become overwhelmed. Were it not for the large and compliant tires, the Beetle would fare even worse. On smoother surfaces, the same factors that limit the Beetle on gnarly terrain make it one of the more nimble monster-truck platforms.

**Climbing: B-**
The GS-15 has a good amount of torque, and when combined with the Beetle's full-time 4WD system makes for good hill-climbing package. If the hill is off-camber or bumpy, expect the Beetle to be more easily thrown off course than some other nitro trucks. This is again a symptom of the limited suspension compliance.

**Durability: A**
We pounded the Beetle full steam through the harshest terrain possible. We jumped it from a six-foot hill of dirt. We repeatedly threw its tranny from forward to reverse and back. Nothing broke. The Baja Beetle may not be the best handling or the fastest nitro truck, but we can't say that it's not tough.




**WEIGHT** 5lbs., 2 oz (w/body)




## SPECS

| | |
|---|---|
| **TYPE** | 1/10-scale nitro monster truck |
| **PRICE** | $269.99 (street price) |
| **CHASSIS** | |
| Type | Stamped plate with raised sides |
| Material | Aluminum |
| **SUSPENSION** | |
| Type | Independent lower A-arms w/fixed upper links |
| Damping | Molded-composite oil-filled shocks |
| **TRANSMISSION** | |
| Type | Shaft-driven 4WD w/reverse, F/R gear diffs |
| Drive shafts | Steel dogbones/axles |
| Bearings | Shielded ball-bearings (transmission), metal bushings |

**Final Score**

**Highs:** The Baja Beetle is a durable and inexpensive reversing nitro monster. Kyosho's Touch Start system works really well, and makes it easy to get the engine fired. Everyone really liked the VW Beetle body shell.

**Lows:** Kyosho needs to make this kit a ready-to-run if it is to compete with the likes of Traxxas, HPI and DuraTrax. The QRC gearbox works well, but it's shifting is harsh. The suspension is limited by short travel and even shorter arms. We say let the engine breathe - give it a good pipe!

**The verdict:** The Baja Beetle was the very first reversing nitro vehicle, and the new version adds more power (always a good thing) and greater durability (the QRC gearbox has been made stronger). But the design of the chassis is showing its age, and there are now several competitors (including one from Kyosho itself) that work better. Still, the Beetle is a fun-to-drive machine that will provide hours of backyard bashing.

**SOURCES**

**Blue Thunder Fuel**, distributed by Horizon Hobby Distributors, Inc., 4105 Fieldstone Rd., Champaign, IL 61821 • (217) 355-9511
**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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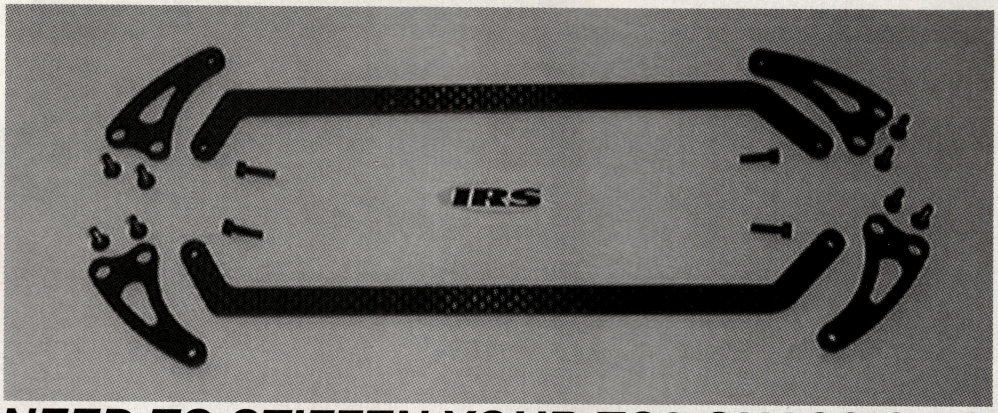


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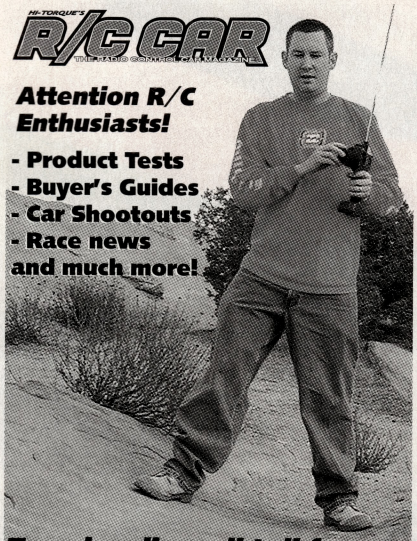

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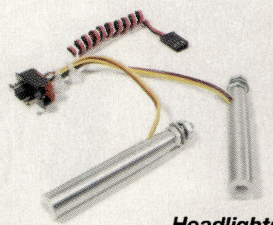

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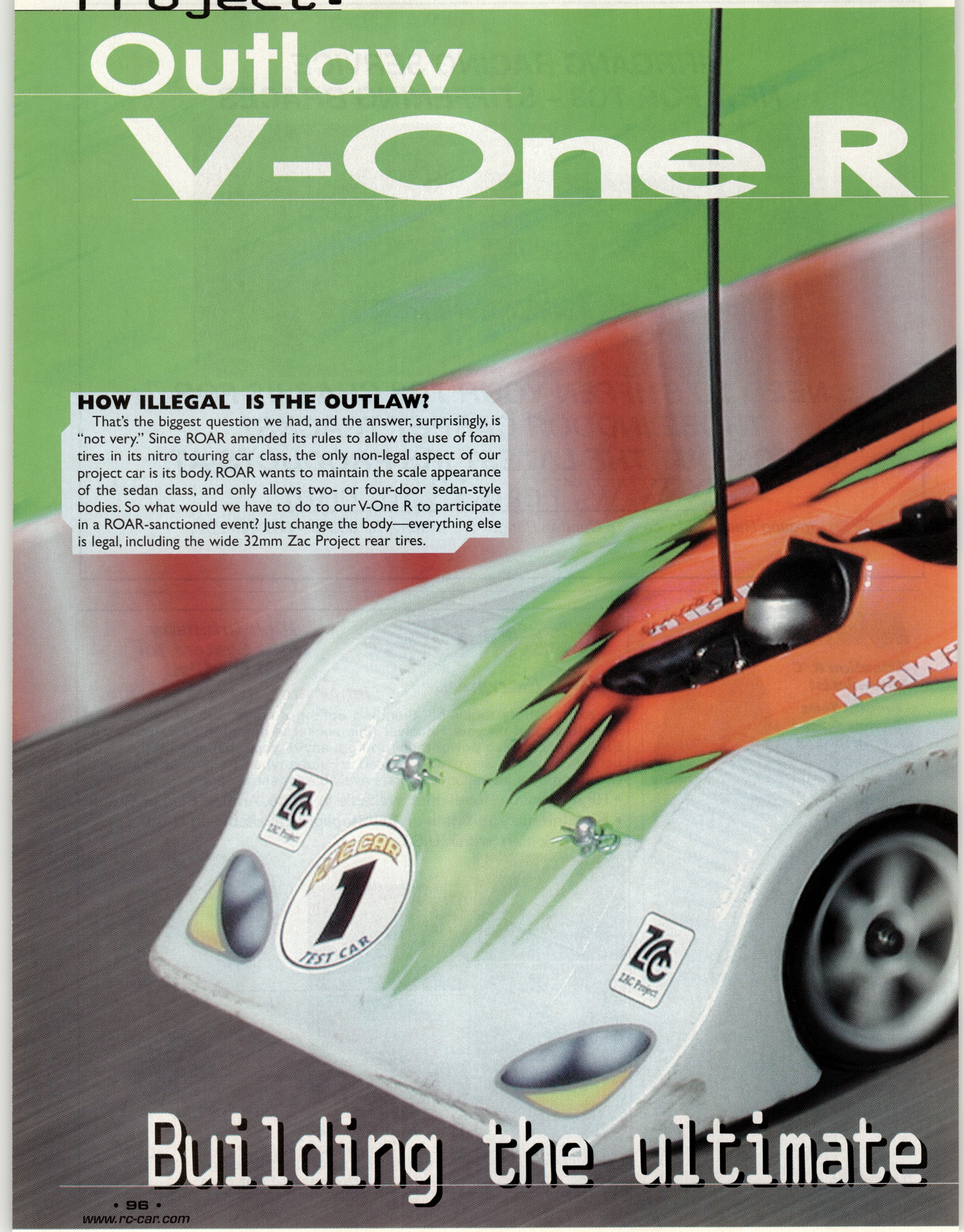
# Project:
# Outlaw V-One R




## HOW ILLEGAL IS THE OUTLAW?

That's the biggest question we had, and the answer, surprisingly, is "not very." Since ROAR amended its rules to allow the use of foam tires in its nitro touring car class, the only non-legal aspect of our project car is its body. ROAR wants to maintain the scale appearance of the sedan class, and only allows two- or four-door sedan-style bodies. So what would we have to do to our V-One R to participate in a ROAR-sanctioned event? Just change the body—everything else is legal, including the wide 32mm Zac Project rear tires.

## Building the ultimate




# nitro sedan

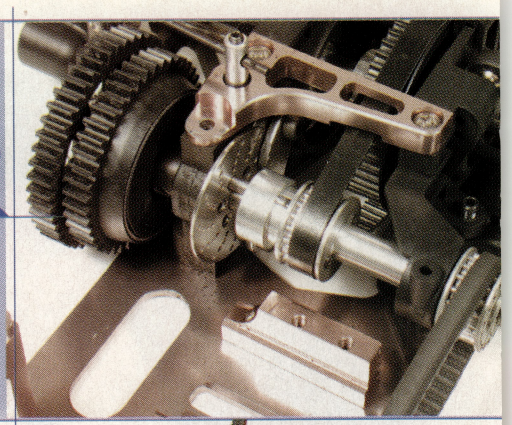
When it comes to trends in the hobby, Japan is usually a little ahead of us. Of course, some of what is popular in Japan never quite catches on here (a good example would be the F1 craze of the mid '90s). One of the latest fads in Japan is what's called the "outlaw touring" class, in which racers modify their 1/10-scale nitro sedans so that they closely emulate the look and handling feel of the larger, 1/8-scale on-road cars.

According to Ron Hopkins of RC Imports, one of the most popular suppliers of outlaw fixin's is a company named Kawahara. Ron's company is the exclusive importer of Kawahara hop-ups, as well as Zac Project—another big name in the outlaw touring game. Ron has been pushing the idea on us that this type of racing could become popular in the U.S. Ron is so convinced that these nitro sedans represent the very highest potential of 1/10-scale nitro performance, he's even gone as far as sending us his personal cars for a try-out.

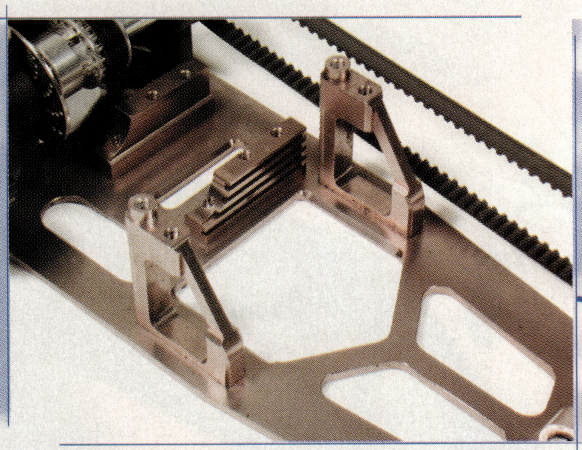
We first tested Ron's Mugen MTX-2 outlaw as part of our "Tuner Car Special" back in the January issue. Since that time, we've had a chance to put Ron's outlaw Kyosho V-One R through its paces at the formidable Sun Valley Microspeedway circuit here in SoCal. As impressed as we were with the Mugen, the Kyosho conversion—which had several new parts not available at the time of our MTX-2 test—simply blew us away, causing us to proclaim in our February issue's "News" section that it was the best nitro sedan we'd ever driven.

After the initial test had been completed, we called Ron and told him that we needed to build an outlaw V-One R of our own. We also called Kyosho for a new V-One R kit on which to base this project. They obliged and sent us the newest version, which comes equipped with its own foam tires, a solid rear axle and a front one-way. Great Planes—Kyosho's U.S. distributor—also kindly sent us a brand-new rear-port O.S. .12 for the test.

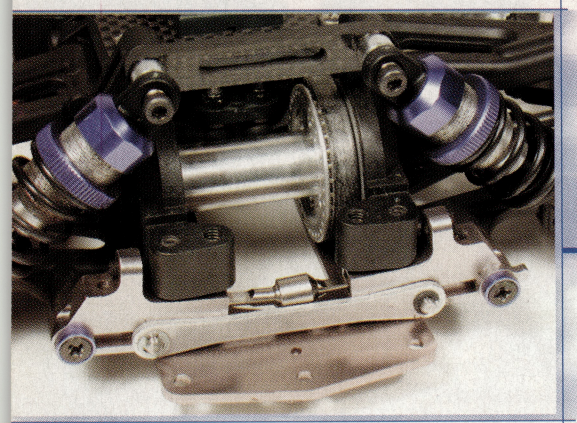
# Outlaw V-One R



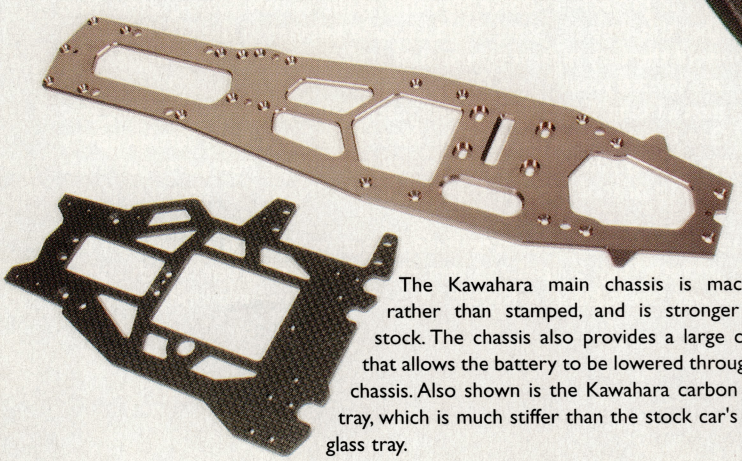
The 19-tooth aluminum brake pulley set is vastly more durable than the stock molded pulley. Also shown is Kawahara's aluminum brake bracket, which prevents the rear bulkheads from distorting from heavy braking forces.



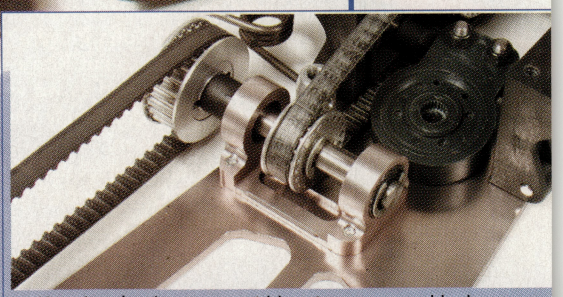
Kawahara's aluminum radio tray supports are substantially stronger than the stock molded supports, and greatly reduce flexing of the chassis' mid-section. Also shown are the Kawahara low-height engine mounts.



The new ball-and-socket front swaybar from Kawahara provides adjustment of the front roll-stiffness without changing parts. As a side benefit, the front suspension's down-travel setscrews now seat against precision-machined aluminum blocks rather than plastic. This provides a much more precise setting of the car's droop,

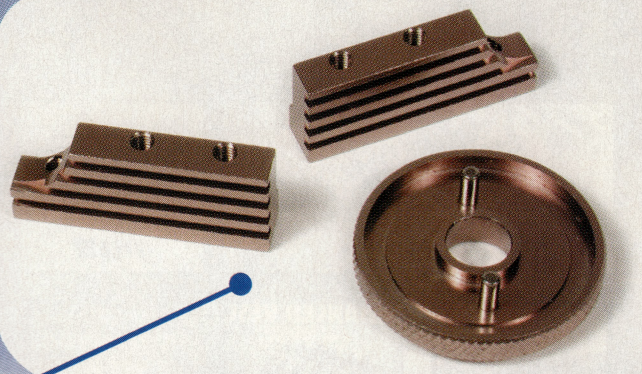


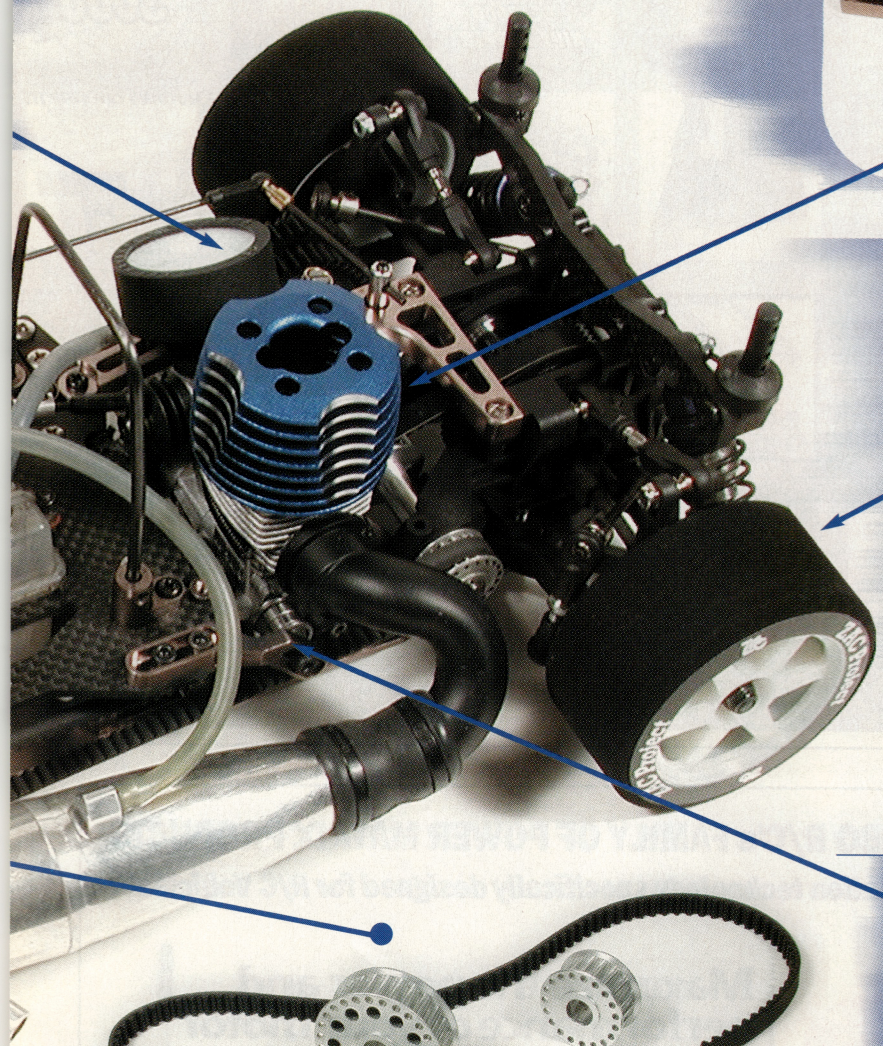
The Kawahara main chassis is machined rather than stamped, and is stronger than stock. The chassis also provides a large cutout that allows the battery to be lowered through the chassis. Also shown is the Kawahara carbon radio tray, which is much stiffer than the stock car's fiberglass tray.



Kawahara's aluminum mid-bearing support block replaces the flexible stock plastic piece, lending additional support to the middle pulley-shaft, which receives a great deal of stress during acceleration.

The combination of Kawahara's low-height engine mounts and small diameter flywheel lowers the overall height of the V-One R's engine by 5mm - a substantial reduction of the car's overall center-of-gravity. You'll have to grind away a small portion of the car's molded battery support to accommodate the lowered engine's carb slide.



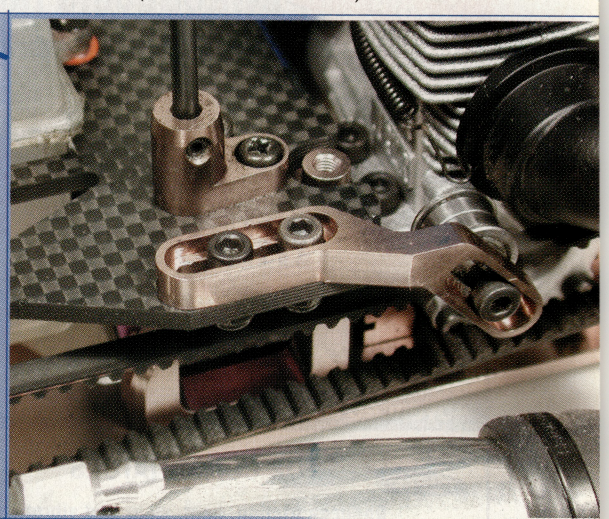





Zac Project's multi-ring foam tires provide excellent traction and wear characteristics. The tires come pre-mounted on stiff nylon wheels, and are available in 26mm fronts and rears as well as 32mm wide rears in hardnesses of between 30 and 45 shore. We used 40 shore multi-rings at all four corners of our test car (with 32mm tires in back).



Kawahara offers a range of aluminum replacement pulleys for the V-One R. Our car was set up with a 19/24-tooth set which overdrives the front wheels for greater pull out of the turns. To use this pulley set, we had to install Kawahara's special side belt.



Kawahara's aluminum side-belt tensioner offers a larger range of adjustment (up-and-down and front-to-back) and holds its settings better than the stock tensioner.

## PARTS LIST

| | |
|---|---|
| A009D Delrin screw set | K-424 Graphite radio tray |
| A-011 Side-belt tensioner | K-428 Lightweight first gear housing |
| K-412 19 tooth aluminum pulley | K-431 Front one-way |
| K-414 19-tooth aluminum brake pulley | K-433 24 tooth aluminum side pulley |
| K-415 Mid-bearing block | K-434 Side belt for 24-tooth pulley |
| K-416 Aluminum radio plate posts | K-435 Solid rear axle |
| K-419 Aluminum brake bracket | K-441 Front ball and cup swaybar |
| K-420 Aluminum rear tension rod | K-710 Vented brake rotor |
| K-421 Pro chassis | K-809 Body mount (short) |
| K-422 Low-height engine mount | FRW 4023 Frewer 200mm VDS Lola body |
| K-423 Small diameter flywheel | Zac Project multi-ring foam tires (26/32mm) |

## SOURCES

**Kawahara, Zac Project and Frewer**, distributed by RC Imports, 1702-H Meridian Ave., San Jose, CA 95125 • phone (408) 377-2361; fax (408) 377-2211

**Kyosho and O.S. Engine**, 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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# 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.

Next time we look at some XXX-S tuning tips for all you touring car racers.

ADVERTISEMENT

# PRO TIPS SECTION

brian dunbar



# How to Jump

## Try and land on your tires!

One of the toughest things to do right on an off-road track is jumping. There are many different variables when it comes to landing right. We talked with Team Losi's Brian Dunbar about what it takes to size up jumps and hit them properly.





### SURVEYING THE TRACK

"The first thing I do is I go on the drivers stand to take a look at the track layout", says Brian. "I'll also determine at that point which part of the drivers stand I'm going to stand on for my race. If there's a jump that I can't see all that well, I'll actually walk the track and look at it closer. While I'm out there I might check out the faces of all the jumps to see if there are any gouges, or weird lips at the top of the jump. It's also important where the jump is placed—in a turn, at the end of a straightaway, in a straight chute. This will determine how much speed I'm going to be able to bring towards the jump.

"There are many different kinds of jumps, and many different kinds of surfaces. The actual composition of the dirt is a very important factor too. If a track is hard-packed and smooth, it won't take as much throttle to get over that jump as it would if it were on a loamy, soft-dirt track. After I have checked out the jump, and have determined how much speed I'll need to get over it, I'll try and hit it with just enough speed to get over it and go no farther. Don't try and hit a jump as fast as you can. You rarely want to over-jump—generally you just lose speed when you over-jump."

### PRE-LOAD

"As long as the surface of the jump is smooth, typically, you want to accelerate up to the jump and let off the throttle once your car has hit the face of the jump to pre-load your car. It's best to let all four tires hit the face of the jump (chassis level with the face) before you let off the throttle. This will help insure that the chassis will be most stable in the air.

If the jump is more bumpy and rough and you have to accelerate up the face of a jump and you don't have the ability to pre-load it, just be careful that you make sure you try and keep your chassis level in mid-air. Which brings me to my next point..."

### IN THE AIR

"While in mid-air off the jump, if the nose of the vehicle is pointing towards the sky you have to tap the brakes to bring the front end back down. Don't grab full brakes and hold it until the nose is pointing at the ground, though. Unless the car is completely vertical, a short stab at the brakes should help bring the front end down a bit. If you don't bring the front end down, you risk landing on your motor plate which could damage you motor, or bend the motor plate.

"On the flip side, if your front end is facing down too far off a jump, you have to do the opposite and apply the throttle to get your chassis level again. In this situation, though, you usually have to be on the gas longer than you would on the brakes in the opposite situation. Gas it until the front-end comes back up.

"If your vehicle is leaning to one side off a jump, for instance it's leaning to the left, you need to steer to the left. Yes, you actually steer into the lean to straighten out your car and make it more level."



## SETTING YOUR SUSPENSION

"Most of the time if your car or truck is having a hard time staying level over the jumps, even when pre-loading properly, your suspension damping may be set too light. Generally if your front end is nose heavy, your damping is too light in the rear. The reason the front end is low off the jump is because the back end of the chassis is slapping into the face of the jump on take off which bounces the rear end up into the air. If your front end is too high when taking off from a jumps, your front damping is too light. Basically, if your front damping is light, the suspension compresses into the face of the jump and bounces back off the face like a ball bouncing off the ground. If you encounter either situation, try thickening up the oil in your shocks with an extra 5-10wt thicker oil before you do anything else."





## RIDE HEIGHT

"You want to set your ride-height standard—bones level in the rear, and arms level up front. This is the best starting point for any track. If you're running on a really rough track, or one that has really big jumps without good downslopes, you can try adding a little more ride height to your vehicle."

## LANDING

"Basically, you want to try and land on all four wheels as much as possible to insure a smoother landing. Most jumps have some sort of a downslope, be it a tabletop or a set of doubles. You always want to try and "downside" your jumps. The rougher the landing, the more time you lose off your lap time.

Sometimes, there are jumps that drop you off onto a flat section of track and there is no real smooth way to land. In those case you want to roll on the throttle as soon as you land to land your dogbones. This will create some resistance in your drivetrain which helps keep your chassis from bottoming out."

# R/C CAR HOBBY SHOP LOCATOR

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 |
| HURRICANE MOTORSPORTS | 5963 HWY 90 WEST | Theodore | 36582 | 866-653-6643 |
| 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

| | | | | |
|---|---|---|---|---|
| HOBBY DEPOT | 216 WEST SOUTHERN AVE | Tempe | 85282 | 602-968-1880 |
| HOBBYTOWN USA | 1915 E. BASELINE RD | Gilbert | 85233 | 480-892-0405 |
| HOBBYTOWN USA | 5030 E. RAY RD #11 | Phoenix | 85044 | 480-598-5282 |
| HOBBYTOWN USA | 1102 E. 22ND ST | Tucson | 85713 | 520-882-8888 |
| SCOTTSDALE R/C RACEWAY | 3023 N. SCOTTSDALE RD | Scottsdale | 85251 | 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 |
| CALIFORNIA R/C | 1230 N. KRAEMER BLVD. | Anaheim | 92806 | 714-630-9300 |
| 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 |
| GLENDALE HOBBY CENTER | 1215 E. COLORADO ST #101 | Glendale | 91205 | 818-247-1008 |
| HOBBIES TOYS & MORE | 17600 COLLIER AVE/ H172 | Lake Elsinore | 92530 | 909-245-1147 |
| 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 | 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 |
| LAW'S HOBBIES CENTER | 855 MARSH ST | San Luis Obispo | 93401 | 805-544-5518 |
| 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 |
| PEGASUS HOBBIES | 5505 MORENO BLVD | Montclair | 91763 | 909-982-6507 |
| 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 |
| SAN ANTONIO HOBBY | 2550 W. EL CAMINO RD | Mountain View | 94040 | 650-941-1278 |
| 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 | 12559 E. KENTUCKY | Aurora | 80012 | 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 |
| GRAND SLAM HOBBIES | 20505 U.S. HWY 19 NORTH | Clearwater | 33764 | 727-548-0699 |
| 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 |
| HOBBY WORLD | 7273 103RD ST | Jacksonville | 32210 | 904-772-9022 |
| 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 |
| ORANGE BLOSSOM | 1975 N.W. 36TH ST | Miami | 33142 | 305-633-2521 |
| 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 |
| 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 | 19 NORTHSIDE DR EAST | Statesboro | 30458 | 912-489-8700 |
| 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 |

## 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

| | | | | |
|---|---|---|---|---|
| BOB'S R/C HOBBY | 6322 UNIVERSITY AVE/UNIT E | Cedar Falls | 50613 | 319-277-0211 |
| 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 |
| 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 |
| G & D HOBBIES | 1950 W. CHURCH ST | Sandwich | 60548 | 815-786-8553 |
| 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 |
| 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 |
| 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 | 1722 LAKE AVE | Fort Wayne | 46805 | 219-426-5056 |
| 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 |

## 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 |
| THE TRACK | 16806 OAKMONT AVE | Gaithersburg | 20877 | 321-417-9630 |

## 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 | 48098 | 248-740-2277 |
| CAPITOL CITIES HOBBIES INC. | 15357 HALL RD | Macomb | 48044 | 810-532-0050 |
| HOBBIES & TOYS | 106 WEST MAIN ST | Gaylord | 49735 | 989-732-3963 |
| HOBBYTOWN USA | 2252 S. MAIN ST | Ann Arbor | 48103 | 734-996-2444 |
| HOUSE OF HOBBIES | 2763 N. 120TH AVE | Holland | 49424 | 616-786-3686 |
| 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 | |
| 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 |
| YESTERDAY'S COLLECTION | 5899 JACKSON RD | Ann Arbor | 48103 | 734-668-6304 |

## MINNESOTA

| | | | | |
|---|---|---|---|---|
| CHRISTOPHER'S HOBBIES | 116 WEST BRDWAY ST | Owatonna | 55060 | 507-451-2825 |

| | | | | |
|---|---|---|---|---|
| HOBBY TOWN USA | 7916 BROOKLYN BLVD. | Minneapolis | 55445 | 612-424-6052 |
| HOBBY WAREHOUSE | 7120 CHICAGO AVE S. | Richfield | 55423 | 612-861-5587 |
| HUB HOBBY CENTER | 82 MINNESOTA AVE | Saint Paul | 55117 | 612-490-1675 |
| NORTHWOODS HOBBY | 2638 HWY 25 NORTH | Brainerd | 56401 | 218-829-9257 |
| R.C. CAR KINGS | 1913 W. BURNSVILLE PKWY | Burnsville | 55337 | 952-895-9643 |
| TWIN CITIES HOBBY & RWY | 7577 BROOKLYN BLVD. | Brooklyn Park | 55443 | 763-569-5069 |
| **MISSOURI** | | | | |
| CHECKERED FLAG HOBBIES | 4451 LEMAY FERRY RD | St. Louis | 63129 | 314-892-5353 |
| HOBBY HAVEN | 14100 A EAST 42ND ST | Independence | 64055 | 816-478-3233 |
| HOBBYTOWN USA | 524 N.W. ENGLEWOOD RD | Kansas City | 64118 | 816-459-9590 |
| HOBBYTOWN USA | 533 S.E. MELODY LANE | Lees Summit | 64063 | 816-525-6885 |
| JOPLIN R/C HOBBIES | 1900 S. RANGELINESTE 9 | Joplin | 64804 | 417-623-0011 |
| MARK TWAIN HOBBY CTR | 2793 WEST CLAY ST | Saint Charles | 63301 | 636-946-2816 |
| REAL R/C | 12019 EAST 47TH | Raytown | 64133 | 816-358-0238 |
| SCHAEFER'S R/C SHOP | 4206 VIRGINIA AVE | Saint Louis | 63111 | 314-352-3750 |
| **MISSISSIPPI** | | | | |
| HOBBYTOWN USA | 4378 MALL DR | Tupelo | 38804 | 662-690-6030 |
| HOBBYTOWN USA | 6380-D RIDGEWOOD COURT | Jackson | 39211 | 601-957-9900 |
| **MONTANA** | | | | |
| NORTHLAND HOBBIES INC. | 1325 HWY 2 WEST | Kalispell | 59901 | 406-257-1808 |
| PRAIRIE UNIQUE | 114 S. LOGAN ST | Terry | 59349 | 406-635-5598 |
| THE TREASURE CHEST | 1612 BENTON AVE | Missoula | 59801 | 406-549-7992 |
| **NORTH CAROLINA** | | | | |
| ACTION HOBBIES | 8500 PINEVILLE MATHEWS RD | Charlotte | 28226 | 704-540-0311 |
| HOBBY TOWN USA | 8332 PINEVILLE MATHEWS RD | Charlotte | 28226 | 704-544-2303 |
| HOBBYTOWN USA | 1319 MILITARY CUTOFF RD | Wilmington | 28405 | 910-256-0902 |
| HOBBYTOWN USA | SHERWOOD PLAZA SHP CTR. | Winston Salem | 27106 | 336-774-2324 |
| HOBBYTOWN USA | TERRYMORE SQUARE | Raleigh | 27604 | 704-544-2303 |
| K/C HOBBY INC. | 10948-G NORTH MAIN ST | High Point | 27263 | 336-434-3482 |
| KING R/C | 614 S. MAIN ST | King | 27021 | 336-983-3969 |
| Z N Z HOBBIES | 972 TALBERT BLVD | Lexington | 27292 | 336-249-6127 |
| **NORTH DAKOTA** | | | | |
| HOBBYTOWN USA | 2500 S. COLUMBIA RDSTE D | Grand Forks | 58201 | 701-746-0708 |
| **NEBRASKA** | | | | |
| FUN TIME HOBBY | 2020 CENTRAL AVE | Kearney | 68847 | 308-234-1806 |
| HOBBYTOWN UNLIMITED | EAST PARK PLAZA | Lincoln | 68505 | 402-434-5056 |
| HOBBYTOWN USA | 13110 BIRCH DR | Omaha | 68164 | 402-498-8888 |
| HOBBYTOWN USA | 3537 WEST 13TH ST | Grand Island | 68803 | 308-382-3451 |
| **NEW HAMPSHIRE** | | | | |
| HOBBY ETC. INC. | 90 WEST PEARL ST | Nashua | 03060 | 603-883-4919 |
| **NEW JERSEY** | | | | |
| ALLIED HOBBIES | CHERRY HILL MALL | Cherry Hill | 08002 | 856-665-7888 |
| ALLIED HOBBIES | 207 ECHELON MALL | Voorhees | 08043 | 856-772-1268 |
| ALLIED HOBBIES | 264 BURLINGTON CENTER | Burlington | 08016 | 609-386-5044 |
| CRUIZIN WITH R/C'S INC. | 53 EAST MAIN ST | Ramsey | 07446 | 201-825-4884 |
| FISHKIN BROS. | 285 MADISON AVE | Perth Amboy | 08861 | 732-826-0048 |
| HOBBIES ETC. | 240 S. BRD ST | Woodbury | 08096 | 609-384-7740 |
| HOBBY WORKSHOPS | 510 WEST KINGS HWY | Mount Ephraim | 08059 | 856-931-2400 |
| JERRY'S HOBBY CENTER | 336 RT 22 W | Greenbrook | 08812 | 908-752-6030 |
| THE HOBBY SHOP | ABERDEEN TOWNSQUARE | Aberdeen | 07747 | 732-583-4189 |
| WACKY R/C'S HOBBY SHOP | 409 EAST 2ND ST | Roselle | 07203 | 908-241-6700 |
| **NEW MEXICO** | | | | |
| ALBUQUERQUE HOBBY CO | 1431 EUBANK BLVD N.E. | Albuquerque | 87112 | 505-275-1882 |
| BIG BOYS TOYS | 1735 JUAN TABO N.E. | Albuquerque | 87112 | 505-298-1023 |
| CHARLIES HOBBY SHOP | 225 E. IDAHO/STE 11 | Las Cruces | 88005 | 505-541-1097 |
| FLIGHT DECK HOBBIES | 1513 9TH ST | Alamogordo | 88310 | 505-434-6563 |
| HOBBIE'S & STUFF | 9577-L OSUNA RD N.E. | Albuquerque | 87111 | 505-293-1217 |
| HOBBYTOWN USA | 636 W. BRDWAY | Farmington | 87401 | 505-325-5156 |
| **NEVADA** | | | | |
| DANSEY'S INDOOR R/C HOBBIES | 741 N. NELLIS BLVD. | Las Vegas | 89110 | 702-453-7223 |
| HOBBYTOWN USA | 5085 W. SAHARA AVE #134 | Las Vegas | 89146 | 702-889-9554 |
| HOBBYTOWN USA | 3789 S. CARSON ST | Washoe Valley | 89701 | 775-883-5475 |
| **NEW YORK** | | | | |
| ACTION HOBBIES | 1070 MIDDLE COUNTRY RD | Selden | 11784 | 516-736-1574 |
| ACTION HOBBIES | 502 W. 167TH ST | New York | 10032 | 212-568-3677 |
| BROOKLYN HOBBIES | 3842 FLATLANDS AVE | Brooklyn | 11234 | 718-951-2500 |
| BRUCKNER HOBBIES | 3587 E. TREMONT AVE | Bronx | 10465 | 800-288-8185 |
| COMPETITION HOBBY SUP | 1006 LOUDON RD | Cohoes | 12047 | 518-786-3622 |
| EAST COAST HOBBIES | 2515 65TH ST | Brooklyn | 11204 | 718-627-3814 |
| FANTASIA HOBBIES | 17169 46TH AVE | Flushing | 11358 | 718-460-5671 |
| FROGTOWN HOBBIES | RT 37 MINI PINES VILLAGE | Hogansburg | 13655 | 518-358-3686 |
| HOBBY HOUSE | 2366 LYELL AVE | Rochester | 14606 | 716-429-6280 |
| HOBBY WORLD | 311 BROADWAY | Monticello | 12701 | 914-794-8770 |
| HOMETOWN HOBBIES | 14 FEDERAL PLAZA | Monroe | 10950 | 914-782-2401 |
| LARRY'S HOBBY SUPPLIES | 3006 JERICHO TPKE | East Northport | 11731 | 631-499-7166 |
| MACH 1 HOBBIES | 249 W. 29TH ST #1 | New York | 10001 | 212-947-0157 |
| NAGENGAST HDWR & HOBBY | 68-02 FRESH POND RD | Flushing | 11385 | 718-821-0958 |
| PERFORMANCE HOBBIES | 15 WEST MAIN ST | Webster | 14580 | 716-872-4990 |
| RACING CITY HOBBIES | MIDTOWN SHOPPING CTR | Glens Falls | 12803 | 518-792-7272 |
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| DIVE IN SCUBA CENTER | 3182 WARREN SHARON RD | Vienna | 44473 | 330-856-6275 |
| GRANDVIEW HOBBIES | 1460 W. FIFTH AVE | Columbus | 43212 | 614-486-3532 |
| HOBBY STOP WEST | 4550 MONROE ST | Toledo | 43613 | 419-471-1108 |
| HOBBYTOWN USA | 8000 PLAZA BLVDSTE 9 | Mentor | 44060 | 440-946-5588 |
| RIDER'S HOBBY SHOP | 5333 MONROE ST | Toledo | 43623 | 419-843-2931 |
| **OKALAHOMA** | | | | |
| ACTION HOBBIES | 4955 S. MEMORIAL DR | Tulsa | 74145 | 918-663-8998 |
| WINGS N' THINGS INC. | 5241 S. PEORIA AVE | Tulsa | 74105 | 918-745-0007 |
| **OREGON** | | | | |
| AERO SPORT & HOBBY | 17941 N.E. GLISAN | Portland | 97230 | 503-669-7665 |
| EUGENE TOY & HOBBY | 32 E. 11TH AVE | Eugene | 97401 | 541-344-2117 |
| HOBBY CENTER | 1125 DALE ST S.E. | Albany | 97321 | 541-928-5255 |
| LEISURE HOBBIES | 982 LANCASTER DR N.E. | Salem | 97301 | 503-588-9884 |
| R C ADDICTION | 2810 N. PACIFIC HWY | Medford | 97501 | 541-779-8298 |
| R/C PLUS HOBBIES | 1685 25TH ST | Salem | 97302 | 503-364-9188 |
| TAMMIES HOBBIES | 12024 S.W. CANYON RD | Beaverton | 97005 | 503-644-4535 |
| ULTIMATE HOBBIES | 1210 JANTZEN BEACH CTR | Portland | 97217 | 503-247-8194 |
| WAYNES WORLD OF HOBBY | 10910 N.E. HALSEY ST | Portland | 97220 | 503-261-8598 |
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| ADAM & EVES PET & HOBBY | 313 LATROBE 30 PLAZA | Latrobe | 15650 | 412-539-7130 |
| ALLIED HOBBIES | 204 OXFORD VALLEY MALL | Langhorne | 19047 | 215-757-8086 |
| CRANBERRY HOBBY DEPOT | GARDENS PLAZA | Cranberry Twnshp | 16066 | 724-776-3640 |
| GLENNS ALLIED HOBBIES | 6607 RISING SUN AVE | Philadelphia | 19111 | 215-745-5777 |
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| LORESKI'S INC. | MIRACLE MILE SHOPPING CTR | Monroeville | 15146 | 412-372-5155 |
| R C OUTFITTERS | 519 BROADWAY | Hanover | 17331 | 717-633-9490 |
| **RHODE ISLAND** | | | | |
| NSANE TOYS | 267 POCASSET AVE | Providence | 02909 | 401-943-2629 |
| NANCY'S CO-OP | 350 MAIN ST | Warren | 02885 | 401-247-0288 |
| **SOUTH CAROLINA** | | | | |
| ATLANTIC WORLD HOBBIES | 2458 REMOUNT RD | Hanahan | 29406 | |
| ED'S HOBBY SHOP | 702 MAIN ST | Myrtle Beach | 29577 | 843-448-8685 |
| GOLDEN STRIP HOBBIES | 315 FAIRVIEW RDSTE G | Simpsonville | 29681 | 864-963-7149 |
| HOBBY STOP | 939 S. ANDERSON RD | Rock Hill | 29730 | 803-327-4121 |
| HOBBYTOWN USA | BELVEDERE PLAZA | Anderson | 29621 | 864-627-9633 |
| HOBBYTOWN USA | VERDAE MARKET FAIR/ 340 | Greenville | 29607 | 864-627-9633 |
| THE GREAT ESCAPE | 1426 LAURENS RD | Greenville | 29607 | 864-235-8320 |
| **SOUTH DAKOTA** | | | | |
| HOBBYTOWN USA | DAKOTA PLAZA | Sioux Falls | 57105 | 605-339-6613 |
| **TENNESSEE** | | | | |
| AAA MODEL SUPPLY | 5237 HWY 126 | Blountville | 37617 | 423-323-1513 |
| HOBBYLAND TENN INC. | 5985 STAGE RDSTE 1 | Bartlett | 38134 | 901-937-0636 |
| HOBBYTOWN USA | 2000 MALLORY LANESTE 610 | Franklin | 37067 | 615-771-7441 |
| HOBBYTOWN USA | 2884 WOLFCREEK PARKWAY | Memphis | 38133 | 901-213-2682 |
| HOBBYTOWN USA | 634 NORTHGATE MALL | Red Bank | 37415 | 423-877-9885 |
| HOBBYTOWN USA | COMMONS II | Knoxville | 37923 | 865-690-6423 |
| HOBBYTOWN USA | KINSINGTON PLACE SHOP CTR | Murfreesboro | 37130 | 615-890-6777 |
| TENNESSEE MODEL HOBBIES | 8903 OAK RIDGE HWY | Knoxville | 37931 | 423-927-2900 |
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| ACTION HOBBIES | 2005 9TH ST | Wichita Falls | 76301 | 940-766-2667 |
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| HOBBY CENTER | 18177 GULF FREEWAY | Webster | 77598 | 281-488-8697 |
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| HOBBYTOWN USA | 2500 W. PARMER LANE | Austin | 78727 | 512-246-8904 |
| HOBBYTOWN USA | 4107 S. CAPITAL OF TEXAS HWY | Austin | 78704 | 512-440-7877 |
| HOBBYTOWN USA | 4638 S. COOPERSTE 190 | Arlington | 76017 | 817-557-2225 |
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| HOBBYTOWN USA | 999 E. BASSE RD 135 | San Antonio | 78209 | 210-829-8697 |
| INDY RC WORLD | 2020 SATURN RD | Garland | 75041 | 972-2714844 |
| JUST HOBBIES | 202 SAWDUST RDSTE 115 | The Woodlands | 77380 | 281-292-5878 |
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| ROY'S HOBBY SHOP | 1309 N. NORWOOD DR | Hurst | 76053 | 817-268-0210 |
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| THE HOBBY CENTER RCEWY | 4104 STAN SCHLUETER/STE 1 | Killeen | 76543 | 254-690-7311 |
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| DRCW RACEWAY | 2200 COMMERCE PARKWAY | Virginia Beach | 23454 | 757-340-6681 |
| GRAYMIA LLC | 9105 CENTER ST | Manassas | 20110 | 703-369-1197 |
| HOBBY HANGERS SPEEDWAY | 14014 D SULLYFIELD CIR | Chantilly | 22022 | 703-631-8820 |
| HOBBYTOWN USA | 1067 INDEPENDENCE BLVD. | Virginia Beach | 23455 | 757-464-4140 |
| LINVILLE HOBBIES | 7065 WENGERS MILL RD | Linville | 22834 | 540-833-2222 |
| STREAM HOBBY SHOP | 10015 JEFFERSON AVE | Newport News | 23605 | 757-591-0720 |
| TSG HOBBIES | 251 W. LEE HWY #691 | Warrenton | 20186 | 540-347-9212 |
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| B & B | 6422 EAST 2ND | Spokane | 99212 | 509-534-7223 |
| BURIEN TOYOTA | 15025 1ST AVE SOUTH | Seattle | 98148 | 206-243-0700 |
| FOUR SEASONS R/C RACING | 2941 SLEATER KINNEY RD N.E | Olympia | 98506 | 360-491-2430 |
| HOBBYTOWN USA | 16421 A CLEVELAND ST | Redmond | 98052 | 425-558-0312 |
| HOMETOWN HOBBIES | 14011 N.E. 3RD COURT | Vancouver | 98685 | |
| MITCHELL RC HOBBIES | N. 4715 CRESTLINESTE B | Spokane | 99207 | 509-482-6188 |
| PERFORMANCE R/C | 320 E. SUIRHAVEN AVE #100 | Burlington | 98233 | 360-691-4922 |
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| HOBBYTOWN USA | 3347 KOHLER MEMORIAL DR/D2 | Sheboygan | 53081 | 920-452-0801 |
| JOHN'S HOBBIES | 54 N. MAIN ST | Hartford | 53027 | 262-673-7454 |
| KDM HOBBY | 711 E. SPRUCE ST | Abbotsford | 54405 | 715-223-4414 |
| PHIL'S HOBBY & CRAFTS | 409 W. MAIN ST | Wautoma | 54982 | 920-787-7232 |
| RTV SUPERSTORE | 100 VIKING DR | Reedsburg | 53959 | 608-524-8999 |
| S & N'S TRACKSIDE HOBBIES | 6045 N. GREEN BAY AVE | Glendale | 53209 | 414-351-1910 |
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| DW REED HOBBY STOP | 142 W. MAIN ST | Bridgeport | 26330 | 304-842-2742 |
| FULTON'S HOBBY SHOP INC. | 3301 CHAPLINE ST | Wheeling | 26003 | 304-233-5355 |
| HOBBYTOWN USA | 220 NITRO MARKET PLACE | Charleston | 25313 | 304-776-7259 |
| LEFT TURN HOBBIES | 607 SAPPHIRE AVE | Beckley | 25801 | 304-255-3930 |
| WEST VIRGINIA HOBBY&CRFT | PUTNAM VILLAGE SHOP CTR | Teays | 25569 | 304-755-6474 |
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| XTREME HOBBIES | 2810 DOGWOOD AVESTE B | Gillette | 82718 | 307-682-6077 |
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| EMMANUELLI R/C HOBBIES | BO. RAYO GUAVAS BUZON #20 | Sabana Grande | 00637 | 787-873-1404 |
| HI SPEED C. RACEWAY | 422 SAN CALUDIO AVE | San Juan | 00926 | 787-648-0016 |
| ISLAND HOBBIES | DELFIN-OLMO 166 | Arecibo | 00612 | 787-871-1129 |
| LA SORPRESA | 1759 AVE. MILITAR/SUITE 1 | Isabela | 00662 | 787-872-2396 |
| MILLENNIUM HOBBIES | CALLE PARANA #1719-B | Rio Piedras Hts | 00926 | 787-767-2432 |
| RACER'S HOBBY | 873 SAN PATRICIO AVE | San Juan | 00921 | 787-783-9150 |
| SPEED ZONE SUZUKI | AVE. PONCE DE LEON 520-C | San Juan | 00918 | 787-767-3475 |
| THE TROPICAL HOBBY SHOP | RR-02 BOX 6486 RD 643 KM 4.0 | Manati | 00674 | 787-854-8884 |

**CANADA**

| | | | | | | |
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| PM HOBBY CRAFT | 2020 B 32ND AVE N.E. | CALGARY | ALB | T2E 6T4 | CANADA | 403-291-2733 |
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| ONE STOP HOBBY | 33228 S. FRASER WAY | ABBOTSFORD | BC | V2S 2B3 | CANADA | 604-852-6497 |
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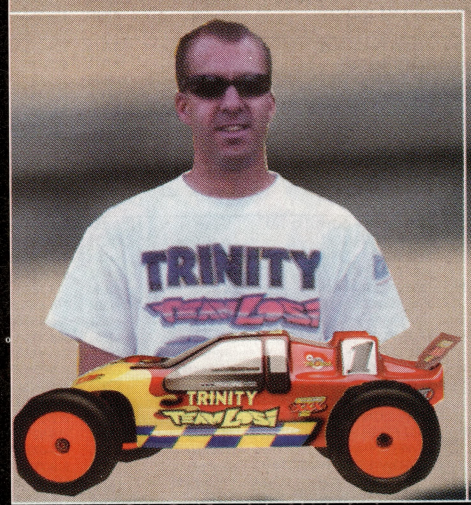


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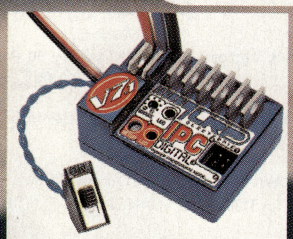


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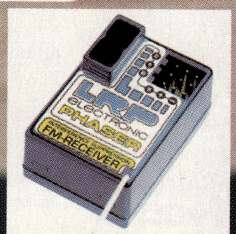


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**Fairbanks R/C Club**, 510 Juneau Ave., Fairbanks, AK 99701, (907) 456-5494

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**Scottdale R/C Speedway,** 3023 N. Scottsdale Rd., Scottsdale, AZ 85251 (480) 945-2186

**Kiwanis Park R/C Track,** 855 S. Magnolia Ave., Yuma AZ 85364, (520) 539-7148

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**Xtreme Radio Control,** 469 Danbury Rd., New Miford, CT 06469, (860) 354-4703

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

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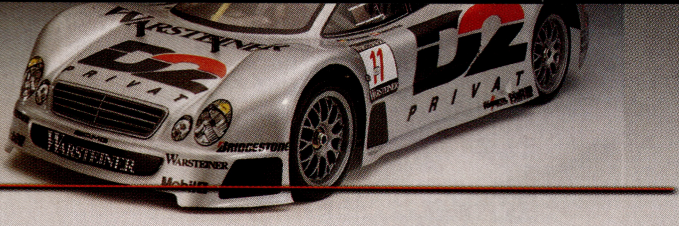

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**Leisure Hours R/C Raceway,** 24121 W. Theodore, Bldg. 1, Plainfield, IL 60544, (815) 439-1477

**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

**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

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

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**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

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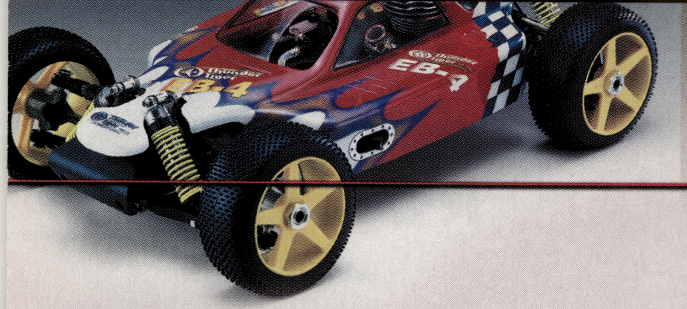


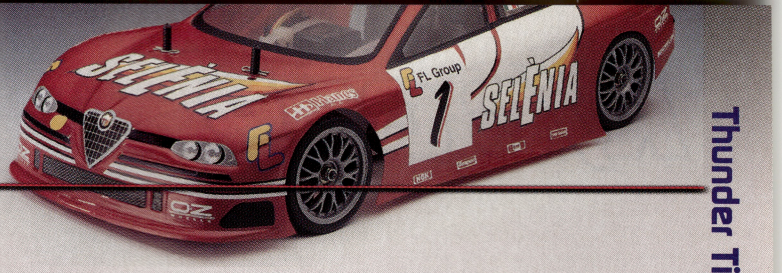


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**RJ's/R.C.,** 4920 Hwy. 70W, Eagle River, WI 54521; Randy Stys, (715) 479-2541

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### WYOMING

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### CANADA

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

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# King of the hill

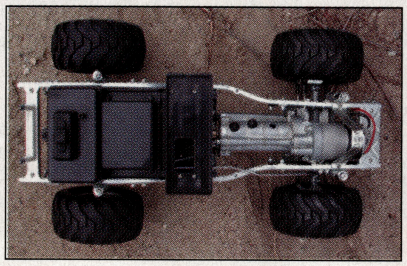


BY RICHARD TRUJILLO

Once again I just have to say "I *looooove* the internet!" Without the information that is available on the net, I probably wouldn't have any of the cars I have now. While doing my daily search on eBay, I ran across a pretty clean Tamiya Mountaineer. The Mountaineer was the last version of the 4x4 3-speed transmission trucks to be released by Tamiya. The auction had just started, so the price was low. I decided to contact the seller to see if we could work out a deal on the side. Basically, I didn't want to wait for the auction to end! The seller responded to my email and we decided on a fair price and ended the auction early. Turned out he lived in Nevada, so after a quick payment through PayPal, I would have the truck in my possession in two days. The truck was in excellent condition and a nice addition to my collection.



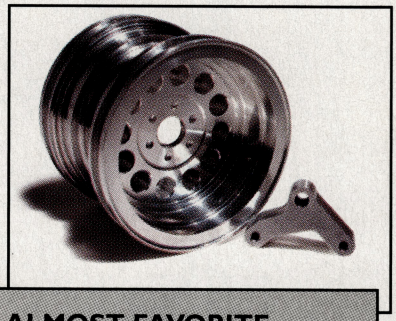
The Mountaineer (kit number 58111) was available from 1993 to 1996. There were only a couple differences between the Bruiser and the Mountaineer. The Bruiser had chrome three-piece wheels and a small camper shell in the bed, while the Mountaineer had chrome one-piece wheels and a standard bed. The Mountaineer or "Mounty" also came with a double tube chrome roll bar and five off road lights on top. Other than those differences, the trucks were identical. I personally prefer the Mountaineer just because it reminds me of the real versions I would see in my local Off Road recreation areas.





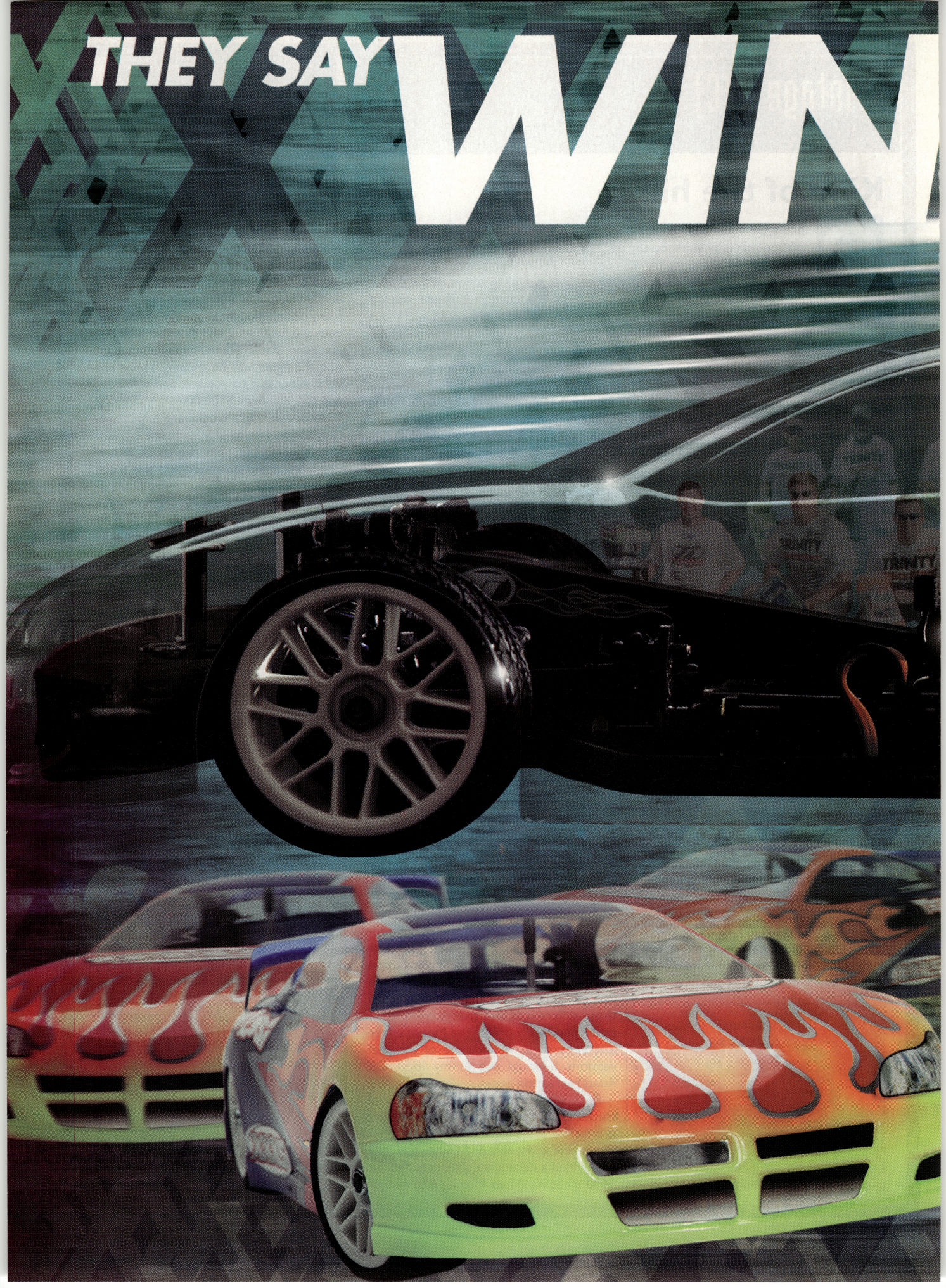

If you plan on getting one of these cool trucks, expect to pay quite a bit. The current selling price for a MIB (mint in box) Mountaineer is about $1600! You can usually find a decent used truck for about $400 to $500. When looking into one of these, be sure to ask the seller if the transmission engages well. The tranny is a pretty rare piece to find and replace. They were only sold pre-assembled and with a selling price of $75.00 back in the day, not many people bought them. If you find one with the headlights, taillights and blinkers, consider that a bonus. More often than not, the lights will be missing. These are very expensive to replace, and a full set will run you over $100.00.

Although these trucks are expensive, they are a blast to play with. The realism is just incredible. Shift the truck into 4 low from the transmitter, and the truck will go just about anywhere you point it. It's very unlikely that Tamiya will ever produce this truck again, which will increase the value of these trucks. If you can find one right now, I would suggest you buy it; you will not regret it.



## ALMOST FAVORITE

One of my favorite sites to visit while on the net is the Radio Controlled Monster Truck Network or *www.rcmt.net*. This site has an excellent message board with topics for all types of Monster trucks. From the T-maxx to vintage Bruisers, you can find just about any info you want from other enthusiasts. Mark Thompson is one of the users I've met on the site. Mark sells cool aluminum wheels for the Bruiser or Mountaineer. He has two versions and the finish on them is incredible. He also sells an aluminum steering bellcrank and replacement rubber bushings for these trucks too. The wheels sell for $90 a set, $15 for the bell crank and $2 for the bushings. All the prices include shipping. If you would like more info, email Mark at *mthomson@tls.net*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